

Appendix I: Decisions on Recommendations from the Second of Two Rounds of Public Consultation on the *Determination: Retail Domestic Mobile Telephony Market Definition*

The following summarises the comments and recommendations received from the targeted stakeholder consultation, held between 29th September to 1st December 2023, on the *Determination: Retail Domestic Mobile Telephony Market Definition* (the Determination) and the decisions made by the Telecommunications Authority of Trinidad and Tobago (the Authority).

The Authority wishes to express its appreciation to the following stakeholders for responding to the consultation:

1. Columbus Communications Trinidad Limited (CCTL)
2. Digicel (Trinidad & Tobago) Limited (Digicel)
3. Telecommunications Services of Trinidad and Tobago (TSTT)

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
1		General	TSTT	Telecommunications Services of Trinidad and Tobago Limited ("TSTT") appreciates that the Telecommunications Authority of Trinidad and Tobago ("TATT") has given stakeholders the opportunity to comment on these matters. It should be noted that TSTT's comments on this document do not preclude TSTT from making further comments in the future.		The Authority appreciates TSTT's feedback on this consultation process given the importance of this process.
2	1	Introduction	CCTL	The views expressed herein are not exhaustive. Failure to address any issue	CCTL recommends that a forward-looking	The Authority thanks CCTL for its feedback which emphasises that a

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				<p>in this response does not in any way indicate acceptance, agreement or relinquishing of Columbus Communications Trinidad Limited's (CCTL's) rights.</p> <p>The telecommunications market space has undergone significant changes characterized by technological advancements such as convergence. Technology convergence has fueled market convergence. These changes have impacted how services are delivered and how consumers use these services.</p> <p>The internet is now a very big player in the telecommunications markets. The table below summarizes the trends in revenue contribution from mobile voice, international voice, and internet services, as well as average revenue per user from mobile voice and internet services in the Trinidad and Tobago market over the period 2015 to 2022.</p>	<p>approach should be taken in this exercise to define the markets. In addition, the approach should be technology neutral.</p>	<p>forward-looking approach should be adopted. CCTL is advised that the approach adopted by the Authority in the development of the Determination took into account past, present and future considerations, some of which are referenced by CCTL, (including OTTs, mobile and fixed technology convergence; partial or usage based service substitutability on a technology-neutral basis,) and are expounded on below. Specifically, the market definition exercise, drawing on available domestic evidence, analysed consumer patterns (subsections 3.2.1.2, 3.4.1.2 and 4.3.1.3); and trends in revenues and prices (including estimates of customer expenditure).</p> <p>Examples of these developments considered in both the Determination and the TATT-KCL Mobile Customer Survey include:</p> <ol style="list-style-type: none"> 1. increased revenues per user, as observed in both the

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				<p>¹Table 1 - Industry Revenues Comparison 2015 & 2022</p> <table border="1"> <thead> <tr> <th></th> <th>2015</th> <th>2022</th> <th>% Change</th> </tr> </thead> <tbody> <tr> <td>Revenue (TT\$ billion)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>5.59</td> <td>5.04</td> <td>-7%</td> </tr> <tr> <td>Mobile Voice</td> <td>1.99</td> <td>0.95</td> <td>-52%</td> </tr> <tr> <td>International Voice</td> <td>0.23</td> <td>0.05</td> <td>-79%</td> </tr> <tr> <td>Fixed Broadband</td> <td>0.76</td> <td>1.2</td> <td>60%</td> </tr> <tr> <td>Mobile Broadband</td> <td>0.57</td> <td>0.93</td> <td>61%</td> </tr> <tr> <td>Average Revenue Per User (ARPU)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mobile Voice</td> <td>938</td> <td>474</td> <td>-49%</td> </tr> <tr> <td>Fixed Broadband</td> <td>2744</td> <td>3220</td> <td>17%</td> </tr> <tr> <td>Mobile Broadband</td> <td>896</td> <td>1152</td> <td>29%</td> </tr> </tbody> </table> <p>The data shows that between 2015 and 2022 mobile voice revenues have almost halved. This is profound and material. This is due mainly to consumer behaviour change which has been and continues to be facilitated by the nontraditional operators who have realised larger margins in driving services over the internet (including voice).</p> <p>In 2022 the Internet accounts for almost 45% of total industry revenues, up from</p>		2015	2022	% Change	Revenue (TT\$ billion)				Total	5.59	5.04	-7%	Mobile Voice	1.99	0.95	-52%	International Voice	0.23	0.05	-79%	Fixed Broadband	0.76	1.2	60%	Mobile Broadband	0.57	0.93	61%	Average Revenue Per User (ARPU)				Mobile Voice	938	474	-49%	Fixed Broadband	2744	3220	17%	Mobile Broadband	896	1152	29%		<p>mobile data and fixed Internet markets.</p> <ol style="list-style-type: none"> the declining total revenues in mobile voice. international markets (Bermuda, Europe and the GCC region). <p>Additionally, the Authority acknowledges that there have been significant changes in the telecommunications landscape, driven by factors such as technological advancements and the recent COVID-19 pandemic. These factors, underpin the administration of the updated TATT-KCL Customer Survey, are evident in the analyses (see section 3 and subsections 3.2.1.1, 3.4.1.1 and 5.1) and the conclusion (section 6) of the revised Determination.</p>
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¹ Annual Market Reports, Telecommunications Authority of Trinidad and Tobago

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				<p>24% in 2015. At this point it is the industry leader by service type, surpassing voice services.</p> <p>The growth on the Internet has facilitated the rapid push towards advancing economy wide digitization agenda. This has solidified the importance of telecommunication services in the development agenda and progress of economies. With the overwhelming and sharp shift in the way consumer now consume voice services, from a technological perspective, consumers are less tied to a technology and are more loyal to cost and convenience.</p> <p>The Covid-19 pandemic upended the normal way of life of people and therefore new solutions had to be found to address the day-to-day problems and challenges of life. This has ushered in rapid acceleration of ICT adoption in the society and sharp non-reversible changes in consumer behaviour More</p>		<p>The Authority, through the Determination, found it prudent to assess the economic impact of over-the-top (OTT) services, on account of the growing proliferation of these services domestically. Moreover, in view of the available evidence, the Authority sought to determine whether there was sufficient evidence to suggest that OTTs should be considered as limited, partial or full substitutes to traditional retail domestic mobile telephony services (subsection 4.3 of the Determination).</p> <p>The Determination takes into account trends in the uptake of OTT services, to ascertain whether these have, in fact, impacted the market boundary as it currently stands. For instance, the majority of respondents to the TATT-KCL Mobile Customer Survey stated that their access to and use of OTT services have not adversely impacted their demand for traditional mobile services (see subsection 4.3 of the</p>

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				<p>and more services are being provided online. This obtains for the private as well as the public sector.</p> <p>More than ever before operators have realised the economic potential of the internet (internet protocol) as a means of delivering services, due largely to the economies of scale and scope benefits. In the current context rigid market definitions tied to a particular technology, especially for voice, has diminished relevance in today's ecosystem with convergence in platforms, devices, and transportation technologies.</p> <p>The focus of assessing markets is not only to ensure that markets are competitive, but also encouraging investments in new technology to ensure the robust and sustained development of the industry. Given the importance of the telecommunications industry to economic growth and social inclusion, in any market assessment</p>		<p>Determination). Specifically, Figure 64 of the TATT-KCL Mobile Customer Survey highlights that 78% of OTT users stated that their consumption of such services had not reduced their usage of traditional mobile services. However, in the performance of due diligence in undertaking this Determination, the Authority found it prudent to further evaluate consumer usage trends.</p> <p>In addition, the Authority looked at developments in fixed and mobile network technologies. The former was taken into consideration to allow for a comparison of speeds between the two networks. For example, the fastest advertised fixed Internet connection speeds, of up to 1 Gbps, was recorded to be considerably higher than the maximum speed for mobile data services of 150 Mbps offered.</p>

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				<p>analysis all entities that have assets and capabilities to satisfy customer needs must be carefully considered. A forward-looking viewpoint must be taken into consideration when conducting such analyses. The end game is to prevent consumer harm resulting from lack of competition, and to ensure continued investment in network infrastructure.</p>		<p>CCTL is also advised that the use of presently available data also facilitates the assessment of market dominance, where applicable. It should be noted that the determination of the relevant market is the first step in assessing market dominance. Dominance assessment is premised on both present market trends and competitive conduct by players in the market. Hence, while consideration of future market dynamics is important, as undertaken in the Determination, present market trends must also be critically assessed.</p> <p>Similarly, assessing and reviewing current market dynamics also serve to identify and address any potential anti-competitive practices that may be occurring in the market.</p> <p>Notwithstanding the above, the Authority will aim to undertake more frequent assessments (typically on a three-to-five year cyclical basis, or as</p>

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						<p>it deems necessary) of the relevant retail domestic mobile telephony market in view of the rapidly evolving trends in the industry.</p> <p>The Authority emphasises that, while acknowledging the ongoing developments in the telecommunications market, the market definition exercise remains an important regulatory tool that provides clarity, delineates the boundaries of competition and helps to prevent monopolistic practices. Hence, in the absence of market definitions, there is a risk of ambiguity and potential regulatory gaps that could be exploited to the detriment of competition and consumer welfare. Specifically, section 1 of the Determination stated that, in addition to facilitating the introduction of ex ante price regulation, where appropriate, defined relevant markets may also serve as a reference point for</p>

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						<p>monitoring competitive dynamics in retail markets.</p> <p>Furthermore, it is important to note the relationship between competition and investment. Competitive markets contribute to increased productivity, cost efficiency, innovation and economic growth. Therefore, the Authority is of the view that a competitive market attracts investment in new technologies.</p> <p>Thus, market definition exercises aid the Authority in determining whether the mobile market is competitive, which would ultimately lead to positive outcomes such as increased consumer welfare, investment and innovation, and economic growth.</p>
3	1	Introduction	TSTT	Despite one or two references to the importance of taking future developments into account, TATT makes all its determinations based on what has happened in the past. Best	TATT should be consistent with its stated intent and objective and review its assessments with a view to likely	The Authority acknowledges TSTT's comments that the assessment should be reviewed for future market developments. TSTT is advised that the Authority used historical,

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				<p>regulatory practice requires that market definition take into consideration future developments, the outlines of which are already very clear with respect to issues of technology change in mobile vs. fixed broadband and the impact of OTT.</p>	<p>market developments in the future.</p>	<p>prevailing and future trends in arriving at its conclusion in the Determination of a single market for retail domestic mobile telephony services (as delineated in section1 (Item 2)).</p> <p>For ease of reference, the Determination takes into account the proliferation and growing adoption of OTTs domestically. This trend is noted to impact the stability of the market boundary identified and, as such, the Authority agrees to conduct periodic assessments, on a three-to-five-year cyclical basis, or as it deems necessary.</p> <p>The Determination further indicates a degree of substitution between OTT and mobile voice services (on a call basis).</p> <p>OTTs were also deemed an important factor in the domestic landscape and a potential competitive constraint in the</p>

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						<p>domestic retail mobile telephony market (see subsection 4.4 – Key Conclusions).</p> <p>In addition, the Authority looked at developments in fixed and mobile network technologies. The former was taken into consideration to allow for a comparison of speeds between the two networks. For example, the fastest advertised fixed Internet connection speeds, of up to 1 Gbps, was recorded to be considerably higher than the maximum speed for mobile data services of 150 Mbps offered.</p> <p>Similarly, there is a significant difference in actual observed download speeds, with average mobile download speeds of around 28 Mbps comparing to fixed download speeds of around 88 Mbps. As such, the Determination points to the potential for substitution from mobile data services to fixed broadband</p>

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						<p>services. However, there is no supply-side substitutability between mobile data and fixed broadband, as these services are provided under distinct licences and are delivered via different network technologies. There is also limited demand-side substitution, due to considerable differences between end users' preferences. The TATT-KCL Mobile Customer Survey, Table 15, shows that, in the event of a small but significant non-transitory increase in price (SSNIP), 23.7% of mobile data "pay as you go" (PAYG) customers would use less mobile data by offloading to Wi-Fi where possible, but would not give up their mobile service entirely. Furthermore, Table 22 of the TATT-KCL Mobile Customer Survey shows that, in the event of a SSNIP, 0% of mobile data-only customers would switch to or use a fixed Internet service.</p>

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						<p>Thus, the Authority considers that significant increases in Wi-Fi accessibility can affect demand-side substitutability and thereby the stability of the market boundary as defined.</p> <p>In light of the above, the Determination explicitly considered the technological changes in mobile versus fixed broadband and the impact of OTT services.</p> <p>However, historical data is also important for this assessment, as it allows, inter alia, for the identification of past trends; assessing changes in the market; and understanding the developments in consumer behaviour. Moreover, it facilitates data-driven, evidence-based decision making.</p> <p>The Authority therefore emphasises the importance of using historical information, in conjunction with prevailing and forward-looking</p>

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						<p>perspectives, when conducting assessments or analyses of this nature.</p> <p>CCTL is also advised that the use of presently available data also facilitates the assessment of market dominance, where applicable. Dominance assessments are premised on both present market trends and competitive conduct by players in the market. Hence, while consideration of future market dynamics is important, as undertaken in the Determination, present market trends must also be critically assessed.</p>
4	1.1	Background	Digicel	It appears that the primary purpose of the current consultation and Draft Determination: Retail Domestic Mobile Telephony Market Definition (“ Draft Determination ”) is to act as an enabler to satisfy the Authority’s desire to impose ex ante price regulation of retail mobile services “by	Experience has shown that rapid changes in technology, services and customer preferences are continuing to occur with the lines blurring between what were once considered to be discrete	The Authority does not agree with Digicel’s view that the primary purpose of this Determination is to impose ex ante price regulation, and presents the following points to clarify.

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				<p><i>demonstrating one or more concessionaires hold(s) a dominant position in that market”.</i></p> <p>Importantly, however, pursuant to section 29(1) of the <i>Telecommunications Act</i> (“Act”) there is a primary presumption that retail prices will be “<i>be determined by providers in accordance with the principles of supply and demand in the market</i>”, with retail prices only being permitted to be regulated if the conditions set out in section 29(2) of the Act are satisfied.</p> <p>Specifically, price regulation regimes may only be imposed in circumstances where:</p> <p><i>“(a) there is only one concessionaire operating a public telecommunications network or providing a public telecommunications service, or where one concessionaire has a</i></p>	<p>product markets. This will undoubtedly impact on any future consideration of market definition.</p> <p>By pushing ahead with the establishment of a price regulation regime to control concessionaires’ retail prices, the Authority risks undermining their ability to adapt and respond to the pressures being brought to bear, most notably those that arise from the continuing proliferation of unlicensed OTT services.</p> <p>Accordingly, Digicel (Trinidad & Tobago) Limited (“Digicel”) recommends:</p>	<p>Digicel is asked to refer to subsection 1.3 of the Determination which outlines the purpose for undertaking this assessment (Retail Domestic Mobile Telephony Market Definition), as follows:</p> <ol style="list-style-type: none"> 1. The significant nominal consumer price increases observed in the domestic retail mobile market 2. The importance of the mobile market to the telecommunications sector’s sustainability and the development of the national economy 3. Global developments in technology which have the potential to affect domestic mobile markets 4. Changes in various market share indicators and the sector’s general level of duopoly competitiveness 5. Changes in consumer usage patterns, including the impact of the COVID-19 pandemic

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				<p><i>dominant position in the relevant market;</i> <i>(b) a concessionaire operating a public telecommunications network or providing a public telecommunications service cross subsidises another telecommunications service provided by such concessionaire; or</i> <i>(c) the Authority detects anti-competitive pricing or acts of unfair competition which may only occur if one or more concessionaires are found to be dominant in a relevant market."</i></p> <p>The Authority has not sought to present evidence of any market failure in respect of the circumstances described in section 29(2)(b) or (c) of the Act and, in Digicel's opinion, no prima facie case has been made by the Authority to support a proposition that any</p>	<ul style="list-style-type: none"> that the Authority consider putting the current consultation on the Draft Determination on hold pending a further consideration of whether there is any actual market failure to address at this time; and only resume the consultation if and when an actual market failure has been shown to exist. <p>Digicel further recommends that the Authority use its resources to further consider the impact of OTT services on traditional telecommunications services so as to ensure</p>	<p>In light of the foregoing, the basis for undertaking this assessment is in keeping with the Authority's mandate to facilitate competition and development of the sector and to promote the interests of consumers as outlined in sections 3 (a) to (c) of the Telecommunications Act, Chap. 47:31 (the Act).</p> <p>The basis of the assessment is also in keeping with the Authority's ongoing market monitoring function and duty to be a forward-looking, proactive, efficient regulator. Therefore, the Authority is not limited to identifying market failure prior to assessing the relevant market boundaries.</p> <p>It is worthy of noting that, the assessment of the relevant market definition identifies the relationship between OTT services and traditional mobile telecommunications services (mobile telephony). Furthermore, the assessment determines definitively</p>

