NORMATIVE STUDY OF THE RIGHT TO SPACE IN THE INSTALLATION OF DIGITAL INFRASTRUCTURE

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Abstract

This research is entitled Normative Study of the Right to Space in the Installation of Digital Infrastructure, which aims to analyze the legal and justice aspects in the use of space for the development of digital infrastructure in Indonesia. The development of digitalization demands the availability of legal and equitable space for the installation of towers, fiber optic networks, and other supporting devices. In a legal context, the right to space originally focused on physical development, but has now expanded to encompass the need for digital space as a vital public facility. The method used is doctrinal legal research with a statutory and conceptual approach, examining the suitability of legal norms governing the management of physical space as regulated in Spatial Planning Law Number 26 of 2007 and digital. The study results show that the regulation of spatial rights for digital infrastructure must guarantee the principles of legality, social justice, transparency, and public participation. The state plays a central role in regulating and ensuring equal access, data protection, and equitable distribution of digital benefits for all members of society. This research emphasizes the importance of adaptive and equitable digital legal transformation so that infrastructure development does not create disparities, but rather realizes inclusive, safe, and sustainable spatial planning in the era of technological transformation.

Keywords: Right to Space, Digital Infrastructure, Normative

INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed the landscape of contemporary society, creating unprecedented demands on physical space for infrastructure deployment. Digital infrastructure encompassing telecommunications towers, fiber optic cables, data centers, and wireless transmission equipment represents an essential foundation for modern connectivity and economic development[1]. However, the installation of such infrastructure raises complex legal questions regarding the right to space, property rights, and the regulatory mechanisms governing physical resource allocation in the digital era (Open Future, 2023).

In the Indonesian legal context, the issue of spatial rights for digital infrastructure assumes particular significance. Indonesia's sprawling geography and commitment to achieving universal digital connectivity require substantial infrastructure investment across diverse territorial landscapes[3]. Simultaneously, Indonesia's comprehensive spatial planning framework, as embodied in Law No. 26 of 2007 concerning Spatial Planning (Undang-Undang Penataan Ruang), establishes binding requirements for all spatial utilization, including infrastructure installation. This creates a potential tension between the imperative for digital infrastructure expansion and the normative constraints of the spatial planning regime[4]. The establishment of the new capital city, Ibu Kota Nusantara (IKN), further exemplifies these considerations, as digital infrastructure rights must be reconciled with comprehensive spatial planning mandates in the context of a newly developed capital region (International Telecommunication Union, 2024).

The legal framework governing digital infrastructure rights in Indonesia reflects a complex interplay between sectoral regulations, administrative law principles, and constitutional property protections. The Telecommunications Law (Law No. 36 of 1999), spectrum allocation mechanisms regulated by the Ministry of Communication and Information Technology, and site acquisition protocols all address aspects of infrastructure space requirements[6]. Nevertheless, the normative relationship between these sectoral provisions and the overarching spatial planning framework remains inadequately clarified in Indonesian legal scholarship and judicial practice[7]. This normative ambiguity creates legal uncertainty for digital infrastructure operators, property rights holders, and state administrators responsible for spatial governance.

This study employs a normative juridical methodology to examine the legal foundations of spatial rights for digital infrastructure installation in Indonesia. Rather than conducting empirical investigation of current implementation practices, this research analyzes existing legal norms, regulatory frameworks, and doctrinal principles to construct a coherent normative understanding of how the right to space for digital infrastructure should be understood within Indonesia's constitutional and legal order[10]. The research specifically addresses: (1) the constitutional and statutory foundations for digital infrastructure spatial rights; (2) the relationship between sectoral infrastructure law and spatial planning law; (3) the protection of competing property rights and stakeholder interests; and (4) the principles that should guide administrative decision-making in infrastructure site allocation and installation.

