



**Contribution to Public
Consultation No. 13/2023 from
the National Telecommunications
Agency (Anatel)**

*Internet Society - Brazilian
Chapter (ISOC Brasil) & Institute
for Technology and Society of Rio
de Janeiro (ITS Rio)*

Summary

This contribution is dedicated to fostering a dialogue surrounding the potential implementation of the cost-sharing policy, specifically as it pertains to large users of telecommunications services.

Aligned with the Internet Society's stance on the European Commission's public consultation titled *The Future of the Electronic Communications Sector and its Infrastructure*, and considering the unique characteristics of the Brazilian market, ISOC Brasil and ITS Rio aim to highlight critical concerns to Anatel regarding this policy and its potentially concerning implications for the future of the connectivity sector.

Broadly speaking, the introduction of a cost-sharing policy holds the potential to dramatically reshape the functioning of the Internet. It may result in inefficient infrastructure, heightened costs, diminished service quality, and the peril of Internet fragmentation.

The ramifications of implementing this policy extend to clear conflicts with principles of net neutrality and Anatel's regulatory authority, among other issues elaborated upon below.

In this endeavor, we have chosen a written presentation format, as the consultation questionnaire imposes limitations. Nonetheless, we have strived to interweave references to the consultation items wherever feasible.

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Introduction

For an extended period, prominent telecommunications corporations have persistently lobbied public officials and regulators, advocating for Value Added Service (VAS) providers, especially major content providers, to directly contribute to the deployment and upkeep of telecommunications networks—specifically, the physical connectivity infrastructure.

In this paper, we have embraced the term “cost-sharing” to characterize the aforementioned policy. This designation serves to contextualize the nomenclature used in various settings, such as “fair share,” “network fees,” “cost-sharing,” and “sender pay,” among others.

The dialogue on cost sharing is intrinsically linked to Tomada de Subsídios No. 13/2023 (hereafter referred to as “Public Consultation No. 13/2023”), conducted by the National Telecommunications Agency (Anatel). Additionally, it correlates with the exploratory consultation initiated by the European Commission in February 2023. This European initiative aims to foster an open discourse on the necessity for beneficiaries of digital transformation to contribute to vital investments in digital infrastructure.

Both in Europe and Brazil, the drive for implementing a cost-sharing policy emanates from prominent companies operating in the telecommunications sector.

Furthermore, in the European arena—and potentially in Brazil—telecom operators stand alone in championing the cost-sharing policy.

Within the European context, the resistance from small and medium-sized providers is resolute (MVNO Europe, 2022; BREKO, 2022; ISOC, 2023; Preta, 2023). This is particularly noteworthy, given that these entities are responsible for a significant portion of fiber optic installations in Europe (BREKO, 2022). Similarly, in Brazil, where there are 46.3 million fixed broadband accesses,

competitive operators, including smaller providers (PPPs), collectively hold a 63% market share (Teleco, 2023).

If those who oversee the majority of fiber installations in the European context oppose the proposal, it is highly probable that many other stakeholders within the national landscape will take a similar stance.

In this regard, ISOC has already compiled a comprehensive list of various entities staunchly opposed to the cost-sharing policy. This publication has garnered widespread attention and has been aptly titled to encapsulate the rationale behind the cost-sharing policy: ["On one side, the major telecom operators; on the other, everyone else."](#)

The roster of dissenting voices documented in Europe encompasses consumer advocacy groups, civil society organizations, academics, regulatory bodies, small and medium-sized Internet service providers, Application and Service Providers (CAPs), and Internet users.

Why are telecoms pushing for cost-sharing?

Large telecommunications networks and service providers contend that, within the present landscape, they grapple with diminishing operating margins. They bear the brunt of investments in connection infrastructure independently (Álvarez-Pallete et al., 2022). Additionally, they assert that they lack bargaining power with major platforms, rendering the financial return on infrastructure investments unviable. Furthermore, the absence of specific regulations on this matter is cited as a key factor contributing to the current scenario (Álvarez-Pallete et al., 2022).