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				<p>concessionaire meets the statutory test for dominance which, under the Act, is behaving, to an appreciable extent, independently of competitors, customers and ultimately consumers.</p> <p>On the contrary, providers of mobile telecommunications services in Trinidad and Tobago (and elsewhere around the world) are subject to enormous competitive challenges, not only from traditional mobile network operators but from new sources, such as suppliers of Over-The-Top (“OTT”) services, as technology and service developments have occurred and fundamental changes to the way people communicate have put further pressure on traditional telecommunications services (see below).</p> <p>In Digicel’s submission, consideration of the existence of dominance is therefore premature and, as such, any consideration at this time of market definitions in respect of services</p>	<p>providers of such services are treated on an equivalent basis with other providers of public telecommunications services.</p>	<p>those services which are effective demand-side and supply-side substitutes and therefore reside in the same product or service market.</p> <p>This does not negate the consideration of exogenous factors that have an impact on the mobile market. In fact, the Determination takes into account the impact of OTTs in the domestic mobile market, as detailed under subsection 4.3 and summarised under subsection 4.4, as follows:</p> <ol style="list-style-type: none"> 1. There is strong uptake of OTTs in Trinidad and Tobago, with 70%–90% of TATT-KCL Mobile Customer Survey respondents using their smart phone to access, amongst others, OTT services. 2. The TATT-KCL Mobile Customer Survey suggests that the number of respondents who perceived OTT services to be lower priced in Trinidad and Tobago is notable, with 70%–

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				<p>provided by way mobile networks may be no more than an academic exercise that is a distraction from the real issues that are faced by industry.</p>		<p>90% of respondents considering it more affordable than mobile call/messaging services.</p> <p>3. 33% of the TATT-KCL Mobile Customer Survey respondents stated that they are likely to make fewer mobile calls and rely instead on OTT services for these calls in the case of a SSNIP in their retail domestic mobile services. However, only 1% of respondents would stop using their mobile services altogether.</p> <p>Digicel is reminded that determinations of market definition of dominance do not automatically require the imposition of pricing regimes or restrictions on any operator that may be found to be dominant or jointly dominant.</p> <p>Additionally, by way of qualitative and quantitative data requests, operators were invited to share market insights during the Authority's data</p>

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						<p>gathering process, to aid in the assessment.</p> <p>Considering the foregoing, the Authority is of the opinion that this assessment is not merely an academic exercise, but one which supports discerning the evolving dimensions of competition and the orderly development of domestic telecommunications markets.</p> <p>Moreover, in keeping with its regulatory mandate to protect the interest of consumers, and considering the gravity and significance of the exercise, the Authority will not cease the present consultation.</p> <p>Lastly, the Authority acknowledges Digicel's reference to the Act and affirms its unwavering commitment to fulfilling all its obligations.</p>
5	1.3	Purpose	Digicel	Digicel considers the Authority's conclusion that the prices paid by	If the Authority's real concern is that nominal	The Authority has considered a number of factors in its assessment

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				<p>consumers to Digicel for retail mobile services during the years 2021 and 2022 have increased by 30% and 15% respectively is ill founded and based on a selective view of mobile services and prices. That is because the composition of mobile packages and their pricing has changed considerably over time as concessionaires adjust their offerings to reflect a variety of factors including technology and service changes, customer usage and competition.</p> <p>This can be seen from the differences in the structure and pricing of mobile service packages that are exhibited on pages 38 and 39 of the Authority's <i>Determination: Retail Domestic Mobile Telephony Market Definition</i> dated 23rd November 2021 and those exhibited on pages 45 and 46 of the current Draft Determination that is the subject of this consultation.</p> <p>Moreover, Digicel's pricing plans have changed further since the Authority</p>	<p>mobile calling prices have increased, then Digicel recommends that further analysis of that issue is undertaken before pursuing a regulatory approach that is apparently intended to regulate retail prices. Digicel also recommends that the Authority undertake the following:</p> <ul style="list-style-type: none"> • Revise the following statement premised on the fact that there is no credible basis for determining regulatory action (i.e., market intervention) solely on the review of year-on-year nominal price increments: <i>"The Authority considers that these</i> 	<p>(see subsection 1.3). These factors include both price and non-price considerations.</p> <p>The Authority is also engaged in other initiatives that are part of its growing capacity and toolkit to monitor prices for the detection of anti-competitive pricing where applicable.</p> <p>However, the Authority notes the recommendation to consider real prices in its assessment and has made the supplementary adjustment (see Table 2 in the revised subsection 1.3, 1. Price Changes). Notwithstanding Digicel's pricing recommendation, even with the consideration of real prices, notable increases were observed.</p> <p>Furthermore, Digicel is reminded that the Determination was premised on a number of factors, including consumer usage patterns, global technological developments, and</p>

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				<p>accessed Digicel's website on 23rd February, 2023².</p> <p>Such a narrow analysis also does not take into account other data that is available to the Authority, which suggests unit prices are actually reducing in nominal terms and that consumers are continuing to receive more value for the money they pay (see comments below).</p> <p>The source of the data cited by the Authority is also not clear, although it appears from the Draft Determination that it may have come from "<i>Tariff plan information available on the concessionaires' websites</i>"³. If that is the case, Digicel does not consider the data to be a reliable basis upon which any decision about market intervention should be formed. This is because such "headline data" does not provide a full</p>	<p><i>nominal price increases are significant and warrant further investigation</i>".</p> <ul style="list-style-type: none"> • Provide clarity on the parameters/thresholds utilized in determining that these nominal price increments were significant and warranted investigative action. • Clarify what type/form of investigative action (i.e., market intervention) is proposed to be 	<p>consumers' switching behaviour. These factors informed the decisions made by consumers and ultimately determined the set of products/services that belong in the same relevant market.</p> <p>Additionally, Digicel is asked to note subsection 1.3, where it is explicitly stated that the figures represent average percentage price increases or changes across retail mobile services for the last four years (2019–2022) and do not represent the price increases by Digicel alone.</p> <p>As usage patterns and overall consumer preferences inevitably evolve over time, an analysis of the ways in which they have changed is important for the Authority's understanding of the relevant market definitions in Trinidad and Tobago.</p>

² See, for example, Digicel's current prepaid pricing at <https://www.digicelgroup.com/tt/en/prepaid>


³ Draft Determination at page 14.

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				<p>or reliable picture of what is actually occurring in the market.</p> <p>Considering that the mobile market exhibits effective competition given its duopoly market structure and prices adjust in conformance with Section 29(1) of Act in accordance with the principles of supply and demand. An incremental change in some mobile prices does not provide any indication that the mobile market is uncompetitive or that competition has been rendered ineffective because mobile prices exceed inflation levels. Such a conclusion is not discernible from tariff notifications nor the nominal increment figures presented in the Draft Determination.</p> <p>The Authority's reliance on nominal price increments to drive market intervention is also at odds with other market performance information published by the Authority.</p>	<p>undertaken by the Authority.</p>	<p>Regarding the type or form of investigative action or market intervention, Digicel is advised that any investigation undertaken by the Authority will be in accordance with its legal remit pursuant to the Act and international best practices, where applicable.</p> <p>Furthermore, Digicel is reminded that subsection 4.3 of the Determination deals extensively with the proliferation and growing impact of OTT services.</p>

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				<p>For example, the table below, which is taken from the Authority's <i>Telecommunication and Broadcasting Sectors Annual Market Report 2022</i> ("Annual Market Report") shows that mobile revenues have been in steady decline over the past five years⁴.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percentage Change (from previous year)</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>-23.3%</td> </tr> <tr> <td>2019</td> <td>-12.4%</td> </tr> <tr> <td>2020</td> <td>-16.5%</td> </tr> <tr> <td>2021</td> <td>9.2%</td> </tr> <tr> <td>2022</td> <td>-1.1%</td> </tr> </tbody> </table> <p>The same report shows that average revenue per user (ARPU) for mobile voice services declined from \$608 to \$474 during the same period⁵.</p> <p>Similarly, revenues derived from international voice traffic have declined substantially. This can be</p>	Year	Percentage Change (from previous year)	2018	-23.3%	2019	-12.4%	2020	-16.5%	2021	9.2%	2022	-1.1%		
Year	Percentage Change (from previous year)																	
2018	-23.3%																	
2019	-12.4%																	
2020	-16.5%																	
2021	9.2%																	
2022	-1.1%																	

⁴ *Telecommunication and Broadcasting Sectors Annual Market Report 2022* at page 45.

⁵ *Ibid* at page 50.

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				<p>seen in the following table also taken from the Annual Market Report⁶.</p>  <p>Figure 83 Gross revenues from outgoing international voice traffic from 2018 to 2022</p> <p>While the Annual Market Report shows that mobile internet revenues have increased by \$148.7M⁷ during the same period, that has been more than offset by reductions in mobile voice revenues that have declined by \$251.8M⁸.</p> <p>Importantly, all of the revenue information in the Annual Market Report is reported on a nominal basis</p>		

⁶ Ibid at page 78.

⁷ Ibid at page 68.

⁸ Ibid at page 46.

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				<p>and does not take into account the impact of inflation. The following table shows the inflation reported by the Central Bank of Trinidad & Tobago during the same 2018 – 2022 period⁹.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Annual Average Percent Change in the Index of Retail Prices – Inflation Rate (%)</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>1.0</td> </tr> <tr> <td>2019</td> <td>1.0</td> </tr> <tr> <td>2020</td> <td>0.6</td> </tr> <tr> <td>2021</td> <td>2.1</td> </tr> <tr> <td>2022</td> <td>5.8</td> </tr> </tbody> </table> <p>When Trinidad & Tobago's average inflation rate of 2.1% per annum for this period is considered, it is clear that consumers are not paying more for the services that they receive and, in fact, are better off now than they ever have been, especially when technology and</p>	Year	Annual Average Percent Change in the Index of Retail Prices – Inflation Rate (%)	2018	1.0	2019	1.0	2020	0.6	2021	2.1	2022	5.8		
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⁹ Central Bank of Trinidad & Tobago Selected Economic Indicators Annual (<https://www.central-bank.org.tt/statistics/data-centre/selected-econ-indics-annual>).

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				<p>service improvements are taken into account.</p> <p>Digicel further submits that the Authority should take consumers' use of OTT voice and messaging services into account when considering changes to retail prices. That is because, in recent years, there has been a massive shift towards the use of OTT services for calling and messaging. Such services are typically provided at no charge to the consumer and are able to be used via a consumer's mobile handset on either a mobile or WiFi network.</p> <p>The use of such services has the effect of substantially reducing the average price per minute (or message) when consumers' calling and messaging are looked at holistically.</p> <p>The impact of OTT services is shown clearly in the market research undertaken by the Authority in</p>		

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				<p>connection with its Consultative Document <i>Framework on Over-The-Top Services (OTTs) in Trinidad and Tobago</i>, which was published on 25th August 2023. On page 12 of that Consultative Document the Authority stated:</p> <p><i>“From a purely demand-side perspective, the National Digital Inclusion Survey 2021 (DIS 2021) showed that a significantly high proportion of the local population (83%) reported that they used OTTs. For persons using OTTs, 79% access the services on a daily basis. The median time in minutes spent calling and messaging using OTT applications generally, and on Wi-Fi specifically, were 30 and 45 minutes, respectively. According to DIS 2021, the highest reported advantage of OTTs compared to mobile and SMS was better quality of connection particularly through a Wi-Fi connection, perceived by the respondents. These figures in DIS 2021</i></p>		

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				<i>show the growth in demand and use of OTTs in Trinidad and Tobago, as well as the need for an orderly and structured approach to market expansion”.</i>		
6	1.3	Purpose	TSTT	<p>TATT provides five reasons for motivating why it has decided that now is the time to conduct a market review. TSTT notes that the reasons are the same as they were in the previous determination (round one), i.e., they have not changed in the three years since issuing that consultation. One of these reasons is “price increases”, the evidence of which TATT presents a set of nominal price increases, which it states, “<i>are significant and warrant further investigation.</i>” We further noted that these nominal price changes are only based on all domestic retail mobile services for which there was a change. TATT never discussed the significance of nominal (rather than real) changes, why only the prices of those services that changed were</p>	<p>TATT should state when in this process they will investigate the changes in retail prices and justify the relevance of the specific price change data it has introduced.</p> <p>TATT should adhere to its published procedures and review its positions <i>on inter alia</i>:</p> <ul style="list-style-type: none"> a) the significance of nominal (rather than real) changes; b) why only the prices of those services that changed were considered; or 	<p>In accordance with the Act, section 29 (1) and (2), TSTT is advised that tariffs have primary functions – to balance market forces (competitive function) and remedy distortions (punitive function). Affordable tariffs are indispensable for achieving the digitalisation of the national economy, sustaining effective competition, and attaining market equilibrium. Furthermore, where tariffs are anti-competitive, the Authority reserves the right to intervene in the domestic telecommunications market through various pricing regimes.</p> <p>Therefore, in assessing the relevant market, the Authority considered the extent of changes in the prices of</p>

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				<p>considered, or what percentage of the overall mobile revenue base these changes represent. Furthermore, TATT never states where in its proceeding it will investigate these price increases.</p> <p>Indeed, these failings of analysis makes the review inconsistent with TATT's published Price Regulatory Framework. Accordingly, TATT is operating in a manner that contravenes its own published procedures – an approach which could be the subject of judicial review of any determination pursuant to such flawed and unlawful evaluations.</p>	<p>what percentage of the overall mobile revenue base these changes represent.</p>	<p>retail domestic mobile telephony services. Subsection 1.3 of the Determination captures the increases and decreases in prices in mobile services over the four-year period 2019–2022. Price remains a fundamental pillar of regulatory tariff monitoring. As such, changes in prices are essential to assessing competitive performance.</p> <p>Notwithstanding the above, TSTT is advised that the Authority has reviewed and considered the impact of real prices in its assessment and has made the supplementary adjustment (see revised subsection 1.3 – 1. Price Changes Table 2). Notably, even with the consideration of real prices, increases were still observed.</p> <p>Furthermore, TSTT is reminded that the Determination was premised on a number of price and non-price factors. These include pricing trends, consumer usage patterns, global</p>

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						<p>technological developments, and consumers' switching behaviour. These factors inform the decisions made by consumers and ultimately determine the set of products/services that belong in the same relevant market.</p> <p>Regarding the type or form of investigative action or market intervention, TSTT is advised that any investigation will be undertaken by the Authority in accordance with its legal remit pursuant to the Act and international best practices, where applicable.</p> <p>The Authority reminds TSTT that operators are welcome to provide any data or evidence on developments in the market that the Authority may consider, in accordance with its function and legal remit.</p> <p>All operators were asked to submit information and data on revenues and</p>

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						<p>financial indicators to supplement the calculation of various measures of relevant market boundaries.</p> <p>TSTT is also reminded that the Price Regulation Framework referenced is a draft document published in 2009 and can only serve as a historical reference.</p>
				<p>Only the final three motivating reasons deal with issues that are specifically related to the factors that might directly influence change in market definitions. Of these final three, one relates to market shares. TATT states that “given that market shares will inevitably change to some degree over time, the Authority is of the view that it is important to consider the implications, if any, that such changes might have for the relevant market definitions in Trinidad and Tobago”. However, the document never considers any implications of changes in market share</p>	<p>TATT should adhere to its published procedures and discuss the relevance and implications of market share changes to market definition.</p>	<p>The Authority acknowledges TSTT's comment on the need to consider the implications of changes in market share in the market definition.</p> <p>TSTT should note that the Authority considered operator market shares in multiple instances. However, due to the Authority's duty to uphold strict confidentiality interpretations of the relevant legislation (condition A29 in the concession agreement), these datasets were not featured in the published TATT-KCL Mobile Customer Survey.</p>

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						<p>Notwithstanding the above, the Authority invites operators to submit all datasets to facilitate supplementary computations of relevant market shares.</p> <p>Furthermore, market shares will be explicitly calculated in the upcoming determination of dominance.</p>
7	1.4	Legal Basis	TSTT	<p>We note that point (1) in Section 29(8) of the Telecommunications Act allows TATT to take into consideration the relevance of the market. TATT however does not discuss this aspect in the context of international best practice. International best practice is trending in the direction of deregulation of retail markets (apart from generic consumer protection) since new technologies are producing effective competition across platforms. In Europe and jurisdictions adopting European Union (EU) practice (which has been influential in the development of the regulatory framework in</p>	<p>Before getting caught up in the details of market definition, which appears to be leading TATT to erroneous views about the competitive constraints on the market, TATT should first assess cross-platform competition and the results from remedies already imposed on wholesale regulated markets to determine the relevance of specific markets in a proceeding</p>	<p>The Authority acknowledges TSTT's comments on the need to consider cross-platform competition, remedies on wholesale markets, and the design of ex ante regulation. Market definitions are used for a number of reasons, and ex ante regulation is just one of them.</p> <p>The establishment of market definitions is an accepted exercise widely conducted and describes the process by which regulatory or competition authorities determine the set of services that are considered to be in the same economic market, for</p>

