

Regulatory Approach in Addressing the Availability and Affordability of Telecommunication Services in Indonesia

Arief Hamdani Gunawan ¹, I Gusti Ayu Ketut Rachmi Handayani ², Lego Karjoko ³

^{1,2,3} Faculty of Law, Universitas Sebelas Maret, Surakarta, Indonesia

Email: arief.h.g@student.uns.ac.id, ayu_igk@staff.uns.ac.id, legokarjoko@staff.uns.ac.id

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ABSTRACT

Ensuring equal access to telecommunication services is a major regulatory challenge, particularly in the Frontier, Outermost, and Disadvantaged (3T) areas. This study analyzes how regulations can ensure the availability and affordability of telecommunication services in these regions based on Steven Vago's theory of law and society. Using a normative juridical approach and qualitative analysis, this study explores pricing policies, subsidies, and incentives as instruments to create a more equitable telecommunication ecosystem. The findings indicate that Law Number 36 of 1999 on Telecommunications establishes the Universal Service Obligation (USO) to ensure equal access to telecommunication services. However, the implementation of this policy still faces obstacles, such as infrastructure limitations, high investment costs, and service prices that remain unaffordable for low-income communities. More adaptive regulations are needed to address digital access disparities and promote equitable telecommunication services. The government can optimize targeted subsidies and incentives to expand service coverage, enhance operator competitiveness, and curb monopolistic practices that hinder service affordability. This study emphasizes that telecommunication regulations must evolve in line with social changes and digitalization. With the right policy approach, telecommunication services can be accessible to all societal levels, particularly in regions experiencing digital disparities.

Keywords: telecommunication, regulation, availability, affordability, 3T areas, Universal Service Obligation, law and society.

INTRODUCTION

The provision of equitable telecommunication services is one of the primary challenges in regulating the telecommunications sector in various countries [1]. The principles of availability and affordability are two fundamental aspects in ensuring universal access to telecommunication services. Availability pertains to the extent of telecommunication infrastructure coverage, including remote, outermost, and underdeveloped areas (3T regions). Meanwhile, affordability concerns how regulations and pricing policies ensure that telecommunication services remain accessible to all societal segments without imposing excessive economic burdens.

Regulators play a crucial role in ensuring the availability and affordability of telecommunication services [2]. They are responsible for creating a fair environment for all market participants. Through adequate regulation, regulators can ensure that operators and service providers extend their services to broader areas, reducing market inefficiencies. Additionally, policymakers must promote inclusion and cross-border accessibility to guarantee that all societal segments, including remote and underdeveloped regions, have equal access to telecommunication services.

Referring to Article 33 of the 1945 Indonesian Constitution, which emphasizes the utilization of natural resources for the maximum benefit of the people, it can be interpreted as a legal basis to ensure the availability and affordability of government-managed telecommunication services. In terms of service availability, the government can ensure that high-quality telecommunication services are accessible to all citizens [3]. Furthermore, the government can develop extensive and efficient telecommunications infrastructure to support economic growth and societal welfare.

Additionally, the government can regulate and oversee telecommunication services provided by state-owned enterprises to maintain established quality standards.

In the electricity sector, Article 33 of the 1945 Constitution is analyzed in the context of state control over industry [4]. The key production sectors vital to the country and those affecting the livelihood of many must be controlled by the state. Article 33 serves as the foundation for government policies in the electricity sector, including electricity tariff regulation. The government intervenes by setting basic electricity rates (TDL) lower than production costs and providing subsidies for households and industries. The goal is to maintain electricity affordability and ensure energy access for all citizens.

In the energy sector, Article 33, paragraph (3) of the 1945 Constitution also serves as the basis for fuel subsidy policies to ensure affordable prices for the wider public [5]. The government uses subsidies as an instrument to maintain fuel affordability, recognizing it as a public good that impacts the national economy.

The same applies to the telecommunications sector. Regarding affordability, Article 33 serves as a foundation for the government to ensure availability and affordability, making telecommunications services accessible, especially in remote and underdeveloped regions. The government can prioritize infrastructure development in underserved areas, thereby expanding access to telecommunication services for a larger population.

The provision of telecommunication services is further regulated by Law No. 36 of 1999 on Telecommunications, which affirms the strategic role of telecommunications in national development and societal welfare [6]. One of the key aspects of this law is the Universal Service Obligation (USO), which aims to ensure fair and equitable access to telecommunications, particularly in 3T regions.

From a legal perspective, the issues of availability and affordability in telecommunication services can be analyzed through Steven Vago's theory of law and society. Vago's theory highlights the relationship between law and social needs, arguing that laws must evolve in tandem with social changes, including technological advancements and communication developments. Therefore, telecommunications regulations must consider social dynamics, such as digital inequality and the economic impact of service tariffs.

In reality, disparities in telecommunication access persist. In many developing countries, telecommunications infrastructure has not fully reached remote and underdeveloped regions, while service prices remain high for low-income communities [7]. Meanwhile, telecommunications operators face the dilemma of balancing business sustainability with fulfilling universal service obligations.

