Jurnal Dinamika Hukum
Universitas Jenderal Soedirman
Vol. 26 Issue 1, 2026
E-ISSN 2407-6562 P-ISSN 1410-0797

The Algorithmic Dilemma: Online Gambling Blocking and Data Privacy in Indonesia's E-Government

*Vanessa Riarta Atmaja**
Rina S. Shahrullah
Ampuan Situmeang

Universitas Internasional Batam, Indonesia

**✉24.vanessa.atmaja@uib.edu*

Submitted: 2025-09-25
Revised: 2026-01-14
Accepted: 2026-02-25
Published: 2026-02-28

Abstract:
The rapid proliferation of online gambling in Indonesia has prompted the Ministry of Communication and Informatics to implement large-scale algorithmic blocking measures, creating a critical tension between cybersecurity enforcement and citizen data protection. This study investigates the unintended consequences of these automated blocking mechanisms on government digital infrastructure that hosts personal data. Using normative legal research methodology with a conceptual approach grounded in Gustav Radbruch's legal philosophy which emphasizes. The research analyzes primary legal materials, including the Electronic Information and Transactions Law and implementing regulations, supplemented by secondary data from policy documents and case studies of breached government websites. Results demonstrate that while algorithmic blocking has successfully reduced gambling site accessibility by over 80%, it has simultaneously compromised data security indiscriminately blocking compromised government portals without adequate due process mechanisms. The absence of transparent algorithmic criteria in the TRUST+Positif system and the lack of procedural safeguards have created legal uncertainty and disproportionate impacts on public service delivery. The study concludes that Indonesia's current approach prioritizes technical utility over justice and legal certainty, necessitating regulatory reforms that balance cybersecurity objectives with constitutional privacy protections through precision-based blocking, algorithmic transparency requirements, and independent oversight mechanisms to ensure digital governance that respects fundamental rights while effectively combating online gambling.

Keywords:
blocking; government sites; legal purposes; online gambling; personal data.

Cite:
Atmaja, Vanessa Riarta, Rina S. Shahrullah, and Ampuan Situmeang. "The Algorithmic Dilemma: Online Gambling Blocking and Data Privacy in Indonesia's E-Government." *Jurnal Dinamika Hukum* 26, no. 1 (2026): 93-108. https://doi.org/10.20884/1.jdh.2026.26.1.17845.

DOI: *10.20884/1.jdh.2026.26.1.17845*.
This work is licensed under a Creative Commons Attribution 4.0 International License (cc-by)
✉ jurnal.dinamikahukum@unsoed.ac.id https://jos.unsoed.ac.id/index.php/jdh/index

Introduction

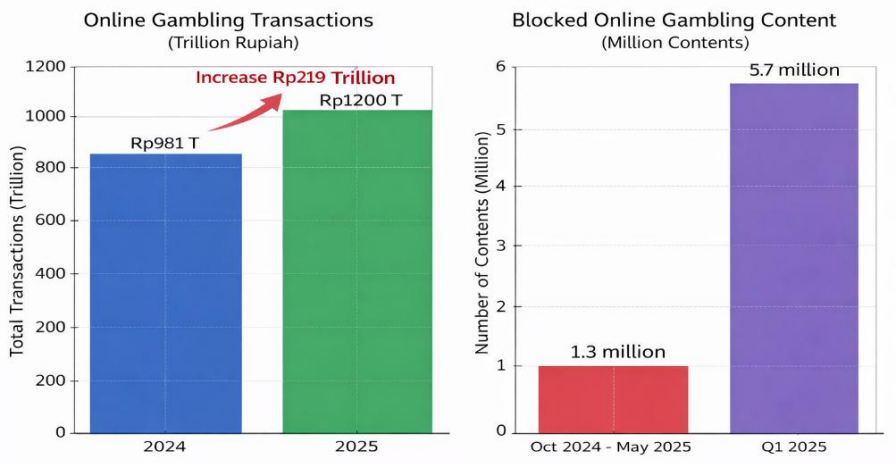
The Indonesian government has established a strict regulatory framework to eradicate online gambling practices as part of its efforts to maintain public order, morality, and religious values.[1] The legal foundation is Article 28J of the 1945 Constitution, which legitimizes restrictions on individual rights for the sake of public interest. This commitment is reinforced through the Electronic Information and Transactions Law of 2008 (amendment 2016 & 2024), which imposes harsher sanctions on those who disseminate or access online gambling content. Based on Article 27 paragraph (2) and Article 45 paragraph (3), offenders may face imprisonment of up to 10 years and fines of up to IDR 10 billion, as a law enforcement measure intended to create a deterrent effect. In addition to prosecuting individuals, the government

[1] Ines Tasya Jadidah et al., "Analisis Maraknya Judi Online Di Masyarakat," *Jurnal Ilmu Sosial Dan Budaya Indonesia* 1, no. 1 (May 2023): 20–27, https://doi.org/10.61476/8xvgdb22.

also undertakes preventive measures by blocking online gambling websites and applications. The legal basis for this step is contained in Article 27 paragraph (2) of the Electronic Information and Transactions Law of 2008 (amendment 2016 & 2024), which grants authority to the Ministry of Communication and Informatics to cut access to Electronic System Operators that violate the provisions. The technical implementation is regulated under Government Regulation Number 71 of 2019 on the Operation of Electronic Systems and Transactions and Minister of Communication and Informatics Regulation Number 5 of 2020 on Private Electronic System Operators, which serve as guidelines for cutting access to online gambling content providers. Through this layered regulation, the government seeks to create a safe digital ecosystem free from illegal practices that undermine social order.