In the Brazilian context, representatives of prominent telecommunications corporations have publicly articulated that the inclusion of cost-sharing is necessary to "rectify injustices." They also assert that telecommunications operators' services fall under the category of a "two-sided" market (IREE, 2023). On one side are end consumers, and on the other are major users, with both sides

expected to shoulder the costs associated with utilizing the physical infrastructure (IREE, 2023).

It is important to note that within the European consultation process, this very argument has already been debunked through evidence presented in a [comprehensive report](#). Moreover, multiple other indicators underscore the lack of grounds to substantiate any regulatory intervention aimed at promoting the universality of connectivity services (BEREC, 2023; ISOC, 2023; Prado, 2023).

The implementation of this policy in Brazil would bring about numerous impacts and create legal complexities.

As will become evident, cost-sharing has the potential to adversely affect the development of the entire connectivity ecosystem within the country. Drawing a parallel with the situation in the European Union, such unwarranted intervention can result in “**inefficient infrastructure, elevated costs, diminished service quality, and an increased risk of Internet fragmentation**” (ISOC, 2023).

In light of the rationales elucidated in this document, the Internet Society Brazil Chapter (ISOC Brasil) and the Institute for Technology and Society of Rio de Janeiro (ITS Rio) recommend rejecting the cost-sharing policy and assert that regulatory alterations pertaining to network remuneration models lack justifiable grounds for these objectives.

1. Context of the Public Consultation

This debate is far from novel. For years, arguments have circulated regarding the necessity, reasonableness, and feasibility of instituting compensation mechanisms for Value Added Service (VAS) providers within the telecommunications networks and services responsible for implementing and maintaining connectivity infrastructure.

However, this discourse has regained prominence in recent months, particularly following a consultation initiated by the European Commission in February 2023. Just a month after the European

consultation was launched, the Brazilian National Telecommunications Agency (Anatel) introduced Public Consultation No. 13, aiming to “broaden the understanding of the digital ecosystem, its relationships, stakeholders, and implications” concerning telecommunications networks and services, encompassing “users of these infrastructures, whether they are VAS providers or not” (Anatel, 2023, item 20).

Anatel asserts that VAS providers qualify as users of telecommunications networks and services. Consequently, they fall under the purview of Article 4 of Law No. 9.472/1997, also known as the General Telecommunications Law (LGT).

Per item I of this article, users of telecommunications services are required to “employ telecommunications services, equipment, and networks appropriately.”

This condition opens the door to the possibility of varying regulatory treatment for large-scale users.

The origins of the cost-sharing proposal

The debate in question has been dubbed “fair share” by European telecoms, although this terminology is not entirely accurate.

The literal translation of “fair share” into Portuguese would be “cota justa” or “parte justa.” The proposal is also referred to as “Sending Party Network Pays” (SPNP) or “Sender pays.” The latter terms are technically more precise, particularly according to the Brazilian Association of Internet and Telecommunications Providers (Abrint). This is because it represents “a form of pricing regulation closely resembling effective cross-subsidization between networks and content” (Cruz, 2023).

Other stakeholders engaged in the discourse employ the term “network fees” (Salvadori & Martin, 2023). Nevertheless, irrespective of the terminologies employed, it is illogical to apply this model to the Internet, which operates on an entirely distinct economic logic rooted in data packages (Frautschy & Gahnberg, 2022; Huston,

2022).

Parallel Contexts

It is important to place this discussion about the cost-sharing policy in the context of other ongoing deliberations concerning the regulation of “big tech” (a term encompassing both dominant digital platforms and major technology companies known for innovation within their sectors).

It could be argued that the current Public Consultation initiated by Anatel is interconnected, for instance, with dialogues on regulating content-layer platforms, closely tied to the legislative discourse surrounding Bill No. 2.630/2020, popularly known as the “Fake News Bill.” However, this interpretation is misleading, as discussed in this document.

In the context of this debate, Anatel has already positioned itself as the preferred agency to assume the role of regulating platforms and content moderation. This holds significant importance as it would considerably broaden the Agency’s purview, extending beyond the infrastructure layer of the Internet, which encompasses telecommunications services, to encompass the regulation of the content layer.

This context potentially contributes to Anatel’s inclination to support the cost-sharing model, given its alignment with the interests of companies operating in the telecommunications networks and services sector.