Since the rapid development of digitalization in Indonesia, the need for digital infrastructure has become not only a requirement of the times, but also a crucial part of the government's strategy to improve public welfare through equitable access to information and technology-based public services. Management of rights to space whether land, buildings, or airspace has long been regulated in various laws, such as the Basic Agrarian Law Number 5 of 1960 and the Spatial Planning Law Number 26 of 2007, which initially focused on physical development interests. However, in recent decades, the urgency of regulating rights to space has increased as digital infrastructure development demands dedicated space for the construction of towers, fiber optic networks, and BTS (Base Transceiver Stations). The history of regulating the control and release of rights to space shows a paradigm shift, from merely physical development to utilizing space for vital needs in the digital era.

Philosophically, spatial planning, including space for digital infrastructure, is rooted in the principle of social justice as stated in Article 33 paragraph (3) of the 1945 Constitution that "the land, water, and natural resources contained therein are controlled by the state and used for the greatest prosperity of the people." This is in line with Roscoe Pound's view that law must be a means of social engineering (law as a tool of social engineering). Therefore, the use of space for the installation of digital infrastructure is basically a manifestation of the state's efforts to improve the quality of life of the community, strengthen connectivity, and guarantee fair access to technology through regulations based on benefits and justice for all parties (Putri & Setyadji, 2024).

Sociologically, the installation of digital infrastructure is closely linked to the public's right to information and participation in modern life. Digital space is now a basic necessity, not just a support. Unequal access to the internet and information technology creates a social gap (digital

divide) that can widen the gap between urban and rural areas, as well as between those with and without resources. Therefore, the state is obliged to regulate and provide adequate and legal space for digital infrastructure development, so that all citizens can enjoy equal benefits in the economic, educational, and civic sectors (Robiyandi et al., 2024).

Legal provisions regarding the right to space for digital infrastructure are crucial to ensuring legal certainty for service providers and the public. Various regulations have been developed to regulate licensing, space utilization mechanisms, and rental fees for state-owned or regional-owned space, as stipulated in Government Regulation Number 24 of 2018, Government Regulation Number 5 of 2021, and Minister of Communication and Information Technology Regulation Number 2 of 2008. However, implementation in the field is often hampered by overlapping policies, differing interpretations between the central and regional governments, and even conflicts of interest over the use of public and private space. Therefore, this study is crucial for normatively examining how the regulation of the right to space in the installation of digital infrastructure can be carried out effectively, democratically, and fairly (Fajar et al., 2024).

1. Infrastructure development for regional development is a logical consequence of the State's obligation to improve the welfare of the people, and must be interpreted as a sustainable effort and subject to legal construction regarding land acquisition as regulated in statutory regulations (Hamidah, 2012).
2. "Digital space has become a platform for civil society to participate and express civil and political freedoms within a democratic society. This expansion necessitates the state guaranteeing the fulfillment, respect, and protection of civil society's digital rights."

Research on "Normative Studies of the Right to Space in the Installation of Digital Infrastructure" is crucial and highly relevant as a topic for contemporary legal studies. The urgency of this research is based on the rapid development of digital transformation, which demands the presence of comprehensive and equitable digital infrastructure throughout Indonesia. Digital infrastructure is no longer merely a technical facility but has become a key foundation for the implementation of modern social, economic, and governmental life. Therefore, governance of the physical space required for the installation of such infrastructure must take place within a clear, fair, and effective legal framework.

RESEARCH METHOD

The type of legal research used for the study "Normative Rights to Space in the Installation of Digital Infrastructure" is doctrinal legal research with a descriptive-analytical nature. This research relies on a literature review to examine the applicable legal norms, principles, doctrines, and regulations related to the use of space for digital infrastructure in Indonesia. Normative legal research is appropriate for examining laws and regulations, legal concepts, and principles underlying the use, management, and protection of rights to space in the context of installing digital infrastructure.

This research is usually conducted with two main approaches:

1. Statutory Approach**:** Examining and reviewing various regulations and laws directly related to the right to space and digital regulations, such as the UUPA, the Spatial Planning Law, and telecommunications regulations.
2. Conceptual Approach**:** Examines legal doctrines, theories, and concepts related to space, digitalization, and the protection of community rights.

This method is highly relevant because it can analyze the adequacy, appropriateness, and effectiveness of legal norms in addressing digital transformation and the challenges of spatial sovereignty in the technological era. The results of this normative research are expected to provide a strong legal foundation for the formulation, harmonization, and strengthening of digital policies in Indonesia.