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				<p>Trinidad and Tobago), this relevance is captured to a significant degree in the Three-criteria Test. This Test safeguards against overregulation, which has negative effects on market development, including discouraging investments in infrastructure and market innovation.</p> <p>Based on Article 83 regulatory control of retail services in “Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code”, Member States may ensure that national regulatory authorities impose appropriate regulatory obligations on undertakings identified as having significant market power on a given retail market in accordance with Article 63, where:</p> <p>(a) because of a market analysis conducted in accordance with Article 67, a national regulatory authority</p>	<p>designed for determining <i>ex-ante</i> regulation.</p>	<p>regulatory and competition-related purposes. Whilst market definitions can be a prerequisite for imposing ex ante regulation, defined relevant markets may also serve as a reference point for monitoring competitive dynamics in retail markets (see section 1).</p> <p>Although the Determination gives due regard to international developments (including in the EU), it also considers a wider group of referenceable jurisdictions including the GCC, Caribbean states and other SIDS (see subsection 3.1.3). However, the Determination was significantly premised on evidence and data gathered in the domestic market. This is in keeping with global ICT evidence-based policy development, regulatory decision making and the digital society measurement agenda (ITU 2023).</p>

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				<p>determines that a given retail market identified in accordance with Article 64 is not effectively competitive; and</p> <p>(b) the national regulatory authority concludes that obligations imposed under Articles 69 to 74 would not result in the achievement of the objectives set out in Article 3.</p> <p>The legal framework in Trinidad and Tobago does not call for a Three-Criteria Test or the types of requirements under Article 83 of the EU's Electronic Code directive. However, the legal framework does require relevance. So, before entering into retail market analyses, TATT first should assess cross-platform competition and the results from remedies already imposed on wholesale regulated markets and their effects on the market. If and only if the market is not competitive and already imposed remedies do not give results,</p>		<p>In addition, TSTT is asked to note that the Determination simultaneously assesses cross-platform competition, as evidenced in subsection 4.3, which explicitly analyses and evaluates consumer uptake and usage patterns relating to OTT services compared to traditional mobile services.</p> <p>Additionally, the Authority is taking steps to account for OTT services by progressing its policy perspectives in the <i>Framework for Over-the-Top Services (OTTs) in Trinidad and Tobago</i>. Considering the foregoing, the Authority takes this opportunity to reiterate the importance of operators' input which provides necessary insights into the market.</p> <p>Furthermore, it should be noted that the Authority undertakes various anti-competitive price and economic tests in the market. The assessment of dominance (including its constituents, i.e., determinations of market</p>

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				<p>should it start the analyses of the retail market.</p> <p>There is sufficient evidence on the current state and trends in the relevant markets of Trinidad and Tobago to conclude that the domestic mobile market is effectively competitive and that imposed wholesale remedies provide additional safeguards for that competition.</p>		definition, dominance and the abuse of dominance) is just one.
8	2.1	Relevant Product Scope	TSTT	<p>As we highlighted in our earlier submission, TATT has described a standard approach to the analysis of market definition. We agree with the standard approach. However, TATT is incomplete in its application. We are grateful that it added an analysis (if flawed, as we discuss later) of OTT voice and messaging substituting for traditional voice and messaging—as we requested. However, it does not consider the full set of possible markets and the possibility of asymmetric substitution. TATT may not be convinced that it changes its</p>	<p>TATT should highlight the relevance of substitution at the sub-market level to policymaking even if it does not accept substitution as indicative of a separate market.</p>	<p>The Authority notes TSTT's general agreement with the overall approach taken in this Determination.</p> <p>TSTT is asked to recall subsections 4.3.1.2, 4.3.1.3 and 4.3.1.4 of the Determination, where OTT substitution, at the submarket level, for traditional mobile voice and mobile messaging is analysed. This analysis considers product characteristics, service availability, usage and uptake, relative prices and evidence of switching.</p>

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				<p>fundamental conclusions on market definition, but it is very important for the next steps in its regulatory proceedings. TATT even highlights this fact in Section 4.4 stating <i>“The above implies that OTT services/prices represent an important factor in the competitive landscape within the communications sector and a potential competitive constraint to operators in the domestic retail mobile market.”</i></p>		<p>Section 4 of the Determination states that, although OTT voice services may be considered viable alternatives to traditional mobile voice calls, the Authority considers that, in practice, the scope for end users substituting away from domestic mobile services to OTT services is likely to be limited in Trinidad and Tobago, for the following reasons:</p> <ol style="list-style-type: none"> 1. The degree of substitution has not been significant, with 78% of OTT users in the TATT-KCL Mobile Customer Survey (Figure 64) stating that consumption of such services has not reduced their usage of traditional mobile services. 2. Mobile voice services provide greater accessibility and reach than OTT services. 3. 1% of PAYG users stated that they would stop using PAYG mobile calls (see Table 1 of the

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						<p>TATT-KCL Mobile Customer Survey) on account of a SSNIP.</p> <p>4. 2% of prepaid and postpaid plan users would stop using mobile services altogether (see Table 18 of the TATT-KCL Mobile Customer Survey) on account of a SSNIP.</p> <p>However, it is important to highlight that, at the sub-component level, while there may be some degree of substitution between services, it is unlikely that, on account of a SSNIP, the consumer will forego an entire plan for OTT voice and messaging services.</p> <p>Therefore, the Authority notes that there is partial asymmetric substitution for traditional voice and messaging services on a call basis for a sizeable proportion of customers. This refers to mobile users with access to OTTs via the Internet (mobile data and fixed Internet) who</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>may consider switching between both services on an individual call basis.</p> <p>The Authority acknowledges that there is a degree of asymmetric substitution between OTT services and traditional mobile services (see subsection 4.3.1.4). However, the Authority deems it highly unlikely that users would substitute away from mobile calls entirely at this time (i.e., stop making traditional mobile calls completely) and give up their overall PAYG plan, since the Determination defines the relevant market as encompassing mobile access, mobile calls, SMS, and data services as a whole. Therefore, given significant partial substitutability, OTT services can be considered as a relevant part of the retail domestic mobile telephony market.</p> <p>Accordingly, the Authority has revised its position in the Determination and has included OTT</p>

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						<p>services as a part of the relevant domestic retail mobile telephony market. This change was made considering the significant partial substitution observed (i.e., the reduction in consumption of voice services and the related increase in the uptake of OTTs as an alternative), which may constrain a hypothetical monopolist (HM) from profitably increasing the price of mobile voice and messaging services. This revision takes into consideration feedback received from stakeholders during consultation, additional operator metrics (including PAYG subscriptions, service tariffs and financial earnings) and international best practices. Specifically, the Authority notes the revised European Commission Notice on the definition of the relevant market for the purposes of competition law, which permits taking into account usage metrics (partial substitution) and does not require the exclusive use of</p>

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						perfect substitution (access metrics) for market definitions.
9	2.3	Relevant Geographic Scope	CCTL	<p>In establishing the background for the market assessment, the Authority states, “For domestic mobile services, the Concession lists the following market definition: Public Mobile Voice Origination Services (National and Major Territorial)” The suggestion here is that the geographic scope of the market were predetermined by geographic boundaries established by the Concession document. This is reinforced by the list considerations set out in this section, which all relate to the services offered by the local licensees.</p> <p>On page 16 of the consultation document, the Authority states that it considers that global developments in technology including the proliferation of OTT services must be taken into account when determining the relevant boundaries of the domestic retail</p>	<p>In light of the new and evolving market realities we recommend that the market assessment analysis incorporate approaches in addition to the SSINP test to define geographic market boundaries. Given the inherent weaknesses in its pure application in the real world, particularly in a dynamic industry more focus should be placed on available data on usage and revenues from substituting services.</p>	<p>The Authority acknowledges CCTL’s comment that the SSNIP test is a sound theoretical framework to define markets but has limitations.</p> <p>Indeed, the Authority recognises that quantitative forecasting tools often have various statistical sampling and margin of error limitations. Notwithstanding this, the Authority applies industry best practices, in accordance with its legal remit. For the Determination, a range of both quantitative and qualitative techniques were used, including:</p> <ol style="list-style-type: none"> 1. the SSNIP hypothetical monopolist test), which is considered standard practice in market definition determinations (ITU World Bank 2020).

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				<p>mobile market markets. This is clearly inconsistent with the statements in the preceding paragraph.</p> <p>The default conclusion on geographic scope of the markets is reached notwithstanding strong indicators to the contrary, including technology and global market developments, in particular, global platform providers taking advantage of the internet to offer competing services with licensed providers in Trinidad and Tobago. This is demonstrated by the marked change in the revenue contribution of the internet to overall sector revenues, as set out in Table 1 above.</p> <p>Contrary to the Authority's default assumption, there is significant empirical evidence that the geographical scope of the market includes global OTT service providers, offering functionally similar voice and messaging services to those provided</p>		<p>2. assessment of other factors such as:</p> <ul style="list-style-type: none"> a) demand-side considerations (e.g., product characteristics, uptake and usage trends, and relative prices). b) supply-side considerations (e.g., supply-side substitutability channels (see subsection 3.4.2). <p>Furthermore, with respect to the geographic scope of the market, CCTL is advised that the scope is often defined by a country's licensing regime, that is, if the licence is national, then the market is also likely to be (OECD 2014).</p> <p>As indicated under subsection 5.1, telecommunications markets are typically defined nationally, due to the geographic scope of service licences and concessions. Only if</p>

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				<p>by national telecommunications service providers (TSPs).</p> <p>Market definition is not an end in itself, it is an initial step for assessing harmful market behaviour that requires some form of regulatory intervention to remedy. With the development of global digital platforms service providers, there are questions about the application of conventional market definition approach given the market dynamics.</p> <p>CCTL does not support the conclusion that the market is only national in scope. There is a need to consider the overwhelming empirical evidence in coming to a conclusion on the geographic scope of the mobile market. While the SSNIP test is a sound theoretical framework to define markets, there are inherent weaknesses/vulnerabilities in its pure application in the real world, particularly in a dynamic industry.</p>		<p>there is significant evidence to the contrary (i.e., due to differences in network coverage, service availability, pricing and/or competitive dynamics) will sub-national markets be defined.</p> <p>The Authority understands that CCTL's concern is about capturing global platform providers within the boundaries of the mobile market definition. It should be noted though that this Determination focuses on identifying those products, or more specifically, services that fall within the retail domestic mobile telephony market, which in this case has been identified to be mobile access, call services, messaging services and data services (i.e., the mobile network in this instance) upon which OTT services ride and are delivered to end users.</p> <p>It was determined under subsection 4.3 that, although OTT services are an</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>important factor in the competitive landscape and a potential competitive constraint to operators in the domestic retail mobile telephony market, the TATT-KCL Mobile Customer Survey evidence suggests that OTT services are considered partial substitutes, on a call basis, i.e., mobile users with access to OTTs via the Internet (mobile data and fixed Internet) may consider switching between both services on an individual call basis. However, the Authority opines that mobile users will not switch away from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only. This suggests that a hypothetical monopolist may be constrained in increasing revenue or profit following a SSNIP in mobile access, voice and data services, given customer responsiveness to the change in price and their switching to OTTs on fixed services (such as fixed broadband). In light of the foregoing,</p>

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						<p>the Determination finds that OTT services are considered as being partial substitutes to traditional mobile services.</p> <p>This change has been incorporated into the revised Determination after considering feedback received from stakeholders during consultation, additional operator metrics (including PAYG subscriptions, service tariffs and financial earnings) and international best practices.</p> <p>Therefore, even with the significant substitutability found between traditional mobile services and OTT services in the product market, expanding the geographic scope outside of the national boundaries will go beyond the scope of this Determination and the regulatory remit of the Authority.</p>
10	3	Assess ment of	TSTT	Decreasing revenue and pricing trends provided by TATT provide evidence	TATT should:	The Authority recognises the decline in mobile voice service revenues

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		the Need for Separate Markets for Different Domestic Mobile Services		<p>that the mobile domestic telephony market is competitive. Figure 43 “Annual revenues from mobile voice services 2018-2022” from the TATT Annual Market Report for 2022 illustrates a declining trend of the revenues (21% over 5 years). This is an undeniable argument that the market is competitive, and substitution exists in the domestic mobile market from new technologies and services. The increase from 2020 to 2021 marks an exception of the post-Covid recovery, and the longer-term trend has reasserted itself from 2021.</p> <p>This decline is transpiring with an overall increasing telecommunications market. Thus, the share of revenue of mobile within the overall telecommunications market has declined - see Figure 4 from the TATT's Annual Market Report 2022.</p> <p>Mobile voice revenues contribution decreased from 27.8% to 23.4%, which</p>	<p>(i) reflect in its analysis the declining trends in revenue evidence in its Annual Market Reports; and</p> <p>(ii) recognize the degree of substitution occurring and competitive pressures growing in the mobile market and indicate when, if not in this proceeding, in its deliberations it will reflect this in its policy decision-making.</p> <p>TATT should adhere to its published procedures – which provide for</p>	<p>(2018–2022), as evidenced in the TATT Annual Market Report (AMR) 2022, and it continues to monitor the markets with data that is readily available.</p> <p>The Authority is aware of the developments in technology in this dynamic and ever-evolving sector. Thus, the Determination analysed endogenous and exogenous factors affecting the level of competition in the retail domestic mobile telephony market. This is evidenced by the detailed analysis undertaken in the Determination with respect to assessing the potential impact of OTT services on traditional mobile services.</p> <p>The Determination explicitly states that there is a degree of substitution in the domestic retail mobile market, stemming from new technologies and services. Therefore, based on evidence from the TATT-KCL</p>

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				<p>again shows the competitiveness of the mobile voice market.</p> <p>Real prices have not increased. Comparing decreased mobile voice revenues and increased mobile voice subscriptions supported with increased traffic minutes is evidence that the effective price per minute is decreasing, this is opposite to TATT's assertion of nominal price increases on the market.</p> <p>TATT's conclusion that there are "<i>significant nominal consumer price increases observed in the domestic retail mobile market</i>" (page 16) is not correct. In all international telecommunications practices, the crucial element is the calculation of real price trends, not the nominal ones. This is mainly based on an analysis of the available data for the retail mobile market (revenues, minutes, calls) - no price increase in the analysis period on the TT market.</p>	<p>consideration of inflation and other environmental factors regarding the adjustment of prices. Consideration of nominal price changes outside of these wider inputs is contrary to TATT's published Price Regulation Framework and thus improper.</p>	<p>Mobile Customer Survey, the Determination analyses different scenarios that show the complementary and partial substitution between traditional mobile services and OTT services.</p> <p>TSTT is asked to note subsection 4.3.1.4 which states that: "The Authority believes that there is evidence of a degree of partial substitutability and full complementarity between OTT services and retail domestic mobile services".</p> <p>TSTT is advised that the Authority has reviewed and considered the impact of real prices in the assessment and has made the supplementary adjustment (see revised subsection 1.3 – 1. Price Changes Table 2). Notably, even with the consideration of real prices, increases were still observed.</p>

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				<p>The decreasing mobile ARPU trend (21% for the 5-year period 2018-2022) is more evidence of the increasing competitiveness of the market and presents an obvious substitution effect from related services from adjacent markets- page 50 from Annual market report 2022- TATT. Again, the increase from 2020 to 2021 marks the exception of the post-Covid recovery, and the longer-term trend has reasserted itself from 2021.</p> <p>One could argue that the demonstration of a price decrease itself would not be indicative of an effectively competitive market if the prices were still high. Although, in the absence of a cost-based analysis, it is not possible to demonstrate that mobile service profits are excessive, it is clear that prices of mobile domestic telephony are affordable. The penetration of 146% for mobile speaks to this affordability. Mobile penetration in Trinidad and Tobago is high and compares</p>		<p>Furthermore, TSTT is reminded that the Determination was premised on both price and non-price factors. These include consumer usage patterns, global technological developments, and consumer switching behaviour. These factors informed the decisions made by consumers and ultimately determined the set of products/services that belong in the same relevant market.</p> <p>Regarding the type or form of investigative action or market intervention, TSTT is advised that any investigation undertaken by the Authority, as customary, will be in accordance with its legal remit pursuant to the Act and international best practices, where applicable.</p> <p>The Authority notes the decline in the contribution of mobile voice revenues to overall revenue. In addition, the decrease in the average revenue per user (ARPU) specific to domestic</p>

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				<p>favourably internationally. See for example:</p> <p>https://www.gsma.com/mobileeconomy/wp-content/uploads/2023/03/270223-The-Mobile-Economy-2023.pdf</p> <p>Furthermore, the increasing share of off-net calling (according to last year's (2022) data—off-net calling increased by 0.4% compared to the decrease of on-net calls. This is evidence that there is no significant barrier on the market for calls and that operators are increasingly focused on all net calling strategies, which is beneficiary for end customers.</p> <p>It is normal market for concentration on the mobile market to be high because there are only two mobile operators on the market. Having in mind the limited market potential (1.4 million inhabitants), it may not be sustainable</p>		<p>mobile voice was also noted and was included under subsection 4.3.1.2 (Figure 16). The Authority reiterates that the Determination accounts for the endogenous and exogenous factors affecting the level of competition in the retail domestic mobile telephony market.</p> <p>The Authority acknowledges TSTT's point about a cost-based analysis. Considering the foregoing, the Authority wishes to emphasise the importance of operators submitting all datasets to facilitate supplementary computations, such as the referenced cost-based analysis, for more in-depth studies of the relevant market.</p> <p>The Authority notes that mobile penetration is high (146%) and compares favorably internationally. In light of this, the Authority is of the view that mobile access (acquiring a</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				for more operators due to the economies of scale effect.		<p>SIM card and loading credit on it) is indeed affordable.</p> <p>Furthermore, the Authority would like to highlight that there are symmetric rates for on-net and off-net calls domestically. This is discussed in subsection 4.1.1.3 (Relative Prices) of the Determination.</p> <p>TSTT's comment on the level of concentration in the market is noted. TSTT is advised that the Authority, within the confines of the Act, continues to foster an enabling environment for effective competition, as evidenced by the market studies, tariff publication, competition-based policies, economic tests and consultative documents developed or published by the Authority.</p> <p>Considering TSTT's references to, and application of, the Price Regulation Framework, TSTT is</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						asked to note that the Price Regulation Framework is a draft document published in 2009 and can only serve as a historical reference and the draft Price Regulation Framework (2009) is not legally enforceable at this time.
11	3.1	Are Mobile Access and Domestic Call and Messaging Services in the Same Product Market ?	Digicel	<p>Digicel notes the Authority's assertion that mobile access (i.e., SIM card) and domestic call and messaging services are in the same product market.</p> <p>However, this assertion is incomplete because it fails to address that calling or messaging via an OTT app can also be a complement to a mobile subscription and a substitute for traditional mobile calls and SMS/MMS. While Digicel accepts that mobile calling and messaging services and mobile access are complements and are usually sold as bundled services (often along with a mobile phone), consumers can (and do) acquire calls and messaging from</p>		The Authority recognises that OTT services are complements to mobile subscriptions and mobile data service. However, the Authority disagrees with Digicel's assertion that all OTTs are perfect or full substitutes for traditional mobile calls and SMS/MMS. Based on the available data on customer preferences and usage trends, and evidence relating to switching, the Authority concludes that OTTs are partially substitutable with mobile voice services. Specifically, a sizable proportion of customers would reduce consumption of mobile calls and switch to OTTs on call or usage basis in the event of a SSNIP.