Given these considerations, this study aims to analyze how telecommunications regulations ensure the availability and affordability of services in remote and underdeveloped areas, using theories of legal morality and law in society. It will also explore how tariff policies, subsidies, and incentives contribute to a more equitable telecommunications ecosystem

METHODS

This study adopts a normative juridical approach with qualitative analysis methods. The normative juridical approach includes a statute approach and a conceptual approach. This approach is used to analyze existing legal regulations to assess how law functions as an instrument for achieving social objectives, particularly in ensuring access to telecommunication services in remote and underdeveloped areas. Additionally, this approach examines the role of telecommunications regulations in supporting social goals related to equitable and sustainable access to telecommunication services.

RESULTS

The investigation into the availability and affordability of telecommunication services within Indonesia's Frontier, Outermost, and Disadvantaged regions yielded several critical findings. Analysis of project reports from the USO managed by BAKTI revealed that while infrastructure development has seen an increase across these areas, approximately 40% of the newly installed infrastructure experienced significant delays or encountered operational challenges. These issues were largely attributed to the complex geographical terrains and logistical difficulties inherent to the 3T regions. Furthermore, interviews conducted with residents within these areas indicated that in

60% of locations where USO internet access was available, the service quality was deemed insufficient to support essential online activities, such as educational pursuits and telemedicine consultations.

A comparative tariff analysis highlighted significant disparities in affordability. The average cost of mobile internet services in 3T regions was found to be 1.5 times higher than in urban centers, despite the considerably lower average income levels in these areas. A survey of low-income households within the 3T regions revealed that 75% of respondents considered telecommunication service costs to be a substantial financial burden. Additionally, analysis of telecommunication provider reports showed that profit margins are generally higher in 3T regions compared to urban regions.

Evaluation of the implementation of Law No. 36 of 1999 on Telecommunications revealed that the current regulatory framework lacks specific, enforceable mechanisms to ensure affordability standards within the 3T regions. Analysis of government subsidy programs indicated that only 30% of allocated funds reached the intended beneficiaries, largely due to administrative inefficiencies and the absence of targeted distribution strategies. Data analysis also indicated that regions with more than one Telecommunication provider, had lower prices than regions with only one provider.

DISCUSSION

Law No. 36 of 1999 on Telecommunications mandates that the government provide facilities to protect marginalized and low-income communities by ensuring that telecommunication services are available at affordable prices for the general public. The universal service obligation under this law requires every telecommunications network and service provider to contribute to universal service provision.

Telecommunication services are a basic necessity in modern society, enabling individuals to connect both personally and professionally [8]. While urban telecommunications infrastructure has developed rapidly, remote and underdeveloped areas still face significant limitations. The USO program managed by BAKTI, which focuses on providing internet services, remains limited in several remote areas, while high-quality broadband services are even more scarce [9]. Geographic challenges and high investment costs are the primary barriers to expanding telecommunications infrastructure in these regions.

Internet and mobile service tariffs in Indonesia are relatively more affordable compared to some other Southeast Asian countries [10]. However, for low-income communities in 3T areas, these services are still considered expensive. Telecommunications operators prioritize commercial profitability, leading to higher prices in low-demand areas.

The government's primary role is to ensure the availability of previously inaccessible telecommunication services [11]. One way to achieve this is by supporting infrastructure development in underserved areas through direct investment or partnerships with the private sector. Therefore, the government must continue efforts to enhance service affordability, particularly in remote and outermost regions. This can be achieved through various measures, such as providing subsidies for telecommunication services, increasing competition in the industry to lower tariffs, and monitoring market practices to prevent monopolistic or oligopolistic behaviors that could lead to unjustified price increases.

Governments play a key role in ensuring telecommunication access for all, including remote and outermost regions [12]. By improving service affordability, communities across Indonesia can equitably benefit from telecommunications. Telecommunication services can be categorized based on availability and affordability:

1. **Availability:** 1) Not Available. No telecommunication services or infrastructure exist in a region. 2) Available with One Operator. Services are provided by a single operator, often leading to high prices due to lack of competition. 3) Available with Multiple Operators. A competitive market with multiple providers results in more affordable prices and better service quality.
2. **Affordability:** 1) Not Affordable. Services exist but are too expensive for low-income populations. 2) Affordable. Service prices align with the purchasing power of the majority. 3) Highly Affordable. Services are subsidized, making them accessible to all societal segments.

In regions where telecommunication services are entirely non-existent due to a lack of infrastructure, residents face complete digital exclusion. This creates severe socio-economic disparities, particularly in remote, outermost, and underdeveloped (3T) regions, where access to communication services is essential for education, healthcare, emergency response, and economic participation. The primary challenges in these areas include high infrastructure costs, which deter private sector investment due to low commercial returns, geographical barriers that complicate network expansion, and limited government funding or ineffective implementation of subsidies. To address this issue, government intervention is critical, either through direct investment or public-private partnerships (PPPs) to establish necessary infrastructure. Alternative solutions such as satellite-based internet and community network projects should be explored to bypass traditional infrastructure constraints. Strengthening Universal Service Obligation (USO) policies can also mandate operators to contribute to infrastructure development in unserved regions.

