POLICY NOTE ON
OPEN ACCESS IN DATA TRANSMISSION

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Executive Summary

The Policy Note on Open Access in Data Transmission presents a strategic approach to reforming the telecommunications sector in the Philippines. This executive summary presents a broad overview of the industry and key recommendations with emphasis on the necessary systemic changes to address the current challenges and unlock the sector's full potential.

Challenges in the Telecommunications Landscape

The telecommunications sector in the Philippines is currently at a crossroads, marked by robust demand against a backdrop of challenging geography and market concentration. This landscape has led to issues such as high costs, slower internet speeds, and limited coverage, which have far-reaching implications on various sectors including education, business process outsourcing, healthcare, and disaster response. A significant concern is the growing digital divide, especially among lower-income groups, signaling an urgent need for policy interventions.

Proposed Reforms

The Policy Note advocates for a series of complementary reforms, aimed at dismantling barriers to market entry and fostering a more competitive and inclusive telecommunications sector.

- ***Franchise and Licensing Reforms.*** The current legislative franchise requirement for telecommunications service providers presents a major barrier to market entry, hindering innovation and competition. By removing this requirement and transitioning to a general authorization regime, the sector can attract more investment and encourage new entrants. This move, in line with global best practices, is expected to stimulate growth and development in the telecommunications industry.

- ***Improving Interconnection and Access Rules.*** The dominance of incumbents has created an uneven playing field, particularly for independent internet service providers (ISPs) and smaller industry players. The proposed policy

suggests enhancing regulatory oversight and transparency in interconnection processes. Empowering the National Telecommunications Commission (NTC) to impose fair, reasonable, and non-discriminatory access obligations on operators with Significant Market Power (SMP) will help create a more balanced market, encouraging competition and improving service quality.

- ***Infrastructure Sharing.*** Emphasizing infrastructure sharing as a cornerstone of open access policies, the Policy Note recommends both passive and active infrastructure sharing among operators. This approach, which aligns with international practices, can lead to more efficient use of network resources, reduce costs, and facilitate the entry of new players.

- ***Spectrum Management Reforms.*** The current approach to spectrum management, characterized by unclear and fragmented policies, is insufficiently equipped to support the evolving landscape of internet technologies. Proposed reforms include revising spectrum user fees, developing a comprehensive spectrum management framework, and introducing competitive auctions for spectrum allocation. These changes aim to promote a more equitable distribution of spectrum, encourage the adoption of new technologies, and enhance transparency in spectrum management.

Positioning the Philippine Telecommunications Sector for Future Growth

By implementing the abovementioned reforms, the telecommunications sector in the Philippines can become more dynamic and competitive. Aligning with the strategic objectives of the Philippine Development Plan 2023-2028 and the vision in *AmBisyon Natin* 2040, these changes are critical for fostering a conducive environment for technological innovation, economic growth, and a more inclusive society. The reforms are designed to bridge the digital divide, enhance service quality, and ensure the Philippines keeps pace with an increasingly digital global economy. The ultimate goal is to cultivate a telecommunications sector that supports the socioeconomic advancement of the Philippines, contributing to the broader vision of a *matatag, maginhawa, at panatag na buhay* for all Filipinos.

The policy note is structured as follows: It begins by describing the current state of the telecommunications landscape in the Philippines, highlighting the primary challenges encountered. Following this, it presents an overview of the existing legal and regulatory framework governing the sector. The note then delves into a detailed analysis of specific key issues, identifying the necessary reforms required to tackle these challenges. The final section of the note summarizes the main points from the preceding sections and outlines the recommended steps to achieve the objectives in the sector.

I. Introduction

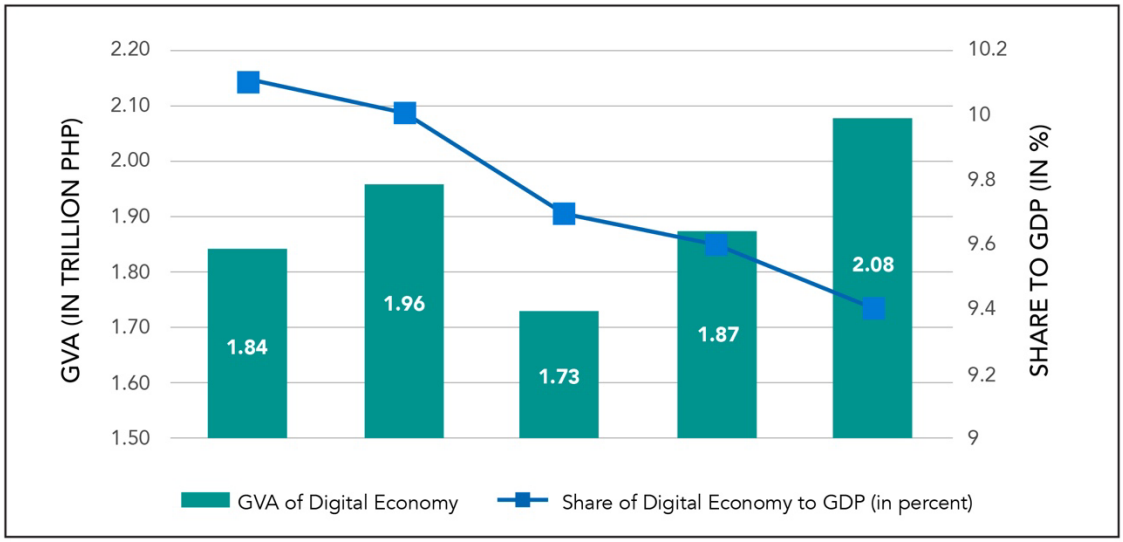
The telecommunications landscape in the Philippines is shaped by a unique combination of robust demand, challenging geography, and high market concentration. As an archipelagic country, the Philippines presents intrinsic hurdles to infrastructure development, particularly in the telecommunications sector. Despite these challenges, the demand for digital connectivity has surged, driven by a young and increasingly online population.

Telecommunications plays a vital role in Filipino society, as reflected by rising internet penetration rates. From January 2020[1] to January 2023,[2] internet penetration rates rose from 67 percent to 73 percent, underlining the growing importance of digital connectivity. However, this growing demand is not adequately met due to the existing market structure where the industry is dominated by a few major players, leading to higher costs, slower speeds, and limited coverage compared to global standards.

Data transmission plays a key role in the Philippines' economy, enabling information exchange, economic transactions, and social connections. As illustrated in ***Figure 1***, the digital economy in 2022 contributed 9.4 percent to the nation's gross domestic product (GDP), totaling PHP2.08 trillion, which marks a recovery from the decline experienced during the start of the COVID-19 pandemic in 2020. Despite the recovery, the digital economy's share to the Philippine GDP has been decreasing, down from 10.1 percent in 2018. This decline indicates there is substantial untapped potential in the digital economy, which could be realized through policies like open access and improved spectrum management that promote efficiency, innovation, competition, and inclusivity.

[1] "The Digital Landscape in the Philippines." Orissa International, June 3, 2021. https://www.orissa-international.com/insights/the-digital-landscape-in-the-philippines/.
[2] "Make Customers Feel They Are Fairly Treated." PIDS, May 9, 2023. https://pids.gov.ph/details/news/in-the-news/make-customers-feel-they-are-fairly-treated.

Figure 1. Gross Value Added (in trillion PHP) of the Philippine Digital Economy[3]



The impact of insufficient data transmission infrastructure spans multiple sectors such as education, business process outsourcing (BPO), health care, and disaster response. The pandemic-induced shift to online learning exposed severe access inequalities among students, especially in remote areas. Similarly, the BPO industry, which employed over 1.5 million Filipinos in 2022,[4] depends on consistent and reliable internet connectivity, linking its growth and sustainability directly to the quality of the data transmission infrastructure. The emerging need for the BPO sector to expand into regions beyond major urban centers necessitates enhanced regional communications infrastructure. Strengthening internet connectivity in these areas is crucial to support the BPO sector's growth across the country, thus promoting a more balanced economic development across the country.

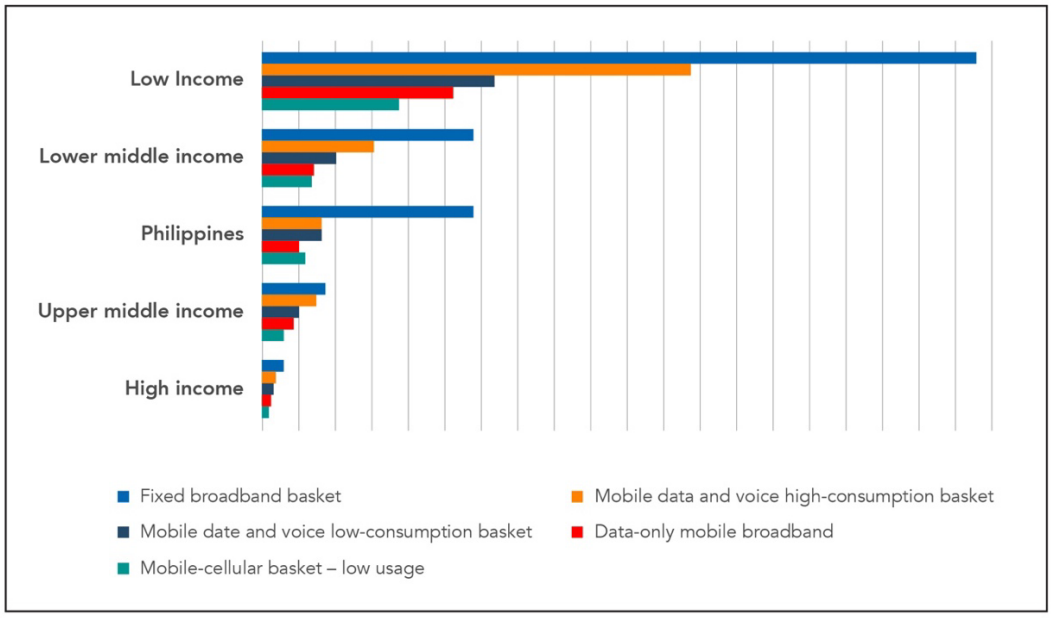
Reliable internet access is also essential for government services, public health information, and disaster response. The country's high risk of natural disasters necessitates efficient and resilient data transmission for emergency communications. The rise in telemedicine and e-government services during the pandemic further showcases the need for dependable internet access, as it directly affects the speed and efficiency of healthcare and administrative services.