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				<p>sources other than their mobile access provider.</p> <p>This is made possible by the existence of smartphones which can access not only the mobile network associated with a customer's mobile subscription, but also any WiFi network to which they are granted access. This then provides two substitutable mechanisms for communication. Consumers can either make traditional calls and send SMS/MMS messages through the mobile network to which they are subscribed or, as is more often the case, calls can be made and messages can be sent via OTT apps through either mobile broadband data or any WiFi network to which the consumer's phone is connected.</p> <p>In this way, calling or messaging via an OTT app can also be a complement to a mobile subscription and a substitute for traditional mobile calls and SMS/MMS.</p>		<p>Therefore, the Authority acknowledges that OTT services are perceived as partial substitutes, on a call basis, which is by no means trivial. But mobile users will not switch away from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only. This suggests that a hypothetical monopolist may be constrained in increasing revenue or profit by a SSNIP in mobile access, voice and data services, given customer responsiveness (to a change in price) and their switching to OTTs on fixed services (such as on fixed broadband).</p> <p>Subsection 3.2 of the Determination also concludes that mobile data services belong to the same market as mobile access, domestic call and messaging services. Subsection 4.3 indicates respondents' use of their smartphones for OTTs for the purpose</p>

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				<p>This means that, despite OTT service providers not being able to access mobile networks themselves, their OTT calls/messaging services are still able to be used by consumers through either mobile data services or WiFi and are undoubtedly used by consumers as substitutes for traditional voice/messaging services.</p> <p>The existence of OTT calling and messaging as a substitute is also likely to explain the continuing decline of traditional mobile voice and messaging volumes and revenues referred to above.</p>		<p>of calls and messaging, of which, more than 80% use their phone to access the Internet and which, supports complementarity (or joint consumption) between OTTs and mobile data services.</p> <p>Considering the foregoing, the impact of OTTs on the mobile market, including both their complementarity and substitutability, is adequately addressed in this assessment. Additionally, the Authority considers that the overall trend in OTT services may change in the future and will continue to monitor the market and review this position periodically as the market progresses.</p> <p>However, it is clear that there is now overwhelming demand from customers for OTT services compared to the use of fixed broadband services (Wi-Fi), as indicated in the <i>National Digital Inclusion Survey 2021</i> (DIS 2021),</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>which states that 86% of OTT users access the service through Wi-Fi at home).</p> <p>Based on the current trend in customer usage and market revenues, it is likely that OTTs' impact on the retail domestic mobile telephony market will increase in the future. The Authority will aim to conduct periodic reviews of the retail domestic mobile market, on a three-to-five-year cyclical basis or as it deems required, for accurate decision making and the fulfillment of the Authority's functions and regulatory mandate in keeping with the Act and all its subsidiary legislation.</p> <p>Undoubtedly, OTT services are impacting the retail domestic mobile telephony market pronouncedly, as evidenced by considerable uptake and usage of the applications and the significant number of customers indicating that they would make</p>

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						<p>fewer calls but use OTT calls (33%) in response to a SSNIP. A hypothetical monopolist in the domestic mobile market may have difficulty attempting to increase the price of its service by a SSNIP, as evidenced by trends in ARPU. While mobile users will not switch away from their entire mobile plan to rely on OTT services alone, on a call basis, OTTs are viewed as partial substitutes, due to a significant subset of mobile telephony service users who would consider switching between both services on an individual call basis. OTT services/prices provide a potential competitive constraint to operators in the domestic retail mobile market, which is sufficient to impede the ability of the hypothetical monopolist in the domestic mobile telephony market to raise prices profitably.</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>Therefore, OTT services fall within the retail domestic mobile telephony market.</p> <p>In summary, the Authority's final position on whether OTT services are part of the relevant mobile telephony market was informed by the following:</p> <ol style="list-style-type: none"> 1. 33% of respondents (from the PAYG subset – the largest subset identified in the survey) indicated that they were likely to make fewer calls and would instead rely on OTT calls. Notably, 1% of those respondents would stop using their mobile services altogether and 19% stated that they would do nothing. 2. The TATT-KCL Mobile Customer Survey buttresses the above-mentioned, as Figures 28 and 30 of the survey show:

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>a) Figure 28 – 88.6% of respondents selected “mobility” as the key advantage of current mobile services over fixed landline service, as customers indicated, “being able to make and receive calls on the move”.</p> <p>b) Figure 30 – 51.6% of respondents selected “accessibility” as the key advantage of mobile services compared to OTT call services, wherein customers indicated that “I can reach all people I want via mobile calls but not via OTT services”.</p> <p>Therefore, in light of the foregoing, and taking into consideration the growth of OTT services and the importance of mobility and accessibility (as outlined by</p>

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						<p>respondents to the TATT-KCL Customer Survey), the Authority is of the view that, currently, OTT services are partial substitutes, on a call basis (i.e., mobile users with access to OTTs via the Internet may consider switching between both services on an individual call basis). But mobile users will not switch away from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only.</p> <p>This suggests that a hypothetical monopolist may be constrained in increasing revenue or profit following a SSNIP in mobile access, voice and data services, given customer responsiveness and switching to OTTs on fixed services (such as fixed broadband).</p> <p>This position regarding the inclusion of OTT services within the retail domestic mobile telephony market</p>

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						has been included in the revised Determination.
12	4.1.1.1	Product Characteristics	TSTT	<p>TATT states that “<i>mobile end users who value access to all of these services using a single device and tariff plan are unlikely to give up the entire mobile tariff plan in favour of subscribing to use fixed services instead, in the case of a SSNIP.</i>” While we agree, that is not a correct interpretation of SSNIP. The SSNIP does not ask whether an entire mobile tariff plan would be abandoned, but whether a price increase in the tariff plan could not be profitably maintained. Profitability might not be maintained due to lower usage of some elements of the tariff plan or a shift to another tariff plan. Thus, although the market may be defined to include a broad set of services, how profitability is maintained or increased may depend on the pricing structure within that broad set.</p>	<p>TATT to correct this statement.</p> <p>TATT is further encouraged to undertake its analysis in the context of its published procedures. TATT's interpretation here is at odds with its own Price Regulation Framework.</p>	<p>The Authority assures TSTT that it understands the methodology of the SSNIP, which begins by considering the smallest possible market and testing whether a 5%–10% price increase in the product of that market can be profitably maintained. If profitability is not maintained, then the next closest substitute to the product in that market is evaluated. The process iterates until the point where a hypothetical monopolist could profitably impose a 5% to 10% price increase. TSTT is advised that this process was undertaken and is detailed below.</p> <p>The Determination starts with the focal product or service, i.e., mobile access, following which the consideration of a 5%–10% increase in the price of the service of the focal product was assessed (to determine if</p>

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						<p>this could be profitably maintained). Subsequently, if profitability could not be maintained, then additional tiers of the product/service were added to define the market (mobile voice, messaging and data). An essential step in this process is to evaluate the closest substitute to the focal product.</p> <p>The Determination, in subsection 4.1.1.1, highlights that consumers predominantly purchase mobile voice, message and data services jointly, as per a mobile tariff plan, on account of acquiring access to mobile networks. Additionally, 88% of respondents value mobility as the key advantage compared to fixed services. When coupled with the fact that mobile services are predominantly purchased jointly (as indicated by 70% of the TATT-KCL Mobile Customer Survey respondents), in the event of a SSNIP, the entire mobile tariff plan is taken</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>into account when compared to fixed services.</p> <p>Therefore, given that mobile services are consumed “on the go”, it is likely that the actual extent of substitution is limited, as fixed services are tied to a determined geographic location.</p> <p>The Authority is aware that there are individual tariffs for voice/messaging/data which, can be incurred by customers of standalone PAYG subscriptions (which are discussed in subsection 4.1.1.1 Product Characteristics). The Authority’s statement referenced by TSTT is focused on a subgroup of mobile end users who value access to all services in a single tariff and, unlike standalone PAYG customers, are unlikely to use fixed services instead, in the case of a SSNIP. This limited substitution from mobile service to fixed service is illustrated in the TATT-KCL Mobile Customer</p>

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						<p>Survey (Figure 44), where mobility is the first ranked advantage stated by 88.2% of mobile service end users.</p> <p>It should be noted that the Price Regulation Framework referenced is a draft document published in 2009 and can only serve as a historical reference.</p>
13	4.1.1.2	Service Availability and Uptake	TSTT	<p>TATT continues to insist that observed trends of uptake or average usage for fixed and mobile services do not support the notion of substitution. This is despite increasing evidence of such substitution. In Figure 6, as predictable even at the time of the last consultation, we find that minutes per fixed connection have not dropped below that of mobile connections. But instead of acknowledging that end users are substituting, TATT attributes the decline to “<i>a more fundamental shift in customer preferences, or technological obsolescence</i>”.</p>	<p>TATT should revise its view based on the evidence of usage substitution between fixed and mobile.</p>	<p>TSTT's position on fixed and mobile substitution is noted. The Authority maintains its position that the views in the Determination regarding fixed and mobile substitution are accurate and require no revision. The rationale supporting this conclusion is elaborated upon below.</p> <p>The Authority acknowledges that there may be other factors (exogenous) impacting the market and this is referenced explicitly in the Determination, under subsection 1.3, which states the purpose for conducting the assessment. TSTT is</p>

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				<p>TATT seems irrationally averse to acknowledging this substitution. This is especially obvious when it appears to stipulate that substitution requires a one-for-one increase in mobile call volumes for the decline in fixed call volumes. TATT states that <i>“the lack of a countervailing increase in the number of minutes per mobile connection, or the number of mobile subscriptions, suggests that this fall in fixed voice usage is less likely to be driven by a substitution from fixed to mobile but is a structural shift away from increasingly obsolete fixed voice calls. This is because, if there was stronger substitution between the two, the Authority would expect to see an increase in the number of minutes per mobile connection in response to a fall in the number of fixed minutes per mobile connection.”</i> By denying that other forms of substitution are also occurring as well, i.e., OTT services or data services, which would also explain the gap, they are left with only a weak,</p>		<p>asked to note that the Authority has comprehensively assessed the impact of OTT services on the mobile market, under subsection 4.3, and the substitutability between mobile and fixed services (subsection 4.1).</p> <p>The Authority acknowledges that OTT services are impacting the retail domestic mobile market pronouncedly, as evidenced by the considerable uptake and usage of the applications and the significant number of customers indicating that they would make fewer calls but use OTT calls (approximately 30%) in response to a SSNIP. The Authority further notes that, while mobile users would not switch away from their mobile subscription entirely, to rely on OTT services alone in the event of a SSNIP, customers would switch to OTT services, on a call basis. Therefore, OTT services can be considered as significant or partial substitutes, based on the evidence,</p>

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				cover-all explanation of “structural shift.”		<p>including product substitutability, relative prices (zero-rated modal OTT services), declining subscription revenues, and the proportion of consumers of mobile services who would consider switching between both services, on a call basis (see subsections 4.3.1.4 and 4.4 of the revised Determination).</p> <p>The Authority is aware that there are a number of factors at play that may be affecting the market which, as mentioned above, are taken into account in the Determination. Regarding substitution between fixed and mobile voice services, the Authority reminds TSTT that the focal product in this Determination is mobile voice service. However, the following points were noted:</p> <ol style="list-style-type: none"> 1. The growth in fixed and mobile service uptake; for example, the fixed voice penetration rate grew from

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						<p>66.7 in 2018 to 70.6 of 2022, whereas the mobile voice penetration rate grew from 145.1 in 2018 to 146.4 in 2022.</p> <ol style="list-style-type: none"> 2. The proliferation of mobile services; for example, the TATT-KCL Mobile Customer Survey evidence shows that the frequency of mobile voice service usage is six times that of fixed voice services. 3. Decreasing fixed voice calls. Despite maintaining fixed line subscriptions (as shown in Figures 5 and 6 of the Determination), consumers are making fewer calls using their fixed lines, with mobile subscriptions and minutes remaining around the same over the period. <p>Therefore, it is highly unlikely that mobile customers will consider fixed voice services as an effective</p>

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						<p>substitute. However, the Authority duly notes that fixed calls may be a viable substitute for mobile calls in some instances, depending on the context, for example, whether customers are calling someone available on a fixed line or mobile (which may influence their choice of the most cost-effective method to make the call), and/or whether they are at home with access to a fixed line at the time (see subsection 4.1.1.4 of the Determination).</p>
14	4.2.1.2	Service and Availability and Uptake	TSTT	<p>TATT states that “<i>given the conclusion above that fixed voice and mobile voice services are not demand-side substitutes, [end users] will be less willing to give up the entire mobile bundle or plan and switch to a fixed broadband service, in the case of a SSNIP in mobile services.</i>” The SSNIP does not ask whether an entire mobile bundle or plan would be abandoned, but whether a price increase in the bundle or plan could not be</p>	TATT to correct this statement	<p>Regarding TSTT’s position on fixed and mobile services substitution above, the Authority reiterates that it understands the methodology of the SSNIP and that its application is consistent with international best practices including ITU’s (ITU World Bank, 2020). Specifically, the SSNIP begins by considering the smallest possible scope of services and tests whether a 5%–10% price increase in the focal service can be profitably</p>

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				<p>profitably maintained. Profitability might not be maintained due to lower usage of some elements of the tariff plan or a shift to another tariff plan. Thus, although the market may be defined to include a broad set of services, how profitability is maintained or increased may depend on the pricing structure within that broad set.</p>		<p>maintained. If profitability is not maintained, then the next closest or immediate substitute is evaluated. The process iterates until the point where a SSNIP may be profitably imposed. TSTT is advised that this process was adopted and is detailed further below.</p> <p>The Determination starts with the most basic product, i.e., mobile access, following which the consideration of a 5%–10% increase in the price of the service of the focal product was assessed (to determine if this could be profitably maintained). An essential step in this process is to evaluate the closest substitute to the focal product i.e., mobile data services.</p> <p>For clarification, TSTT is reminded that mobile data services form part of the mobile service market, which also includes access, voice and messaging. In the Determination, responses of</p>

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						<p>consumers to a SSNIP (Table 15 of the TATT-KCL Mobile Customer Survey) were analysed, showing that the majority of mobile data respondents on a plan (61.2%, as delineated below) would keep their mobile plan in the case of a SSNIP, therefore implying profitability may be maintained.</p> <ol style="list-style-type: none"> 1. “36.9% of respondents would do nothing on account of an increase in the cost of mobile data. 2. 15.2% of respondents would switch to another mobile service offering. 3. 5.3% of respondents would use less mobile data but stay on their current plan. 4. 3.8% of respondents would use mobile call or SMS/MMS services on their current mobile plan.