However, it is essential to emphasize that VAS should not be confused with telecommunications services, and this distinction is explicitly outlined in Article 61 of the LGT.

1.1 Previous Stances of the Internet Society

The Internet Society (ISOC) has conveyed its stance on this matter in a document submitted to the European Commission as part of the consultation on “The Future of Electronic Communications and their

Infrastructure.”

In its statement, ISOC unequivocally emphasizes the absence of compelling evidence necessitating regulatory modifications. Moreover, it asserts that **the collection of direct payments (referred to as fair share or cost-sharing) could “fundamentally transform the globally recognized model of how the Internet operates”** (ISOC, 2023).

According to ISOC (2023), the regulatory dilemma is poorly defined. The organization’s contribution **delves into the insufficiency and partial comprehension of the network’s “traffic generators.”**

It is noteworthy to add that in Anatel’s Public Consultation, large users are categorized as those requiring “distinct regulatory treatment, such as those users extensively utilizing telecommunications networks.”

The Public Consultation reveals that this user classification extends beyond entities generating high volumes of traffic. One example is Anatel’s action against abusive “robocalls” on Fixed Switched Telephone Service (STFC) networks, where a technological solution was deployed to address the substantial volume of calls surpassing human dialing capacity, as stipulated in Article 4, I, of the LGT.

In the case of the open public consultation within the European Union, the initiative identifies “electronic content platforms” as a source of strain on network infrastructure. Nonetheless, **ISOC’s contribution clarifies that traffic does not spontaneously originate but instead hinges on end users’ intent to access such content.** In such a scenario, charging VAS companies for cost-sharing becomes unjustifiable since they are not genuinely responsible for Internet traffic.

As if demonstrating that increased traffic does not directly stem from Internet content providers were not enough, ISOC (2023) illustrates that the implementation of this policy would be detrimental to the collaborative nature of the Internet. This situation **could favor large, well-established economic entities while harming providers with less market influence,** given their

limited bargaining power to negotiate payments.

Another concern raised by ISOC (2023) relates to the risk of **Internet fragmentation**. This policy contradicts the fundamental principle of connecting endpoints, forming the Internet as it is presently known—free from any technical or economic barriers.

However, in the hypothetical scenario of adopting cost-sharing, users would no longer experience an open Internet but would instead have access to a constrained selection of services pre-negotiated between content producers and access providers offering connectivity in their respective regions. Consequently, Internet use and information access would be restricted to business agreements between these two entities, with no involvement of end users.

Ultimately, users in certain global regions could potentially lose access to new solutions or content simply because they lack the capability to negotiate payment terms between content creators and access providers supplying connectivity in those areas.

Lastly, ISOC (2023) further underscores that such a policy is in direct conflict with the fundamental principle of **net neutrality**. If implemented, it would necessitate explicit authorization to differentiate the treatment of traffic, contingent on whether content producers have entered payment agreements with access providers.

At its extreme, it might even be argued that this policy infringes upon freedom of expression, as it imposes the requirement to make payments in order to disseminate a specific message.

1.2 Other International Stances

ISOC is not the sole advocate against the implementation of a cost-sharing billing model in Europe. Other influential international organizations are also playing a role in opposing this measure.

One notable example is the **Body of European Regulators for**

Electronic Communications (BEREC), a pivotal entity in the realm of communication policies.

BEREC has taken a stance against adopting the cost-sharing policy. In a document from May 2023, BEREC acknowledges that the implementation of the Digital Decade Policy Programme will result in increased data traffic (BEREC, 2023).

Nevertheless, it emphasizes that there is insufficient justification for infrastructure issues arising from the growing volume of data attributed to VAS providers. Thus, there is no need to address a market failure that necessitates correction through new regulations introducing cost-sharing charges.

Recently, Alessio Butti, the Undersecretary of the **Italian** Council of Ministers and the head of the government's Technological Innovation department expressed caution regarding the proposal in the European Commission's consultation. Butti voiced concerns about the market dominance of telecom operators and ensuring consumer access.

Simultaneously, Butti countered the arguments put forth by telecom operators regarding the low return on investment in infrastructure (Bertuzzi, 2023).