[3] "Digital Economy Contributes 9.4 Percent to the Gross Domestic Product in 2022." Philippine Statistics Authority, April 25, 2023. https://psa.gov.ph/statistics/digital-economy/tables.
[4] Desiderio, Louella. "IT-BPM Beats 2022 Revenue, Jobs Targets." Philstar.com, March 2, 2023. https://www.philstar.com/business/2023/03/03/2248805/it-bpm-beats-2022-revenue-jobs-targets.

The need for improvement in both mobile and fixed broadband internet speeds in the Philippines is evident from international rankings and the higher costs of broadband relative to income levels. As of November 2023,[5] Ookla data places the Philippines 84th among 145 countries in mobile internet speed and 48th among 181 in fixed broadband speed. While the country performs better in fixed broadband speed, the costs remain disproportionately high, particularly when compared to lower-middle-income nations as shown in ***Figure 2***.[6] This situation underscores the importance of making information and communication technology (ICT) more affordable, aiming to reach levels seen in upper middle-income countries, a group the Philippines aspires to join in the near future.

Moreover, for the Philippines to be a competitive destination for foreign direct investment, the connectivity in major urban centers like Manila, Davao, and Cebu should be on par with regional hubs such as Singapore, Jakarta, and Kuala Lumpur. This is crucial for the country's investment attractiveness and integration into the global market.

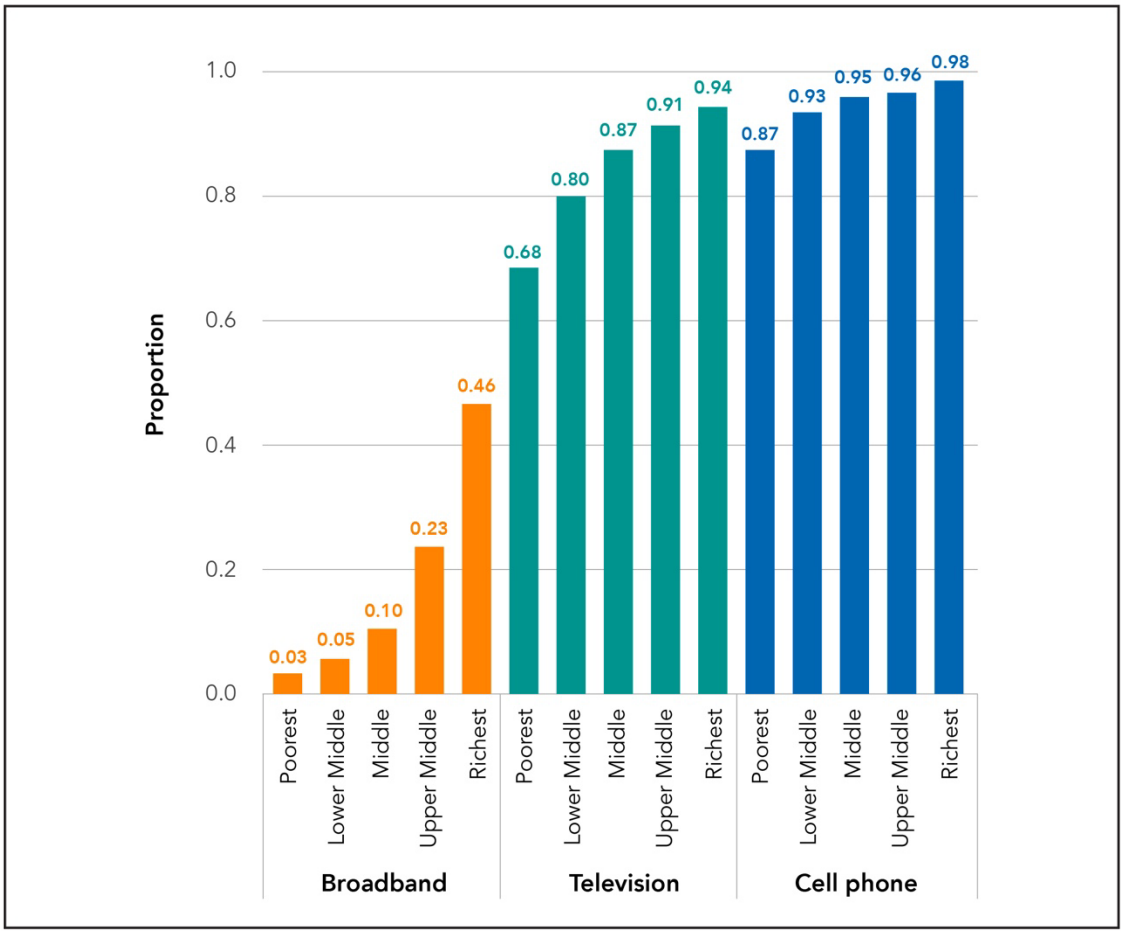
Figure 2. ICT Price Baskets in terms of (%) of Monthly Gross National Income (GNI) per Capita, by Income Groups and Philippines, 2021[7]



[5] "Speedtest Global Index: Median Country Speeds (November 2023)." Speedtest, n.d. https://www.speedtest.net/global-index.
[6] Serafica, Ramonette B, and Queen Cel A Oren. Upgrading the ICT Regulatory Framework: Toward Accelerated and Inclusive Digital Connectivity. PIDS, September 16, 2022. https://pids.gov.ph/publication/discussion-papers/upgrading-the-ict-regulatory-framework-toward-accelerated-and-inclusive-digital-connectivity.
[7] Ibid.

There is a stark digital divide in terms of internet and mobile phone access, particularly affecting the lower income quintiles. The 2020 Annual Poverty Indicators Survey (APIS) reveals that broadband internet access is extremely limited among the poorest segments of the population, with only 3 percent and 5 percent in the bottom two income quintiles having such access. In contrast, cell phone access is more widespread, yet about 13 percent and 7 percent of individuals in the bottom two quintiles still lack access to a cell phone as depicted in ***Figure 3.***

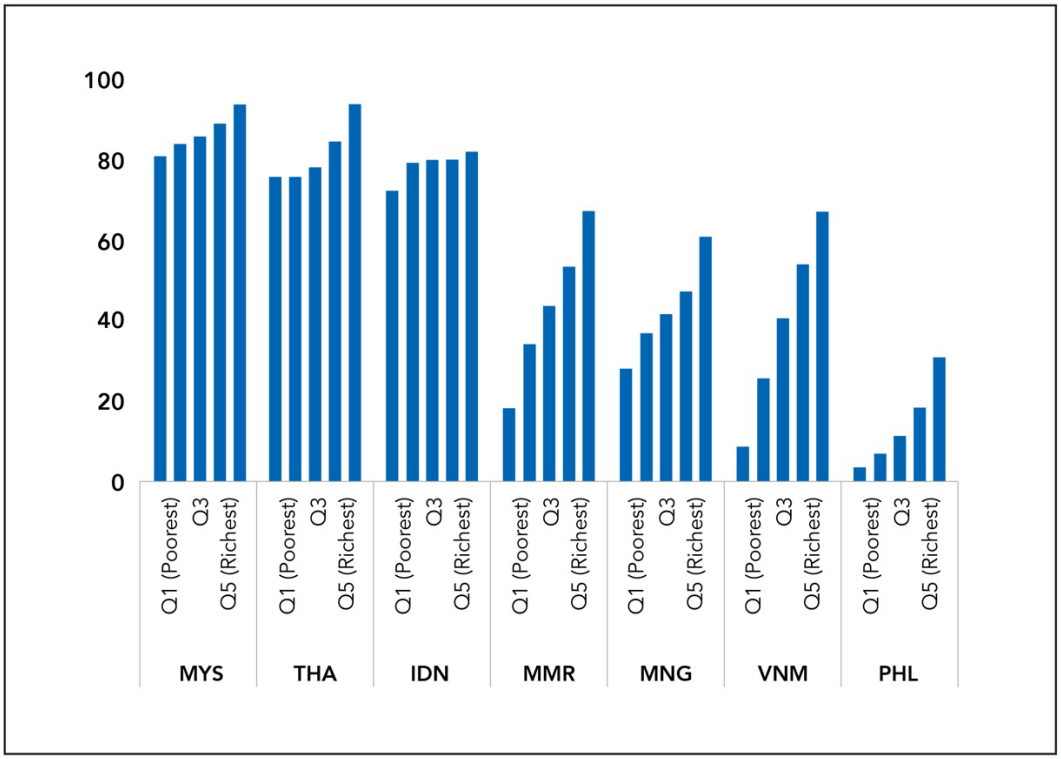
Figure 3. Broadband and ICT Device Access by Income Quintile[8]



[8] 2020 APIS Survey results cited in "World Bank Presentation on Pro-Competition Reforms in Philippine Broadband Market." Lecture, November 2023.

Internet access in the Philippines is notably lower across all wealth quintiles compared to neighboring countries. *Figure 4* presents a comparison of internet access by wealth quintile in the Philippines and other countries, where it is evident that even the wealthiest quintile in the Philippines has less internet access than the poorest quintiles in countries like Malaysia, Thailand, and Indonesia. Moreover, the disparity in internet access is more pronounced across the wealth quintiles in the Philippines, showing a digital divide within the country.