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						<p>Additionally, TSTT is reminded of the high value placed on mobility by customers in the retail domestic mobile service market. In the TATT-KCL Mobile Customer Survey, under Figure 28, 88.6% of PAYG respondents ranked “mobility” as the first key advantage of current mobile service over fixed line service. In addition, in Figure 55, 88% of respondents ranked “mobility” as the first key advantage of mobile data-only plans over fixed broadband Internet plans.</p> <p>Moreover, given the requirements for different network technologies, service licences, spectrum and other investment and time requirements, the Authority considers it highly unlikely that, following a SSNIP in mobile data services, a fixed licensee would deploy a mobile network and start offering mobile data services.</p>

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						<p>The Authority recognises that there is an increasing number of public Wi-Fi networks in Trinidad and Tobago. This also does not significantly impact the mobility advantage of mobile data services over fixed broadband services, since it allows mobile data end users to offload their traffic only whilst in areas which enjoy Wi-Fi network coverage. Restricted rollout, password requirements and limitations on the terms of use (time and speed restrictions in some instances) may also limit substitutability between mobile data and public Wi-Fi services. Moreover, based on the TATT-KCL Mobile Customer Survey (Figure 34), approximately 1% of respondents indicated that they would make fewer calls and use OTT calls on a public Wi-Fi service on account of an increase in the cost of monthly mobile calls subscriptions at this time.</p>

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15	4.2.1.4	Evidence of Switching	TSTT	<p>TATT states that “<i>whilst this could be considered a form of mobile-to-fixed substitution of data usage, end users are unlikely to give up their mobile data services altogether because of it (i.e., fixed services may be complements, to an extent, rather than perfect substitutes).</i>” The SSNIP does not ask whether mobile services would be abandoned altogether, but whether a price increase in the bundle or plan could not be profitably maintained. Profitability might not be maintained due to the lower usage of some elements of the tariff plan or a shift to another (lower usage) tariff plan.</p>	TATT to correct this statement.	<p>The Authority acknowledges TSTT's position on mobile-to-fixed data substitution. TSTT is reminded that mobile data services form part of the mobile market, which also includes access, voice and messaging. Therefore, the Determination analyses if a SSNIP on mobile data service would be profitable, given the following responses by consumers (Table 15 of the TATT-KCL Mobile Customer Survey):</p> <ol style="list-style-type: none"> 1. 36.9% of respondents would do nothing on account of an increase in the cost of mobile data. 2. 15.2% of respondents would switch to another mobile service offering. 3. 5.3% of respondents would use less mobile data but stay on their current plan. 4. 23.7% of respondents would use less mobile data by offloading to Wi-Fi where possible.

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						<p>Among the other responses to a SSNIP, 52.1% of respondents would continue using mobile data services, whereas 29% would use less mobile data, by either staying on their plan or offloading to Wi-Fi where possible.</p> <p>Based on the assessment above, there is limited demand-side substitution, due to considerable differences in product features and end users' preferences. The Authority concludes that retail fixed broadband services do not form part of the same product market as retail domestic mobile services.</p> <p>Taking demand and supply considerations together, the Authority concludes that mobile data services belong to the same market as mobile access, domestic call and messaging services; they are substitutes from the supply-side and, on the demand side, offer similar functionality to end</p>

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						<p>users. However, the Authority considers that significant increases in Wi-Fi accessibility in the future can affect demand-side substitutability.</p> <p>The Authority's view is that substitution between mobile data and fixed broadband is limited at this time, based on the consumer usage patterns presented in the TATT-KCL Mobile Customer Survey (Table 15).</p>
16	4.3	Are OTT Services in the Same Product Market as Retail Domestic Mobile Services?	CCTL	<p>Changes in customers usage patterns as well as the mix and contribution to the overall sector revenues as set out in Table 1- Industry Revenues Comparison 2015 & 2022, above, is reflective of the evolution in consumer preferences and how consumption of telecommunication services has changed over the period.</p> <p>In dynamic markets, substitutability has to be interpreted broadly as substitutability will take place not only on price but on other performance</p>	In light of the titanic shifts in the market on the technological development, changes in market dynamics and consumer preferences, supported by the preponderance of empirical data showing the decline in usage and revenues from mobile voice services and corresponding increase in broadband revenues, we	The Authority examined a range of past, present and future developments and datasets where available, in assessing of whether OTT services are in the same product market as retail domestic mobile services. Accordingly, the Authority has revised its position in the Determination and has included OTT services as a part of the relevant domestic retail mobile telephony market. This change was made considering the significant partial substitution observed (i.e., the

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				<p>indicators. There is a need to take a forward-looking view of substitutability, considering how different services may satisfy comparable consumer needs.</p> <p><i>¹⁰“...the rapid pace of technological change means that quite often competition takes place through dimensions other than price (for example the introduction of new services with improved performance”</i></p> <p>The Authority states that it considers “...that there may be some demand-substitution between OTT voice services and domestic mobile call services.” On page 78 of the consultation document the Authority states that it believes that any substitution between OTT and mobile services is likely to be partial or limited.</p>	<p>recommend that the conclusions that OTT voice services are not part of the product market for mobile services be revisited in this process.</p>	<p>reduction in consumption of voice services and the related increase in the uptake of OTTs as an alternative), which may constrain a hypothetical monopolist (HM) from profitably increasing the price of mobile voice and messaging services. This revision takes into consideration feedback received from stakeholders during consultation, additional operator metrics (including PAYG subscriptions, service tariffs and financial earnings) and international best practices. Specifically, the Authority notes the revised European Commission Notice on the definition of the relevant market for the purposes of competition law, which permits taking into account usage metrics (partial substitution) and does not require the exclusive use of perfect substitution (access metrics) for market definitions.</p>

¹⁰ Working Paper, No 517 Market Definition in the Telecoms Industry, IESE Business School, University of Navarra, Jordi Gual, September 2003

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				<p>However, the preponderance of empirical evidence does not support a finding of limited substitutability. OTT voice applications such as WhatsApp are a major part of the communication tools of many, whether by direct text messaging or voice calls. ¹¹According to the National Digital Inclusion Survey 2021, a high proportion of the population of Trinidad and Tobago (83%) reported using OTT services. The trends in mobile voice revenue and broadband revenues (refer to Table 1 above) establishes that there is substitution on the demand side.</p> <p>With respect to supply side substitutions between OTT and mobile services, the Authority concludes that there is no supply side substitution. This conclusion is based on the licensing requirements (concession and spectrum), plus the investment required for the deployment of network and</p>		<p>The Authority has revised its position to conclude that OTT services are considered partial substitutes, on a call basis, to traditional mobile services (see revision in subsection 4.3 of the Determination). This means that a sizeable proportion of customers would reduce consumption of mobile services (i.e., minutes) and switch to using OTTs in the event of an increase the price of mobile services.</p> <p>The factors considered in this analysis include both price and non-price considerations, such as consumer usage patterns, global technological developments, consumers' switching behaviour and pricing trends. Notably, these factors informed the decisions made by consumers and ultimately determined the set of products/services that belong in the same relevant market.</p>

¹¹ Page 87, National Digital Inclusion Survey 2021, Telecommunication Authority of Trinidad and Tobago, May 2022

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				<p>retail infrastructure needed to provide mobile services. The Authority posits that it is unlikely that an OTT provider would enter the mobile market following a SSNIP test in mobile services.</p> <p>The conclusion ignores the fact that OTT service providers are already actively participating in the market.</p> <p>The OTT providers are not interested in the underlining physical infrastructure whether fixed or mobile, their business model providing services that ride the internet, making them accessible to the end user. On that basis no OTT provider is seeking to acquire spectrum or to lay a network into the ground. The OTT players are edge providers that are benefiting from the existing infrastructure. The case of assessing supply substitutability is therefore flawed in this context and not appropriately applied.</p>		<p>The Authority is also engaged in other initiatives that are part of its growing capacity and toolkit to monitor prices and detect anti-competitive pricing.</p> <p>The Authority, by acknowledging that OTT services are considered partial substitutes, on a call basis, i.e., mobile users with access to the Internet and OTT services may consider switching between both services (mobile and OTT) on an individual call basis. But mobile users will not switch away from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only.</p> <p>Notably, the Determination also concludes that mobile data services belong to the same market as mobile access, domestic call and messaging services (see subsection 3.2). Based on this, the Authority captures the impact of OTTs on the mobile market</p>

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				<p>The evidence presented is incongruent with the assertion that mobile voice and OTT voice do not form part of the same market. There is clear evidence of demand substitution between the two. The supply substitution criterion is also met given the extensive and ubiquitous uptake and penetration of mobile and even fixed broadband usage (even on a per person basis).</p> <p>The high usage rate of OTTs (83%) paired with large penetration of broadband usage both mobile and fix of over 80% lay a solid and compelling foundation to assert that OTT voice will be an effective and available substitute for mobile voice. Taking a forward-looking approach to defining markets is relevant to the supply side as well, as there is a need to take account of a larger range of suppliers of services.</p> <p>We therefore reject the notion that OTT voice is not an effective substitute for</p>		<p>(via mobile data services). However, it should be noted that customers consume OTT services overwhelmingly via fixed broadband services (Wi-Fi), as indicated in DIS 2021 (86% of OTT users access the service through Wi-Fi at home) and TATT-KCL Mobile Customer Survey, Figures 34 and 35.</p> <p>Based on the current trend in customer usage and market revenues, it is likely that OTTs' impact on the retail domestic mobile market will increase in the future. The Authority will aim to conduct periodic reviews of the retail domestic mobile market on a three-year cyclical basis, or as it deems necessary, for accurate decision making and the fulfillment of the Authority's functions and regulatory mandate, in keeping with the Act and all its subsidiary legislation.</p>

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				<p>mobile voice, and consequently we recommend that a more open-minded and forward-looking approach be adopted in defining the market boundaries. An overly conservative approach in defining markets run the risk of weakening economic efficiency in the longer term.</p>		<p>Moreover, OTT services' impact on the retail domestic mobile market is pronounced, as evidenced by the considerable uptake and usage of the applications and the significant number of customers (33%) indicating that they would make fewer calls but use OTT calls in response to a SSNIP. A hypothetical monopolist in the domestic mobile market may have difficulty increasing the price of its service through a SSNIP, as evidenced by trends in ARPU. While mobile users will not switch from their entire mobile plan to rely on OTT services alone, on a call basis, OTT services are considered partial substitutes due to a significant subset of mobile telephony service users who would consider switching between both services on an individual call basis. The price of OTT services is a potential competitive constraint on operators in the domestic retail mobile market, which is sufficient to impede the</p>

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						<p>ability of a hypothetical monopolist in the domestic mobile telephony market to raise prices profitably.</p> <p>In summary, the Authority's final position on whether OTT services currently form part of the relevant mobile telephony market was informed by the following:</p> <ol style="list-style-type: none"> 1. 33% of respondents (from the PAYG subset – the largest subset identified in the survey) indicated that they were likely to make fewer calls and instead rely on OTT calls in the case of a SSNIP. Notably, only 1% would stop using their mobile services altogether and 19% stated that they would do nothing. 2. Additionally, the TATT-KCL Mobile Customer Survey buttresses the results of the above-mentioned SSNIP, with Figures 28 and 30 of the

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>survey revealing the following:</p> <p>a) Figure 28 – 88.6% of respondents selected “mobility” as the key advantage of current mobile services over fixed landline service, as customers indicated “being able to make and receive calls on the move”.</p> <p>b) Figure 30 – 51.6% of respondents selected “accessibility” as the key advantage of mobile services compared to OTT call services, where customers indicated that “I can reach all people I want via mobile calls but not via OTT services”.</p>

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						Therefore, in light of the foregoing, and taking into consideration the growing developments in OTT services and the importance of mobility and accessibility, the Authority is of the view that OTT services are partial and significant substitutes, on a call basis (i.e., mobile users with access to OTTs via the Internet may consider switching between both services on an individual call basis). But mobile users will not switch away from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only.
17	4.3	Are OTT Services in the Same Product Market	Digicel	As discussed above, Digicel notes the Authority's preliminary conclusion ¹² that <i>"mobile voice, SMS and data services, along with mobile access form part of a single product market for retail domestic mobile services"</i> .		The Authority notes Digicel's assertion that it failed to properly account for the existence of OTT voice and messaging services in the Determination and respectfully disagrees based on the following.

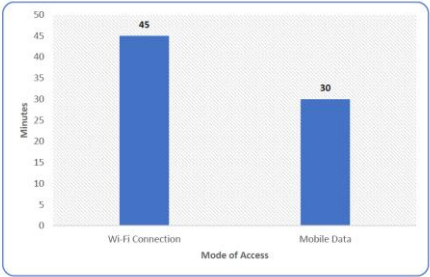
¹² The Executive Summary at page 8 of the Draft Determination clearly (and appropriately) states that its conclusions on market definition are "preliminary" in nature. This makes sense since there would be little point in the current consultation process if the Authority had already predetermined the matter.

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
		as Retail Domestic Mobile Services?		<p>However, in reaching such a preliminary conclusion, the Authority erred by not properly taking into account the existence of OTT voice and messaging services as substitutes for traditional voice and SMS services. This was despite ample evidence being available from the <i>National Digital Inclusion Survey 2021</i> and other sources to show that substitution does occur to a material extent (see below).</p> <p>Digicel respectfully submits that the Authority then compounded this error by presenting its preliminary conclusion from section 3 of the Draft Determination as an “established” fact in section 4.3 of the same document and then claiming it to be “<i>procedurally correct to carry out the relevant market assessment against the overall product market defined, as opposed to a subset of the market (such as voice or SMS)</i>”.</p>		<p>Throughout the Determination (and specifically subsection 4.3), the Authority acknowledges the existence and potential impact of OTT services by analysing their complementary and partial substitution for traditional mobile services.</p> <p>The Authority acknowledges that approximately 33% of survey responders indicated that they would “Make fewer calls but use OTT calls (such as Viber, Skype, Google Voice, WhatsApp, or FaceTime) instead”, on account of a 5% to 10% increase in the price of traditional mobile calls (SSNIP). However, this does not suggest that these consumers would “fully switch” to using only OTT voice services.</p> <p>Furthermore, it is important to note that, from a traditional standpoint, access via the purchase of a SIM allows for voice calls, SMS and</p>

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				<p>The Authority further repeats its reliance on this purported established fact elsewhere in the Draft Determination, including at section 4.3.1.1¹³, where it relies on its “decision” to “[define] the relevant market to encompass mobile access, mobile calls, SMS, and data services together” to justify dismissing the TATT-KCL Mobile Customer Survey 2022 finding that nearly a third of customers surveyed would be willing to switch to using OTT voice services in the face of a 5% - 10% increase in the price of mobile calls.</p> <p>Digicel strongly disagrees with the Authority’s assertion that its approach is “procedurally correct” and considers that the analysis undertaken by the Authority is fundamentally flawed as a result.</p>		<p>potential access to data, if the device in question is so enabled i.e., smartphones.</p> <p>The Authority refers Digicel to Figure 1 in the Determination, which shows that an estimated 94.8% of the mobile population would make outgoing calls/SMS, whereas 4.7% indicated they would utilise incoming calls/SMS only. Collectively, 99.5% of the population would make and receive both incoming and outgoing calls/SMS. This confirms that the overwhelming majority of mobile customers value making outgoing calls in addition to receiving incoming calls and, as such, negates the value of defining access as a market on its own.</p> <p>It is procedurally flawed to posit that there is perfect substitution between the services obtained from acquiring</p>

¹³ Draft Determination at page 78. Note that similar reliances were made on pages 28, 85 and 90.

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				<p>While it is obvious and perhaps trite that OTT services and internet access are complements, in Digicel's experience and as demonstrated by the research undertaken by the Authority, OTT voice calls and messages are substitutes for traditional mobile voice calls and messages and consumers are comfortable to use them interchangeably to communicate.</p> <p>Moreover, the Authority's analysis seems to be premised on theory rather than what actually occurs in practice. The resulting error seems to arise as a misunderstanding of how OTT voice calls and messages can be made through a mobile device over any internet connection, whether it is a data service provided by the mobile service provider or through a fixed network connection that can be accessed through any available WiFi access point.</p>		<p>access to networks via a SIM, and services which are dependent, in most cases, on a functional SIM and connection to the Internet via mobile data or a fixed broadband connection.</p> <p>Considering the foregoing, which shows the widespread responsiveness of all mobile customers (i.e., those acquiring access to networks via a SIM), the Authority disagrees with Digicel's assertion that the analysis undertaken in this Determination is fundamentally flawed.</p> <p>In addition, the Authority assures Digicel that it understands the practical processes relating to the origination of OTT calls via data services or via a Wi-Fi connection. Digicel is reminded that these scenarios/instances have been accounted for in the TATT-KCL Mobile Customer Survey.</p>

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				<p>This is demonstrated in the following graph taken from page 90 of the <i>National Digital Inclusion Survey 2021</i> (“DIS 2021”), which shows that consumers spend 50% more time calling and messaging via OTT on WiFi networks than they do on mobile networks.</p>  <p>Figure 4.35: Median Minutes spent calling and messaging via OTT, using mobile data and Wi-Fi connections</p> <p>Indeed, since mobile phones switch seamlessly between mobile network and WiFi connections, it is likely that many consumers are unaware on a call by call basis whether they are making a call or sending a message using a data</p>		<p>It should also be stressed that an end-user’s identity on an OTT platform, for example, WhatsApp (the most used OTT application domestically, as indicated in Figure 58 of the TATT-KCL Mobile Customer Survey and Table 4.9 in the DIS 2021 survey) is inextricably tied to a phone number.</p> <p>Regarding survey appropriateness and accuracy, Digicel is also advised that the TATT-KCL Mobile Customer Survey sample size of 1,000 end users satisfies and exceeds the thresholds considered appropriate for populations of 100,000 and above, using a margin of error of 5%. This sample size is substantially larger than the 400 threshold value proposed for populations exceeding 100,000 in published statistical tables relating to the 95 percent confidence level (International Journal of Economics, 2014).</p>