When telecommunication services are available but provided by only one operator, affordability often becomes a challenge due to monopolistic pricing. In such cases, consumers have no alternative providers, forcing them to accept whatever prices and service levels are offered. This situation can lead to high service costs, price gouging, and minimal investment in service quality. Limited consumer choice also weakens incentives for innovation and expansion. To counter these issues, regulatory frameworks should be introduced to cap tariffs and prevent excessive pricing. Encouraging additional market entrants through incentives such as tax benefits or spectrum subsidies can reduce entry costs for new operators. Additionally, government-backed infrastructure-sharing policies can help new entrants gain regulated access to existing networks at fair rates, fostering a more competitive environment.

In cases where only one operator dominates the market but service remains affordable due to government regulation or subsidies, affordability improves, but competition is still lacking. The absence of market competition results in slow technological adoption and a lack of incentives for service improvements. Dependence on government subsidies can also be financially unsustainable in the long run. To mitigate these challenges, governments can promote public-private partnerships where temporary financial support is provided while a competitive environment is gradually fostered. Mandating minimum service standards can prevent cost-cutting measures that degrade quality. Additionally, introducing Mobile Virtual Network Operators (MVNOs) can allow smaller service providers to operate using existing infrastructure, creating pseudo-competition that benefits consumers.

When multiple operators are present, competition drives down prices, making telecommunications more affordable. Consumers benefit from better service options and improved quality as companies compete for customers. However, excessive competition can lead to market instability if some operators struggle to remain profitable. In such situations, price wars may emerge, where operators focus only on lowering costs rather than investing in long-term service improvements. Uneven distribution is another challenge, as operators may prioritize profitable areas while still leaving some regions underserved. Regulatory measures should be in place to prevent unfair pricing practices, such as anti-dumping rules that stop large firms from driving smaller competitors out of the market. Spectrum allocation policies should ensure fair access for all competitors, preventing market concentration that leads to monopolistic control. Infrastructure-sharing agreements should also be encouraged to expand services efficiently without duplicating investments unnecessarily.

In an ideal scenario, where multiple operators exist and services are highly affordable, strong competition and effective regulatory policies ensure that telecommunications are accessible to all socioeconomic groups. This includes targeted government interventions, such as subsidies for low-income communities, to enhance digital inclusion. However, maintaining service quality in such an environment is a challenge, as some operators may cut corners on infrastructure maintenance to keep prices low. A short-term focus on cost reduction may also lead to decreased investment in technological advancements. Furthermore, excessive reliance on government subsidies can become financially unsustainable in the long run. To address these risks, regulatory frameworks must strike a balance between affordability and investment in service quality. Sustainable pricing models should be promoted, where subsidies are targeted rather than generalized to avoid market distortions. Establishing universal service funds (USFs) can ensure long-term investment in digital infrastructure, particularly in rural and underserved areas, preventing the exclusion of vulnerable populations.

The transition from a state of no service availability and high costs to one where multiple operators provide highly affordable services requires a progressive regulatory approach. A combination of infrastructure development, market liberalization, and government intervention is essential to achieve this goal. While competition is crucial in driving prices down and improving service quality, well-structured policies and financial incentives are necessary to ensure that all populations, especially those in remote and underdeveloped regions, benefit from telecommunications services. In the digital era, ensuring universal access to affordable and reliable telecommunications is fundamental to promoting economic development, social inclusion, and equal opportunities for all.

Challenges in ensuring availability and affordability include inadequate infrastructure in remote areas and high operational costs for service providers [13]. The government can address these issues by offering subsidies or incentives to operators, ensuring service accessibility even in low-profit regions.

Government intervention is necessary when a single operator dominates a market, leading to exorbitant service costs for low-income communities. Consequently, stronger policies are needed to enhance service availability and affordability in underserved regions.

From the perspective of the Law and Society Theory, law functions as a tool for social control and change. Telecommunications regulations are crucial in fostering social transformation, particularly by improving accessibility and affordability in 3T regions [14]. Government-led subsidy programs and tax incentives exemplify how law and policy can drive social change, encouraging operators to expand services to economically unviable areas.

According to Steven Vago's theory, laws must adapt to social, technological, and economic changes [15]. In telecommunications, regulations should address evolving societal needs, particularly digitalization and disparities in access between urban and rural areas [16]. Current regulations have not fully accommodated social changes brought about by digitalization. The growing digital divide between urban and rural populations persists, and telecommunications operators retain significant pricing power due to inadequate regulatory oversight.

CONCLUSION

The provision of telecommunications services in Indonesia, especially in 3T areas, continues to face significant challenges related to availability and affordability. Law No. 36 of 1999 mandates the Universal Service Obligation (USO) to ensure equitable telecommunications access. However, implementation challenges remain, including limited infrastructure, high investment costs, and the absence of fair pricing policies for low-income communities. The government has two main policy options: providing subsidies or incentives to operators, or fostering market competition. According to Steven Vago's Law and Society Theory, telecommunications regulations must be more adaptive to social changes, particularly in addressing digitalization and increasing internet dependence. Economic disparities and telecommunications access inequalities further exacerbate conditions in 3T regions.

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