Although Indonesia already has a regulatory framework to combat online gambling through massive content blocking efforts, in reality, the surge in the number of online gambling sites and transactions continues to rise significantly. Data from PPATK shows that online gambling transactions increased from IDR 981 trillion in 2024 to approximately IDR 1,200 trillion in 2025, meaning an increase of around IDR 219 trillion.[2] This demonstrates that despite the existence of prohibition and blocking regulations, online gambling activities continue to grow rapidly. At the same time, the government, particularly the Ministry of Digital Communication, records and takes action against millions of online gambling contents each year; for example, in the first quarter of 2025 alone, around 5.7 million online gambling contents were blocked across various digital platforms, and a total of 1.3 million online gambling contents were acted upon between October 2024 and May 2025.[3] The massive surge of users has directly driven the growth of online gambling service provider sites that aggressively seek new loopholes to distribute their content. the Center for Data and Information Technology within the Ministry on 2019 stated that amid the stringent blocking efforts by the Ministry , which has taken down nearly 3.8 million gambling contents since 2023, cybercriminals have begun shifting to more sophisticated and covert methods, namely by infiltrating gambling content into official government websites.[4]

Figure 1. Data on the Surge in Online Gambling & Enforcement Efforts



Source: Financial Transaction Reports and Analysis Center, 2004

[2] PPATK, "Promensisko 2025: Menjawab Ancaman Judi Online Dan Kejahatan Digital Lewat Aksi," *Ppatk.Co.Id*, May 2024.
[3] PDSI KOMDIGI, "Transaksi Judi Online Kuartal Pertama 2025 Turun Hingga 80 Persen," *Komdigi.Co.Id*, May 2025.
[4] Ruth Gladys Sembiring et al., "Penegakan Hukum Cybercrime Di Wilayah Hukum Kepolisian Daerah Sumatera Utara," *Locus Journal of Academic Literature Review*, 2023, https://doi.org/https://doi.org/10.56128/ljoalr.v2i3.145.

This issue highlights the escalation of strategies employed by online gambling syndicates. Government websites, which should serve as symbols of public trust, are instead being misused as distribution channels for online gambling. Various security gaps, such as outdated Content Management Systems, open APIs, and vulnerable databases, have become entry points for hackers.[5] It is also not uncommon for defacement practices to occur on government subdomains, which are then used to host or redirect to gambling sites without the knowledge of the domain-owning agencies. These hacking cases are not merely a threat to the proliferation of online gambling, but also demonstrate the vulnerabilities of national cybersecurity, which jeopardize the protection of citizens' personal data. Government websites, such as PeduliLindungi, which was once hacked and found to contain links to online gambling, provide a real example of how serious this threat is.[6] In addition, websites owned by regional governments, ministries, and other state institutions, including those belonging to education offices, population services, and public administration systems,have also become targets of illegal content infiltration.[7]

By targeting websites that store citizens' personal data, online gambling syndicates not only threaten public morality and social order but also significantly increase the risk of data breaches and the emergence of more complex forms of cybercrime.[8] These attacks demonstrate that online gambling activities are no longer limited to the distribution of illegal content but have evolved into structured cyber operations that exploit weaknesses in government digital infrastructure. As a result, personal data managed by public institutions becomes highly vulnerable to misuse, manipulation, and illicit trade within broader cybercrime networks. Therefore, addressing online gambling in Indonesia can no longer be viewed solely from the perspective of content blocking, as such an approach fails to address the root technological and systemic vulnerabilities.[9] Instead, the issue must be examined more comprehensively by reconstructing digital surveillance systems that are capable of detecting sophisticated threats in real time. Strengthening cybersecurity protections and recontextualizing information technology policies are essential to ensure that government systems become more adaptive and responsive to the increasingly complex digital threat landscape.[10]

[5] Rizka Albar et al., "Analisis Dan Implementasi Domain Name Sistem (Dns) Pada Router Os V6.48.3 Menggunakan Router Board Rb 301 Ui As-Rm Guna Memblokir Situs Judi Online Di Internet Analysis and Implementation of Domain Name System (Dns) on Router Os V6.48.3 Using Router Board," *Journal of Informatics and Computer Science* 10, no. 1 (2024), https://doi.org/https://doi.org/10.33143/jics.v10i1.3905.
[6] Naila Ainaiya, Alya Hadziqo Sae Saiffy, and Revienda Anita Fitrie, "Analisis Pengambilan Keputusan Kebijakan Dalam Penanganan Perjudian Online," *Eksekusi : Jurnal Ilmu Hukum Dan Administrasi Negara* 2, no. 2 (May 2024): 505–18, https://doi.org/10.55606/eksekusi.v2i2.1225.
[7] Ferdian Atma Wijaya, "Upaya Penegakan Hukum Terhadap Pelaku Tindak Pidana Perjudian Online," *JURNAL HUKUM, POLITIK DAN ILMU SOSIAL* 4, no. 3 (September 2025): 63–73, https://doi.org/10.55606/jhpis.v3i4.4474.
[8] Seri Mughni Sulubara et al., "Judi Online Sebagai Cybercrime Serta Tantangan Penegakan Hukum Pidana Di Era Digital: Antara Regulasi, Pembuktian, Dan Ancaman Cybercrime," *Jurnal Riset Rumpun Ilmu Sosial, Politik Dan Humaniora* 4, no. 2 (May 2025): 539–52, https://doi.org/10.55606/jurrish.v4i2.4990.
[9] Nanda Putra Billah et al., "Analisis Strategi Penerapan Dan Dampak Permainan Judi Online Di Kalangan Masyarakat," *AL-MIKRAJ Jurnal Studi Islam Dan Humaniora (E-ISSN 2745-4584)* 5, no. 2 (April 2025): 1243–54, https://doi.org/10.37680/almikraj.v5i2.6757.
[10] Billah et al.

Table 1. Several government sites that were successfully hacked by online gambling syndicates

No.	Site / Agency Name	Situs Domain	Information	Year / Month
1.	PeduliLindungi (Ministry of Health)	pedulilindungi.id	Redirected to an online gambling site after it was no longer managed by the Ministry of Health.	March 2023
2.	Pangandaran Regency Government Portal	pangandarankab.go.id	Hacked, redirected to online gambling sites, 250 million hacking attempts	June 2025
3.	West Sumatra Communication Agency	disKomdigitik.sumbarprov.go.id	Online gambling content emerges, hacking repeats	August 2023
4.	Sub Domain of the Ministry of Agriculture	pertanian.go.id	The official site was changed to an online gambling site	January 2023
5.	Depok Education Agency	disdik.depok.go.id.	Site hacked and redirected to online gambling site	2023
6.	Perludem Website	www.perludem.org	Domain hijacked and redirected to online gambling site.	May 2025
7.	855 government and educational sites	go.id dan ac.id	Hacked and used for defacing, rented to online bookies	July 2024