Figure 4. Access to Internet[9] by Wealth Quintile[10]

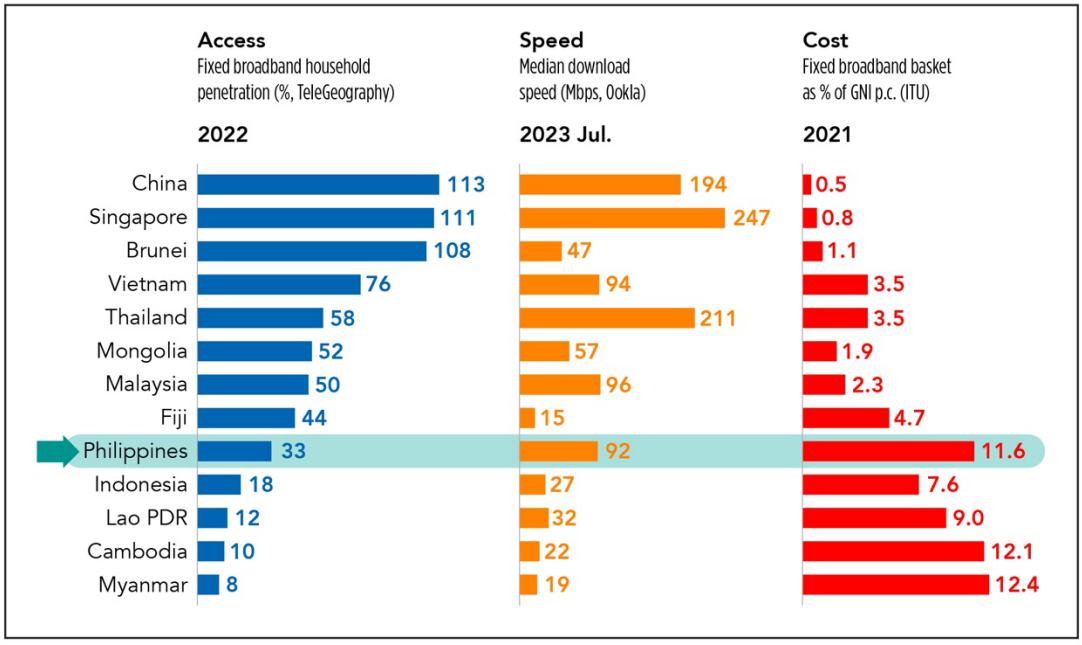


[9] Country statistics computed from two different internet-access proxy indicators depending on survey availability: "The household has an internet subscription" (Malaysia, Myanmar, Philippines, and Vietnam; e.g., more likely capturing access to fixed internet broadband only), and "The household has internet access, whether inside or outside the house" (Indonesia, Mongolia, and Thailand; e.g., more likely capturing access to both fixed and mobile internet broadbands).
Rep. Services for Development: East Asia and Pacific Economic Update, October 2023. World Bank, October 1, 2023. https://www.worldbank.org/en/publication/east-asia-and-pacific-economic-update.

[10] World Bank East Asia and Pacific Team for Statistical Development using EAPPOV harmonized survey data from Indonesia SUSENAS 2022, Malaysia HIESBA 2019, Mongolia HSES 2018, Myanmar MLCS 2017, Philippines FIES 2021, Thailand SES 2021, and Vietnam VHLSS 2020.
Ibid, pp. 34.

The low penetration rate of fixed broadband in the Philippines, despite its high median download speed, highlights the significant hurdle to achieving broader digital inclusion due to its unaffordability for lower-income households. As shown in ***Figure 5***, although the country boasts a respectable median download speed of 92 Mbps for fixed broadband, the penetration rate is alarmingly low at just 33 percent. This low uptake can be partially attributed to the high cost, with a 5GB data package costing 11.6 percent of the gross national income (GNI) per capita. Such cost level, which exceeds 10% of GNI per capita, is a clear indicator that fixed broadband is out of reach for many, particularly those in the lower income brackets.

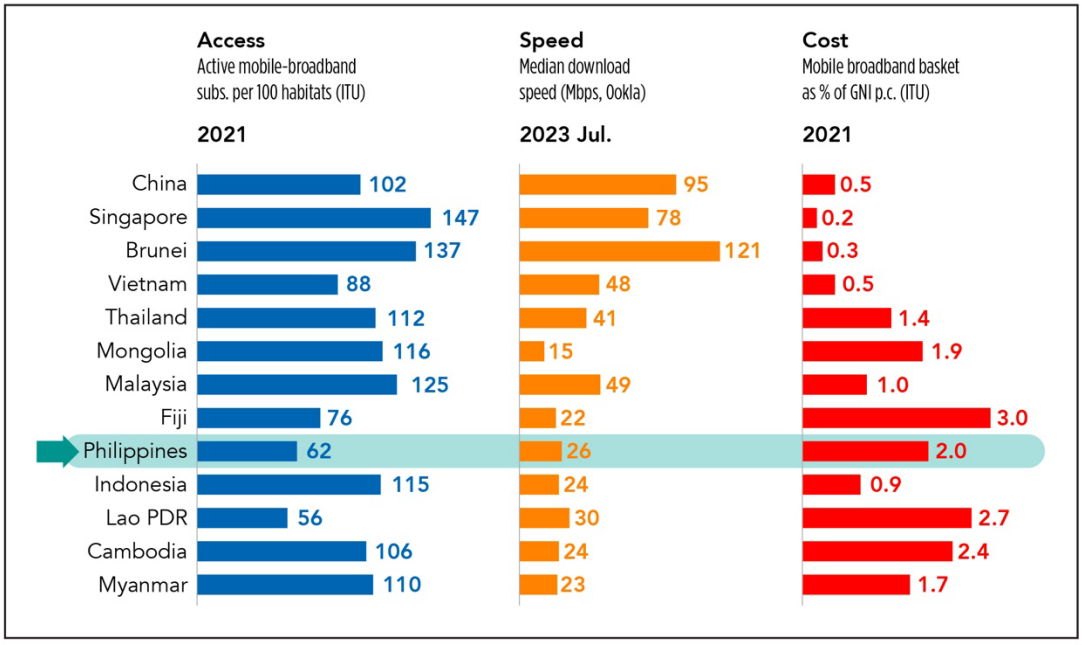
Figure 5. Fixed Broadband Access, Quality, and Cost[11]



[11] Rep. Services for Development: East Asia and Pacific Economic Update, October 2023. World Bank, October 1, 2023. https://www.worldbank.org/en/publication/east-asia-and-pacific-economic-update.

Mobile broadband in the Philippines, while being a more accessible and affordable option compared to fixed broadband, still requires significant improvement to meet regional standards, indicating a pressing need for policy reform in spectrum management. ***Figure 6*** shows that with 62 active subscriptions per 100 inhabitants, the country's mobile broadband infrastructure is behind many East Asia and the Pacific nations. The median download speed is only 26 Mbps, and the cost of a standard 2GB mobile broadband package, approximately 2 percent of GNI per capita, is relatively more affordable compared to the fixed broadband basket but remains high in comparison to neighboring countries. This situation not only reveals a gap in affordability but also points towards opportunities for enhancing digital inclusion and upgrading the overall quality of mobile broadband services.

Figure 6. Mobile Broadband Access, Quality, and Cost[12]



[12] Rep. Services for Development: East Asia and Pacific Economic Update, October 2023. World Bank, October 1, 2023. https://www.worldbank.org/en/publication/east-asia-and-pacific-economic-update.

The pivotal role of mobile broadband in the advancement of the Philippines' digital economy, calls for a strategic approach in spectrum management reform. Spectrum, the range of electromagnetic radio frequencies used in wireless communication, is a critical resource for mobile broadband networks. Effective spectrum management ensures these frequencies are used efficiently, avoiding interference and maximizing the capability of mobile broadband networks. The current state of mobile broadband, with its limitations in speed and affordability, highlights its inadequacy in supporting the growing demands of the digital economy such as the adoption of e-commerce, financial technologies, internet of things (IoT), and agricultural applications of digital technologies.

Spectrum management reform is necessary not only to bring the Philippines up to par with its regional counterparts but also to ensure that the nation's digital infrastructure is capable of supporting emerging technologies and economic growth. A reformed spectrum management framework will facilitate better broadband services, paving the way for a more connected and digitally empowered Philippines.

The data presented above reveals a deep digital divide in the Philippines, predominantly affecting the lower-income groups, which is a barrier to inclusive growth and equitable access to information and opportunities. This divide is characterized by the limited internet access available to lower-income households and the comparatively better, though more expensive, services available to higher-income groups.

The current situation in the Philippines highlights the urgent need for transformative policy change in the telecommunications sector. The lack of effective competition and inadequate infrastructure have restricted the potential of data transmission, a critical component for socio-economic activities. The COVID-19 pandemic, which made reliable internet connectivity essential for remote work, online education, and digital commerce, further exposed and exacerbated the digital divide. This situation underscores the urgency of implementing an open access policy in data transmission to address these disparities effectively.

Improving the quality of telecommunications services contributes to economic growth. A background paper for the World Bank's World Development Report 2016: Digital Dividends found a positive economic impact from increased fixed broadband penetration, estimating that a 10-percentage point (ppt) increase in fixed broadband penetration increased GDP growth by 1.38 ppts in developing economies.[13]

The Philippine government recognizes the strategic imperative to overhaul its digital infrastructure as highlighted by the call of President Ferdinand Romualdez Marcos Jr. during his 2023 State of the Nation Address where he said that, ***"Digitalization is the call of today; not the call of the future – but of the present. It is here. It is needed, and it is needed today.***

The National Broadband Plan, launched in 2017, represents a positive step towards enhancing internet speed, affordability, and access in the Philippines, but requires additional legislative support for its success. This plan aims to boost the country's digital infrastructure, yet to fully realize its potential, it necessitates complementary legislative measures. Among these, an open access policy in data transmission is critical, as it can break down barriers to market entry, democratize digital economic access, and facilitate the country's overall development.

[13] Minges, Michael. Exploring the Relationship between Broadband and Economic Growth. World Bank, January 2015. https://openknowledge.worldbank.org/entities/publication/8743970e-3b62-52af-a71b-2dc51ee08276.