VAS providers themselves have also voiced their opinions on the matter. In March 2023, Meta issued a statement expressing opposition to the imposition of contributions on VAS, particularly in the European context (Meta, 2023). In their statement, they highlight their significant investments, totaling over 100 billion dollars in capex/opex in global digital infrastructure, including billions of dollars on the European continent.

An opinion drafted at the request of the **Computer & Communications Industry Association** contends that the fair share proposal would essentially function as a tax. Characterizing it as such, the proposal would "run counter to the agreement not to introduce new digital taxes while global proposals to reform the taxation of multinational companies, including digital corporations, are under development" (Williamson, 2022).

1.3 Insights from the South Korean Experience

The South Korean experience serves as a compelling case study, cited in numerous studies as an example of a nation that implemented a cost-sharing policy with unfavorable outcomes. In the context of South Korea, this policy is known as “Sender pays” or “Sending Party Network Pays” (SPNP).

In South Korea, the journey toward cost-sharing commenced with a legislative amendment in 2016, aiming to introduce cost-sharing with all Value Added Services (VASs), regardless of their market influence. Subsequently, this movement gained momentum through reforms, notably in 2020 and 2021 (WIK Consult, 2022; Gahnberg et al., 2022; Frautschy & Gahnberg, 2022; ISOC, 2023; Prado, 2023).

As a result of revisions to the South Korean Telecommunications Business Act (TBA), new interconnection regulations were instituted for Internet service providers and value-added telecommunications service providers, including content providers, operating within the country.

Reviews of the South Korean case have consistently highlighted significant negative consequences. The policy led to unnecessary costs, created bottlenecks within South Korea’s digital ecosystem, and heightened market concentration, among other issues. In essence, it became evident that “for South Korea to continue reaping the benefits of the Internet toward its goal of a hyper-connected society and economy, the country must remove these restrictive provisions” (Frautschy & Gahnberg, 2022).

Furthermore, the measures adopted in South Korea were observed to reduce the diversity and quality of online content. They also resulted in reduced investment in infrastructure networks and increased prices for end consumers (WIK Consult, 2022). Civil society organizations argued that these measures violated the principle of freedom of expression, as individuals were required to pay for the distribution of their ideas (WIK Consult, 2022).

Compelling evidence of the shortcomings introduced by the “sender pays” policy was the immediate surge in traffic directed to Japan, juxtaposed with a decline in domestic traffic within South Korea. This shift occurred because interconnection services in Japan became more appealing, driving up overall costs due to the necessity of international transit. Consequently, the exchange of local traffic within South Korea itself lost its allure (ISOC, 2023).

Even **Telefónica**, an advocate of cost sharing in Europe, acknowledges that a market failure emerged in South Korea due to routing through Japan (Maillo, 2023).

Netflix, embroiled in legal debates on this issue for several years, contends that the obligation to remunerate network and infrastructure providers is not intrinsically tied to investments in network expansion or improved prices for end users. Netflix asserts that no obligations are connected to payments received from VASs (WIK Consult, 2022).

Ultimately, in South Korea’s policy, as in Brazil or the European Union, network and infrastructure providers could employ the funds received to simply distribute higher profits to shareholders or engage in mergers and acquisitions of companies (WIK Consult, 2022).

Beyond South Korea, other countries are also deliberating on this policy. In India, a bill seeks to amend the country’s Telecommunications Act, expanding the scope of telecommunications services to enable the regulator to oversee platform regulation (GNI, 2022). This bill has encountered substantial criticism from various quarters in the country (GNI, 2022).

1.4 About the Authors of this Contribution

The Brazilian Chapter of ISOC is affiliated with the Internet Society (ISOC), a global non-profit organization established in 1992 by early Internet pioneers. Its extensive worldwide community comprises thousands of dedicated and committed individuals, organizations,

and volunteers. ISOC is driven by the belief that the Internet is a force for good, advocating for an open, globally-connected, secure, and reliable Internet that benefits all.