Source: KOMPAS, 2023-2025

Research on efforts to combat online gambling in Indonesia has been conducted widely , one of which was carried out by Juhara et al. Their findings indicate that although the regulatory framework is fairly comprehensive, its implementation still faces obstacles, such as weak coordination among law enforcement authorities, limited technological capacity, and low public digital literacy. Meanwhile, Albar et al conducted a technical study examining the application of DNS-based site-blocking methods on RouterOS devices to counter online gambling. International perspectives have also enriched this discourse, particularly the study by Egerer and Marionneau, which conducted a scoping review of 14 publications on blocking strategies against offshore online gambling sites.[11] This research introduces novelty by examining the policy dilemma of online gambling blocking in Indonesia beyond a purely technical approach. The analysis focuses on the paradoxical impact of algorithmic blocking by the Ministry on personal data security on hacked government websites. By applying Gustav Radbruch's theory, this study reveals an imbalance between the utility of blocking policies and the principles of justice and legal certainty, thereby contributing to the discourse on digital governance and the protection of citizens' digital rights.

Method

The research method employed in this study is normative legal research, an approach that examines legal norms in statutory regulations, legal doctrines, and relevant legal literature.[12] This method allows the study to systematically analyze the coherence and consistency of legal

[11] Uli Febriarni, "Transaksi Judi Online Tembus Ratusan Triliun, Pentingnya Peningkatan Kesadaran Atas Bahaya Judi Online," *Techverse Asia*, June 2024.
[12] Suhaimi, "Problem Hukum Dan Pendekatan Dalam Penelitian Hukum Normatif. Jurnal Yustitia," *Jurnal Yustisia*, 2018, https://doi.org/https://doi.org/10.53712/yustitia.v19i2.477.

norms governing online gambling and digital governance in Indonesia. The research aims to assess the extent to which existing regulations reflect fundamental legal values, namely justice, legal certainty, and utility, as articulated in Gustav Radbruch's legal theory. In addition, this study explores the role of regulation in encouraging public participation and fostering a digital space that is free from online gambling practices.[13] To support this analysis, a statutory approach is applied to examine the substance and structure of the legal provisions contained in relevant statutory regulations. Furthermore, a conceptual approach is employed to understand the foundational concepts of eradicating online gambling and the application of blocking technology within the broader context of law enforcement.[14]

The object of this research consists of secondary data derived from various legal materials relevant to the regulation of online gambling in Indonesia. The primary legal materials examined include the National Criminal Code of 2023 and the Electronic Information and Transactions Law of 2008 (amendment 2016 & 2024), both of which contain provisions regulating sanctions against online gambling activities. These statutory regulations serve as the main legal foundation for analyzing state responses to online gambling practices in the digital sphere. In addition, secondary legal materials, such as academic literature, scientific journals, and previous research, are utilized to enrich the analysis of online gambling eradication policies and the implementation of blocking algorithms. Such materials provide theoretical perspectives and empirical findings that support a more comprehensive legal assessment. As a complement, tertiary legal materials such as the Dictionary of the Indonesian Language are also employed to clarify key legal and technical terms used throughout this research.[15]

The technique of data collection and analysis in this study is conducted through a qualitative juridical method that aims to systematically and comprehensively interpret and evaluate applicable legal norms. This method enables an in-depth understanding of how legal provisions related to online gambling are formulated and implemented within the Indonesian legal system. The analysis is carried out through three main approaches, namely the legal interpretation of relevant statutory articles governing online gambling. In addition, a normative evaluation is conducted to assess the effectiveness of existing regulations in combating online gambling practices. Furthermore, a conceptual analysis is applied to compare legal theories with the actual practice of legal policy implementation in the digital governance context. Through these analytical approaches, this study is expected to contribute both theoretically and practically to strengthening digital regulation, particularly in addressing the evolving challenges of online gambling in Indonesia.[16]

[13] Anggada Perkasa and Kartina Pakpahan, "Kebijakan Penegak Hukum Dalam Penanggulangan Tindak Pidana Perjudian Melalui Media Elektronik Di Indonesia," *Sibatik Journal*, 2023, https://doi.org/https://doi.org/10.54443/sibatik.v2i7.1113.
[14] Nyoman Nidia Sari Hayati, Sri Warjiyati, and Muwahid, "Analisis Yuridis Konsep Omnibus Law Dalam Harmonisasi Peraturan Perundang-Undangan Di Indonesia," *Jurnal Hukum Samudra Keadilan* 16, no. 1 (June 2021): 1–18, https://doi.org/10.33059/jhsk.v16i1.2631.
[15] Ali Yusran Gea, "Urgensi Landasan Filosofis, Sosiologis, Dan Yuridis Dalam Pembentukan Undang-Undang Di Indonesia," *UNES Law Review*, 2024, https://doi.org/https://doi.org/10.31933/unesrev.v6i4.2077.
[16] Ahamad Rosidi, M Zainuddin, and Ismi Arifiana, "Metode Dalam Penelitian Hukum Normatif Dan Sosiologis (Field Research)," *Journal Law and Government* 2, no. 1 (February 2024): 46, https://doi.org/10.31764/jlag.v2i1.21606.

Discussion

The proliferation of hacking into government- owned websites as a medium for distributing online gambling content not only reflects weaknesses in the digital security systems but also disrupts the sense of justice, legal certainty, and legal utility within society. This phenomenon indicates that the use of government digital platforms for illegal gambling activities has serious implications for public trust and the credibility of state institutions. To place this issue within a clear normative framework, Gustav Radbruch's legal philosophy becomes an important theoretical foundation. Radbruch asserted that ideal law should encompass three essential elements, namely justice, utility, and legal certainty, which must work together to maintain the balance of law's function in society. These elements provide a comprehensive framework for assessing whether legal policies are aligned with fundamental legal values. Accordingly, these three principles serve as the analytical lens to evaluate the extent to which site blocking policies implemented by the Minsitry are able to Minsitry's site-blocking policies effectively address digital crimes effectively while remaining responsive to societal needs, ensuring personal data protection, and strengthening the legitimacy of digital governance by the state.