II. Overview of the Legal and Regulatory Framework

Ownership

Full foreign ownership in the telecommunications sector is now allowed. The recent passage of Republic Act No. 11659 or the Amendments to the Public Service Act now classifies telecommunications as critical infrastructure[14] instead of a public utility. Prior to the amendment of the Public Service Act, telecommunications and related services were classified as public utilities and subject to the Philippine Constitution's nationality restrictions, which provide that public utilities may only be owned and operated by Filipino citizens or entities that are 60 percent owned and controlled by Filipinos.[15] The removal of telecommunications from the scope of public utilities effectively eliminates this limitation and opens up the telecommunications sector to foreign ownership, subject to reciprocity requirements.[16]

Licensing

Entities engaged in telecommunications services are required by law to obtain a legislative franchise and certification from the National Telecommunications Commission (NTC). The Public Telecommunications Policy Act of the Philippines or RA 7925 provides that "[n]o person shall commence or conduct the business of being a public telecommunications entity (PTE) without first obtaining a franchise." In addition, a Certificate of Public Convenience and Necessity (CPCN) must be secured from the NTC. The law enumerates the different categories of telecommunications entities required to obtain a franchise: (a) local exchange operator; (b) inter-exchange carrier; (c) international carrier; (d) value-added service (VAS) provider; (e) mobile radio services; and (f) radio paging services.[17] As an exception, a VAS Provider which does not put up its own network is not required to secure a franchise. However, a VAS

[14] An Act Amending Commonwealth Act No. 146, Otherwise Known as the Public Service Act, as Amended, Rep. Act 11659, § 2(e), (Jul 26, 2001) (Phil.), https://www.officialgazette.gov.ph/2022/03/21/republic-act-no-11659/
[15] Const. (1987), art XII, § 11 (Phil.).
[16] Foreign nationals shall not be allowed to own more than fifty percent (50%) of the capital of entities engaged in the operation and management of critical infrastructure unless the country of such foreign national accords reciprocity to Philippine Nationals as may be provided by foreign law, treaty or international agreement; An Act Amending Commonwealth Act No. 146, Otherwise Known as the Public Service Act, as Amended, Rep. Act 11659, § 25, (July 26, 2001) (Phil.), https://www.officialgazette.gov.ph/2022/03/21/republic-act-no-11659/
[17] An Act to Promote and Govern the Development of Philippine Telecommunications and the Delivery of Public Telecommunications Services, Rep. Act 7925, art IV, (Mar 1, 1995) (Phil.), https://lawphil.net/statutes/repacts/ra1995/ra_7925_1995.html

Provider must still obtain a valid certificate of registration from the NTC in order to operate in the Philippines.[18]

Internet services

Internet services are considered value-added services (VAS). Under RA 7925, a VAS provider is defined as "an entity which, relying on the transmission, switching and local distribution facilities of the local exchange and inter-exchange operators, and overseas carriers, offers enhanced services beyond those ordinarily provided for by such carriers." NTC Memorandum Circular (MC) No. 02-05-2008 further classified the following as VAS: messaging services, audio conferencing, audio and video conferencing, voice mail service, electronic mail service, information service, electronic gaming except gambling, applications service, content and program service, audiotext service, facsimile service, virtual private network service, and hosting service. Voice Over Internet Protocol (VOIP) is also classified as VAS.[19]

Interconnection

Compulsory interconnection between PTEs is already prescribed in existing Philippine laws and regulations. The Public Telecommunications Policy Act (RA 7925) defines interconnection as "the linkage, by wire, radio, satellite or other means, of two or more existing telecommunications carriers or operators with one another for the purpose of allowing or enabling the subscribers of one carrier or operator to access or reach the subscribers of the other carriers or operators."[20] Executive Order (EO) No. 59, s. 1993, an issuance which preceded the aforementioned law, prescribes compulsory interconnection between authorized public telecommunications carriers

[18] National Telecommunications Commission, Value Added Services, Mem. Circ. No. 02-05-2008, § B.5 (May 30, 2008) (Phil.). https://ntc.gov.ph/wp-content/uploads/2015/10/LawsRulesRegulations/MemoCirculars/MC2008/MC-02-05-2008.pdf;
National Telecommunications Commission, Voice Over Internet Protocol (VOIP), Mem. Circ. No. 05-08-2005, § 3 (Aug 25, 2005) (Phil.). https://region7.ntc.gov.ph/images/LawsRulesAndRegulations/MC/VAS/MC_05-08-2005_VOIP.pdf

[19] VOIP is the provision of voice communication using Internet Protocol (IP) technology, instead of traditional circuit switched technology;
National Telecommunications Commission, Voice Over Internet Protocol (VOIP), Mem. Circ. No. 05-08-2005, § 3 (Aug 25, 2005) (Phil.). https://region7.ntc.gov.ph/images/LawsRulesAndRegulations/MC/VAS/MC_05-08-2005_VOIP.pdf

[20] An Act to Promote and Govern the Development of Philippine Telecommunications and the Delivery of Public Telecommunications Services, Rep. Act 7925, § 3(k), (Mar 1, 1995) (Phil.). https://lawphil.net/statutes/repacts/ra1995/ra_7925_1995.html

and specifies that "interconnection shall at all times satisfy the requirements of effective competition and shall be effected in a nondiscriminatory manner."[21]

In relation to these, it is part of NTC's responsibility to mandate a fair and reasonable interconnection of facilities of authorized public network operators and other providers of telecommunications services.[22]

Infrastructure Sharing

The Philippines has adopted the Common Tower Policy and has issued guidelines on sharing of passive telecommunications tower infrastructure. The Department of Information and Communications Technology (DICT) issued Department Circular (DC) No. 8, s. 2020, which sets the policy guidelines on co-location and sharing of passive telecommunications tower infrastructure for macro cell sites. Under the guidelines, Independent Tower Companies (ITCs)[23] or Mobile Network Operators (MNOs) are prohibited from engaging in predatory or anti-competitive conduct in relation to the construction, management, operation and maintenance of Passive Telecommunications Tower Infrastructure (PTTI). The DC also provides that MNOs or telcos may build new telecommunications towers, but they should "provide ample access slots" for other players and the DICT to "co-locate, mount or install their respective antennas, transmitters, receivers, radio frequency modules, radio-communications systems, and other similar active ICT equipment."[24] As such, all new towers shall be available for sharing. In relation to this, all private sector agreements for tower-sharing should provide for "fair, cost-based, reasonable, competitive, transparent, non-exclusive, and non-discriminatory terms, conditions, fees, and charges."[25] It's important to note, however, that the Common Tower Policy,

[21] Office of the President, Prescribing the Policy Guidelines for Compulsory Interconnection of Authorized Public Telecommunications Carriers in order to Create a Universally Accessible and Fully Integrated Nationwide Telecommunications Network and Thereby Encourage Greater Private Sector Investment in Telecommunications, Exec. Ord. No. 59, § 9 (Feb 24, 1993) (Phil.). https://www.officialgazette.gov.ph/1993/02/24/executive-order-no-59-s-1993/

[22] Rep. Act 7925, § 5

[23] A private entity duly organized and existing under the laws of the Philippines, registered with the DICT as an ITC, and engaged in the business of establishing or operating one or more Shared PTTIs, that is neither a private sector MNO nor a "Related Party" thereto, as defined by the rules and regulations issued by the Securities and Exchange Commission; Department of Information and Communications Technology, Policy Guidelines on the Co-location and Sharing of Passive Telecommunications Tower Infrastructure for Macro Cell Sites, Dep. Circ. No. 8, Title I, § 3(m) (May 29, 2020) (Phil.). https://dict.gov.ph/wp-content/uploads/2020/06/Department_Circular_No_008_Policy_Guidelines_on_the_Co_Location.pdf

[24] Ibid, Title III, § 11(a)

[25] Department of Information and Communications Technology, Policy Guidelines on the Co-location and Sharing of Passive Telecommunications Tower Infrastructure for Macro Cell Sites, Dep. Circ. No. 8, Title III, § 11(b) (May 29, 2020) (Phil.). https://dict.gov.ph/wp-content/uploads/2020/06/Department_Circular_No_008_Policy_Guidelines_on_the_Co_Location.pdf

as it currently stands, can be seen as an interim measure, with players voluntarily agreeing to be bound by these guidelines.

Spectrum Management

There is a lack of an effective and comprehensive regulatory framework for spectrum management in the country. Radio spectrum is a resource used to carry information wirelessly for a vast number of vital services ranging from television and radio broadcasts, mobile phones and Wi-Fi, to baby monitors, GPS and radar.[26] Radio spectrum management is anchored on the Radio Control Law (RA 3846), enacted in 1931, and Public Telecommunications Policy Act (RA 7925), enacted in 1995, when wireless technology was mainly used for radio broadcast. These laws limit the use of spectrum to enfranchised entities, which require entrants, even those that use new types of Internet technologies, to make investments in a traditional network. The outdated provisions contained in these laws do not create an exemplar regulatory regime for radiocommunications needed for the 21st century and as such continue to limit the country's ability to maximize the benefits and uses of new wireless technologies such as 5G as well as to free up or reallocate idle or new spectrum.

The authority to assign and recall frequencies lies with the NTC. However, it is important to note that spectrum assignment is merely done through an administrative process, but recalled through a quasi-judicial process. This means that the NTC can simply grant additional spectrum upon request or application, but if the government wants to recall the spectrum, NTC has to conduct public hearings.

The specific policies and procedures for the allocation, assignment, recall and re-assignment of spectrum are detailed in NTC MC 03-03-96. Spectrum assignments in the Philippines have so far been confidential and the awarding of spectrum an internal process. This departs from best practices in other countries, where public consultation documents, market reviews, and spectrum management plans are issued by the regulator before spectrum is assigned or awarded to an entity, typically in the case of mobile spectrum via a spectrum auction. While RA 7925 provides for a periodic review of allocation, the results of such reviews, if at all undertaken, are typically not made publicly available.