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				service provided over a mobile network or through a WiFi connection.		<p>The TATT-KCL Mobile Customer Survey sample represented 0.073% of the population and covered 585 enumeration districts, 14 municipalities in Trinidad, and seven parishes in Tobago, ensuring the sample's representativeness was national and across various demographics (e.g., age, sex and income). Furthermore, the sample size of 1,000 end users took into account the universal standard 95% confidence level and 5% for the relative margin of error. This sample satisfies the United Nations (UN) statistical recommended rate of 5%–10% relative errors for main indicators, and falls below the suggested maxima 12%–15% relative margin of error contained in the UN <i>Practical Guidelines for Designing Household Survey Samples</i> (UN, 2005).</p> <p>The Determination has been revised to incorporate a detailed explanation</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>on the design of the survey sample size.</p> <p>Lastly, the Authority disagrees with Digicel's statement that consumers are "unaware on a call-by-call basis whether they are making a call or sending a message using a data service provided over a mobile network or through a WiFi connection."</p> <p>Making calls via the traditional mobile networks or via an OTT voice platform are distinct processes and attract different charges or tariffs. Hence consumers are fully aware when they make a call via either their mobile network or an OTT platform.</p>
18	4.3	Are OTT Services in the Same Product	TSTT	In TATT's own market analyses "Determination: Retail Domestic Mobile Telephony Market Definition" and TATT-KCL survey there are sufficient arguments to conclude that OTT services are increasingly	TATT should: (i) Adhere to the real findings of its various reports without prevarication, and	The Authority acknowledges TSTT's position on OTT substitutability and previous reports issued by the Authority on the subject. TSTT is advised that conclusions derived in this Determination are aligned to, and

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		Market as Retail Domestic Mobile Services?		<p>substitutable products for mobile retail services, a substitution which is not adequately taken into consideration. The TATT-KCL survey provides ample evidence of the increasing usage of OTT services as a substitute for mobile telephony services.</p> <p>On page 9 of the Consultation, TATT citing the survey results, states that <i>“there is considerable uptake of OTT voice and messaging services in Trinidad and Tobago, with 70%-90%”</i>. OTT services/prices therefore represent an important factor in the competitive landscape within the communications sector and a potential competitive constraint to operators in the domestic retail mobile market. In addition, in TATT-KCL survey responses OTT services are seen as demand-side substitutes on a marginal call basis (i.e., 33% of TATT-KCL survey respondents with access to the internet and OTT services would consider switching between both</p>	<p>(ii) reverse its view on OTT substitutability.</p> <p>The latter point is well established in international literature, for TATT to ignore these generally accepted trends – which are evidenced in their own Market Reports underscores that this process is biased towards achieving some end. This practice by the regulator continues to negatively impact the entire telecommunications market in Trinidad and Tobago, as evidenced by the collapsing market profitability in all segments.</p> <p>TATT seems to be willfully closing its eyes</p>	<p>do not conflict with, DIS 2021 and the AMR or other market studies published by the Authority.</p> <p>Fundamentally, the Determination, having taken into account past, present and future market developments, and accompanying datasets, where available, has a diverse repository of datasets, a distinct scope, and specific uses which differ from those of the AMR and DIS 2021.</p> <p>These wider considerations have allowed the Authority to keep abreast of market dynamics to inform interventions such as this Determination.</p> <p>The Determination also considers OTT substitutability and trends in total revenues and ARPU for telecommunications services over the period 2018 to 2022, which show:</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				<p>services when on an individual call basis).</p> <p>The globally accepted definition of the SSNIP test states that the test assumes a non-transitory price increase of approximately 5-10 % and asks whether, under such a price increase, customers would switch away from the product towards a potential substitute product. The results in Figure 34 from the consumer survey presented exactly such results - 44.1% of respondents would reduce the number of calls made on account of an increase in the cost of their mobile calls subscription by calling on OTTs. This argument directly led to the conclusion that OTTs are a direct substitute for mobile voice calls.</p> <p>Ultimately it is crucial that market analyses must not be static, but analyses should be with a forward-looking perspective over a given time horizon. Bearing in mind the trend of</p>	<p>to the need for real policy interventions.</p>	<ol style="list-style-type: none"> 1. decreasing total mobile service revenue and average revenue per subscriber. 2. declining total mobile voice revenues and average revenue per subscriber in mobile voice services, 3. increasing total mobile data revenues and average revenue per user. <p>Notably, the decline in total mobile voice revenue (21%) outweighs the increase in revenues from the mobile Internet market (18%), for the period of review 2018 to 2022.</p> <p>In light of the foregoing, the Authority has revised the Determination and agrees that OTT services are impacting the retail domestic mobile market pronouncedly. This is captured in subsection 4.3.1.2 of the Determination, which states that 92%</p>

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				<p>significantly increased usage of OTT services, the fact is that after 2-3 years the substitution will be even at a higher level. Significant technological changes in electronic communications markets are also likely to have an impact on the correct delineation of relevant markets (convergence).</p> <p>In its analyses, TATT admits the effect of substitution but makes irrational conclusions such as on:</p> <ul style="list-style-type: none"> - Page 78: <i>“The Authority notes that even though, as per the survey, under a third of PAYG users would switch some of their mobile calls to OTT calls in response to an increase in the price of mobile calls, this is insufficient to conclude that they form part of the same relevant market.</i> - Page 84: <i>“This observation is further supported by the TATT-KCL Mobile Customer Survey 2022 which revealed that, on average, 31% of all PAYG respondents</i> 		<p>of respondents to the TATT-KCL Mobile Customer Survey stated that they use OTT-based applications, and more than 50% indicated that they send more than 10 OTT messages a day. The TATT-KCL Mobile Customer Survey (Figure 47) also reveals that 56.7% of OTT service users cited price as a disadvantage of their mobile call plan when compared to OTT call services. The Determination also highlights the proportion of consumers (33%) of mobile service users who would consider switching between both services, on a call basis. The Authority has therefore duly deliberated the impact of OTT services on the retail domestic mobile service market.</p> <p>Therefore, based on this position, the Authority agrees that a hypothetical monopolist in the domestic mobile market may find it difficult to profitably increase the price of its</p>

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				<p><i>would use OTT voice instead of domestic mobile voice for a proportion of their calls, if faced with a 5%–10% rise in mobile call prices.”</i></p> <p>- Page 93: <i>“Strong uptake of OTTs in Trinidad and Tobago, with 70%-90% of TATT-KCL survey respondents utilizing their smart phone to access, amongst others, OTT services. The TATT-KCL survey suggests that the number of respondents who perceived OTT services to be lower priced in Trinidad and Tobago, is non-trivial, with 70%-90% of respondents considering it more affordable than mobile call/messaging services.”</i></p> <p>The above implies that OTT services/prices represent an important factor in the competitive landscape within the communications sector and a potential competitive constraint to</p>		<p>service by a SSNIP, as evidenced by trends in ARPU, and operators' financial data, such as TATT's Request for Information Data Template dated 7th December 2021). While mobile users will not switch from their mobile service plan to rely on OTT services exclusively, on a call basis, a sizeable number of customers would substitute mobile voice services for OTT services. Therefore, for a sizeable volume of customers, OTT services are viewed as partial substitutes, on an individual call basis, for mobile services. OTT services are a potential competitive constraint on operators in the retail domestic mobile market, which may hinder the ability of a hypothetical monopolist in the domestic mobile market to raise prices profitably.</p> <p>Considering the foregoing, OTT services can be incorporated as a relevant part of the retail domestic mobile market. This revised position</p>

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				<p>operators in the domestic retail mobile market.</p> <p>TATT did not discuss the fact that OTT applications add more functionality for the user. This adds to the attractiveness and substitutability of OTT voice for traditional voice. OTT platform design has meant that it can be easier and more convenient to use OTT applications for domestic voice and SMS. The breadth of functionality within the WhatsApp application, for example, means a user can accomplish communication tasks more effectively than using traditional calling, SMS, emailing, and content applications.</p> <p>There is global confirmation of the impact of OTT service on traditional voice: the development and demand for OTT services, which is a result of the increased availability of broadband over both fixed and mobile platforms; an increase of OTT as an alternative to electronic communications services</p>		<p>on OTTs substitutability with mobile services has been acknowledged in the amended Determination (see amendment to section 4.3).</p>

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				<p>normally provided by operators, such as voice calls and SMS; and the market disruption of these free services.</p> <p>In the conclusion of the “BEREC report for OTT service 2016” it is stated that due to the current and expected evolution of these new services taking place online, the boundary between electronic communication services (ECSs) and the content services provided over electronic communication networks (these latter out of the scope of the Regulatory Framework) becomes more blurred. This statement from 2016 is even more true in Europe today than at the time of its issuance and is particularly relevant for the Trinidad and Tobago market.</p>		
19	4.3.1.1	Aggregated Assessment of OTT	TSTT	<p>TATT states that “<i>The Authority notes that even though, as per the survey, under a third of PAYG users would switch some of their mobile calls to OTT calls in response to an increase in the price of mobile calls, this is</i></p>	<p>This practice by the regulator to ignore clear market signals continue to negatively impact the entire telecommunications</p>	<p>The Authority disagrees with the statement that it has ignored market signals. The Determination has taken into account past, present and future market developments and datasets, where available, in its assessment of</p>

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		Services		<p><i>insufficient to conclude that they form part of the same relevant market. This is because, for such a conclusion, a substantial proportion of customers would have to substitute away from mobile calls entirely (i.e., stop making traditional mobile calls) and give up their overall PAYG plan.” TSTT disagrees. The SSNIP does not ask whether a mobile tariff plan would be abandoned entirely, but whether a price increase in the tariff plan could not be profitably maintained. Profitability might not be maintained due to lower usage of some elements of the tariff plan or a shift to another tariff plan. Thus, although the market may be defined to include a broad set of services, how profitability is maintained, or increased may depend on the pricing structure within that broad set.</i></p>	<p>market in Trinidad and Tobago, as evidenced by the collapsing market profitability in all segments.</p> <p>TATT seems to be willfully closing its eyes to the need for real policy interventions.</p> <p>TATT to correct this statement.</p>	<p>the relevant retail domestic mobile telephony market definition in Trinidad and Tobago.</p> <p>The Authority has considered all pertinent market signals in its assessment of the relevant retail domestic mobile telephony market definition in Trinidad and Tobago, given available data. These considerations of comprehensive datasets are essential for credible use of the Determination in subsequent competition assessments.</p> <p>Considering the foregoing, and to highlight the holistic approach undertaken in this consultation process, the Authority considered the impact of OTTs on the profitability of various market segments (see subsection 4.3).</p> <p>The Authority agrees that OTT services are a potential competitive constraint on operators in the</p>

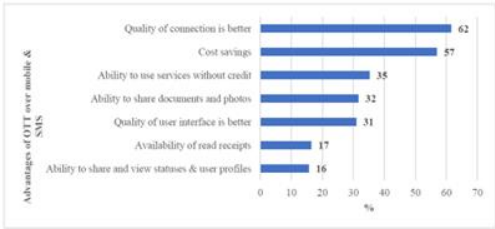
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						<p>domestic retail mobile market, which may hinder the ability of a hypothetical monopolist in the domestic mobile telephony market to raise prices profitably (subsection 4.3.1.4).</p> <p>The Determination notes that, on the sub-component level, there is some degree of substitution between both services, on a call basis (subsection 4.3.1.4). However, it is unlikely that, on account of a SSNIP, customers would forego their entire mobile subscription for OTT voice, messaging and data services only, given the consumer preferences identified, i.e., the mobility and accessibility limitations of OTTs “on the go” for those consumers that are not subscribed to prepaid or postpaid plans. The TATT-KCL Mobile Customer Survey indicates that only 1% of respondents would stop using PAYG mobile calls (Table 1) and that 2% using mobile plans (prepaid and</p>

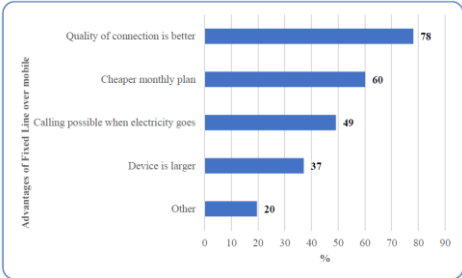
Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>postpaid) would stop using mobile services altogether (Table 18).</p> <p>In light of the foregoing, the Authority deems it highly unlikely that users would substitute entirely away from their mobile voice, messaging and data plan on account of a SSNIP.</p> <p>The Authority requested supplementary data from all service providers in the mobile and fixed markets, to assess these market definitions. These datasets, and in particular, data points on revenues by service plan, financial performance indicators, and end-to-end costs by various service categories/segments, were required, to buttress the findings of the relevant market in the Determination.</p>
20	4.3.1.2	Consideration of OTT	Digicel	Digicel considers the disadvantages of OTT services described by the		The Authority notes the point Digicel raises from DIS 2021 and is of the view that similar conclusions have

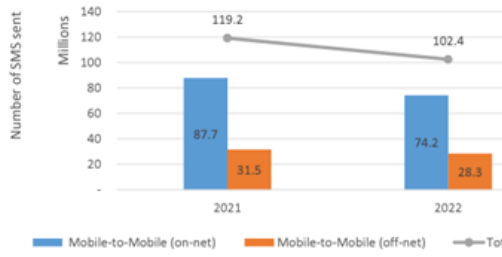
Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
		and mobile voice services – 1. Product Characteristics		<p>Authority are either overstated or do not exist in practice.</p> <p>The prevalence and use of OTT services for making calls and sending messages is underscored by the Authority in its Consultative Document <i>Framework on Over-The-Top Services (OTTs) in Trinidad and Tobago</i>, which was published on 25th August 2023. At page 12 of that Consultative Document the Authority stated:</p> <p><i>“From a purely demand-side perspective, the National Digital Inclusion Survey 2021 (DIS 2021) showed that a significantly high proportion of the local population (83%) reported that they used OTTs. For persons using OTTs, 79% access the services on a daily basis. The median time in minutes spent calling and messaging using OTT applications generally, and on Wi-Fi specifically, were 30 and 45 minutes, respectively. According to DIS 2021, the highest</i></p>		<p>been derived in the Determination and its underpinning TATT-KCL Mobile Customer Survey, namely, that “a significantly high proportion of the local population (83%) reported that they used OTTs”.</p> <p>In arriving at the conclusion of the relevant market, the Authority considered this point and the advantages favouring mobile services over OTT services, as outlined in the TATT-KCL Mobile Customer Survey, and other key statistics from the AMRs, as follows:</p> <ol style="list-style-type: none"> 1. Mobile penetration in 2022 was recorded at 146.4 per 100 inhabitants. 2. Mobile Internet penetration per 100 inhabitants was recorded at 62.9 in 2022, up from 49.9 in 2018. 3. Fixed Internet penetration per 100 inhabitants was recorded at 28.5 in 2022, up from 25.2 in 2018.

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				<p><i>reported advantage of OTTs compared to mobile and SMS was better quality of connection particularly through a Wi-Fi connection, perceived by the respondents. These figures in DIS 2021 show the growth in demand and use of OTTs in Trinidad and Tobago, as well as the need for an orderly and structured approach to market expansion”.</i></p> <p>It seems apparent from these findings that consumers do not have any issues identified by the Authority in the Draft Determination and apparently preferred the quality of a WiFi connection over that of a mobile network.</p> <p>Such contradictory findings bring into further question the Authority's conclusion that OTT voice calls and messages are not substitutes for mobile calls and SMS.</p>		<ol style="list-style-type: none"> 4. Mobile coverage is trending towards 100% in Trinidad and Tobago. 5. Mobility was identified as the most important advantage for consumers of domestic mobile service, compared to fixed voice services (that is, 88.6% of the PAYG consumers surveyed in the TATT-KCL Mobile Customer Survey identified mobility as the top advantage, with consumers highlighting, “being able to make and receive calls on the move”). 6. Accessibility was identified as the highest ranked advantage of mobile service compared to OTT services (that is, 51.6% of the PAYG subset of the TATT-KCL Mobile stated accessibility as the top advantage, highlight that, “I can reach all people I want via mobile calls but not via OTT services”).