The Brazilian Chapter of ISOC actively fosters discussions on the principles upheld by the Internet Society within Brazilian society. It also promotes ISOC's significant initiatives and policy positions. ISOC Brazil engages in various domains, including technical training, organizing events covering technical and policy-related topics, taking stances on issues of significance to Brazilian society, and spearheading projects. The chapter boasts approximately 1,050 active members distributed across the country, representing diverse communities: the technical community involved in the Internet's technological development and operation; the business community engaged in Internet infrastructure and operation (including access providers) and content development (such as media and application companies); academic communities from various disciplines conducting research on Internet development, utilization, and its societal and economic impacts; and collaborators from various third-sector organizations sharing ISOC's values.

The Institute for Technology and Society of Rio de Janeiro (ITS Rio) is an independent, non-profit research institution with a mission to ensure that Brazil and the Global South respond creatively and effectively to the opportunities presented by technology in the digital era. ITS Rio strives to ensure that the potential benefits of technology are equitably distributed throughout society.

Through research and partnerships with other institutions, ITS Rio examines the legal, social, economic, and cultural aspects of technology. It advocates for improved regulatory practices that safeguard privacy, freedom of expression, and access to knowledge. The institute also delivers educational programs in innovative formats, offering training and development opportunities to individuals and institutions regarding the promises and challenges of technology. Above all, ITS Rio endeavors to amplify the voices of Brazil, Latin America, and the Global South in the international arena concerning technology, the Internet, and their regulations.

2. Arguments Against the Policy

2.1 Lack of Commitment to Action

While the debate surrounding the implementation of the internet toll policy in Brazil may appear recent, it is crucial to acknowledge that major telecommunications companies have been actively exerting their influence on national, regional, and federal entities for over a decade in support of models like the “fair share.”

Illustratively, the European Telecommunications Network Operators’ Association (ETNO) has already been advocating for the Service Provider Network Performance (SPNP) model since the 2012 World Conference on International Telecommunications (WCIT-12) (BEREC, 2023).

The current debate seems to “emulate” the European narrative, lacking detailed information, empirical studies, or specific calculations grounded in the Brazilian context to substantiate the propositions being made. This approach attempts to fabricate a problem that does not currently exist, as there is no prevailing market failure warranting regulatory alterations (BEREC, 2023; ISOC, 2023; Prado, 2023).

Presently, transit and peering agreements operate harmoniously. A prime example is the São Paulo Internet Exchange Point (PTT), the largest of its kind globally in terms of both membership and traffic volume (Bnamericas, 2023). **In light of this, the representative of Internet providers, Abrint, expresses profound concerns about the potential repercussions of cost-sharing policies on the fundamental dynamics of transit and peering relationships (Cruz, 2023).**

The push for changes in network remuneration models primarily originates from telecom operators, who argue that they cannot shoulder the burden of investment in connection infrastructure unilaterally, as it would erode their operating margins (Álvarez-Pallete et al., 2022).

Nevertheless, when examining the Brazilian landscape, Prado (2023) demonstrates that over the past five years,

the largest network and telecommunications companies have consistently maintained high national and regional operating margins.

One contributing factor to these positive margins among major telecommunications companies is the favorable tax treatment they receive for bundling value-added services with their telecom offerings (Prado, 2023).

Furthermore, revising the foundational principles of network remuneration models lacks justification when considering the projected traffic growth in the coming years. **Over the next decade, the demand for network investment is expected to increase by only 6.7% compared to the current investment levels (Prado, 2023). Moreover, revenues are also projected to rise proportionately, not merely expenses (Prado, 2023).**

2.2 Anatel's Regulatory Competence Gap

The National Telecommunications Agency has played a pivotal role in advancing the telecommunications sector in Brazil. The agency has demonstrated a commitment to adhering to international standards of regulatory excellence, a recognition endorsed by esteemed organizations such as the Organization for Economic Cooperation and Development (OECD) and others (OECD, 2020; Geeverghese, 2022).

Within the legal and regulatory framework governing telecommunications in Brazil, there exists a laudable feature that has garnered praise from various quarters. This feature is embodied in Standard No. 004/1995.

Issued by the Ministry of Communications, **Standard No. 004/1995 explicitly defines a "Value Added Service" (VAS) as one that "augments an existing telecommunications service network with means or resources that generate new specific utilities or fresh productive activities related to information access, storage, transmission, and retrieval"**

(Article 3, 'b').