1. Elements of Legal Certainty in Site Blocking Policies

In Gustav Radbruch's trilogy of legal values, legal certainty or *Rechtssicherheit* occupies a fundamental position as a prerequisite for the effective functioning of a modern legal system. Radbruch emphasized that law must first be predictable and clearly defined before pursuing other ideal values such as justice or *Gerechtigkeit* and utility or *Zweckmäßigkeit*. This emphasis highlights the role of legal certainty in ensuring that legal norms are understood and anticipated by both the state and society. Legal certainty is not merely a matter of juridical technicality but functions as a foundation for the legitimacy of state power when intervening in the digital sphere.[17] In the context of algorithmic blocking policies, legal certainty is particularly crucial due to the automated and expansive nature of digital enforcement mechanisms. Accordingly, legal certainty in algorithmic blocking requires the fulfillment of three essential elements, namely normative clarity, consistent enforcement, and the availability of effective corrective mechanisms.

The legal framework for blocking online gambling in Indonesia has been formally established through several key instruments, particularly Article 40 paragraphs 2a and 2b the Electronic Information and Transactions Law of 2008 (amendment 2016 & 2024), which grants the government authority to terminate access to illegal digital content. This authority is further operationalized through Ministerial Regulation of Communication and Informatics Number 19 of 2014 concerning the Handling of Internet Sites Containing Negative Content, which functions as the technical basis for blocking practices. However, from the perspective of Radbruchian legal certainty, these regulatory instruments contain fundamental weaknesses that undermine normative clarity. Ministerial Regulation Number 19 of 2014 does not provide

[17] Arianus Harefa, "Upaya Penegakan Hukum Pidana Terhadap Pencegahan," *Jurnal Education and Development Institut Pendidikan Tapanuli Selatan* 13, no. 1 (2025): 739–46, https://doi.org/https://doi.org/10.37081/ed.v13i1.6906.

a limiting or precise definition of the technical parameters governing the blocking algorithm used by the government. Specifically, there are no provisions regulating the threshold of suspicion that triggers automatic blocking, the type of machine-learning or artificial-intelligence training applied, or the existence of human validation procedures prior to enforcement. This regulatory gap results in an excessive delegation of state power to algorithmic systems without clear legal standards, allowing automated mechanisms to exercise public authority in the absence of adequate legal guidance and accountability.[18]

The regulation on blocking government websites does not provide procedural appeal rights for blocked site owners, so that sites such as disdik.depok.go.id, which were hacked and subsequently blocked, have no legal mechanism to question the basis of the blocking and demand restoration of access.[19] This violates the principle of *audi et alteram partem*, which underlies legal certainty since every party must be given the opportunity to be heard and to defend themselves. Thus, the absence of appeal rights results in injustice and legal uncertainty in the implementation of blocking and weakens legal protection for both site owners and the wider community of digital information users.[20] The TRUST+Positif system, which serves as the database for site blocking in Indonesia, in fact becomes the antithesis of Radbruch's principle of legal certainty because it contains two main problems. First, the legal legitimacy of this system is highly fragile since it does not have an explicit legal basis such as a ministerial regulation or law, but is merely administrative in nature, thereby failing to meet the standard of legal certainty which requires a clear and transparent legal foundation. Second, this system operates through closed algorithmic governance, where the database of blocked sites cannot be accessed by the public, the criteria for updating and removing sites from the list are unknown, and there is no independent audit mechanism for verifying the accuracy of the data. This condition creates what is known in modern legal theory as black box regulation, where the state exercises power in a non-transparent manner that cannot be legally accounted for, thus making TRUST+Positif as a blocking system bring about the death of legal certainty and generating uncertainty as well as concerns over abuse of authority in regulating public access in the digital sphere[21]

The policy of online gambling blocking implemented by the Ministry through an automated algorithmic approach has not yet met the essential elements of legal certainty. Although an administrative legal basis exists to justify this policy, its practical application fails to ensure clarity and transparency in the blocking process. Moreover, the policy does not adequately protect the right to access information, particularly on government websites that perform important public service functions.[22] In the context of personal data security, the

[18] Muhammad Yulianto et al., "Penegakan Hukum Terhadap Tindak Pidana Perjudian Online Ditinjau Dari Undang-Undang Nomor 11 Tahun 2008 Tentang Informasi Dan Transaksi Elektronik," *Jurnal Kewarganegaraan*, 2022, https://doi.org/https://doi.org/10.31316/jk.v6i2.3334.
[19] Tal Zarsky, "The Trouble with Algorithmic Decisions," *Science, Technology, & Human Values* 41, no. 1 (January 2016): 118–32, https://doi.org/10.1177/0162243915605575.
[20] M. Bayu Widya Bagaskara, Muhamad jodi Setianto, and Made sugi Hartono, "PERAN KEPOISIAN DAAM MENGATASI TINDAK PIDANA JUDI ONLINE DI PROVINSI BALI," *Jurnal Ilmu Hukum Sui Generis* 4, no. 4 (April 2025), https://doi.org/10.23887/jih.v4i4.5036.
[21] Robert Antonius, Achmad Rizky Zulkarnain, and Hafiz Irsyad, "Pendekatan TF-IDF, SMOTE, Dan SVM Dalam Klasifikasi Sentimen Masyarakat Terhadap Pemblokiran Judi Online," *Buletin Ilmiah Informatika Teknologi* 2, no. 3 (June 2024): 115–22, https://doi.org/10.58369/biit.v2i3.65.
[22] Naila Ainaiya, Alya Hadziqo Sae Saiffy, and Revienda Anita Fitrie, "Analisis Pengambilan Keputusan Kebijakan Dalam Penanganan Perjudian Online."

improper or erroneous blocking of such websites poses serious risks to the protection of citizens' personal data managed by public institutions. This situation is exacerbated when blocked sites are not promptly restored or when recovery procedures are unclear. Therefore, regulatory reform is necessary by incorporating mechanisms for algorithmic transparency, clearly defined restoration processes, and independent oversight to strengthen legal certainty in efforts to eradicate online gambling in the digital era.

Table 2. Legal Uncertainty in Minsitry's Online Gambling Blocking Policy against Government Sites.