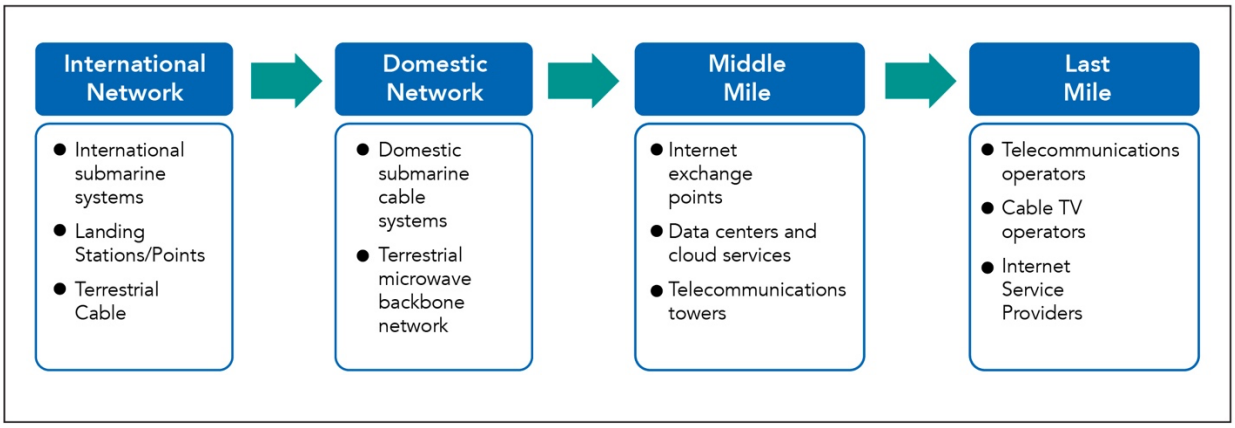
[26] Introducing Spectrum Management. GSMA, February 2017. https://www.gsma.com/spectrum/wp-content/uploads/2017/04/Introducing-Spectrum-Management.pdf.

III. Key Issues and Proposed Reforms

Franchise and licensing

The legislative franchise requirement to build a network – from laying submarine cables, building cable landing stations, the national backbone, middle and last mile segments – effectively blocks entry in all segments of the digital infrastructure *(see Figure 7).* RA 7925 encouraged vertical integration of the telecommunications and, by extension, the data transmission industry. This policy allows incumbents to deny their competitor's access to essential network facilities. It has limited the entry of new players, and resulted in a lack of innovation, leading to both slow network expansion, poor service quality, and higher prices over the years.[27]

Figure 7. Digital Infrastructure Value Chain



Source: DICT National Broadband Plan (2017)

[27] Based on the 2022 Q4 Ookla's Speedtest Global Index: The Philippines is 80th out of 141 countries for mobile broadband (download) speed and the country's fixed broadband speed is 43rd out of 178 countries.
"Speedtest Global Index: Median Country Speeds (November 2023)." Speedtest, n.d. https://www.speedtest.net/global-index;
In the 2022 Inclusive Internet Index of Meta and the Economist Impact, the country is 58th most expensive out of 100 countries.
"The Inclusive Internet Index." Economist Impact, 2022. https://impact.economist.com/projects/inclusive-internet-index/2022;
In 2021, a fixed broadband connection of 5GB costs 11.6% of monthly GNI per capita, way above the 2% threshold set by the UN, based on a study by the ITU and the Alliance for Affordable Internet (A4AI).
"Fixed Broadband Basket - 2021." Alliance for Affordable Internet (A4AI), September 13, 2022. https://a4ai.org/itu-2021-fixed-broadband-basket/.

The Philippines is the only country in the world, and the only one in the ASEAN region,[28] that requires a legislative franchise for the set-up of a telecommunications entity or a data transmission entity. Securing a legislative franchise is costly and creates uncertainty for businesses which can deter investments.[29] Regulators in other countries merely grant licenses as a matter of course and the payment of modest licensing fee or perhaps based on a technical evaluation of network and business plans. Global experiences reveal that there has been a convergence in the types of authorization regimes adopted in various countries. The current trend converges to the use of general authorization regimes which are common among developed economies in the European Union (EU) and in many emerging economies such as Colombia, Brazil, and India.[30] With general authorizations, class licenses normally list down basic rights and obligations of providers, and regulatory provisions of general application to the class of services authorized. Unlike the previous regime of issuing individual authorizations that contain customized and detailed conditions to a single-named service provider and which is common among developing and transitional economies, general authorizations are usually issued without a competitive selection process. A considerably unique authorization regime is the case in Denmark, where it is enshrined in the amended Tele Act of 2022 that a private entity aspiring to provide telecommunication services to users may do so without the need for a license, approval, or similar authorization.[31]

The NTC, with its technical expertise in telecommunications, should be well-positioned to assess the qualifications of firms – ensuring that they are technically and financially capable to provide service. Moreover, the mandate to secure licenses from both Congress and the regulator introduces an increased administrative and financial burden, particularly affecting new and smaller market entrants. This dual licensing process could have a disproportionate negative impact on these smaller players, potentially influencing market entry dynamics.

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[28] Rep. Philippines Digital Economy Report 2020: A Better Normal Under COVID-19 - Digitalizing the Philippine Economy Now. World Bank, October 2020. https://openknowledge.worldbank.org/entities/publication/1fdc7976-e6bf-555a-a206-57bd0acdf6fc.

[29] For example, a number of potential bidders for the third operator license in 2018 declined to participate given the need for a franchise.

[30] Rep. Next Generation Connectivity: A Review of Broadband Internet Transitions and Policy around the World. Berkman Klein Center, February 15, 2010. https://cyber.harvard.edu/pubrelease/broadband/.
Rep. Trends in Telecommunication Reform 2004: Licensing in an Era of Convergence. ITU, December 8, 2004. https://www.itu.int/pub/D-PREF-TTR.7-2004.

[31] "Telecommunications Laws of the World." DLA Piper, 2022. https://www.dlapiperintelligence.com/telecoms/.

There is a need to remove the franchise requirement for almost all segments of the data transmission industry. This aligns our regulations with global standards and best practices and allows the country to catch up with our peers in terms of network investment in broadband coverage and affordability. The Open Access Bill, which seeks to achieve this, has been identified as a priority legislative agenda of the Marcos administration as reflected in the recently approved Philippine Development Plan (PDP) 2023-2028.[32]

Going further in dismantling the franchise system, the provision of telecommunications service may be covered under a general authorization scheme as observed in the EU. This will allow any firm who wants to provide such service to do so without having to undergo a lengthy approval process. In this way, the country can encourage investment into and development of the industry by removing legal and regulatory barriers to competition.

Interconnection and access

The two incumbent telcos own and operate vertically integrated networks, where each has substantial investments and operations in all segments of the network infrastructure—from the international submarine cables, cable landing stations and backbone, down to the middle mile, access network and last mile.[33] In the international connectivity segment, the majority of submarine cable systems that terminated in the country are hosted by Globe and Smart.[34] Because of this structure, an independent internet service provider (ISP) or a small telco must pass through the backhaul facilities of PLDT and Globe, to purchase domestic IP transit (internet access) or buy IP transit abroad. With respect to the backbone, the telco incumbents also own, maintain and operate their own national backbone network, both fiber optic and terrestrial microwave.[35] This structure is different from other countries where governments own and operate national backbone networks or implement open access frameworks to a backbone network. In terms of open access frameworks, these require telecommunication providers, typically incumbents, as approved by a regulator or sanctioned by a court, to make available to their competitors various

[32] Philippine Development Plan 2023-2028 § (2023). https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/.
[33] See Annex 1 for the figure showing the telecommunications value chain.
[34] "Submarine Cable Map 2022." TeleGeography, 2022. https://submarine-cable-map-2022.telegeography.com/.
[35] PLDT operates is domestic fiber optic network while Globe maintains its Fiber Optic Backbone Network (FOBN), FOBN-2, and TELECPHIL's National Digital Transmission Network. Both PLDT and Globe run terrestrial microwave backbone networks nationwide. (World Bank, forthcoming)

elements of their network or service. As such, competitors can begin to compete using these components as part of their service without the need to duplicate the full investment that the incumbent originally made. The more familiar kind of an open access policy is unbundling, which requires the incumbent to allow entrants to lease certain individual building blocks that made up a telecommunications network.[36] More specifically, it usually necessitates either facilities sharing or co-location, where the incumbent houses the communications equipment of competing operators to facilitate connectivity or permits entrants to share infrastructure such as cell-site masts, cable ducts, or telephone poles. The conduct of infrastructure sharing is intended to facilitate improved coverage and service by allowing operators to share the risks of investment in the utilization of hugely costly fixed network assets.[37]

In this context, new players need to negotiate interconnection and access to the incumbent telcos' facilities bilaterally unless they plan to build and operate their own network or are granted access to some of the government's assets. Since details of interconnection are dependent on the carriers, a dominant incumbent carrier may have the incentive to abuse its position by either delaying the process, imposing unfair terms and conditions or even engaging in a vertical price squeeze. There is no reasonable incentive for dominant players to interconnect with their competitors at the soonest possible time, and at the lowest possible cost.

[36] Berkman Klein Center. Next Generation Connectivity, 85.
[37] Berkman Klein Center. Next Generation Connectivity, 85.

Moreover, the absence of explicit access pricing provisions in RA 7925 has created challenges for new and smaller players attempting to secure favorable agreements or reasonable fees from major telecommunications companies.[38] Although RA 7925 mandates that the NTC establish rates and tariffs that are fair and reasonable, the ambiguity surrounding these terms has led to uncertainty in the industry.[39] While the NTC attempted to regulate access pricing by mandating telecommunication carriers to submit bilateral agreements for approval, these submissions serve only as notifications, not approvals. This discrepancy in RA 7925, stating that only submission is necessary while also emphasizing the approval of interconnection rates, has resulted in conflicting interpretations.[40]

Compounding the issue is the NTC's diminished ability to intervene, hindered by information asymmetry.[41] There is a lack of transparency and disclosure requirements imposed on carriers, especially those with Significant Market Power (SMP).[42] Without access to crucial information from telecommunications companies, it may be difficult to establish reasonable and cost-based rates. Consequently, the NTC has faced challenges in enforcing and expediting interconnection,[43] leading to a failure to meaningfully regulate interconnection charges, even in cases where fees are disproportionately favorable to dominant parties.[44] Additionally, the regulation of access prices for unbundled network elements and related services remains unaddressed, with the determination left to market players without NTC oversight.