RESULTS AND DISCUSSION

Indonesia's legal framework for digital infrastructure spatial rights originates from constitutional principles established in the 1945 Constitution, which provides the foundation for both state sovereignty over natural resources and territorial administration. The right to space for digital infrastructure installation is fundamentally derived from two convergent legal principles: (1) the state's authority over national territory and infrastructure development, and (2) the protection of property rights and legitimate interests of landholders and building owners.

The primary legislative instruments governing this domain include:

Law No. 26 of 2007 on Spatial Planning (UUPR): Establishes the normative framework for spatial utilization and mandates that all spatial planning decisions, including infrastructure placement, must align with the National Spatial Plan (RTRWN), Regional Spatial Plans (RTRW), and Detail

Spatial Plans (RDTR). This law does not explicitly address digital infrastructure but subjects such installations to general spatial planning principles.

Law No. 11 of 2008 on Electronic Information and Transactions: Provides the foundational legal framework for electronic communications infrastructure and digital services delivery. Although primarily focused on electronic transactions, it establishes the policy context for digital infrastructure development.

Law No. 36 of 1999 on Telecommunications: Grants telecommunications operators the authority to establish and maintain telecommunications networks necessary for service provision. Article 28 of this law provides that telecommunications operators have the right to use, occupy, and pass through land, water, and airspace to establish telecommunications networks, subject to compensation to affected parties and compliance with environmental regulations.

Government Regulation No. 53 of 2000 on Telecommunications Operators: Operationalizes the telecommunications rights framework, specifying procedures for obtaining land use rights, requirement for coordination with local authorities, and mechanisms for resolving disputes over infrastructure placement

Despite the formal regulatory framework, the normative study identifies significant implementation challenges stemming from regulatory fragmentation. Digital infrastructure installation must navigate multiple regulatory regimes:

1. Spatial planning regulations (Law No. 26 of 2007)
2. Telecommunications regulations (Law No. 36 of 1999)
3. Environmental regulations (Law No. 32 of 2009)
4. Geospatial information standards (Law No. 4 of 2011)
5. Building code compliance (Government Regulation No. 16 of 2021 on Building Code)
6. Health and safety standards (Government Regulation No. 32 of 2005)
7. This multiplicity creates coordination challenges, as operators must simultaneously comply with regulations from different institutional actors without clear hierarchical delineation of authority in cases of conflicting requirements (Adibhaskara, 2025).

A legal study of the right to space in the installation of digital infrastructure requires a comprehensive theoretical review from several fields of law and social sciences. The following is a description of relevant theories and references that underpin the importance of this research:

1. Digital Constitutionalism Theory

Digital constitutionalism is a new paradigm that emphasizes the importance of citizens' constitutional rights in the digital space, including the rights to information, privacy, and freedom of expression in the internet era. This theory argues that the implementation of rights and limitations on state and corporate power in the digital realm must take into account constitutional principles and multi-level protection of basic rights.

Digital constitutionalism theory is a new branch of constitutionalism that adapts the core values and principles of the constitution such as the protection of human rights, limitations on power, and the rule of law to address the challenges of the digital revolution in the information technology era. This theory highlights that digital platforms and technology companies now act as new non-state power actors that can influence people's basic rights such as privacy, freedom of expression, and personal data, even rivaling states in data management and global standard-setting (Subekti, 2023).

The main principles of digital constitutionalism are:

a. Affirming that the protection of citizens' basic rights especially the right to privacy and data protection must be constitutionally guaranteed in the digital space, both by the state and private actors (technology corporations).
b. Limiting the power and dominance of digital technology companies so that they do not threaten fundamental rights and democratic values.
c. Formulate a legal framework so that applicable regulations can protect individuals from abuse of power by digital actors and balance public interests with market interests.

The idea of digital constitutionalism was first promoted academically by a number of European scholars, including Eduardo Celeste and Nicolas Suzor, who are frequently cited as the main proponents of this theoretical framework. Suzor explicitly explores how technology companies must adhere to constitutional principles in regulating their digital services and products, while Celeste highlights the importance of maintaining constitutional equilibrium in the digital age, ensuring the protection of fundamental rights and ensuring legally appropriate limitations on digital power.