The Brazilian Internet Steering Committee (CGI.br) has underscored the “foundational role” that this distinction “plays in the evolution of the Internet in Brazil.”

According to CGI.br, Standard 004/1995 serves as a crucial milestone for (i) “fostering the democratization of Internet Connection Services in the nation;” and (ii) fostering the “emergence of novel business models and technological innovations” (CGI.br, 2022).

Prominent associations like the Brazilian Association of Internet and Telecommunications Providers (Abrint) and the Brazilian Internet Association (Abranet), along with coalitions of civil society organizations, share similar sentiments and advocate for the retention of this regulation (CDR, 2022; Amaral, 2022).

It is noteworthy that the differentiation between “telecommunications services” and “value-added services” is also explicitly addressed in Article 61 of the General Telecommunications Law (LGT).

Furthermore, it is important to highlight that §2 of Article 61 of the LGT explicitly confers the right to “utilize telecommunications service networks to provide value-added services” to interested parties. The assertion by Anatel of additional obligations upon VAS providers, even in their capacity as users, must remain circumscribed, as articulated by Marques Neto (2023). In his words:

“While VAS providers do utilize telecommunications services and Anatel is empowered to regulate the obligations of users as stipulated in Article 4 of the LGT, **the agency is precluded from exceeding the confines of this provision and imposing fresh obligations on these providers. Its authority is delimited to regulating instances of evident misuse of these services, resulting in harm to third parties**, and such authority must be exercised equitably for all telecommunications service users.”

Furthermore, Article 4 of the LGT delineates specific boundaries for

users of telecommunications services. Section I of Article 4 of the LGT mandates that users have the responsibility to “I – utilize telecommunications services, equipment, and networks appropriately.” Arguing that this section authorizes the Agency to act concerning VAS constitutes an erroneous interpretation.

Anatel has proposed expanding its jurisdiction to encompass the applications layer, akin to its voluntary pursuit of regulating platforms under Bill 2.630/2020. Nonetheless, this would necessitate legislative action, just as it would in the case of the potential introduction of a cost-sharing policy.

Consequently, any modifications to the regulations governing VAS providers should be enacted through legislative channels rather than regulatory means.

2.3 Cost Sharing vs. Zero Rating

A common practice in the Brazilian telecommunications landscape is the zero-rating strategy offered by mobile broadband operators to their user base.

Under this arrangement, consumers enjoy unlimited browsing on certain services, including social networks and instant messaging. Entrenched in the daily lives of Brazilians, zero-rating practices have sparked considerable debate regarding competition and adherence to net neutrality principles (Belli, 2016; Foditsch, 2016; Renzetti, 2023).

There is a significant overlap of concerns between zero-rating practices and the proposed cost-sharing policy. However, while the zero-rating debate remains divisive, consensus prevails regarding cost-sharing.

The fundamental principle of net neutrality, safeguarded by articles 3 and 9 of the *Marco Civil da Internet* (“Brazilian Civil Rights Framework for the Internet,” Law No. 12.965/2014) and regulated by Decree No. 8.771/2016, stands as a barrier to the adoption of the cost-sharing policy. The conflict arises from the potential distortion of the core principles of net neutrality.

In the Brazilian regulatory framework, net neutrality, as enshrined in Article 9 of the Brazilian Civil Rights Framework for the Internet, explicitly prohibits imposing asymmetrical conditions on various Value Added Service (VAS) providers. This prohibition aims to prevent favoritism toward the traffic of any specific content. This interpretation is corroborated by ISOC (2023) and other experts (Marques Neto, 2023).

Hence, the differentiation required for cost-sharing to function is fundamentally incompatible with the principles of net neutrality. If such a measure were to be implemented, it would authorize network operators to discriminate against application providers by imposing non-isonomic burdens on certain providers for the regular transmission of their data on the Internet (Marques Neto, 2023).

2.4 Risks to the Internet Access Expansion Policy

Anatel plays a crucial role not only in overseeing the actions of major operators but also in fostering an environment for small and medium-sized providers to thrive.