Aspects	Description of Legal Uncertainty	Impact	Relevance to the Radbruch Principle
Technical Regulation (Ministry of Communication and Information Technology Regulation No. 19/2014)	No explicit regulation of blocking algorithm mechanisms, no audit standards, no independent oversight.	Non-gambling sites, including government-owned ones, can be blocked without human verification, resulting in a loss of public access.	Does not fulfill the principles of legal certainty and predictability.
TRUST+Positive List	No explicit legal basis; cannot be publicly tested or audited.	Potential for arbitrary blocking of websites, including official government sites.	The law lacks certainty and can lead to injustice.
Redress Mechanism	There is no formal right of appeal for sites that are wrongly blocked.	Site owners cannot assert their rights; citizens lose access to public digital services.	This ignores the protection of human rights as part of legal justice.
Inter-Agency Responsibility	There is no integrated coordination between the Ministry of Communication and Informatics, the cyber police, and data protection agencies.	Fragmented handling results in public confusion when incidents or incorrect blocking occur.	Creating a legal vacuum.
Law Enforcement Against Online Gambling	Focus on blocking, not dismantling networks, fund flows, or victim recovery.	Online gambling continues to thrive, victims are increasing, and the law provides no protection.	Formal laws exist, but they fail to fulfill their social function.
Personal Data Protection	Government websites infiltrated with gambling content remained active for some time before being blocked, opening a data breach.	Citizens' personal data is at risk of being leaked or misused.	The state has failed to fulfill its obligation to protect its citizens.
Public Legal Literacy and Access	There is no complaint channel or digital education regarding online gambling and erroneous blocking.	People don't know where to turn when they become victims or when the sites they use are blocked.	This hinders substantive justice due to information inequality.

Source: TEMPO

2. The Element of Justice in Site Blocking Policies

In Gustav Radbruch's legal philosophy, justice (*Gerechtigkeit*) occupies the position of the highest legal ideal, which must override considerations of legal certainty and utility when a conflict arises between the three. Radbruch explicitly stated that unjust law is not law

(*gesetzliches Unrecht*). In the context of the Minsitry's online gambling site-blocking policy, the principle of justice demands equal legal protection for all affected parties, both directly and indirectly.[23] The policy of algorithmic blocking gives rise to serious problems of distributive justice. While the aim of the policy is to protect society from the dangers of online gambling, the burden of this policy is disproportionately borne by: (1) Users of government digital services who lose access to public services; (2) Government institutions that fall victim to hacking but instead receive the sanction of being blocked; (3) The general public who suffer collateral damage from over-inclusive blocking. The absence of an effective appeal mechanism for wrongly blocked sites constitutes a violation of the principle of procedural justice. According to John Rawls' theory, procedural justice requires a fair process in decision-making, including the right to be heard and the right to appeal.[24]

The blocking of the PeduliLindungi.id site in May 2025 serves as a concrete example of injustice in the implementation of online gambling blocking policies. Although the site should have been protected by the state as a hacking victim , it was instead subjected to access blocking, demonstrating the state's failure to distinguish between perpetrators of crime and institutional victims. Justice in this context encompasses both procedural justice and substantive justice as fundamental legal principles. Procedural justice requires that parties affected by an administrative decision be given the opportunity to be heard, while substantive justice demands proportionality between policy objectives and the negative impacts caused.[25] In the Minsitry's algorithmic blocking policy, procedural justice is systematically disregarded because no prior notice or opportunity for self-defense is provided to government site administrators before blocking is enforced. As a result, sites such as disdik.depok.go.id and pedulilindungi.id were blocked without any prior clarification mechanism. Moreover, the post-blocking appeal process remains closed, lacks a clear deadline, and is not supported by a transparent legal framework, thereby contradicting the principle of the right to an effective remedy.[26]

From the perspective of substantive justice, blocking hacked government sites is not a suitable way to combat online gambling, because it punishes the victims (government institutions and the public) rather than the perpetrators (gambling syndicates). The policy of total blocking was implemented without first exploring less harmful alternatives, such as partial blocking of specific content or cooperation in cybersecurity recovery. The blocking policy creates substantive injustice through its discriminatory effects: (1) Discrimination against Public Service Users: Citizens who rely on government digital services (such as health or education services) become indirect victims who bear a disproportionate burden. (2) Inequality in Recovery Capacity: Government institutions with limited technological

[23] Azfer A. Khan, "Reconceptualizing Policing for Cybercrime: Perspectives from Singapore," *Laws* 13, no. 4 (July 2024): 44, https://doi.org/10.3390/laws13040044.
[24] Seri Mughni Sulubara et al., "Judi Online Sebagai Cybercrime Serta Tantangan Penegakan Hukum Pidana Di Era Digital: Antara Regulasi, Pembuktian, Dan Ancaman Cybercrime."
[25] Amanda Muntari and I Ketut Seregig, "Pertanggungjawaban Pidana Terhadap Pelaku Tindak Pidana Judi Online (Undang Undang Informasi Dan Transaksi Elektronik) Di Provinsi Lampung (Studi Putusan Nomor: 871/Pid.Sus/2022/PN.Tjk)," *JALAKOTEK: Journal of Accounting Law Communication and Technology* 1, no. 2 (July 2024): 192–99, https://doi.org/10.57235/jalakotek.v1i2.2194.
[26] Sally Gainsbury, Jonathan Parke, and Niko Suhonen, "Consumer Attitudes towards Internet Gambling: Perceptions of Responsible Gambling Policies, Consumer Protection, and Regulation of Online Gambling Sites," *Computers in Human Behavior* 29, no. 1 (January 2013): 235–45, https://doi.org/10.1016/j.chb.2012.08.010.

resources (such as local governments) face greater difficulty in restoring their sites after blocking, worsening the inequality of digital services. The element of justice in the Minsitry's reconceptualization of online gambling eradication cannot be ignored, especially when this policy directly affects government sites containing citizens' personal data. When the blocking algorithm is non-transparent, lacks corrective mechanisms, and provides no guarantee of fair recovery, what occurs is not justice but the neglect of citizens' fundamental rights. Therefore, the government is required not only to take firm action against online gambling but also to act justly, accountably, and responsibly in every policy adopted, particularly those concerning the digital sphere and the protection of civil rights in the information era.