Thus, the theory of digital constitutionalism serves as a theoretical basis for dealing with the risks and opportunities that arise due to the increasing penetration of digital technology in people's lives and state governance.

2. Digital Human Rights Theory

Digital human rights are a branch of human rights adapted in the context of information technology, including the rights of access, distribution and protection of data in cyberspace. Digital rights also include the right to privacy data management and protection from the threat of data misuse which has been recognized in various international instruments and national laws (European Union, 2016).

The originator of the theory of digital human rights did not come from a single individual, but rather developed collectively through discussions at the international level, especially by institutions such as the United Nations (UN) and digital justice organizations. Several legal scholars such as Yulia Razmetaeva and other digital experts have also highlighted this concept in research and international conventions on human rights in the digital era.

a. The theory of digital human rights begins with the development of universal human rights adapted to the digital era.
b. Observers and international organizations such as the UN promote that offline human rights must also be fulfilled in the online realm, especially since the UN Human Rights Council Resolution of 2012.
c. Academics such as Yulia Razmetaeva (Head of the Center for Law, Ethics and Digital Technologies) are actively defining and developing digital human rights approaches in international law studies.
d. Digital human rights mean the right of every individual to access, use, create and distribute digital works and access electronic devices and communication networks (the internet).
e. The right to digital space ensures that everyone has access to inclusive, equitable, and discrimination-free digital infrastructure. The digital divide, particularly related to unequal distribution and access to infrastructure, can lead to violations of this right.
f. Digital infrastructure (such as internet networks and electronic devices) represents a new "space" for human rights, and therefore its protection must be as strong as that of physical space. States are obligated to guarantee the right to digital space, ensuring that the internet is managed as an open, free, safe, and equally accessible space for all.
g. Without equitable and secure digital infrastructure, digital rights such as freedom of expression, the right to speak, the right to privacy, and access to information cannot be fully guaranteed.
h. Digital human rights theory has developed through the consensus of practitioners, academics, and international organizations focused on the adaptation of human rights in the digital world.

Digital human rights and the right to digital space are highly relevant to the use of digital infrastructure; both are interconnected in protecting people's fundamental rights in cyberspace while ensuring the availability and security of digital infrastructure in an inclusive and equitable manner (Abrori, 2025).

3. Spatial Planning Theory

Spatial planning theory emphasizes the importance of the principles of equitable, sustainable, integrated and open spatial utilization and management, as stated in Law No. 26 of 2007. Digital spatial planning must adopt these principles so that digital infrastructure development does not neglect legality, accessibility, or public and private interests.

4. Digital Justice Theory

Digital justice is a normative approach that ensures all individuals have equal access to information technology and digital resources without discrimination. This theory questions the impact of digital infrastructure on social inequality and emphasizes the inclusive aspect of providing digital access, especially for marginalized groups.

5. Smart City Rights Theory

This theory views the right to space and citizen participation as crucial to the development of digital infrastructure for smart cities. Through citizen empowerment and involvement, digital infrastructure development does not simply follow market logic but prioritizes citizens' rights to their space and data.

Smart City Rights Theory was developed from an extension of Henri Lefebvre and David Harvey's thinking on the right to the city, which initially focused on citizens' rights to access, change, and participate in city management. In the context of smart cities, this idea has been expanded by modern researchers and academics such as A. Christofi and E.M. Leclercq to include aspects of digital rights and the protection of citizens' rights against the impacts of technology, data, and algorithms that underlie smart city management.

6. Data Protection and Privacy Theory

The right to personal data protection develops from the right to respect for private life. The need for privacy assurance in the digital era is increasingly vital, along with the ever increasing volume of public data and the increasingly complex potential for privacy breaches.

7. Digital Legal Transformation Theory

The transformation of digital law highlights the importance of changing legal instruments that are responsive and adaptive to technological developments. This principle emphasizes the need for a complementary and hierarchical legal system in spatial planning and the use of technology so that legal certainty, protection of rights, and distribution of digital economic benefits can be achieved.