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				<p>Digicel also largely disagrees with Authority's position as explained below:</p> <p>In Digicel's opinion, from a demand perspective, OTT and mobile voice calls are likely to be considered substitutes by a consumer rather than complements. Both services ultimately fulfil the same task, which is establishing a voice call between two consumers. The Authority, on its own volition, points out that if a consumer's internet connection is poor or unavailable, users are likely to opt for a mobile voice call but does not seem to consider the converse situation. That is, where the mobile service is unavailable, the consumer may also use a WiFi connection to make an OTT call. The Authority also does not articulate that in situations where both mobile service and high-quality internet is available, consumers will likely instead choose to use OTT services. Particularly, when</p>		<p>In light of the findings listed above, it can be inferred that mobility plays a pivotal role in consumers' selection of mobile services. Additionally, the accessibility factor is a key advantage of mobile services over OTT services. Hence, even though the mobile Internet penetration rate is relatively high, at 62.9 per 100 inhabitants, it nonetheless implies that consumers on the move may not always have continuous access to the Internet for OTT services, especially given that the fixed Internet penetration rate is lower, at 28.5 per 100 inhabitants. This limits the substitutability of OTT services, as mobile telephony services or mobile voice calls are accessible by 146.4% of inhabitants compared to a lower percentage having access to the Internet.</p> <p>This conclusion is drawn despite 83% of the local population indicating that they use OTTs. In addition, DIS 2021 highlights that 86% of consumers use</p>

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				<p>considering in the Authority's own words that <i>"Concessionaires also acknowledged that quality of service/network was a key factor in the decisions made by consumers purchasing retail mobile telecommunications services"</i>.</p> <p>The Authority's statement is strongly supported by the following graphs taken from pages 90 and 91 of DIS 2021, which show the primary reasons for consumers preferring OTT voice and messaging services over traditional mobile calls and SMS and communication over fixed lines rather than mobile.</p>  <p>Figure 4.36: Reported advantages of OTTs over mobile and SMS services</p>		<p>OTTs on a home Wi-Fi network. Hence, given the significance of mobility and accessibility in traditional mobile voice services, it is inferred that OTT services do not entirely serve as direct or perfect substitutes for traditional mobile services.</p> <p>As stated in section 4.4, OTTs are considered significant substitutes, on a call basis (i.e., mobile users with access to the Internet and OTT services may consider switching between both services on an individual call basis).</p> <p>This may be further contextualised, in that OTT services' substitutability is dependent on the availability of access to the Internet. Where mobile data access is ubiquitous, there would be an expectation of full substitutability between OTT services and traditional mobile voice and messaging services. However, this is</p>

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				 <p data-bbox="690 607 1001 623">Figure 4.37: Reported advantages of fixed line over mobile</p> <p data-bbox="611 675 1113 833">This clearly demonstrates ‘ceteris paribus’ that the two services are direct substitutes for each other and not, as the Authority asserts, complements.</p>		<p data-bbox="1493 318 1976 686">not currently the case. The Authority evaluated the trends and evidence which suggest the growth of OTTs, implying a potential move towards full substitution of traditional mobile telephony services in the future. However, the Authority notes that this substitution is currently partial for a sizeable proportion of customers.</p>
21	4.3.1.2	Consideration of OTT and mobile voice services – 4. Evidence of Switching	Digicel	<p data-bbox="611 891 1113 1008">Digicel disagrees with any suggestion that mobile calling and SMS volumes are “<i>generally stable</i>”.</p> <p data-bbox="611 1060 1113 1344">The decline of mobile voice and SMS volumes is clearly demonstrated in the following table and graph sourced from the Authority’s Telecommunication and Broadcasting Sectors Annual Market Report 2022 which show that over the space of a single year mobile</p>		<p data-bbox="1493 891 1976 1385">The Authority acknowledges Digicel’s comments on mobile traffic and the results of DIS 2021. The Authority maintains that the conclusions drawn from the Determination, which include insights from the TATT-KCL Mobile Customer Survey, and the findings of DIS 2021 are not in conflict. For instance, both surveys highlight the growing demand for, and usage of, OTTs in Trinidad and Tobago. In</p>

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				<p>call and SMS volumes fell by 9.1% and 14% respectively.</p> <p style="text-align: center;">Table 3 Breakdown of domestic mobile minutes for 2021 and 2022</p> <table border="1" data-bbox="625 488 1123 667"> <thead> <tr> <th></th> <th>2021</th> <th>2022</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td>On-net mobile traffic minutes (billions)</td> <td>2.50</td> <td>2.23</td> <td>-0.27</td> </tr> <tr> <td>Off-net mobile traffic minutes (billions)</td> <td>1.02</td> <td>0.97</td> <td>-0.05</td> </tr> <tr> <td>Mobile-to-mobile traffic minutes on different networks (millions)</td> <td>790.3</td> <td>766.7</td> <td>-23.60</td> </tr> <tr> <td>Mobile-to-fixed traffic minutes (millions)</td> <td>229.5</td> <td>200.1</td> <td>-29.40</td> </tr> <tr> <td>Total domestic mobile traffic minutes (billions)</td> <td>3.52</td> <td>3.20</td> <td>-0.32</td> </tr> </tbody> </table>  <p style="text-align: center;">Figure 42 Number of on-net and off-net SMS sent in 2021 and 2022</p> <p>Digicel also has serious concerns with the Authority's statement that <i>“data on the growth of OTT voice calls and minutes domestically were not available at the time of writing [the Draft Determination]. Furthermore, it is noted that additional information would be required to assess how mobile</i></p>		2021	2022	Difference	On-net mobile traffic minutes (billions)	2.50	2.23	-0.27	Off-net mobile traffic minutes (billions)	1.02	0.97	-0.05	Mobile-to-mobile traffic minutes on different networks (millions)	790.3	766.7	-23.60	Mobile-to-fixed traffic minutes (millions)	229.5	200.1	-29.40	Total domestic mobile traffic minutes (billions)	3.52	3.20	-0.32		<p>particular, the TATT-KCL Mobile Customer Survey (Figure 61) indicates that 89.7% of respondents stated that they use OTT third-party applications several times a day, and 6.7% use OTT applications once a day; DIS 2021 states that 79% of the persons using OTTs accessed the services on a daily basis (Figure 4.33). Thus, both surveys show high usage of OTTs.</p> <p>It is important to highlight that the TATT-KCL Mobile Customer Survey delves more comprehensively into consumer behaviour with respect to OTTs compared to DIS 2021. This was achieved by presenting respondents with a wider range of scenarios and questions aimed at capturing expansive perspectives on the evolving dynamics of consumer preferences in the market. That being acknowledged, the findings from both surveys are mutually supportive.</p>
	2021	2022	Difference																											
On-net mobile traffic minutes (billions)	2.50	2.23	-0.27																											
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Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				<p><i>traffic would have evolved in the absence of OTT services</i>"¹⁴.</p> <p>In Digicel's respectful submission, that statement does not stand up to scrutiny as the Authority's Consultative Document <i>Framework on Over-The-Top Services (OTTs) in Trinidad and Tobago</i>, which was released on 25th August 2023, provided a wealth of relevant data that was obtained from the DIS 2021, the results of which clearly illustrated the substitutability between OTT voice calls and messages and traditional mobile calls and SMS.</p>		<p>Moreover, as stated in section 4.4, OTT services are considered significant partial substitutes, on a call basis, (i.e., mobile users with access to the Internet and OTT services may consider switching between both services on an individual call basis).</p> <p>This may be further contextualised, in that OTT services' substitutability for traditional mobile services is dependent on the availability of access to the Internet. Furthermore, where access to mobile data is ubiquitous, there would be near perfect substitutability between OTT services and mobile telephony services. However, this is not the case at this time. Presently, the Authority considers trends and evidence which point to growing use of OTTs, and by extension, substitution with mobile</p>

¹⁴ Draft Determination at page 84, footnote 158.

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						<p>telephony services on a per call basis in the future.</p> <p>The preceding para suggests that a hypothetical monopolist in the domestic mobile market may have difficulty when attempting to increase the price of its service by a SSNIP, as evidenced by trends in ARPU.</p> <p>The Authority also notes that there is no supply-side substitution between OTT services and mobile services in Trinidad and Tobago. This is due to the high barriers to entry into the traditional mobile services market. However, the Authority believes that both demand-side and supply-side characteristics allow for a holistic approach when defining the market.</p> <p>Digicel is also asked to note the diverse objectives and definitions in both reports being referenced.</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>In defining an OTT service, the <i>Framework on Over-the-Top Services (OTTs) in Trinidad and Tobago</i> (the Framework), states, in section 3, that an OTT is “an application accessed and delivered over the public Internet that may be a direct technical/functional substitute for traditional international telecommunication services”.</p> <p>Hence, Digicel is asked to note that the determination of the retail domestic mobile telephony market definition focuses on evaluating substitutes for traditional domestic telecommunications services.</p> <p>Therefore, the purpose for which each of these documents has been prepared differs considerably, with the Framework having a broader scope and definitions and the Determination focusing on one (of several) national telecommunications market.</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						Further to the above, the Authority acknowledges Digicel's disagreement with the statement that mobile calling and SMS volumes are "generally stable". Digicel is advised that the statement it references is premised on datasets shown in TATT's Annual Market Report 2022 (Table 4), which reveal a rate of decline of -1.8% in total domestic mobile voice calls minutes, year on year (2021 to 2022). The Determination has been amended to reflect that domestic mobile call volumes have not declined in similar proportion to the increase in demand for OTT call volumes.
22	4.3.1.2	Consideration of OTT and mobile voice services	TSTT	TATT states that " <i>the Authority notes that this is insufficient to conclude that they form part of the same relevant market since a substantial proportion of users would have to substitute away from mobile calls entirely (i.e. stop making traditional mobile calls) and give up their overall PAYG plan because, as discussed above, the</i>	This practice by the regulator to ignore clear market signals continue to negatively impact the entire telecommunications market in Trinidad and Tobago, as evidenced by the collapsing market	The Authority has considered past, present and future market developments in its assessment of the relevant retail domestic mobile telephony market definition in Trinidad and Tobago. These considerations are essential to the credibility of the Determination's

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				<p><i>Authority has defined the relevant market to encompass mobile access, mobile calls, SMS, and data services together.</i>” TSTT disagrees. The SSNIP does not ask whether all traditional mobile calling would be abandoned entirely, but whether a price increase in mobile calling could not be profitably maintained.</p>	<p>profitability in all segments.</p> <p>TATT seems to be willfully closing its eyes to the need for real policy interventions.</p> <p>TATT to correct this statement.</p>	<p>future application and use in other competition assessments.</p> <p>Considering the foregoing, and to highlight the holistic approach undertaken in this consultation process, the Authority examined the impact of OTTs on the profitability of various market segments (see subsection 4.3 of the Determination). The process is summarised below.</p> <p>In accordance with the established process for the performance of a hypothetical monopolist SSNIP test (ITU World Bank, 2020), the Determination started with the most basic product, i.e., mobile access, following which the consideration of a 5% to 10% (TT dollar equivalent) increase in the price of the service of the focal product was assessed (to determine if this could be profitably maintained). Subsequently, additional tiers of the product/service were added to define the market (mobile</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>voice, messaging and data) if profitability could not be maintained given the demand-side and supply-side characteristics. The next essential step in this process was to evaluate the closest substitute (i.e., OTT services) to the focal product (i.e., traditional mobile services) in an iterative process.</p> <p>The Authority notes TSTT's comment on the impact of OTTs on the profitability of executing a SSNIP on traditional mobile services. Accordingly, the Authority has revised its position in subsection 4.3.1.4 of the Determination and has included OTT services as a part of the relevant domestic retail mobile telephony market. This change was made considering the significant partial substitution observed, which may constrain a hypothetical monopolist from profitably increasing the price of mobile voice and messaging services. This revised</p>

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						<p>position takes into consideration feedback received from stakeholders during consultation, additional operator metrics (including PAYG subscriptions, service tariffs and financial earnings) and international best practices.</p> <p>Furthermore, the revised Determination captures explicitly the impact of OTTs on the retail domestic mobile market. Subsection 4.3.1.2 states that 92% of respondents to the TATT-KCL Mobile Customer Survey indicated that they use OTT-based applications, and more than 50% indicated that they send more than 10 OTT messages a day. The TATT-KCL Mobile Customer Survey (Figure 47) reveals that 56.7% of OTT service users cited price as a disadvantage of their mobile call plan when compared to OTT call services. The Determination also highlighted the proportion of consumers of mobile services (33%) who would</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>consider switching between both services, on a call basis.</p> <p>In summary, the Determination has been amended to reflect that a hypothetical monopolist in the domestic mobile market may find it difficult to profitably increase the price of its service by a SSNIP, as evidenced by trends in ARPU, and operator's financial data (some of which remains outstanding).</p> <p>The Authority wishes to reiterate the importance of operators submitting all datasets on revenues, financial performance and end-to-end costs by constituent, to buttress the assessment's findings.</p>
23	4.3.1.3	Consideration of OTT and mobile messaging	TSTT	It is redundant to discuss traditional SMS substitution from OTT because it is obvious from many angles. Starting from technical and user advantages of using OTT and seeing the historical dramatic decline of usage of traditional	This practice by the regulator to ignore clear market signals continue to negatively impact the entire telecommunications	<p>The Authority thanks TSTT for sharing its position on SMS.</p> <p>The Authority reiterates that it has considered past, present and future market developments in its</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
		ng services		<p>SMS, which is happening globally and as well as in Trinidad and Tobago. The trend of Short Messaging Services (SMS) from 2021 to 2022, in Figure 42 of TATT's Annual Market Report for 2022, shows that there was a reduction in the total number of SMS sent – from 119.2 million to 102.4 million – <u>representing a 14% decrease</u>—proof of OTT substitution in SMS.</p>	<p>market in Trinidad and Tobago, as evidenced by the collapsing market profitability in all segments.</p> <p>TATT seems to be willfully closing its eyes to the need for real policy interventions.</p> <p>TATT should reverse its conclusion on traditional messaging and OTT messaging and acknowledge them as belonging to the same market.</p>	<p>assessment of the relevant retail domestic mobile telephony market definition in Trinidad and Tobago. These considerations are essential for credible use of the Determination in other upcoming competition assessments.</p> <p>TSTT is advised that the Determination comprehensively reviews all retail domestic mobile service constituents (access, voice, messaging and data). The Authority notes the marked decline in the consumption of SMS, as captured in the Determination (see subsection 4.3.1.3, Figure 17).</p> <p>Notwithstanding this, SMS continues to be used by a sizeable segment of the population, including both commercial and residential users, and the government (national security) for public advisory purposes. Therefore, for the purpose of completion, the Authority found it prudent to not</p>

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						<p>ignore or exclude this market segment. Moreover, this segment has had the strongest market decline amidst the escalating growth of OTT services. Therefore, it would be remiss of the Authority to disregard developments in the SMS service.</p> <p>In addition, the Authority examined a number of factors in its assessment of whether OTT services are in the same product market as retail domestic mobile services, and revised its position, as summarised below. (The revision is reflected in subsection 4.3.)</p> <p>The factors considered in the analysis included both price and non-price considerations, such as consumer usage patterns, global technological developments, consumer switching behaviour and pricing trends. Notably, these factors informed the decisions made by consumers and ultimately determined the set of</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>products/services that belong in the same relevant market.</p> <p>In light of the foregoing, the Authority now acknowledges that OTT services are considered partial substitutes, on a call basis, which is by no means trivial (i.e., mobile users with access to the Internet and OTT services may consider switching between both mobile and OTTs, on an individual call basis). But mobile users will not switch away from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only.</p> <p>Based on the current trend in customer usage and market revenues, it is likely that OTTs' impact on the retail domestic mobile market will increase in the future. This impact may include OTT substitution and complementary effects on mobile services. The Authority will therefore conduct periodic reviews of the retail</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						domestic mobile market on a three-to-five-year cyclical basis, or as it deems necessary, for accurate decision making and the fulfillment of the Authority's functions and regulatory mandate, in keeping with the Act and all its subsidiary legislation.
24	4.3.2	Supply Side Considerations	Digicel	<p>Digicel disagrees with the Authority's supply-side considerations assessment, which seems to be based on a misunderstanding of the mechanisms used to supply OTT voice calls and messages.</p> <p>While it is likely that an OTT provider would face high barriers in respect of obtaining a mobile service licence, gaining access to mobile spectrum or deploying its own mobile network infrastructure, none of those things are necessary in the context of current service delivery mechanisms for OTT voice calls and messages.</p>		<p>The Authority notes Digicel's position on supply-side substitutability between OTT voice calls and messaging, and traditional mobile service.</p> <p>In assessing supply-side substitutability, the Authority considers the following:</p> <ol style="list-style-type: none"> 1. Historical evidence of entry and expansion in the mobile service market in Trinidad and Tobago 2. The characteristics of retail domestic mobile services, in terms of any legal, regulatory, or economic barriers for new

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				<p>That is because, as their name suggests, OTT services sit on top of and operate independently to the underlying network with access being made through mobile telephones, computers, and tablets.</p> <p>As the Authority notes at page 37 of the Draft Determination “<i>the vast majority (92%) of all survey respondents have a smartphone or tablet. The high mobile penetration rate in Trinidad and Tobago and national coverage of mobile data services suggests that mobile data services are readily available to all mobile service end users</i>”.</p> <p>It is also relevant that mobile phones and OTT services are not restricted to operating solely on mobile networks and can also access the Internet through WiFi connections over fixed networks. This means that OTT calls and messages can be made and sent in more</p>		<p>concessionaires to enter the market</p> <p>There are high barriers to entry into the mobile services market, including the need for providers to:</p> <ol style="list-style-type: none"> 1) obtain a mobile service licence. 2) gain access to mobile spectrum. 3) deploy mobile network infrastructure. 4) develop a retail distribution network. <p>Consequently, there is no supply-side substitution between OTT services and mobile services in Trinidad and Tobago.</p> <p>At this time, OTT services depend on the availability of access to the Internet. According to AMR 2022, at the time of this assessment, the mobile Internet penetration rate per 100 inhabitants was 62.9. This suggests that consumers may not</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
				<p>places than a traditional mobile call or SMS.</p> <p>Digicel is also surprised at the Authority's apparent view that an OTT service provider would face difficulties in respect of being able to "<i>develop a retail distribution network</i>" as such a view would be at odds with the reality where OTT service providers have, through the Internet, arguably developed the most extensive and lowest cost retail distribution network available to any service supplier. The success of that network is borne out in the take up of such services. For example, WhatsApp, which is understood to be the most popular OTT app in Trinidad and Tobago, is now also the most popular mobile messaging app worldwide and continues to grow strongly. As noted by Statista¹⁵.</p>		<p>consistently have Internet access for OTT services when on the go, which limits the substitutability of OTTs with mobile services or mobile voice calls, which are accessible by 146.4% of inhabitants.</p> <p>The Authority does take into account users' ability to access the Internet on the go through public Wi-Fi and hotspots. However, these services are available at limited locations (with time and speed restrictions in some instances) and therefore may not facilitate seamless connectivity on a continuous basis.</p> <p>In light of the above, the supply of OTT services is limited to the availability of Internet access, which is used by a percentage of mobile users when on the go. Therefore, considering the number of mobile Internet subscriptions, the penetration</p>