Table 3. Elements of Substantive and Procedural Justice in blocking websites suspected of online

Justice Aspect	Explanation	Problem	Implications
Procedural Fairness	Emphasizes fairness in the policy-making and implementation process, including openness, transparency, and the right to a hearing.	There is no mechanism for clarification or appeal before a website is blocked, including government websites.	Innocent government websites are also blocked without a fair and transparent verification process.
Procedural Fairness	Emphasizes fairness in the outcomes or impacts of policies implemented on communities or institutions.	Public service websites become inaccessible due to the disproportionate impact of blocking.	The public is harmed because access to digital public services is disrupted; this could potentially lead to civil rights violations.

Source: Thomas Riis[27]

3. The Element of Justice in Site Blocking Policies

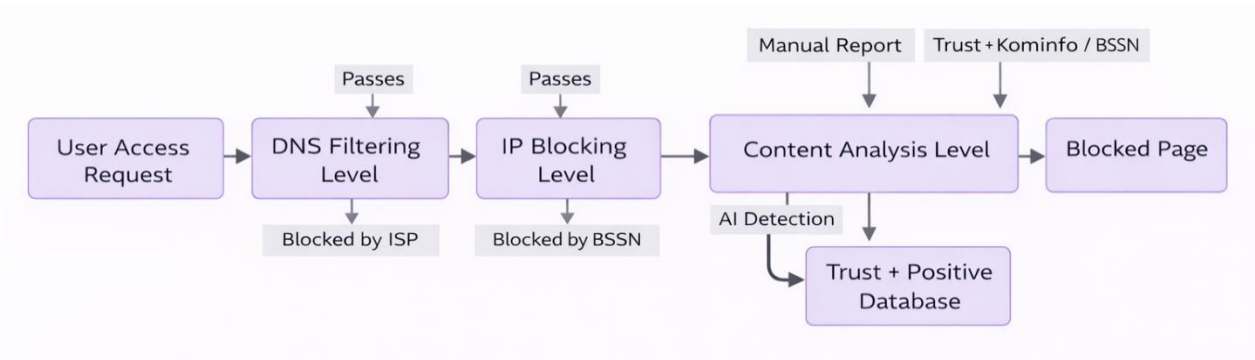
Within the framework of Gustav Radbruch's legal theory, the element of utility constitutes one of the essential components of ideal law alongside legal certainty and justice. This element emphasizes that law must not only be enforceable in a consistent and fair manner but must also generate tangible benefits for society as a whole.[28] Utility in law reflects the capacity of legal policies to address real social problems and promote collective welfare. In combating online gambling, particularly when it involves government websites that store citizens' personal data, the policies adopted must be oriented toward public welfare and the broader interests of the state. Such orientation includes protecting society from the socio-economic harms caused by online gambling activities. At the same time, it also requires safeguarding cybersecurity and maintaining the integrity of government digital systems to ensure sustainable and secure public services.[29]

Official data from the Ministry in 2025 show significant technical success in blocking online gambling content during the period from January to May 2025. Within this timeframe,

[27] Thomas Riis, "A Model of 'Rough Justice' for Internet Intermediaries from the Perspective of EU Copyright Law," *Computer Law & Security Review* 56 (April 2025): 106094, https://doi.org/10.1016/j.clsr.2024.106094.
[28] Annisa Meidaniasari, "Teori Hukum Normatif Dalam Perspektif Aliran Pemikiran Neo Kantian," *Lex Renaissance* 10, no. 1 (June 2025): 1–29, https://doi.org/10.20885/JLR.vol10.iss1.art1.
[29] Hammam Izzuddin and Maria C, "PPATK: Ada 1 Juta Pemain Judi Online Di Indonesia Pada Kuartal Pertama 2025.," *Tempo*, May 2025.

more than 1.3 million online gambling contents were effectively identified and blocked through various digital enforcement mechanisms. This large-scale blocking effort reflects the state's growing capacity to monitor and control illegal digital activities. In addition, there was a dramatic decline in the volume of online gambling transactions by 80 percent, decreasing from a previous value of IDR 90 trillion to IDR 47 trillion. Enforcement efforts were also carried out through collaboration with INTERPOL and ASEAN CERT, resulting in the takedown of more than 800,000 online gambling sites operating across borders. Overall, these figures illustrate the operational effectiveness of blocking mechanisms and cross-sectoral strategies in significantly suppressing online gambling activities in Indonesia. Technical utility was achieved through the implementation of a multi-layer blocking system.

Figure 2. Multi-Layer Defense System for Blocking Online Gambling

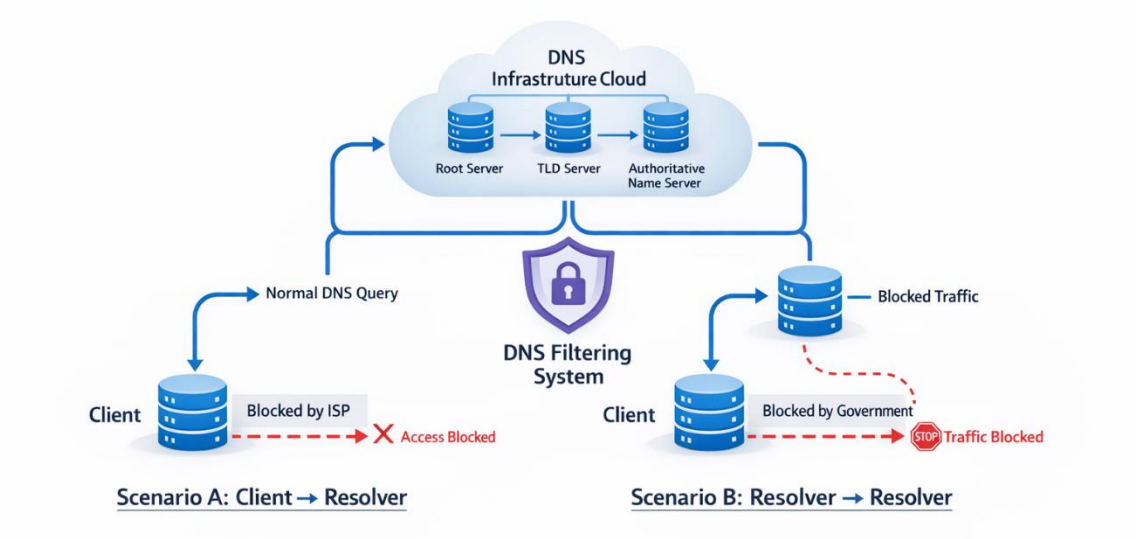


Source: Dojin Ryu et al[30]