This theory was developed by Roscoe Pound who placed law as a tool of social engineering. In the context of digital infrastructure, the law aims to organize space to distribute access, benefits, and protection fairly to all levels of society without discrimination.

The above theories serve as the main analytical tools for examining the normative, juridical, and sociological aspects of the right to space in the installation of digital infrastructure, as well as being a basis for building arguments, research frameworks, and law-based policy proposals in the future.

The right to space is defined as the right of every individual and society to enjoy, use and manage space in a fair, efficient and environmentally friendly manner, which is protected by applicable spatial planning and regulations. The installation of digital infrastructure must comply with the principles of legality, openness, and public interest.

This research identified that the regulation of digital infrastructure installation involves:

a. Protecting community rights to space, preventing overlapping land use, and avoiding conflicts of interest between space users. jdih.dprd.semarangkab +1
b. Legal certainty through integrated licensing, such as OSS (Online Single Submission), as well as approval from local governments in accordance with basic regulations (Regional Government Law, PP No. 24/2018, PP No. 5/2021) (Fajar, Sadino, & Lithfi, 2024).
c. Determining the placement zones for passive telecommunications infrastructure in a coordinated manner so that development is carried out efficiently, with minimal environmental impact, and equitably (Munthe, 2025).
d. Retribution or compensation to regions for the use of space, in accordance with regional regulations, so that income is generated as well as protection of citizens' economic rights.

Normative Implications of Digital Infrastructure Installation

The right to space in the installation of digital infrastructure includes:

1. The right to have a decent and safe space to live and carry out activities, not disturbed by the use of space for infrastructure that is detrimental or discriminatory.
2. The right to participation and transparency in every stage of planning and implementation of digital infrastructure development, in accordance with the principles of good governance.
3. The right to information on the licensing process and spatial planning determination, so that the public understands and can monitor the use of public space for digital infrastructure.
4. The state and regional governments are obliged to regulate, control, and respond to changes in the use of space due to digitalization, so that the protection of the right to space is maintained along with infrastructure modernization.

This normative study emphasizes that the installation of digital infrastructure must guarantee the right to space through the principles of legality, transparency, justice, and public participation, and be supported by strict regulations and supervision for the sake of security, comfort, and equal access to digital technology across all regions (Imamulhadi, 2021).

The comprehensive normative analysis reveals the Indonesian legal framework for digital infrastructure spatial rights is characterized by:

1. Formal Completeness: Foundational legal instruments establishing operator rights and landowner protections exist across multiple legal sources.
2. Institutional Distribution: A multi-actor institutional framework distributes authority among national agencies, regional governments, and local authorities, creating complexity in implementation.
3. Substantive Asymmetry: While operator rights are relatively well-defined, property owner protections are dispersed across multiple regulations and lack unified procedural standards.
4. Implementation Challenges: Significant gaps exist between formal normative framework and practical implementation, particularly in compensation mechanisms, in-building access procedures, and coordination among regulatory authorities (Rajabifard, 2024).
5. International Dimension: Indonesia's framework shows increasing alignment with international best practices, particularly through infrastructure sharing principles and spatial data integration

initiatives, though specific digital infrastructure provisions remain less developed than comparable systems in technologically advanced jurisdictions.

CONCLUSION

The conclusion of this study confirms that the right to space in the installation of digital infrastructure is a multidimensional issue that must be analyzed by combining legal, human rights, and social science theories. Digital constitutionalism and digital human rights are the foundation for ensuring the protection of privacy, data, and freedom of expression in cyberspace, while the theory of spatial planning and digital justice demands a fair, inclusive, and sustainable distribution of technology access.

Digital infrastructure development must comply with the principles of legality, transparency, public participation, and environmental protection and citizens' economic rights. The state, local governments, and private actors have an obligation to manage spatial use in a coordinated manner, avoid overlapping land uses, and ensure security and equitable digital access across all regions.

Thus, policies and regulations for the installation of digital infrastructure must be based on the principles of social justice, protection of fundamental rights, and adaptive legal transformation to technological developments, so that digital modernization runs in harmony with respect for the right to space and democratic governance.

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