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# Authentica

Vol. 7 Issue 1, August

E-ISSN 2655-4771 P-ISSN 2655-4763

DOI: [10.20884/1.atc.2024.7.1.455](https://doi.org/10.20884/1.atc.2024.7.1.455)

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## STARLINK ON COMPETITION OF INTERNET PROVIDERS IN INDONESIA: A BUSINESS LAW REVIEW

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### Abstract

In Indonesia, the rapid growth of internet users highlights the need for wider access, especially in remote areas. The arrival of Starlink, a satellite project from SpaceX, offers a new solution with satellite technology that can reach areas that are difficult to reach by conventional cable infrastructure. However, the presence of Starlink also brings changes in the business world of internet service provider in Indonesia. This research explores the challenges and opportunities that conventional internet service providers face with the presence of Starlink in the perspective of business law in Indonesia. This research uses a normative legal research method with a statutory and conceptual approach which examines the presence of Starlink from business law literature and concepts. The results show that Starlink can improve internet access in remote areas but faces challenges in the aspects of regulation, competition and consumer protection. With the right approach, Starlink has the potential to support inclusive digital transformation in Indonesia.

**Keywords:** Business Law; Internet; Starlink

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### Introduction

In today's digital era, the internet has become a staple for individuals and businesses around the world. In Indonesia, the growth of internet users has increased rapidly in recent years, reflecting the importance of broad and reliable access to cyberspace (Prasetyo et al., 2024). Ventional internet service providers (ISPs) such as telkomsel, indosat and so on have been instrumental in spreading connectivity across the country, but the challenges of vast geographies and limited infrastructure are still major obstacles, especially in remote and rural areas (Sadri, 2024) It is in this context that the arrival of Starlink, a satellite network project from Elon Musk's SpaceX, brings a breath of fresh air and creates a new dynamic in the business competition in the internet service provider sector in Indonesia.

Starlink is a satellite network designed to provide high-speed, low-latency internet services to the entire world, including areas that are hard to reach by conventional cable infrastructure (Shaengchart & Kraiwanit, 2024). The project has great potential to change the landscape of internet service provision, not only in developed countries but also in developing countries such as Indonesia. With thousands of satellites placed in low-earth orbit, Starlink is able to offer stable and fast connectivity in areas that have been underserved by conventional ISPs (Thota, 2024). The presence of this technology brings significant changes in competition in the telecommunications industry, especially in terms of availability, quality, and price of internet services (Adinoyi et al., 2022)

Indonesia, with a population of more than 270 million people spread across more than 17,000 islands, faces unique challenges in providing equitable and quality internet services (Suddin et al., 2024). Conventional ISPs often struggle to build the necessary infrastructure to reach all corners of the country, especially in remote and isolated areas. As a result, there is a significant digital divide between urban and rural areas (Oktavianoor, 2020). Starlink, with its satellite technology, offers a potential solution to this gap by providing internet access in areas that are difficult to reach by fiber optic cables or other broadband technologies (Mohan et al., 2024).

However, Starlink's presence in Indonesia not only brings benefits, but also raises a number of challenges and legal questions that need to be addressed. Indonesia's telecommunications regulations, which have been designed to regulate the operations of conventional ISPs, need to be adjusted to accommodate the presence of new technologies such as Starlink. The Law No. 36/1999 on Telecommunications, for example, provides the basic framework for the provision of telecommunications services, but does not specifically cover the regulation of satellite-based internet services. In addition, the presence of Starlink may also affect the competitive dynamics in the Indonesian internet market. Conventional ISPs may face pressure to adapt their business models and technologies to compete with the services offered by Starlink. This could mean improvements in service quality, price reductions, or innovations in new products and services. However, conventional ISPs also face significant challenges in terms of infrastructure investment and technology adaptation, which could be a heavy burden for conventional ISPs compared to new, more sophisticated and agile companies such as Starlink.

