



Steven Vago's Theory of Legal Change Approach on Telecommunication Technology Transformation

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Abstract

The fast evolution of telecommunication technology from 5G to telegraph has brought about massive changes in communication and societal interactions, presenting new challenges and opportunities. In his research, the writer examines these developments as far as the Indonesian telecommunication regulations are concerned by referring to Steven Vago's theory of legal change so as to explain how technology and law are inseparable. Major issues addressed by this research encompass fair access, data privacy as well as need for a responsive legal system. This study uses normative legal research methodology with statutes approach in analyzing the development of telecom laws including Law No.36/1999 as amended by Law No.11/2020. The findings establish that technological advancement require adaptive regulatory frameworks that would ensure equitable access and safeguard societal interests. The study highlights the role played by legal systems in ensuring social order, justice and inclusion while supporting innovation in society. This paper emphasizes the significance of moral attitudes and psychological determinants on changing law. Therefore, according to this research, flexible and responsive legislation is necessary to effectively deal with increasing speed through which telecommunication is evolving. Therefore, it follows from these findings that Indonesian telecommunications regulation must evolve with technological progress to achieve universal accessibility and respond to emerging challenges confronting it today. Future policies should focus on infrastructure development in remote locations accompanied by enhancement of data security measures which strike a balance between individual rights while fostering innovation

Keywords: Telecommunication Technology, Legal Change, Regulation Adaptation, Social Transformation

I. INTRODUCTION

The growth of telecommunication technology has revolutionized human interaction: it starts from the times of telegraph and goes all the way to invention of telephone up to internet, now in an era dominated by mobile phone. Every epoch changes every aspect in life – be it education, healthcare, or economy; transitions like this make us connect with people at even personal levels differently. It is not only that communication is more effective but also new virtual realms appear where various activities take place — representing historical periods characterized by radical changes in communication spheres that have a great effect on sociocultural dynamics. The change in technology and its impact on society give each technological age a historical footprint.

The evolution of telecommunication technology over the past few decades witnessed notable strides—ranging from 2G, 3G, 4G, 5G mobile internet to satellite technology— leading to faster internet speeds and wider coverage . However, these leaps present challenges such as sophisticated infrastructure requirements privacy concerns and ensuring universal accessibility even to far flung underdeveloped regions. In providing high quality telephone access for them lies their needs are met for sure. This information must be provided.

In light of today's swiftly advancing technology, telecommunications regulations serve as central determinants aimed at guaranteeing equal availability everywhere.[2] Governmental policies along with bodies like telecom authorities feature prominently in building a system whereby information and communication technologies can truly be inclusive. A look back at history about telecommunication laws point towards the pivotal role of government as overseer—not just regulatory but ensuring industry needs are met. Normally telecommunications legislations are shaped according to technological evolution and what society needs most urgently at a given time. Nevertheless when there is extreme advancement in technology coupled with an outcry by the public for quality telecom services then this represents some peculiar challenges unto Indonesian telecommunications legislation.[3]

Fast pace in technological advancements within telecommunications presents legal difficulties through which they have failed to catch-up with. Consequently, the more technology takes huge steps, regulatory as well as legal issues get more complicated. As a result of this Vargo's theory of legal change becomes a seminal construct offering an indispensable perspective to understand how law adapts itself to the rapidly changing technological realms in telecommunications. In essence, it emphasizes the need for evolution of legal systems along with societal and technological changes; if they are not current and relevant they are meaningless. This reminds us that laws can only be effective when they reflect what is happening within the society that they govern.

The transformation of telecommunications laws from the legal standpoint is thus seen to be highly essential. Many aspects – data protection, cybersecurity, competition law and consumer rights should be considered by the legal framework. The rising number of applications consuming enormous amounts of data, especially those infringing on user privacy calls for strong data protection laws to be enacted. At the same time, there is a growing number of threats posed on telecommunication infrastructure by cyber criminals which necessitates need for efficient security regulations.

Additionally, competition law has significant roles in preventing monopolistic practices; therefore it acts as gate keeper towards fair market participation where all players ought to compete on level grounds.

In the realm of telecommunications, however, the situation is even more dire as a handful of major players can easily strangle innovation and choice in the market, with antitrust laws needing an overhaul that goes beyond only ensuring that quality services are provided or pricing is fair to make certain that consumers are never exploited particularly given the landscape filled with this rapidly changing technological environment.