[38] Uy, Krystal Lyn T. "Adapting Telecommunications Regulation to Competition: A Selection of Key Issues for Reform in the Philippines." Asian Journal of Comparative Law 17, no. 2 (December 2022): 1–25. https://www.cambridge.org/core/journals/asian-journal-of-comparative-law/article/abs/adapting-telecommunications-regulation-to-competition-a-selection-of-key-issues-for-reform-in-the-philippines/4E450D78C32EE616ED60676372B15119, 22-23.
[39] Aldaba, Rafaelita M. "Opening up the Philippine Telecommunications Industry to Competition." Singapore: World Bank Institute, May 2000, 10.
[40] Espos, Edna A. "Institutions, Regulation and Performance: The Case of the Philippine Telecommunications." Philippine Journal of Public Administration 47, no. 1–4 (2003): 38–61. https://tuklas.up.edu.ph/Record/IPP-00000252131.
[41] Aldaba, Opening up the Philippine Telecommunications Industry to Competition, 24.
[42] The International Telecommunications Union (ITU) broadly defines an operator to have SMP if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position giving it the power to behave independently of other competitors, buyers, and ultimately, consumers, to a significant extent. This definition is lifted from D. 261 Regulatory Principles for Market Definition and Identification of Operators with Significant Market Power - SMP. International Telecommunications Union (ITU), October 25, 2016. https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=12829.
[43] Aldaba, Opening up the Philippine Telecommunications Industry to Competition, 24.
[44] Ibid, 23.

To address the challenges in telecommunications interconnection and ensure a fair and competitive market, several key recommendations should be considered.[45] First, there should be a review of the current telecommunications landscape and an assessment conducted to determine why the mandate for interconnection, as provided for in EO No. 59 s. 1993, is not being effectively implemented. While NTC has the responsibility to mandate a fair and reasonable interconnection of facilities of authorized public network operators and other providers of telecommunications services,[46] there seems to be a lack of clear guidelines on the process of interconnection and the mechanisms for arbitrating enforcement disputes. In fact, international experience shows that countries, especially in Europe, East Asia, and Arab States, that have opened up their basic service markets to competition through different forms of open access policies – unbundling, shared access, bitstream services, or wholesale – tend to display strong broadband performance and Internet take-up across a range of metrics.[47]

Second, NTC should have the authority to impose additional obligations on operators with SMP, particularly in meeting access requests for specific network elements and facilities. Providing a comprehensive list of access items in the legislation would reduce ambiguity and potential interpretation challenges. Drawing inspiration from the EU's Access Directive, access obligations could encompass various elements such as active and passive network elements, unbundled access to the local loop, technical interfaces, protocols, and other key interoperability technologies.[48] For instance, in the case of Germany, the updated Telecommunications Act (TKG) based on the European Electronic Communications Code enforced in 2021 grants authority to the federal regulator BNetzA to require telecommunications network operators with SMP the creation of certain necessary prerequisites for the interoperability of end-user services or for roaming in mobile networks, as well as an enabling provision of open

[45] These recommendations are drawn from Uy, Adapting Telecommunications Regulation to Competition: A Selection of Key Issues for Reform in the Philippines, 22-25

[46] Rep. Act 7925, § 5(c)

[47] Blackman, Colin, and Lara Srivastava. Working paper. Telecommunications Regulation Handbook - 10th Anniversary Edition. World Bank Group, January 1, 2011. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/297991468154471456/telecommunications-regulation-handbook-10th-anniversary-edition, 124-127. Berkman Klein Center. Next Generation Connectivity, 85-88.

[48] Article 12. "Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data." EUR-Lex Access to European Law. Luxembourg, January 2, 2011.

access to technical interfaces, protocols or other key technologies for the interoperability of services for virtual telecommunication networks.[49]

Third, interconnection and access obligations should be accompanied by non-discrimination and transparency mandates. This involves the publication of a reference interconnection offer and the disclosure of accounting information and network specifications. Non-discrimination should be explicitly defined in the law, to mean providing equivalent terms and conditions in equivalent circumstances, and providing information and services to third parties under the same conditions as it provides for its own services or of its subsidiaries.[50]

Additionally, market players should be required to provide necessary information for interconnection and access negotiations, including cost details, network and technical data, and prices. The law should specify the requisite information for a reference access offer, similar to the EU's Access Directive, which outlines a minimum list of items for wholesale network infrastructure access.

Fourth, access pricing must be subject to regulation. A comprehensive study on pricing methodologies should be undertaken by the NTC to strike a balance between promoting competition and preserving incentives for network infrastructure development.[51] Access charge levels significantly impact market entry, and a well-researched methodology can support fair competition.[52] In many jurisdictions such as Australia, United Kingdom, EU member states, and the US, regulators set interconnection prices based on long-run incremental costs following the consensus that, where possible, interconnection prices should reflect the additional costs to the incumbent from providing interconnection services. Further, almost all OECD countries have identified additional objectives of catalyzing competition in the market

[49] Sec. 26 (3) No. 4, No.7, and No.8 of the updated Telecommunications Act (TKG) (2021)
DLA Piper Intelligence, Telecommunications Laws of the World, 83.
[50] Article 10, Directive 95/46/EC
[51] Geradin, Damien, and Michel Kerf. "Key Issues of Economic Regulation in Telecommunications." Essay. In Controlling Market Power in Telecommunications: Antitrust vs. Sector-Specific Regulation, 34. Oxford University Press, 2003. https://academic.oup.com/book/25803.
[52] Cave, Martin. "Economic Aspects of the New Regulatory Regime for Electronic Communications Services." Essay. In The Economics of Antitrust and Regulation in Telecommunications: Perspectives for the New European Regulatory Framework, edited by Pierre Buigues and Patrick Rey, 29. Edward Elgar Publishing, 2004. https://ideas.repec.org/h/elg/eechap/3208_3.html.

to make it easy for entrants to obtain interconnection at very low prices to encourage entry.[53]

Finally, regulator should be empowered with sufficient authority to enforce the provisions of the law on interconnection, ensuring institutional capacity and independence through fixed-term limits and financial autonomy. Steeper penalties must be established to deter firms from violating the law and regulations, enhancing accountability in the industry. Consequently, countries that have an engaged, effective, and professional regulator that is able to compel open access obligations despite resistance from incumbents and SMP firms, such as in Japan and South Korea, appear to have a successful implementation of open access with positive effects.[54]

Infrastructure sharing

Interconnection should not only ensure that all licensed operators are granted the right to interconnect, but it must encourage the sharing of essential facilities and guarantee that network security and quality of service are not compromised.[55] According to the Best Practice Guideline for Enabling Open Access,[27] adopted by the International Telecommunication Union (ITU) 2010 Global Symposium for Regulators, Open Access is defined as "the possibility for third parties to use an existing network infrastructure."[56]

[53]Rep. Mobile Infrastructure Sharing. GSMA, September 2012. https://www.gsma.com/publicpolicy/wp-content/uploads/2012/09/Mobile-Infrastructure-sharing.pdf.
[54] Berkman Klein Center. Next Generation Connectivity, 85-88
[55] "8th Global Symposium for Regulators." In Best Practice Guidelines on Innovative Infrastructure Sharing Strategies to Promote Affordable Access for All. Pattaya, Thailand: International Telecommunication Union (ITU), 2008. https://www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/index.html. https://www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/PDF/GSRguidelines08_E.pdf
[56] ITU cites multiple opportunities for sharing, including: optical fiber cable (OFC) backbone, mobile network, spectrum, international gateway, and functional network elements; it also notes that roaming and virtual network operators (VNO) are widely adopted forms of customer sharing.

Considering that infrastructure sharing is the backbone of open access policies, infrastructure sharing in various segments must be provided in explicit, clear and self-executing legal provisions and complemented by the rules to be promulgated by the DICT, NTC, PCC and other relevant agencies. This approach would align with the practices in several other ASEAN markets, where formal legal frameworks provide a more stable and predictable environment for both operators and consumers. Sharing between operators may be in both passive and active infrastructure, where passive infrastructure to be shared include (a) towers for mobile networks; (b) ducts for fiber optic (FO) cables; (c) use of fiber strands in FO cables; (d) use of wavelengths on a fiber strand; and (e) access to buildings, while active network sharing refers to a wide range of variations like radio access network sharing and roaming. Priority may be made to passive infrastructure sharing as it accounts for about 70 to 80 percent of investment in broadband infrastructure.[57]

In general, sharing of passive infrastructure in network industries (e.g., telecommunications, electricity, gas, water) should be voluntary where operators and providers can voluntarily and openly offer network access and other services to any competitor, based on the commercial imperative of maximizing network use in order to gain a return on investment as quickly as possible. The incentive to tender wholesale network access on an open basis rests on the pursuit of network traffic and demand aggregation to maximize customer and revenue base, thereby securing more loan capital to support further network expansion.[58] As a matter of fact, there has been an increasing trend in the number of commercially driven infrastructure sharing agreements between operators in several countries primarily because of the need of new entrants to rapidly establish national coverage and for new site acquisition by all operators, the downward pressure on average revenue per user (ARPU) leading operators to seek cost savings, and congestion in urban areas alongside a lack of new sites.[59] Across international jurisdictions, voluntary network sharing may take many forms, ranging from passive sharing of cell sites and masts (Pakistan, India, Cyprus, and South Africa) to sharing of radio access networks (RANs) (in Australia, India, Germany, and the UK) and other active elements such as network

[57] Beschorner, Natasha. "Infrastructure Sharing and Co-Deployment Issues." Transport and ICT Global Practice: Smart Connections for All. Lecture presented at the Asia-Pacific Information Superhighway Steering Committee Meeting, December 7, 2017. https://www.unescap.org/sites/default/files/Infrastructure%20Sharing%20and%20Co-Deployment%20Issues%2C%20World%20Bank.pdf.

[58] Gillwald, Allison, Fola Odufuwa, Broc Rademan, and Steve Esselaar. An Evaluation of Open Access Broadband Networks in Africa: The Cases of Nigeria and South Africa. Research ICT Africa, May 2017. https://researchictafrica.net/publication/an-evaluation-of-open-access-broadband-networks-in-africa-the-cases-of-nigeria-and-south-africa/.