Starlink technology is new in Indonesia so there are not many research articles about it, let alone research in the field of law. There are two (3) studies that write about starlink, namely first, an article entitled "Potential Threats to State Sovereignty in Satellite Image Procurement" (Wahyu et al., 2024). The article explains that the procurement of satellite imagery in Indonesia faces challenges due to dependence on foreign technology, vulnerability to piracy, and the risk of losing strategic information. To overcome these risks, Indonesia needs to increase investment in research and development of domestic satellite technology, clarify regulations, and tighten monitoring. Second, an article entitled "Navigating the Starlink Era of Personal Data Protection in Indonesia" (Nudan et al., 2024). This article explains that the use of Starlink in Indonesia poses personal data privacy risks such as unauthorized collection and unauthorized access by third parties. Other challenges include jurisdiction and legal protection issues as data is stored overseas, In addition, technological infrastructure needs to be improved to increase internet network access, especially in 3T areas. Indonesia can adopt EU standards and Singapore data protection laws to improve effective data protection regulations and practices. Third, an article entitled "Techno-economic analysis of satellite implementation as a broadband internet provider in Indonesia"(Mubarak et al., 2020). This article explains that as an internet service provider, the communication business using satellites is a business to be reckoned with. With the condition of Indonesia, which is a maritime and archipelago country and because of the lack of telecommunications network infrastructure in remote areas, of course, making satellites a promising business. In building a satellite, it takes a lot of investment. From the analysis, the NPV value during the satellite's active life is USD 556 (million) with an IRR value of 7% with a PBP of 5 years and 8 months. So, it can be concluded that this investment is feasible.

The novelty of this research is that it provides a legal perspective on the impact of the presence of satellite technology such as Starlink in the Indonesian internet market, something that has not been widely discussed in the legal, business and telecommunications literature. This includes an assessment of how current regulations accommodate new technologies and what changes are needed to facilitate fair competition.

The purpose of this research is to identify the challenges and opportunities faced by conventional ISPs with Starlink in the context of regulation and competition. In addition, the research proposes policies that can support fair competition and enhance digital transformation in Indonesia. The analysis will cover legal implications, such as licensing and regulatory compliance, as well as long-term economic impacts, including the potential for increased internet access in remote areas. The urgency of this research is to ensure that

telecommunications regulations in Indonesia can accommodate new technologies and support healthy business competition, so that consumers can enjoy better and affordable internet services and support economic development in remote areas. Given the speed of technological change and the need for rapid regulatory adaptation, this research is highly relevant and urgent.

### **Research Problems**

From the background described above, some of the problems that will be examined in this study are as follows:

1. How is the licensing of starlink satellite based internet providers in Indonesia?
2. How is the presence of starlink from the perspective of business law in Indonesia?
3. What are the impacts and challenges of starlink in Indonesia?

### **Research Method**

This research uses normative legal research methods, which analyze a phenomenon or legal event based on legal literature such as laws and regulations, legal theories or doctrines, jurisprudence and articles journal. The approaches used are statutory approach and conceptual approach. The data collection technique used is a literature study and then analyzed qualitatively.

### **Discussion**

#### **1. The Different between Starlink and other Internet Service Provider (ISP)**

Starlink is a satellite internet network project developed by SpaceX, the space company founded by Elon Musk. Launched in 2015, Starlink's main goal is to provide high-speed internet access to the entire world, particularly in remote and underserved areas. Using a constellation of thousands of small satellites orbiting the earth at low altitude (LEO), Starlink promises fast and reliable internet connectivity with lower latency than traditional satellite internet services (Ma et al., 2023). Starlink is a satellite network project initiated by SpaceX, a private company engaged in space exploration. SpaceX plans to launch up to 42,000 small satellites into low earth orbit to form a global internet network. To date, thousands of satellites have been launched, and Starlink services have begun operating in some parts of the world. Each Starlink satellite is equipped with antennas and communications technology that allows them to interact with each other as well as with the ground stations below. These satellites form a mesh network that ensures stable and fast connectivity, even if one of the satellites experiences interference or technical issues (Tuzi et al., 2023).

Starlink works by sending internet signals from earth to satellites, which then bounce the signals back to earth for users to receive. The system uses a small satellite dish installed in the user's home or building, called the "Dishy McFlatface" by SpaceX. The dish is connected to a router inside the home, which then distributes the internet signal to the user's devices (Pan et al., 2023). The main advantage of this low-latency satellite (LEO) network is the lower latency compared to geostationary satellites, as the signal does not need to travel such a long distance into space and back again (Izhikevich et al., 2024). In traditional geostationary satellite systems, satellites are placed at an altitude of about 35,786 kilometers above the earth's surface. This long distance causes high latency due to the long travel time of the signal. In contrast, Starlink's LEO satellites are placed at an altitude of about 550 kilometers, which significantly reduces latency and improves connection quality.