A notable instance of this is the regulatory changes made in 200. Through the reclassification of last-mile access as a Multimedia Communication Service (SCM), Anatel instituted simplified criteria for authorization. These changes proved instrumental in expanding Internet access in Brazil, facilitating the regularization of numerous small service providers (Knight, Feferman, & Foditsch, 2016).

Anatel must continue fulfilling its pivotal role as a key driver of telecommunications development in Brazil, particularly by reducing barriers for new Internet providers, promoting connectivity in remote and rural communities, and nurturing a market that is more competitive and less concentrated than the current one.

Conversely, the cost-sharing policy steers in the opposite direction. Instead of encouraging diversity and sustainability, it fosters market

concentration.

2.5 Content Delivery Networks (CDNs) and Streaming Services

Prominent technology giants have embarked on massive investments in global digital infrastructure. The cumulative annual investment by VAS providers worldwide between 2018 and 2021 amounted to USD 120 billion (Meta, 2023). Hence, the premise that VAS companies do not contribute to Internet infrastructure is unfounded.

Such investments are indispensable, especially considering that among these technology giants are those heavily involved in streaming services. Globally, streaming comprises approximately 57% of all network traffic (WIK Consult, 2022, with data from Sandvine).

In response to this reality and in an effort to bring content closer to end consumers, content companies have poured resources into Content Delivery Networks (CDNs), which have substantially reshaped Internet traffic exchange structures in recent years (WIK Consult, 2022).

The costs associated with CDNs by major VAS companies are not transferred to Internet providers because of this.

As previously mentioned, São Paulo hosts the world's largest Internet Exchange Point (IXP), both in terms of traffic volume and member count (Bnamericas, 2023). According to the infrastructure manager of IX.br, which oversees the São Paulo IXP, **"One of the factors contributing to this growth was the increased investment by video streaming companies, particularly in the context of broadcasting soccer matches" (NIC.br, 2023)**. This professional noted that live streaming of soccer matches has become increasingly common, leading to a surge in user access (NIC.br, 2023).

Netflix is an exemplar of a company that facilitates Internet providers' participation in the São Paulo IXP and various other IXPs across the country. The company also engages in multilateral peering agreements, automatic peering, and Open Connect

Appliances (OCAs), which are integrated into providers' networks (Prescott, 2022).

Furthermore, both Netflix and Meta locally deliver 90% of their traffic (Prescott, 2022, and Meta's data source).

By optimizing content delivery through CDNs, these companies alleviate the burden on the providers responsible for delivering the connection infrastructure.

In South Korea, one of the consequences of implementing the cost-sharing policy was a reduction in voluntary CDN agreements (WIK Consult, 2022).

In Brazil, "it is the SCM or SMP user in Brazil who bears the burden of paying for investments in the national Internet access infrastructure" (Marques Neto, 2023).

Nevertheless, as demonstrated, major VAS companies have invested in infrastructure to enhance the delivery of their content.

It is evident that if the policy were to be implemented, it would alter the current trajectory of investment, potentially jeopardizing the robust infrastructure of IXPs and CDNs.

2.6 Impacts on Small and Medium-Sized Providers

The overwhelming consensus among small and medium-sized providers is their opposition to these proposals (MVNO Europe, 2022; BREKO, 2022; ISOC, 2023; Preta, 2023).

"Alternative" operators, with limited market influence, play a pivotal role in the proliferation of fiber optic infrastructure across Europe (BREKO, 2022). Notably, in Germany, three-quarters of fiber deployment can be attributed to such operators (BREKO, 2022). In Brazil, a country with 46.3 million fixed broadband accesses as of April 2023, competitive operators, including small providers (PPPs), currently hold a substantial market share of 63% (Teleco, 2023).

For Abrint, representing thousands of small providers, the

cost-sharing model represents a regulatory intervention capable of fostering price discrimination by telecommunications operators to the detriment of consumers. The association anticipates a “significant surge in transit costs and reliance on international routes, which could result in a deterioration of service quality and potentially higher prices for end-users” should these proposals be enacted (Cruz, 2023).

2.7 Cross-Subsidization

Cost sharing introduces a form of cross-subsidization among various economic sectors. Cross-subsidization is defined as “the utilization of revenue from one product to fund the sale of another product” (Viscusi, Harrington Jr., & Vernon, 2005).