[59] GSMA, Mobile Sharing Infrastructure, 18.

roaming (in Netherlands) and the core network (in Italy), or both passive and active network elements (in Brazil and the United States).[60]

If access to existing facilities is mandated in all cases, without regard to the existence of market power by the operator, there is a risk of over-regulating the conduct of smaller operators in the market, and, as a consequence, of strengthening the market position of the largest operators that hold significant market power.

Mandatory sharing of passive of infrastructure, however, may be more suitable when operators possess SMP.[61] This is consistent with competition law and international practice where open access becomes mandatory only as a remedy in monopoly markets or when abuse of dominance is discernable. Absent a regulatory mandate, mobile network operators (MNOs), if driven solely by commercial considerations, will share their existing facilities, provided there are enough extra capacity to share, and sufficient incentives for commercial sharing agreements to occur. However, incumbent MNOs that hold SMP in a certain segment of the infrastructure will typically not find it in their interest to grant new entrants access to their existing facilities. On their own, they would opt to preserve their coverage advantages over their rivals by refusing access, thereby creating a strategic barrier to entry and limiting competition. Hence, mandatory access should be imposed for facilities owned by MNOs found to hold significant SMP. Only in such situations could regulators potentially conclude that mandatory infrastructure sharing may ease network roll-out and increase the degree of competition between the entrant and the incumbent. As an example, operators that bear SMP may, under the EU Competition Guidelines, be required to provide co-location or other forms of facility sharing including duct, building or mast sharing.[62] In Malta, mobile virtual network operators (MVNO) Vodafone and Go Mobile were jointly held to have SMP and were compelled to a cost-oriented and non-discriminatory full MVNO access and national roaming. This mandated sharing in the form of co-location is also evident among SMP-bearing operators Vodafone and Areeba in Cyprus and the singly dominant Telenor in Norway. In addition to the presence of SMP among dominant incumbents, mandatory infrastructure sharing might also be considered when commercial

[60] GSMA, Mobile Sharing Infrastructure, 32-48.
[61] "Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 on Establishing the European Electronic Communications Code." EUR-Lex Access to European Law. Luxembourg, December 12, 2018.
[62] Article 12 Subsection (f) of the Access Directive in GSMA, Mobile Infrastructure Sharing, 25.

negotiations among operators fail or if the public interest breaks down, such as in the case of Hong Kong, Jordan, and Sweden.[63]

Determining whether a certain firm holds SMP generally requires the competence of the PCC, which has the primary and original jurisdiction over competition matters. Meanwhile, crafting the rules for regulating entities in a particular sector requires the technical expertise and industry information possessed by the sector regulator. Given the potential synergies between PCC and NTC, rules regarding the definition and regulation of entities holding SMP must be issued jointly by the PCC and NTC, with the former as lead. This would also be consistent with the priority strategy for PCC and sector regulators to promote competition and regulatory efficiency in Philippine markets identified in the PDP 2023-2028.[64]

Infrastructure sharing can only take place on transparent, fair, reasonable and non-discriminatory basis. Transparent processes facilitate infrastructure sharing and market players need to know what is available for sharing under clearly established terms and conditions, in order to avoid unfair actions. To provide further guidance, it may be helpful to clarify that fair and reasonable access entails, among others, granting access in a timely manner and on a first-come-first-served basis. Terms of access, such as pricing, should be neutral and non-discriminatory; conditions under which a request for access will be rejected should be based on technical grounds, such as lack of technical suitability, lack of space, and other objective, transparent, and proportionate criteria.

Sufficient information about available opportunities for shared use of infrastructure and terms of access must be made available to any interested parties. Some of the best practices include requiring publication on websites of the details of existing as well as future infrastructure installations available for sharing by other service providers to promote "dig once efforts", such as the availability of space in existing ducts, planned deployment or upgrading works and interconnection.[65] In

[63] GSMA, Mobile Infrastructure Sharing. 32-48.
[64] "The PCC will work with sector regulators to develop frameworks, including guidelines and principles, to define and determine the existence of SMP in key markets. PDP 2023-2028 identified for the purpose of ex ante regulation, if necessary. The framework shall also provide guidance for when, what, and how to impose obligations on entities with SMP to protect competition in any given sector."
Philippine Development Plan 2023-2028. https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/, Ch. 10, 223-224.
[65] "8th Global Symposium for Regulators." In Best Practice Guidelines on Innovative Infrastructure Sharing Strategies to Promote Affordable Access for All. Pattaya, Thailand: International Telecommunication Union (ITU), 2008.

addition, the NTC should be required to publish an updated database of registered internet service providers (ISPs), including the exact location, ownership, and technical specifications and other relevant information of their facilities.

There is also a need to require the publication of spectrum use information, including the National Radio Frequency Allocation Table, the filing of annual reports by ISPs to indicate pricing information such as market prices, service, and all costs and charges relevant to the segment in which they operate. However, with respect to publication of pricing information, it is important that the increased transparency is not to a level that can facilitate collusion between service providers. To minimize risks of facilitating collusion, DICT/NTC may also opt to publish pricing information in consolidated terms (e.g. average or range by service area).

Spectrum management

The lack of comprehensive regulatory framework for spectrum management in the country has allowed MNO incumbents to control most of the spectrum, making it harder for new players and new technologies to come in and be adopted. To offer competitive services, new entrants need access to coverage bands, particularly frequencies below 1 GHz. Unfortunately, these bands have long been mostly controlled by the Globe and Smart, limiting competition and preventing innovative players, such as satellite-based internet service providers, from entering the market.

Outdated laws governing spectrum use, such as the Radio Control Law (RA 3846) from 1931 and the Public Telecommunications Policy Act (RA 7925) from 1995, fail to adapt to the evolving landscape of internet technologies. These laws restrict spectrum use to traditional networks, impeding the country's ability to leverage new wireless technologies like 5G and anticipate future advancements like 6G in 2030. The administrative approach in assigning spectrum licenses further favors incumbents and larger MNOs, neglecting the revenue potential of a more competitive assignment process through open tenders or auctions.

https://www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/index.html. https://www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/PDF/GSRguidelines08_E.pdf

Transparency issues undermine the spectrum assignment process, as detailed policies and procedures remain confidential or obscure. Unlike best practices in other countries, the Philippines lacks public consultation documents, market reviews, and forward-looking spectrum management plans before awarding spectrum. The NTC also faces challenges in managing spectrum effectively due to its lack of fiscal autonomy and the susceptibility to political pressure. Despite having the power to recall and re-farm spectrum, the NTC's decisions are subject to challenge, hindering the country's ability to maximize the digital spectrum dividend.

Over two decades-old regulations on spectrum pricing, such as NTC MC 10-10-97 and 11-12-2001, fail to reflect the increasing market values of spectrum. The spectrum user fees (SUF) calculation, linked to the number of base stations, discourages additional deployments, limiting network improvements, especially in remote areas. Spectrum warehousing, a practice where entities hold spectrum rights without effectively using them, often to restrict competition, is inadvertently encouraged under the current pricing scheme. This pricing model can create barriers for new market entrants, limiting their ability to acquire spectrum and compete with established players, as it makes unused spectrum financially attractive to hold onto without additional investment and development.

To make more spectrum available for internet connectivity and to reap benefits from new technologies, it is critical to establish a spectrum management framework that promotes investment, fosters competition, and maximizes the gains to society. The following proposed reforms in spectrum management would ensure equitable distribution, and effective and efficient use of spectrum; promote the use of new and emerging technologies; and enhance transparency in the assignment, re-assignment, or co-use of spectrum. This is aligned with the strategy identified in the PDP 2023-2028 to facilitate digital transformation and improve the country's ability to leverage growth opportunities.

1. **Impose sunset clauses on spectrum licenses**. To enable effective and efficient spectrum management, it is imperative to introduce a termination and reallocation clause specifically for International Mobile Telecommunications (IMT) spectrum bands. To facilitate a smooth transition, existing licenses should be phased out over a staggered period of 3 to 6 years. This phased termination allows mobile operators to adequately prepare for the change, mitigating

potential disruptions in service. Moreover, existing licenses may then undergo renewal, auction, or price-based selection at least one year before termination. Under the proposed framework, spectrum licenses may have a maximum validity of up to 15 years. This extended term provides operators with a reasonable timeframe for strategic planning and infrastructure development. The renewal process, coupled with periodic auctions or price-based selections, serves as a mechanism to reassess and allocate spectrum efficiently, aligning with technological advancements and market demands.

2. **Revise spectrum user fee (SUF) structure.** The current SUF formula needs to be decoupled with the number of base stations as it serves as a disincentive in the rollout of network infrastructure. Within a given band, SUF rates should become more progressive as a licensee holds more spectrum to ensure that they only hold what they need and discourage spectrum hoarding. The SUF formula under NTC MC 10-10-97 and 11-12-2001, therefore has to be reviewed and revised to promote the efficient use of spectrum, incentivize the return of idle spectrum and allow the country to maximize its benefits from this scarce public resource.