An analysis of the benefits by blocking technology type shows that each approach has its own advantages in addressing online gambling activities. DNS blocking functions as an efficient perimeter defense because it can block up to 92% of casual user access with relatively low implementation costs. This strategy has been implemented through cooperation with 164 ISPs to filter gambling domains at the nameserver level and it is legally sound as it aligns with Article 40 of the Electronic Information and Transactions Law of 2008 (amendment 2016 & 2024), which grants the government the authority to terminate access. Meanwhile, IP blocking is more effective against organized attacks, targeting 1,250 offshore servers operating in Cambodia, the Philippines, and Myanmar. Through coordination with APJII, more than 15,000 IP addresses were successfully blocked, thereby systematically cutting off the infrastructure chain of online gambling. The latest approach is AI-based content filtering, which uses machine learning algorithms to detect up to 94% of gambling content patterns, with a false-positive rate of 12%. This technology enables real-time analysis of more than 5TB of daily traffic data, thereby enabling a rapid response to the emergence of new methods for distributing online gambling content.

[30] Dojin Ryu et al., "Enhancing Cybersecurity in Energy IT Infrastructure Through a Layered Defense Approach to Major Malware Threats," *Applied Sciences* 14, no. 22 (November 11, 2024): 10342, https://doi.org/10.3390/app142210342.

Figure 3. Topology and Scenario of DNS Blocking Site Implementation



Source: Yanan Cheng et al[31]

The systemic impact of the online gambling blocking policy cannot be separated from the trade-offs that are often overlooked in its practical implementation. From the perspective of deterrent effects versus offender innovation, although blocking has demonstrated short-term effectiveness , it has also encouraged the tactical evolution of online gambling actors. One widely adopted strategy is domain rotation, in which gambling operators routinely change their domain names every 4–7 days to evade detection and blocking mechanisms. This practice significantly reduces the long-term effectiveness of static blocking approaches that rely on domain-based identification. In addition, approximately 65 percent of online gambling traffic has migrated to encrypted VPN networks, making monitoring and enforcement increasingly complex. Another evolving tactic involves content obfuscation, in which gambling materials are disguised using steganography and encrypted communication channels to bypass algorithmic detection systems.

On the other hand, the blocking policy generates unquantified yet significant social costs that are often overlooked in its implementation. The inaccurate blocking of government websites is estimated to have caused economic losses of up to IDR 2.3 trillion due to declining productivity. In addition, the policy has contributed to a decline in public trust, as a Katadata survey recorded a 35 percent decrease in public confidence in government digital services in 2025. [32]Therefore, although blocking provides measurable technical benefits, its broader social impacts and long-term consequences must be comprehensively anticipated . A cost-benefit analysis from a legal and policy perspective reveals the presence of substantial direct benefits alongside hidden costs that require serious consideration. On the benefits side, the blocking policy succeeded in reducing public reports on online gambling by up to 72 percent through the aduankonten.id channel. Furthermore, budget efficiency in law enforcement reached IDR 1.2 trillion due to reduced manual operations, accompanied by increased public awareness of

[31] Yanan Cheng et al., "In-Depth Evaluation of the Impact of National-Level DNS Filtering on DNS Resolvers over Space and Time," *Electronics* 11, no. 8 (April 18, 2022): 1276, https://doi.org/10.3390/electronics11081276.
[32] Tribe, J., & Paddison, B. (2023). Critical tourism strategy. *Annals of Tourism Research*, *98*, 103511. https://doi.org/10.1016/j.annals.2022.103511

cybersecurity issues as reflected in a 28 percent rise in the digital literacy index based on National Cyber and Cryptography Agency data.

Behind these quantitative achievements, the blocking policy also generates hidden legal and regulatory costs that are often underestimated in policy evaluation. One significant risk is the potential emergence of legal claims arising from blocking actions conducted without clear legal procedures or due process, thereby creating legal uncertainty for affected parties. This uncertainty weakens the legitimacy of state action and opens space for disputes between the government, platforms, and site owners. In addition, the regulatory burden poses a serious challenge, as compliance costs borne by Internet Service Providers and digital platforms are estimated to reach IDR 850 billion per year. Furthermore, cross border blocking policies carry the potential to trigger international legal implications, including diplomatic pressure from countries whose digital or economic interests are perceived to be disrupted. Therefore, although the blocking policy offers substantial benefits in quantitative terms, these hidden legal and regulatory costs must be addressed to prevent long-term detrimental consequences for legal stability and digital governance.

Recommendations for optimizing the online gambling blocking policy can be directed toward two main strategic approaches. The first approach is precision blocking, achieve by enhancing artificial intelligence systems used in content filtering. This strategy emphasizes reducing the false positive rate to below 5% by improving the quality and diversity of training data used by the algorithm. In addition, the implementation of granular blocking is essential so that enforcement targets only specific gambling-related content without sacrificing access to entire websites, particularly government platforms. The second approach involves an integrated law enforcement strategy that prioritizes collaboration with the Financial Transaction Reports and Analysis Center in tracing and freezing the financial assets of online gambling perpetrators. Furthermore, strengthening the digital forensic capacity of the Police is necessary to ensure more effective, evidence-based law enforcement and sustainable suppression of online gambling activities.

Conclusion

Behind these quantitative achievements, the blocking policy also generates hidden legal and regulatory costs that are often underestimated in policy evaluation. One significant risk is the potential emergence of legal claims arising from blocking actions conducted without clear legal procedures or due process, thereby creating legal uncertainty for affected parties. This uncertainty weakens the legitimacy of state action and opens space for disputes between the government, platforms, and site owners. In addition, the regulatory burden poses a serious challenge, as compliance costs borne by Internet Service Providers and digital platforms are estimated to reach IDR 850 billion per year. Furthermore, cross border blocking policies carry the potential to trigger international legal implications, including diplomatic pressure from countries whose digital or economic interests are perceived to be disrupted. Therefore, although the blocking policy offers substantial benefits in quantitative terms, these hidden

legal and regulatory costs must be addressed to prevent long-term detrimental consequences for legal stability and digital governance.