In this context, regardless of their size, VAS providers would assume a degree of responsibility for financing the infrastructure of Internet access providers.

Cross-subsidization underpins the argument of telecommunications companies, positing that the market in which they operate is a two-sided market. Hence, according to the economic literature on this subject (Rochet & Tirole, 2003), the presence of cross-subsidies between both sides is expected due to the variance in the level of network effects on each end of the market.

However, this dynamic could have adverse competitive consequences in the relationship between VASs and ISPs. Concerns arise that small content providers, owing to their limited bargaining power, as previously mentioned, may be compelled to shoulder higher costs. Consequently, they might unwittingly subsidize the activities of more dominant providers, resulting in the asymmetrical treatment of providers (MVNO Europe, 2022).

2.8 Effects on Consumers

Based on the aforementioned factors, it is apparent that consumers would bear the brunt of the negative consequences if a cost-sharing policy is put into effect.

One foreseeable outcome would be higher prices for end-users (WIK Consult, 2022; Cruz, 2023). Moreover, an increase in communication latency is likely, given that numerous content providers offering services within the country prefer routing traffic through other nations.

Furthermore, the South Korean experience indicates that the diversity and quality of available content may also suffer (WIK Consult, 2022). In the event of litigation, as witnessed in South Korea, suboptimal outcomes could ensue, resulting in reduced innovation and incentives to offer content, ultimately hindering the development of new business models.

3. Conclusions

In light of the arguments presented, ISOC Brasil and ITS Rio emphatically reaffirm their unified stance against the adoption of the cost-sharing policy. Not only do the arguments presented by major operators fail to withstand scrutiny or offer rational justifications, but the implementation of such a policy would inflict irreparable harm upon the most vulnerable segment of this artificially manufactured debate—the people.

This perspective is not mere rhetoric; it draws from international experiences where similar initiatives were enacted, resulting in a slew of adverse consequences, as evidenced in the South Korean context. Drawing an illustrative analogy with civil aviation, when airspace becomes prohibitively expensive to navigate, airlines divert and seek alternative routes. In the context of the cost-sharing proposal, these “aircraft” symbolize the entire connectivity ecosystem available on the Internet.

Hence, the ripple effects are akin to a snowball rolling downhill. The cost-sharing initiative undermines free enterprise, exacerbates power concentration, and compromises service quality across the spectrum. As underscored, there are no market failures necessitating resolution, nor does regulatory intervention find any compelling basis (BEREC, 2023; ISOC, 2023; Prado, 2023).

The assertions made by major telecom companies to curtail their operational investments related to sustaining the Internet's infrastructure are, in essence, untenable. The sector operates with substantial operating profit margins, underscored by market expansion. Furthermore, they operate without any assurances that cross-subsidization will genuinely enhance the existing infrastructure.

In summary, it is imperative to stifle the resurgence of this aged discussion, which failed to gain traction for several sound reasons that have been objectively elucidated in this contribution. The Internet must remain open and accessible to society at large, devoid of disruptions, tolls, or unwarranted interruptions. When confronted with a dichotomy between the interests of major telecommunications corporations and the broader societal welfare, the correct course of action becomes glaringly evident.

4. Recommendations

ISOC Brasil and ITS-Rio propose the following recommendations.

Recommendations Based on the Public Consultation

- Reject the adoption of the cost-sharing policy, as detailed above.

Guidelines for Promoting Technical Dialogue

- Engage the Administrative Council for Economic Defense (CADE) and the National Consumer Secretariat (Senacon) in the discourse.
- Foster extensive dialogue with representatives from both the public and private telecommunications sectors within the country.
- Expand the platforms for cross-sectoral dialogue on this policy, extending beyond this Public Consultation.

Guidelines for Conducting Technical Studies

- Generate insights into the policy's impacts, its underlying principles, and the externalities stemming from its implementation in the nation.
- Develop technical and economic insights that substantiate the current state of infrastructure in Brazil, encompassing not only telecom companies and providers but also Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), and other stakeholders.
- Provide a comprehensive understanding of the reality surrounding investments related to voluntary CDN agreements.

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