Though another case in point is Indonesia where reviewing telecommunications legislation may be a delicate task before these fast strides in technology. It means tweaking old legislations and drafting new ones for dealing with what has not yet materialized. What happens when 5G comes? Suddenly there are all manners of regulations including: spectrum allocation processes, infrastructure sharing policies and international coordination mechanisms...not a child's game but governments have no option but embracing these ICT mega-trends.

II. LITERATURE REVIEW

A. Evolution of Telecommunication Technology

The evolution of telecommunication technology has fundamentally transformed daily life, starting from simple processes to fulfilling individual and social needs [4]. Each era of telecommunication technology has shaped its own historical narrative. The telegraph era, initiated by William Cooke and Charles Wheatstone in 1837, enabled instant long-distance information transmission. The subsequent era of telephony revolutionized communication by allowing quick and easy long-distance communication, beginning in Indonesia in 1899. The internet era brought about significant societal changes by enabling users to access information, communicate, and engage in various online activities through computer networks.

As technology progressed, the demand for flexible and portable internet access grew, driving the development of mobile internet. Mobile internet, facilitated by cellular networks such as 2G, 3G, 4G, and 5G or satellite technology, represents a rapidly advancing technological shift.

B. Theory of Legal Change (Law and Society)

Steven Vago's theory of legal change highlights several key functions of law in society, including social control.[5] In small, homogeneous communities, law is less necessary due to strong existing social norms. In contrast, in complex, heterogeneous societies, law plays a crucial role in controlling societal behavior. When conflicts arise between individuals, law provides mechanisms for conflict resolution through courts, ensuring fair and objective outcomes.

Law can also be used to modify or regulate societal behavior to achieve desired social goals, functioning as a tool for social engineering.[6] Vago's theory emphasizes that law can change in response to shifts in social conditions, technology, knowledge, values, and societal attitudes.[7] According to this theory, several criteria can drive legal change, including:

1. Changes in Social Conditions, Technology, Knowledge, Values, and Attitudes: These shifts can prompt legal change, making law reactive and adaptive to social transformations.
2. Divergent Moral Opinions: Differing moral views within society can influence legal changes. When moral opinions are divided, it is essential to consider whether legal changes are necessary and how to balance moral boundaries with individual freedoms.
3. Psychological Factors: Habits, motivations, ignorance, selective perceptions, and moral development can impact legal changes. Established habits can hinder change, while individual motivations affect acceptance of legal changes.
4. Intentional Social Change: Law can be deliberately used to induce broad social changes. For example, new laws can alter established practices to achieve specific social objectives.

C. Metamorphosis of Telecommunication

Fundamentally, the changes in telecommunication technology have revolutionized people's lives across a wide range of platforms from simple processes to meeting individual and social needs [4]. Each epoch in the era of telecommunication technology has had its own historical narrative. Telegraph era that began with William Cooke and Charles Wheatstone in 1837 initiated instant long-distance information transmission. The following telephone era transformed communication by enabling quick and easy long-distance communication commencing from Indonesia in 1899. Through online networks, the internet age led to significant societal changes allowing users to access information, communicate as well as participate in an array of other activities.

As technology advanced, there emerged a need for mobile internet which was flexible and portable among other reasons. Mobile internet is one such fast changing technological development facilitated by cellular networks such as 2G, 3G, and 5G or satellite technology.

D. Theory Of Law Change (Law And Society)

Steven Vago's theory on legal change identifies some major functions performed by law in society including social control.[5] In small homogeneous communities where there are strong existing social norms, law is less essential than otherwise it would be needed. However it plays an important role of controlling behavior within complex heterogenous societies . When two individuals are at odds with each other, law provides mechanisms for these conflicts to be resolved by use of courts thereby ensuring that justice does not only prevail but also it is done fairly.

Besides regulating societal behavior to create desired social goals through what we may call social engineering,[6] According Steven J.Social conditions,Knowledge and values can change while society's attitudes towards various aspects undergo a transformation; law being no different[7]. As per this theory several criteria can drive legal change including:

- a. Changes in Social Conditions, Technology, Knowledge Values and Attitudes: These transformations may necessitate legal changes making laws be reactive and responsive to social changes.
- b. Divergent Moral Opinions:Different moral views within a society can result in legal reforms. Whenever moral opinions are divided, it is important to think about whether law should change and how the need for moral boundaries may balance with personal freedoms.
- c. Psychological Factors: Habits, motivations, ignorance, selective perceptions and moral development can impact legal changes. Established habits can hinder change while individual motivations affect acceptance of legal changes.
- d. Intentional Social Change : Law can be intentionally used so as to cause large-scale social changes. Such as new legislation that would shape its goals against specific objectives through altering existing practices .