Conventional ISPs such as Telkomsel, Indosat, XL Axiata, and others, generally use cable-based infrastructure, such as fiber optic cable and DSL (Digital Subscriber Line), as well as cellular towers to provide internet services (Kusuma, 2021). Optical fiber offers very high speeds and good stability, but installation is costly and time consuming, especially in remote areas or with difficult terrain. Starlink uses small satellites in low-earth orbit, which eliminates the need to build physical infrastructure on the ground (Herath, 2021). This allows Starlink to reach remote and rural areas faster and at a lower cost than conventional ISPs. Internet speeds offered by Starlink currently range from 50 Mbps to 150 Mbps with latency of around 20 to 40 milliseconds (Mohan et al., 2024). This figure can vary depending on the user's location and weather conditions. Conventional ISPs using optical fiber, such as Indihome by Telkom, can offer similarly stable speeds of up to 100 Mbps or more, with very low latency, usually below 10 milliseconds. However, these speeds and latency are highly dependent on the infrastructure available in the area. (Kusuma, 2021)

Starlink offers flexibility and mobility that many conventional ISPs lack. Because it uses satellites, Starlink users can move their satellite dish to another location within satellite range and still get the same internet service (Laniewski et al., 2024). This is especially useful for users who move frequently or live in areas with poor internet infrastructure. Conventional ISPs, especially those using fiber optic cables, generally do not have this flexibility. Moving internet service to a new location often requires re-wiring and other infrastructure, which can be time-consuming and costly. Mobile internet services are more flexible, but still depend on signal coverage and network quality in the new location.

## **2. Starlink Licensing in Indonesia**

To be able to operate in Indonesia, Starlink must go through various stages of licensing managed by the government, in this case the Ministry of Communication and Information (Mubarak et al., 2020). The first stage is for Starlink to obtain a Telecommunication Services License as stipulated in Law No. 36/1999 on Telecommunications and its implementing regulations such as Government Regulation No. 52/2000, Minister of Communication and Information Technology Regulations No. 13/2029 and No. 5/2021. These regulations govern telecommunications operating licenses covering networks, telecommunications services, use of the frequency spectrum, obligations of service providers in maintaining service quality, protecting consumers, and contributing to the Universal Service Obligation (USO). It also regulates the procedures and requirements for obtaining a license to operate telecommunications services, sets service quality standards that must be met by telecommunications service providers, the use of radio frequency spectrum for telecommunications services, including satellite-based services as well as technical requirements that must be met by satellite-based service providers. The process involves the submission of documents proving the technical and financial viability of the company, as well as a detailed operational plan.

Starlink needs to obtain a Radio Frequency Spectrum Usage License as stipulated in the Minister of Communication and Information Technology Regulation No. 5/2021. This regulation regulates the tariff for the use of radio frequency spectrum that must be paid by telecommunications service providers, including those using satellite technology. The use of the frequency spectrum must be in accordance with the allocation set by the Indonesian government and comply with international standards set by the International Telecommunication Union (ITU). This coordination is important to avoid interference with other existing telecommunications services. Kominfo will conduct a technical

evaluation to ensure that Starlink's use of the frequency does not interfere with existing networks. Then, Starlink must also obtain an Earth Station Permit as stipulated in the Minister of Communication and Information Technology Regulation No. 4/2020 which regulates the operation of earth stations including the licensing process for establishing and operating earth stations and technical standards that must be met by earth stations to ensure safe and efficient operations. These earth stations are required for communication between Starlink satellites and end users on earth. This process involves assessing the location, security, and compliance with technical and safety standards.

In addition, Starlink must also ensure compliance with other laws and regulations such as the Electronic Information and Transactions Law, the Consumer Protection Law and the Prohibition of Monopolistic Practices and Unfair Business Competition Law.