¹⁵ See <https://www.statista.com/topics/2018/whatsapp/#topicOverview>

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				<p><i>“The number of global unique WhatsApp users increased by 26 percent from the beginning of 2020 to mid-2023 and is estimated to have reached 2.79 billion unique users by June 2023. In June 2023, WhatsApp was the most downloaded chat and messaging app worldwide, amassing approximately 45.85 million downloads across the Apple App Store and the Google Play Store”.</i></p> <p>Importantly, WhatsApp is only one of many OTT apps that are available to consumers, with other alternatives including Instagram, Messenger, FaceTime, Skype, Viber and productivity apps such as Zoom and Teams to name a few.</p> <p>The proliferation of OTT apps and the statistics cited above do not indicate any retail distribution problem.</p>		rate, and the high value mobile voice customers place on mobility, OTT services are not equal supply-side substitutes for the majority of mobile subscriptions.
25	4.3.2	Supply Side	TSTT	TATT suggests that there is no supply-side substitution between OTT and	TATT should acknowledge that there is	The Authority notes TSTT's position on supply-side substitutability

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
		Considerations		<p>mobile services due to high barriers to entry in terms of the need to: obtain a mobile service license; gain access to mobile spectrum; deploy mobile network infrastructure; and develop a retail distribution. By definition, none of these are relevant to over-the-top services. This argument only works if OTT service providers are assumed to have to oxymoronically build a network to recreate all services offered over a mobile network. However, on a wide range of services—voice, messaging, video calls, and data exchange, there are few if any barriers to entry. Indeed, consumers themselves effectively determine if the OTT is introduced to the market by downloading the app.</p>	<p>little, if any, supply-side considerations for this analysis.</p>	<p>between OTT voice calls and messaging and traditional mobile service. The Authority acknowledges that OTTs provide voice services that may be similar to traditional voice services such as allowing users to make calls to and from both domestic and international destinations.</p> <p>As such, given a number of demand side factors (including product characteristics, uptake and usage trends, trends in total revenue and ARPU, and evidence of customer switching), the Authority revised its position on OTTs, affirming that they are partial demand-side substitutes, on a call basis. However, on the supply side, OTT services are limited substitutes for traditional mobile services in Trinidad and Tobago. This is further discussed below.</p> <p>Whilst the Authority notes the availability of OTTs that are accessible and downloaded through</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>the Internet (platforms), OTT services are not supplied through the building out of network infrastructure and hence, are not independently accessible.</p> <p>At this time, OTT services depend on the availability of access to the Internet. According to AMR 2022, the mobile Internet penetration rate per 100 inhabitants was 62.9. This suggests that consumers may not consistently have Internet access for OTT services when on the go. This limits the substitutability of OTT services with mobile services or mobile voice calls, which are accessible by 146.4% of inhabitants.</p> <p>Further, the Authority does take into account users' ability to access the Internet on the go through public Wi-Fi and hotspots. However, these services are only available in limited locations (with Internet speed and time restrictions in some instances)</p>

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						<p>and therefore may not facilitate seamless connectivity on a continuous basis.</p> <p>Consequently, the supply of OTT services is limited to the availability of Internet access, which is used by a percentage of mobile users on the go. Considering the mobile Internet penetration rate, and the high value mobile voice customers place on mobility, OTT services are not therefore equal supply-side substitutes for the majority of mobile subscriptions.</p> <p>It should be noted that products/services are considered to be supply-side substitutes when suppliers are able to redirect production to their substitute without exposure to risks or incurring unsustainable costs. OTTs are not able to supply products/services to customers with no access to the</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>Internet or to the traditional network infrastructure.</p> <p>In light of the above, OTT services are therefore not considered supply-side substitutes for traditional mobile services in Trinidad and Tobago, since they depend on the existing telecommunications data network, and OTT are not accessible independently (i.e., OTT providers would be incapable of supplying their services in the absence of existing data networks).</p> <p>OTT services are established complements to mobile data networks and substitutes only for traditional voice services (ITU 2021). OTTs do not currently offer or supply the complete range of mobile services (including access, voice and data services). Hence, OTTs are considered to offer partial substitutability and full complementarity with retail domestic</p>

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						mobile, with no supply-side substitutability.
26	4.4	Key Conclusions	Digicel	<p>Digicel disagrees with the Authority's conclusion that OTT voice calls and messaging services are not substitutes for traditional voice/SMS services.</p>	<p>Digicel is concerned that the Authority has failed to take into account the wealth of relevant information that is available to it by virtue of the Authority's own Consultative Document <i>Framework on Over-The-Top Services (OTTs) in Trinidad and Tobago</i> and the related <i>National Digital Inclusion Survey 2021 (DIS 2021)</i>.</p> <p>Moreover, the Authority has, in effect, dismissed findings from the <i>TATT-KCL Mobile Customer Survey 2022</i> that show a materially significant number of consumers would be willing to</p>	<p>The Authority reiterates that it does not consider the findings of the Determination and the results of DIS 2021 to be in conflict. For instance, both surveys (DIS 2021 and TATT-KCL Mobile Customer Survey) highlight the growing demand and usage of OTTs in Trinidad and Tobago. In particular, the TATT-KCL Mobile Customer Survey (Figure 61) shows that 89.7% of respondents stated that they use OTT third-party applications several times a day, and 6.7% use OTT applications once a day. DIS 2021 states that 79% of persons using OTTs accessed the services on a daily basis (Figure 4.33). Both surveys therefore show high usage of OTTs.</p> <p>Moreover, the Authority takes this opportunity to remind Digicel that the purpose for which the OTT</p>

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					<p>switch from using mobile voice and SMS services in the face of a small but significant increase in price of those services of 5% – 10%.</p> <p>Given these clear procedural and analytical errors, Digicel recommends that the Authority reconsiders its finding that OTT voice and messaging services are not substitutes and therefore do not form part of the same product market as mobile voice and SMS services.</p>	<p>Framework (which is currently in the consultation phase) was prepared differs considerably from the purpose of the Determination, as the former has a broader scope and definitions, and the latter focuses on one of the national telecommunications markets.</p> <p>Lastly, as indicated in the responses to items 16 to 23 above, taking into consideration the growth of OTT services, and the importance consumers place on mobility and accessibility, the Authority is not of the view that OTT services are perfect/full substitutes for mobile services. However, in the revised Determination, the Authority does consider OTT services to be partial substitutes, on a call basis. This means that a sizeable proportion of customers (just under a third) will reduce their consumption of mobile services (i.e., mobile minutes and data) and switch to using OTTs</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>(largely on fixed networks,(i.e., over 55% of customers and mobile data networks).). But mobile users will not switch from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only. This suggests that a hypothetical monopolist may be constrained in increasing revenue or profit following a SSNIP in mobile access, voice and data services, given customers' responsiveness and switching to OTTs on fixed services (such as fixed broadband).</p>
27	5	Geographic Scope of the Product Market	CCTL	<p>Following from the discussion in 2.3 above regarding the relevant geographic scope, we are of the considered view that OTT services should be included in the product market.</p>		<p>The Authority examined a number of factors in its assessment to determine whether OTT services are in the same product market as retail domestic mobile services. Following that analysis, the Authority revised its position on this matter, indicating that OTT services are considered partial substitutes, on a call basis, to traditional mobile services (see this revision reflected in subsection 4.3 of</p>

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						<p>the Determination). This means that a sizeable proportion of the customers (just under a third) would reduce consumption of mobile services and switch to using OTTs (largely on fixed networks i.e., over 55% of customers and mobile data networks).</p> <p>CCTL is advised that this revision was done on the basis of demand-side characteristics and not the geographic scope of the market. As indicated above (under response #9), the geographical scope is often defined by a country's licensing regime, that is, if the licence is national, then the market is also likely to be (OECD 2014).</p> <p>Furthermore, as indicated under section 5.1, telecommunications markets are typically defined nationally, due to scope of service licences and concessions. Only if there is significant evidence to the contrary (e.g. due to differences in</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>network coverage, service availability, pricing and/or competitive dynamics) will sub-national markets be defined.</p> <p>The Authority understands that CCTL's concern is with the capturing of global platform providers within the boundaries of the mobile market definition. However, this Determination focuses on identifying those products that fall within the retail domestic mobile telephony market, which, in this case, has been identified to be mobile access, call services, messaging services and data services (upon which OTT services ride).</p> <p>It has been determined, under subsection 4.3, that although OTT services are an important factor in the competitive landscape and a potential competitive constraint for operators in the domestic retail mobile telephony market, the TATT-KCL</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						<p>Mobile Customer Survey evidence suggests that OTT services can be considered partial substitutes, on a call basis (i.e., mobile users with access to the Internet and OTT services may consider switching between both services on an individual call basis). But mobile users will not switch from their entire mobile plan (i.e., calls, messaging, data and mobile access) to rely on OTT services only. This suggests that a hypothetical monopolist may be constrained in increasing revenue or profit following a SSNIP in mobile access, voice and data services, given customer's responsiveness and their switching to OTTs on fixed services (such as fixed broadband).</p> <p>Notwithstanding, even with the partial substitutability found between traditional mobile services and OTT services in the product market, expanding the geographic scope outside of the national boundaries will</p>

Item	Section	Section Title	Stakeholder	Comments	Recommendations	TATT's Decision
						be unwarranted, and will go beyond the scope of this Determination and the Authority's regulatory remit.
28		Footnote 174	TSTT	<p>TATT states that “the Authority notes that end users commonly could limit their data consumption on mobile bundles by using Wi-Fi networks when at home or where publicly available (i.e., Wi-Fi offloading). Whilst this could be considered a form of mobile-to-fixed substitution of data usage, end users are unlikely to give up their mobile data services altogether because of it.” TSTT disagrees. The SSNIP does not ask whether all mobile data services would be given up altogether, but whether a price increase in mobile calling could not be profitably maintained.</p>	<p>This practice by the regulator to ignore clear market signals continue to negatively impact the entire telecommunications market in Trinidad and Tobago, as evidenced by the collapsing market profitability in all segments.</p> <p>TATT seems to be willfully closing its eyes to the need for real policy interventions.</p> <p>TATT to correct this statement.</p>	<p>The Authority notes TSTT's position on mobile-to-fixed substitution, collapsing market profitability and that the profitability of maintaining a price increase ought to be reviewed in determining the market definition.</p> <p>With respect to mobile-to-fixed substitution of data usage, the Authority offers the following clarification on this point.</p> <p>The Determination acknowledges limited substitutability between fixed broadband and mobile data, under subsection 4.2.1 which specifies that end users can access the Internet through fixed broadband and mobile data services. The concessionaires' websites show that mobile data and fixed broadband services are similarly</p>

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						<p>available on a standalone basis as well as bundled with other products.</p> <p>However, the considerable differences in product features, end users' preferences, download and upload speeds, usage allowances, mobility, relative prices, and the upward trend of both mobile data and fixed broadband services suggest that there is limited demand-side substitutability between these services and greater complementarity between them. This limited demand-side substitution suggests that, mobile data services form a separate market from fixed broadband services.</p> <p>However, the Authority acknowledges that significant increases in Wi-Fi accessibility could affect demand-side substitutability.</p> <p>Furthermore, there is no supply-side substitution between fixed broadband and mobile data services, due to</p>

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						<p>requirements for different technologies, service licences and spectrum access. In light of the requisite time, investment and licences needed, the Authority considers it improbable that a SSNIP in mobile data would cause a fixed licensee to deploy a mobile network and start offering mobile data services, which would be required in order for the SSNIP to be unprofitable or for supply-side substitution to be achieved.</p> <p>This suggests that a price increase on mobile data services could be profitably maintained, as approximately half the consumers of mobile data-only services will not reduce consumption of their service or would continue to consume the service normally in the event of an increase in the service price. This is supported in the TATT-KCL Fixed Customer Survey Table 5 and Figure 12 of the Determination, where at</p>

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						<p>least 50% of respondents indicated they would do nothing in response to an increase in the price of their mobile data-only plan. Therefore, mobile data services form a separate market from fixed broadband, given limited demand-side substitutability.</p> <p>However, when evaluating the relevant focal service namely, mobile access, voice and messaging, and OTTs (voice and messaging services), standalone fixed Internet services are also not considered as significant demand-side substitutes at this time.</p> <p>This result is informed by the established hypothetical monopolist test used to determine the smallest group of services that are considered demand-side substitutes for the focal service. Having taken both demand-side and supply-side considerations into account, the Authority concludes that mobile services, including</p>

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						<p>mobile access, voice, data and OTT services (voice and messaging), form part of a single product market for retail domestic mobile telephony services.</p> <p>This relevant scope of services implies that a price increase on this product scope (mobile access, voice and messages services and OTT services) could be profitably maintained by a hypothetical monopolist, as it is unlikely that significant number of customers would switch to using fixed internet apart from OTT voice and messaging.</p> <p>This is also supported by the TATT-KCL Fixed Customer Survey which indicates that, over 70% of customers would continue to use mobile service or consume OTTs in the event of a SSNIP of mobile voice service.</p> <p>With respect to collapsing profitability, the Authority has noted</p>

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						<p>the economic difficulties faced by businesses post-pandemic and the trends in total mobile revenues and ARPU, namely:</p> <ol style="list-style-type: none"> 1. decreasing total mobile service revenue and average revenue per subscriber. 2. declining total mobile voice revenues and average revenue per subscriber in mobile voice services, 3. increasing total mobile data revenues and ARPU. <p>Notably, the decline (21%) in total mobile voice revenue outweighs the increase (18%) in the mobile Internet market for the period of review, 2018 to 2022. This suggests that the substitution effect of OTTs may exceed the complementary effect. However, the rate of increase in mobile data revenues is now accelerating (2021 to 2022). These competing market dynamics underpin the Authority's acknowledgement</p>

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						that the overall trend in OTTs may change in the future, and its commitment to monitoring the market and reviewing this position on a three-to-five-year cycle, as the market progresses or as it deems necessary.
29		Closing Comments	CCTL	Given the urgent challenges facing the industry, we encourage the Authority to use this opportunity to appropriately define market boundaries, as a starting point for addressing the regulatory imbalances and resulting market harm that could retard the robust and sustained development of the industry.		<p>The Authority advises that, in conducting this market assessment to define the boundaries for the retail domestic mobile telephony market, a number of quantitative and qualitative demand-side and supply-side factors were taken into consideration. These factors were used to assess the relevant product scope, customer segmentation and geographic scope, in accordance with international best practices. The Authority gathered evidence from multiple sources, including:</p> <ol style="list-style-type: none"> 1. the TATT-KCL Mobile Customer Survey.

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						<p>2. the operators' quantitative data Templates which comprised time series of subscription, traffic, voice, SMS, data, revenue and cost datasets.</p> <p>3. operators' data submitted in response to the Authority's request for information.</p> <p>4. tariff information published on the concessionaires' websites.</p> <p>4. market data reports available online.</p> <p>5. international benchmarks, including the GCC region, Caribbean countries and other SIDS.</p> <p>This evaluation facilitated the determination of the relevant mobile telephony market as having a single relevant economic market for retail domestic mobile services, covering all customer segments (i.e., prepaid and postpaid plans for both residential</p>

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						<p>and business customers), and including OTT substitutes for mobile voice and messaging services. The full scope of this market is set out in Table 1 of the Determination. The market is a single, national market covering all retail mobile products (i.e., mobile access services, domestic call and mobile messaging services, and mobile data services), across all the relevant customer segments (i.e., both prepaid and postpaid, and both residential and business) and OTT services which are partial substitutes for mobile voice and messaging services, on a call or usage basis.</p> <p>Therefore, following this robust consultation process, and taking into account all relevant comments from the market, the Authority is of the view that the market for retail domestic mobile telephony is accurately defined, allowing for appropriate regulatory responses.</p>

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						<p>Accordingly, the Authority has revised its position in the Determination and has included OTT services as a part of the relevant domestic retail mobile telephony market. This change was made considering the significant partial substitution observed (i.e., the reduction in consumption of voice services and the related increase in the uptake of OTTs as an alternative), which may constrain a hypothetical monopolist (HM) from profitably increasing the price of mobile voice and messaging services. This revision takes into consideration feedback received from stakeholders during consultation, additional operator metrics (including PAYG subscriptions, service tariffs and financial earnings) and international best practices. Specifically, the Authority notes the revised European Commission Notice on the definition of the relevant market for the</p>

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						<p>purposes of competition law, which permits taking into account usage metrics (partial substitution) and does not require the exclusive use of perfect substitution (access metrics) for market definitions.</p>