III. METHODS

The research used normative legal research methods with a focus on statutes. These statutes required an extensive review of all relevant legislation connected to the subject and offering a detailed analysis of the legal texts together with their applications in the context of telecommunication technology. Ontologically, this research explores what is essential about telecommunication technology as well as its regulatory landscape, thereby seeking to know the nature behind these technological advancements and the laws that govern them. The study also examines inherent characteristics and existence of telecommunication technologies in order to identify underlying

principles that inform law when faced with technological changes hence providing a base on which other studies can be founded.

Epistemologically, the study looks into how accurate knowledge concerning telecommunications legislation is developed. It critically examines where information regarding legal changes following technological advances is obtained from; it inspects legislative texts, government policy statements and scholarly articles to come up with a broad pool of knowledge capable of sustaining its findings after careful analysis of existing legal frameworks upon which technology has been built.

On another scale, axiology investigates philosophical basis for change in telecommunications sector's laws. It is aimed at revealing value judgments imbedded in telecommunication laws and assessing how they balance data privacy rights against national security concerns or access equality. This approach underscores the normative aspect of those mutations by highlighting why society values need to be enshrined within regulatory mechanisms.

Statutes approach entails comprehensive examination legislators' texts which are related to transformations in telecommunications technology. The paper tells how regulations came into being within Indonesian law system put emphasis on such legislations as 1945 Constitution, Telecommunications Act No 36/1999 and Job Creation Act No 11/2020 respectively. In this way, by reading through these documents, it will be possible to identify certain patterns and lines according to which lawmakers responded towards new technological challenges.

These three approaches – ontological, epistemological and axiological - together provide an integrated framework for understanding relationships between legal change and telecommunication technology. This is possible through combining these philosophical approaches with the statutes path, making it comprehensive and multidimensional, so that the study would be able to respond complex questions about the nature of communication regulations as well as knowledge and values associated with them.

The research used a systematic analytical framework to look at how technology has changed over time in relation to legal rules. It requires chronicling significant advances within this sphere such as emergence of satellite technology and shift from 2G to 5G among others, analyzing relevant laws or decrees that they have undergone in their response, and assessing wider social implications of these technological changes from accessibility perspectives, on one hand, privacy and security concerns on the other. A theoretical perspective derived from Vago's theory of legal change will be employed in order to interpret these findings in relation to some overlying frame of reference for observed legal adaptations.

In collecting data, legislative texts, governmental policies and academic articles are sought concerning telecommunication technology as well as its regulation. The task here is to identify the provisions of laws that deal with technological changes and evaluate their performance in regards to meeting societal needs before considering governments' and regulatory bodies' role in shaping communication laws. This study will ensure a complex comprehension among lawyers on the adaptation of legal systems under rapid technological transformations in telecoms so that it does not become a mere philosophical review but is rather based on rigorous analysis and guided by philosophical understanding about technology and law.

IV. RESULTS AND DISCUSSION

Telecommunication technology's evolution presents specific challenges to government thereby necessitating a flexible legal framework that can adapt to the rapidly changing technological landscape. Ontological, epistemological and axiological approaches are used in this section to analyze how telecommunication laws in Indonesia have evolved as a result of technological advancements.

Ontologically, the rapid change in telecommunication technology fundamentally changes communication and information exchange. Each development from telegraphs up to 5G alters the very essence of societal communication. This is creating a dynamic environment that needs a responsive legal framework capable of addressing new realities. The amendment from Law No. 36 of 1999 to Law No. 11 of 2020 reflects this responsiveness indicating a need for accommodating social conditions and technology changes. Thus, ontological approach emphasizes the need to have laws which are not static but change with technology so that they remain relevant and efficient.