### **3. Starlink Presence From The Perspective of Business Law In Indonesia**

Starlink, owned by SpaceX, offers satellite-based internet services with high speed and wide coverage. This technology allows Starlink to provide internet services in remote areas that are difficult to reach by traditional internet infrastructure. Starlink's presence may improve internet accessibility in Indonesia, but it also raises questions about its impact on competition in the ISP market. Starlink's presence in the Indonesian internet service provider (ISP) industry is an interesting phenomenon, especially when viewed from a business law perspective. Indonesia has a strict legal framework to oversee the presence of Starlink such as Law No. 5/1999 on the Prohibition of Monopolistic Practices and Unfair Business Competition and Law No. 8/1999 on Consumer Protection. These two laws, aim to maintain fair and healthy business competition, as well as prevent market dominance by one or several business actors that can harm consumers and other business actors as well as regulate consumer rights and obligations of business actors to ensure that consumers are protected from harmful practices.

Law No. 5/1999 regulates various principles to ensure fair business competition. Article 3 of the Law states that the purpose of this Law is to safeguard the public interest and improve national economic efficiency as one of the efforts to improve people's welfare. The presence of Starlink, when viewed from this perspective, can be considered as an effort to improve economic efficiency by providing wider and faster internet access, which in turn can improve people's welfare. Law No. 5/1999 also regulates cooperation between business actors. Article 11 prohibits business actors from conspiring with other business actors with the intention of controlling the production and/or marketing of goods and/or services that may result in monopolistic practices and/or unfair business competition. In this context, it is important to monitor any form of cooperation between Starlink and local ISPs to ensure that such cooperation does not harm fair business competition.

Law No. 5/1999 prohibits monopolistic practices and unfair market control. Article 17 states that business actors are prohibited from controlling the production and/or marketing of goods and/or services that may result in monopolistic practices and/or unfair business competition. The presence of Starlink in the Indonesian ISP market may add to the variety of choices for consumers, thereby reducing the risk of monopolization by existing internet service providers. However, it is important to ensure that Starlink does not use its market power to dominate the market and unfairly exclude local competitors. Article 25 of Law No. 5/1999 prohibits business actors from abusing a dominant position by setting predatory pricing in order to exclude competitors. The presence of Starlink, which may have greater financial resources than local ISPs, should be monitored to prevent predatory pricing practices that may harm competition in the ISP market. This is

important to prevent market dominance by one large player that could harm consumers in the long run.

Law No. 8/1999 gives consumers the right to comfort, security, and safety in consuming goods and/or services. Article 4 paragraph (a) states that consumers are entitled to comfort, security and safety in consuming goods and/or services. In this context, Starlink must ensure that the internet services they provide are safe and convenient for consumers to use. This includes ensuring that users' personal data is well protected, and that the internet services provided do not contain technical risks that could jeopardize users' safety, such as interruptions that cause sudden loss of connection. Consumers have the right to obtain correct, clear and honest information about the condition and guarantee of the goods and/or services they consume. Article 4 paragraph (b) of Law No. 8/1999 gives consumers the right to choose and obtain goods and/or services in accordance with the exchange rate and the conditions and guarantees promised. This means that Starlink must provide internet services that are in line with those promised in promotional materials and subscription contracts. If Starlink promises certain internet speeds or special features, then the service provided must match these promises. Consumers are also entitled to services at a fair and reasonable exchange rate.

Article 4 paragraph (c) of Law No. 8/1999 stipulates that consumers must be provided with transparent information regarding actual internet speeds, subscription fees, data usage policies, and other applicable terms and conditions. Starlink needs to ensure that all this information is conveyed in a clear and non-misleading manner, so that consumers can make informed decisions based on accurate information. Consumers also have the right to be heard and make complaints if there are problems with the goods or services they receive. Article 4 paragraph (d) of Law No. 8/1999 states that consumers have the right to have their opinions and complaints about the goods and/or services they consume heard. Starlink needs to provide effective communication channels to receive and respond to complaints from consumers. This is important to ensure that problems experienced by consumers can be resolved quickly and satisfactorily, and to increase consumer confidence in the services provided.

If there are losses suffered by consumers due to the services provided by Starlink, then consumers are entitled to compensation, compensation, and/or reimbursement. Article 19 of Law No. 8/1999 states that business actors are responsible for providing compensation, compensation, and/or replacement for losses suffered by consumers as a result of consuming goods and/or services produced or traded. In this case, Starlink should be prepared to provide appropriate compensation if their services do not meet the promised standards or if errors occur that harm consumers.