3. **Develop a comprehensive spectrum management framework.** The Department of Information Communications and Technology, in coordination with the Philippine Competition Commission, Department of Finance, Department of Budget and Management, and National Economic and Development Authority, should craft and issue a Spectrum Management Framework/Policy to be then implemented by NTC. The framework shall enshrine competition and transparency principles, and incorporate global best practices to ensure the efficient and effective use of the country's spectrum resources.

    a. **Auctions to award spectrum.** Competitive auctions have long been recognized by other countries as the most efficient way to award spectrum. Auctions reduce regulatory discretion, level the playing field and ensure that spectrum is awarded to the entity that can use the resource most effectively. Auctions are the primary method used by

regulatory authorities to award spectrum in the US,[66] UK, Europe, South Korea and Australia, as well as in our ASEAN neighbors, Singapore, and Thailand. The NTC could explore the early auctioning of the 26 GHz band to support high speed 5G deployment in the Philippines (similar to the mmWave allocations in Singapore, Thailand, Hong Kong SAR, etc.).

b. Safeguards for competition. The sector's history has been marked by mergers and acquisitions that concentrated the country's spectrum to only two major companies. To prevent this, the policy should provide for competition safeguards such as the use of spectrum caps during auctions as other countries have done to enable new players to obtain spectrum. Moreover, the role of the PCC as competition authority tasked to review mergers and acquisitions must be strengthened.

c. Empower NTC to recall and reassign spectrum. The policy must equip NTC with stronger powers to be able to effectively recall spectrum, especially idle and underused frequencies. In other countries, the regulatory authority can unilaterally recall spectrum as long as due notice, say 5 years, is provided to allow spectrum users to recoup their investments. Other methods include adopting a "use it or lose it" approach or including sunset provisions in licenses. These are important to reduce litigation risks for NTC and allow them to hasten long overdue spectrum reforms – such as the analog TV shutoff and migration to digital TV, which will free up additional spectrum below 1 GHz for mobile broadband services.

d. Transparency. Spectrum assignments in the Philippines have so far been confidential and the awarding of spectrum an internal process. In other countries, public consultation documents, market reviews, and spectrum management plans are issued by the regulator before

[66] In 2021, US President Biden, in a move to promote competition in the economy, issued an executive order that mandates, among others, the conduct of future spectrum auctions "to help avoid excessive concentration of spectrum license holdings in the United States, so as to prevent spectrum stockpiling, warehousing of spectrum by licensees, or the creation of barriers to entry, and to improve the conditions of competition in industries that depend upon radio spectrum, including mobile communications and radio-based broadband services."
Savage, Christopher, Christopher Renner, and David Gossett. "President Biden Signs Executive Order Encouraging Greater Regulation of Tech and Communications Companies." Davis Wright Tremaine LLP (blog). Davis Wright Tremaine LLP, July 19, 2021. https://www.dwt.com/blogs/privacy--security-law-blog/2021/07/biden-ftc-fcc-tech-executive-order.

spectrum is assigned or awarded to an entity. Transparency can be improved through the publication of all applications, approvals and decisions to allocate, assign, recall, re-allocate, or re-assign spectrum, as well as through the regular updating and publication of the National Radio Frequency Allocation Table. In addition, defining a period for a spectrum assignment review, clarifying the criteria for evaluation, and publishing the results of the review should be practiced.

e. **Develop a spectrum roadmap.** Related to transparency, the NTC must be mandated to publish a spectrum roadmap to increase regulatory certainty and help market players plan their investments. Among other things, the roadmap should detail NTC's plans to auction spectrum and plans to re-farm spectrum within the next 3 to 5 years, particularly for the IMT (International Mobile Telecommunications) bands. The roadmap can also facilitate MNOs holding larger contiguous blocks of spectrum in key bands, which will allow them to immediately increase quality of service and hasten the transition to new more efficient technologies. Finally, it's also a venue for NTC to share their views on emerging spectrum management practices such as dynamic spectrum sharing and shared licensed spectrum to guide market expectations.

f. **Expand access beyond MNOs.** Satellite-based broadband providers, and other VAS providers should be able to access spectrum. Presently, these users are mandated to partner with an MNO to be able to provide services. Allowing them direct access to spectrum will usher in more competition in the broadband market.

IV. Conclusion and Steps Forward

This policy note assesses the Philippine telecommunications sector, identifying crucial areas for legislative reform. Central to these reforms are three key components: the establishment of an open access policy, the creation of a comprehensive spectrum management framework, and the revamping of the franchise and licensing regime.

These reforms align with the PDP 2023-2028, specifically the cross-cutting strategy identified in Chapter 10 (Promote Competition and Improve Regulatory Efficiency) of expanding access to broadband internet and digital technologies to enhance consumer choice and facilitate digitalization and innovation among MSMEs. The scope of these reforms extends far beyond a single domain, intersecting various crucial outcomes outlined in the PDP 2023-2028, thereby demonstrating their cross-cutting nature. These outcomes include:

- Expanding access to markets and agriculture-, forestry-, and fisheries-based enterprises by improving physical and digital infrastructure (in Chapter 5 – Modernize Agriculture and Agribusiness);
- Enhancing inter-sectoral linkages by increasing internet speed and coverage (in Chapter 7 – Reinvigorate Services);
- Broadening and deepening financial exclusion by improving access to financial services, including digital services, among previously excluded sectors (in Chapter 11 – Ensure Macroeconomic Stability and Expand Inclusive and Innovative Finance); and
- Rationalizing and strengthening government functions, systems, and mechanisms by accelerating digital transformation in the government (in Chapter 14 – Practice Good Governance and Improve Bureaucratic Efficiency).

Collectively, these measures contribute to the nation's socioeconomic progress and the realization of *AmBisyon Natin* 2040.

Key Legislative Reforms Needed

To address the challenges identified in the telecommunications sector, specific legislative actions are necessary. These actions aim to dismantle existing barriers, introduce efficiency, and encourage innovation in the sector. The following are the key legislative initiatives that need to be undertaken:

- ***Franchise and Licensing Reforms.*** The current franchise and licensing process is a significant barrier to new entrants. Reforming this regime, particularly through the removal of the franchise requirement, will simplify market entry and enhance sector competitiveness. Streamlining these processes will create a more dynamic telecommunications environment.

- ***Open Access in Data Transmission.*** Current market dynamics, marked by high entry barriers and limited competition, necessitate legislation for an open access framework. This policy will allow new entrants to challenge the dominant market players, leading to increased efficiency, reduced costs, and improved service quality. Open access is essential to disrupt the existing market structure, mitigate monopolistic practices, and foster innovation.

- ***Spectrum Management Policy Framework.*** The current spectrum management practices are outdated and inefficient. A new legislative framework is imperative to optimize this finite resource, ensuring transparent allocation and efficient use. This approach will enable new technologies and services, contributing significantly to the sector's growth.

Expected Impact of Legislative Reforms

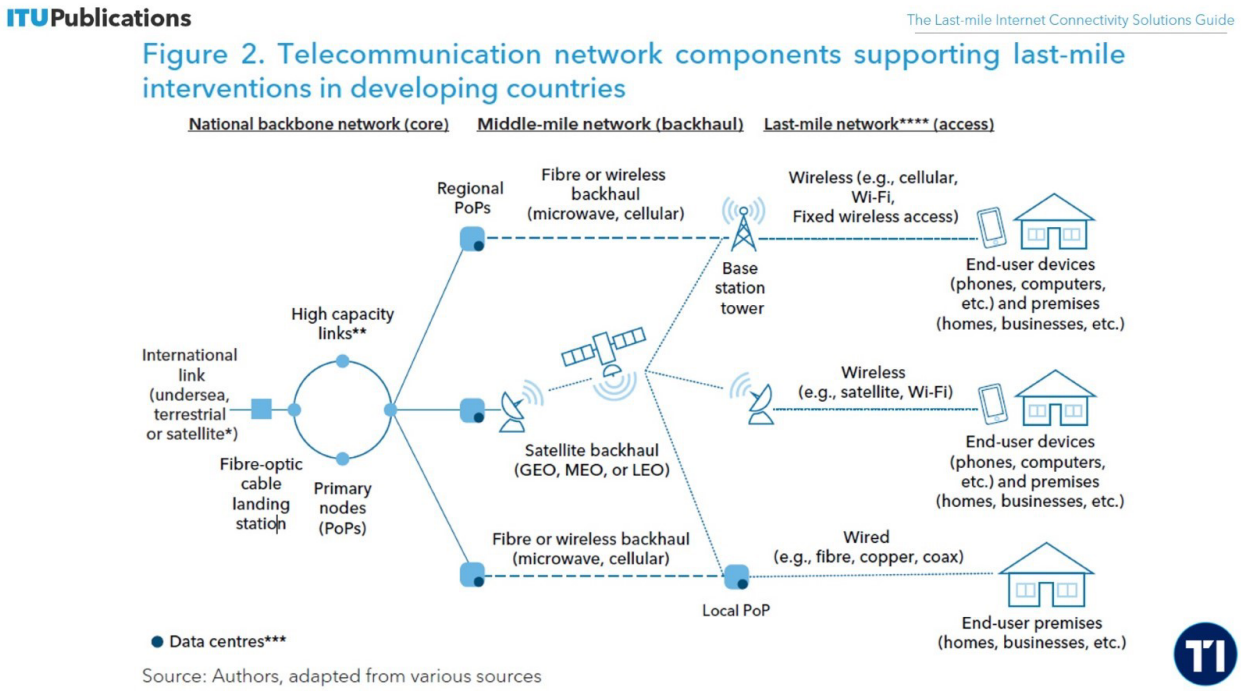
The proposed legislative reforms are expected to have a transformative impact on the telecommunications sector in the Philippines. This will not only be felt within the sector but will also have far-reaching implications for the broader socioeconomic landscape of the country. The following outlines the expected outcomes of these legislative reforms:

- ***Enhanced Competition and Innovation.*** These reforms will reduce barriers to entry, creating a more competitive environment that spurs innovation, leading to improved service quality and lower consumer prices.

- ***Increased Accessibility and Inclusivity.*** Extending telecommunications services to underserved areas aligns with the PDP's focus on inclusivity and equitable growth, ensuring widespread access to the digital economy.
- ***Economic Growth and Global Competitiveness.*** A competitive telecommunications sector is vital for the Philippines' economic growth and global standing. Enhanced connectivity will stimulate other sectors and attract investments.

The above recommendations represent a transformative shift towards a more inclusive, competitive, and dynamic telecommunications sector in the Philippines. These are crucial for realizing the goals of the PDP and *AmBisyon Natin* 2040, paving the way for a *matatag, maginhawa, at panatag na buhay* for all Filipinos.

Annex 1. The Telecommunications Value Chain



Definitions from House Bill No. 6 of the 19th Philippine Congress

International Network/Gateway - refers to a segment of data transmission that consists of any facility that provides an interface to send and receive data traffic between one country's domestic network facilities and those in another country.

Domestic Network/Backbone Network – refers to the main line that ties networks, delivers routes to exchange information among various sub-networks, connects regional distribution, and, in some instances, provides connectivity to other peer networks.

Middle Mile – refers to the segment of data transmission network that links the last mile network to the core or backbone network.

Last Mile – refers to the segment of data transmission network that connects end users.