From an epistemological perspective, it examines the processes by which knowledge about telecommunications regulations is constructed. Detailed analysis of legislative texts, government policies and scholarly literature helps in understanding how law is formulated and applied in view on such changes due to technological advancement. Going through transition from 2G to 5G or even using satellite technologies requires deep understanding of technical capabilities as well as their societal implications. It deals mainly with having accurate and comprehensive knowledge as foundation for effective legal frameworks. Through an examination of how historical progression impacts on telecommunications legislations, the study demonstrates importance of informed legislature process responding to technological changes.

Axiologically, this study explores values that underpin legal changes within the telecommunication sector. Technology laws should consider interests like data protection, privacy rights protection; cyber security; fairness in accessing technologies etc. The ontological approach focuses on understanding fundamental nature of

technological changes and their implications on society. The epistemological approach involves scrutinizing the processes through which legal knowledge is constructed and applied thus ensuring regulations are based on proper understanding of technological advances. Finally, the axiological approach examines the values and principles that underpin legal changes, emphasizing the importance of aligning regulations with societal values and ethical standards.

The transformation of telecommunication laws in Indonesia, from Law No. 36 of 1999 to Law No. 11 of 2020, illustrates a dynamic legal framework that accommodates emerging technologies and societal changes. This evolution reflects the need for laws to be adaptive and responsive to ensure equitable access and protection in the digital age. The development from 2G to 5G has significantly enhanced communication capabilities, calling for updated legal frameworks to address new challenges and opportunities.[9] These advancements necessitate laws that protect user privacy, ensure cybersecurity, and promote competition in the telecommunication sector.

Regulating telecommunication technologies often involves navigating differing moral viewpoints,[10] particularly on issues such as data protection, freedom of expression, and universal service.[11] Ontologically, these regulations must address the fundamental nature of technological changes and their societal implications. Epistemologically, they require a comprehensive understanding of the technological landscape and its impact on society. Axiologically, they must balance competing values and ethical considerations ensuring that regulations protect individual rights while promoting societal well-being.

A lot of behavior patterns that are psychological, for instance customs, desires, lack of knowledge and selective perception also contribute towards the acceptance as well as implementation of legal changes.[12] Conventional landline use in telecommunications may however impede the shift to novel technologies. This ontological standpoint stresses that these practices have a fundamental essence which resists changes. The epistemological value system on the other side insists on educating stakeholders about new technologies and how they could benefit them in their decision making processes. Axiology approaches directly deal with values and motives which drive change acceptance or resistance by promoting legal structures that are consistent with societal values.

In this context, law can be used strategically to bring about desired social change by molding societal behaviors and practices attuned to specific objectives.[13] For example, reference to ensuring telecommunication accessibility especially in remote areas and underdeveloped regions within Law No. 11 of 2020 concerning Job Creation shows a deliberate attempt to stimulate infrastructure development and ensure equal access to telecommunication services. Adopting such a strategy is consistent with axiological perspectives as it calls for social integration based on equal opportunities.

From Laws No. 5 of 1964 and 3 of 1989 through Law No. 36 of 1999 and Law No. 11 of 2020 show an evolving legal framework due to technological progressions taking place around us all the time. Ontologically speaking law is changing human nature so laws must be made in this way; epistemologically speaking informed legislative policymaking is necessary in changing telecommunication technologies while axiology ensures that the society's moral standards are reflected even if no one else thinks alike about it. These laws cater for every class of people necessitating provision where growth takes place so that everyone stands at par technologically regarding telecommunication but not forgetting individual rights protection.

V. CONCLUSION

Overall, the application of Steven Vago's theory of legal change to the context of telecommunication technology in Indonesia underscores the importance of a flexible and adaptive legal system that can effectively respond to rapid technological and social transformations. This dynamic legal framework not only maintains societal order and justice but also fosters social inclusion and equal opportunities, ensuring that law remains relevant and effective in the face of ongoing technological advancements.

Based on this study, it is evident that technological changes often drive legislative changes. The development of telecommunication technology significantly impacts broader society, necessitating adaptive regulations and laws. The amendment of Law No. 36 of 1999 to Law No. 11 of 2020 is a governmental response to the rapid advancements in telecommunication technology, requiring adaptive regulations. Rapid technological changes present unique challenges necessitating appropriate legal responses. This is consistent with Steven Vago's theory of legal change, where law should adjust to the accelerating pace of technological advancements. According to this theory, legal systems must evolve and adapt alongside technological changes to remain relevant and effective.

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