#### **4. Starlink Impact and Challenges for Development Of Business Law In Indonesia**

The arrival of Starlink in Indonesia has had a huge impact on the telecommunications industry. However, it also brings up various challenges that must be faced from the development of business laws. One of the main positive impacts of Starlink's arrival is the increase in internet accessibility in remote areas of Indonesia. This opens up opportunities for local economic development, education and healthcare, all of which depend on reliable internet access. This impact encourages the government to support innovation and expansion of internet access across Indonesia. With the presence of Starlink, the digital ecosystem in Indonesia will be even stronger. Small and medium enterprises (SMEs) and tech startups can utilize high-speed internet to improve their business operations. It also encourages investment in digital infrastructure and online services, creating new jobs and driving growth in the digital economy. In the context of

business law, this means the need for more flexible and supportive regulations to accommodate the growth of the digital ecosystem.

Starlink introduces a new dynamic to competition in the ISP industry. Its presence may encourage local companies to improve service quality and offer more competitive prices. However, it also poses the risk of potential market dominance if Starlink utilizes its financial strength to pressure local competitors. Supervision by the Business Competition Supervisory Commission (KPPU) is important to ensure fair competition and prevent monopolistic practices that harm consumers and other business actors.

The main challenge is to ensure that Starlink complies with all applicable regulations in Indonesia. This includes obtaining an operational license from the Ministry of Communication and Information Technology (Kominfo), as well as complying with regulations regarding the use of satellite frequency spectrum. The government may need to update or adjust existing regulations to accommodate this new technology, including setting technical standards and policies on cross-border services. To ensure optimal service and coverage across Indonesia, Starlink will need to work with local internet service providers. This could include joint infrastructure provision, technology integration, and joint service package offerings. Challenges in this collaboration include negotiating revenue sharing and aligning business interests with public policy. The government can act as a facilitator to encourage mutually beneficial collaborations.

Satellite-based services often have higher costs compared to cable or fiber optic-based services. This can be a barrier for low-income people to access Starlink's internet services. The government and Starlink need to find a solution to lower the cost of the service to make it more affordable for all levels of society without sacrificing service quality. One potential solution is to subsidize or incentivize users in 3T areas. Data security and privacy are important challenges with new technologies. Starlink must ensure that their systems provide adequate protection to prevent data leaks and cyber-attacks. Regulations related to personal data protection, such as those stipulated in Law No. 27 of 2022 on Personal Data Protection, must be strictly adhered to. This includes the implementation of transparent privacy policies and robust security systems to protect user data.

## **Conclusion**

Starlink's presence in Indonesia is a breath of fresh air in the provision of internet services, especially in remote areas that are difficult to reach by conventional infrastructure. Using low-orbit satellite technology, Starlink offers fast, low-latency internet access that can reduce the digital divide between urban and rural areas. However, its presence also poses legal and competitive challenges. Existing telecommunications regulations need to be adjusted to accommodate this new technology, including licensing the use of frequency spectrum and ground stations. In addition, Starlink must ensure compliance with competition law to avoid monopolistic practices and provide for consumer protection.

Other challenges such as high service costs and personal data protection must also be addressed through collaboration with local ISPs and the implementation of policies that support affordable and secure internet access for all Indonesians. While Starlink may encourage improved service quality and more competitive pricing from local ISPs, close oversight by the government is still required. With the right approach, Starlink can be a tool for inclusive and sustainable digital transformation in Indonesia.

## Suggestions

First, further research could be conducted to compare telecommunications regulation and satellite technology in Indonesia with other countries that have implemented Starlink or similar satellite technology. This will help understand the best practices and challenges faced in other countries and recommend regulatory adjustments that are more suitable for Indonesia.

Second, further research could examine the impact of regulation on competition in the ISP sector after the entry of Starlink. Focus on analyzing whether existing regulations are effective in preventing anti-competitive practices and promoting fair competition in the internet market. In addition, further research could also be conducted on service contracts and the obligations of service providers (such as Starlink) under Indonesian law. Focus on clauses relating to service guarantees, compensation and consumer rights to ensure that contractual provisions meet adequate consumer protection standards.

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