Recommendations for optimizing the online gambling blocking policy can be directed toward two main strategic approaches. The first approach is precision blocking, achieve by enhancing artificial intelligence systems used in content filtering. This strategy emphasizes reducing the false positive rate to below 5% by improving the quality and diversity of training data used by the algorithm. In addition, the implementation of granular blocking is essential so that enforcement targets only specific gambling-related content without sacrificing access to entire websites, particularly government platforms. The second approach involves an integrated law enforcement strategy that prioritizes collaboration with the Financial Transaction Reports and Analysis Center in tracing and freezing the financial assets of online gambling perpetrators. Furthermore, strengthening the digital forensic capacity of the Police is necessary to ensure more effective, evidence-based law enforcement and sustainable suppression of online gambling activities.

References

Billah, Nanda Putra, Imelia Febrianti, Suci Dwi Noviarum, and Vrisco Putra Vachruddin. "Analisis Strategi Penerapan Dan Dampak Permainan Judi Online Di Kalangan Masyarakat." *AL-MIKRAJ Jurnal Studi Islam Dan Humaniora (E-ISSN 2745-4584)* 5, no. 2 (April 2025): 1243–54. https://doi.org/10.37680/almikraj.v5i2.6757.

Cheng, Yanan, Yali Liu, Chao Li, Zhaoxin Zhang, Ning Li, and Yuejin Du. "In-Depth Evaluation of the Impact of National-Level DNS Filtering on DNS Resolvers over Space and Time." *Electronics* 11, no. 8 (April 18, 2022): 1276. https://doi.org/10.3390/electronics11081276.

Febriarni, Uli. "Transaksi Judi Online Tembus Ratusan Triliun, Pentingnya Peningkatan Kesadaran Atas Bahaya Judi Online." *Techverse Asia*, June 2024.

Ferdian Atma Wijaya. "Upaya Penegakan Hukum Terhadap Pelaku Tindak Pidana Perjudian Online." *JURNAL HUKUM, POLITIK DAN ILMU SOSIAL* 4, no. 3 (September 2025): 63–73. https://doi.org/10.55606/jhpis.v3i4.4474.

Gainsbury, Sally, Jonathan Parke, and Niko Suhonen. "Consumer Attitudes towards Internet Gambling: Perceptions of Responsible Gambling Policies, Consumer Protection, and Regulation of Online Gambling Sites." *Computers in Human Behavior* 29, no. 1 (January 2013): 235–45. https://doi.org/10.1016/j.chb.2012.08.010.

Gea, Ali Yusran. "Urgensi Landasan Filosofis, Sosiologis, Dan Yuridis Dalam Pembentukan Undang-Undang Di Indonesia." *UNES Law Review*, 2024. https://doi.org/https://doi.org/10.31933/unesrev.v6i4.2077.

Harefa, Arianus. "Upaya Penegakan Hukum Pidana Terhadap Pencegahan." *Jurnal Education and Development Institut Pendidikan Tapanuli Selatan* 13, no. 1 (2025): 739–46. https://doi.org/https://doi.org/10.37081/ed.v13i1.6906.

Izzuddin, Hammam, and Maria C. "PPATK: Ada 1 Juta Pemain Judi Online Di Indonesia Pada Kuartal Pertama 2025." *Tempo*, May 2025.

Jadidah, Ines Tasya, Utami Milyarta Lestari, Keysha Alea Smanah Fatiha, Roja Riyani, Neli, and Cherrysa Ariesty Wulandari. "Analisis Maraknya Judi Online Di Masyarakat." *Jurnal Ilmu Sosial Dan Budaya Indonesia* 1, no. 1 (May 2023): 20–27. https://doi.org/10.61476/8xvgdb22.

Khan, Azfer A. "Reconceptualizing Policing for Cybercrime: Perspectives from Singapore."

Laws 13, no. 4 (July 2024): 44. https://doi.org/10.3390/laws13040044.

M. Bayu Widya Bagaskara, Muhamad jodi Setianto, and Made sugi Hartono. "PERAN KEPOISIAN DAAM MENGATASI TINDAK PIDANA JUDI ONLINE DI PROVINSI BALI." *Jurnal Ilmu Hukum Sui Generis* 4, no. 4 (April 2025). https://doi.org/10.23887/jih.v4i4.5036.

Meidaniasari, Annisa. "Teori Hukum Normatif Dalam Perspektif Aliran Pemikiran Neo Kantian." *Lex Renaissance* 10, no. 1 (June 2025): 1–29. https://doi.org/10.20885/JLR.vol10.iss1.art1.

Muntari, Amanda, and I Ketut Seregig. "Pertanggungjawaban Pidana Terhadap Pelaku Tindak Pidana Judi Online (Undang Undang Informasi Dan Transaksi Elektronik) Di Provinsi Lampung (Studi Putusan Nomor: 871/Pid.Sus/2022/PN.Tjk)." *JALAKOTEK: Journal of Accounting Law Communication and Technology* 1, no. 2 (July 2024): 192–99. https://doi.org/10.57235/jalakotek.v1i2.2194.

Naila Ainaiya, Alya Hadziqo Sae Saiffy, and Revienda Anita Fitrie. "Analisis Pengambilan Keputusan Kebijakan Dalam Penanganan Perjudian Online." *Eksekusi : Jurnal Ilmu Hukum Dan Administrasi Negara* 2, no. 2 (May 2024): 505–18. https://doi.org/10.55606/eksekusi.v2i2.1225.

Nyoman Nidia Sari Hayati, Sri Warjiyati, and Muwahid. "Analisis Yuridis Konsep Omnibus Law Dalam Harmonisasi Peraturan Perundang-Undangan Di Indonesia." *Jurnal Hukum Samudra Keadilan* 16, no. 1 (June 2021): 1–18. https://doi.org/10.33059/jhsk.v16i1.2631.

PDSI KOMDIGI. "Transaksi Judi Online Kuartal Pertama 2025 Turun Hingga 80 Persen." *Komdigi.Co.Id*, May 2025.

Perkasa, Anggada, and Kartina Pakpahan. "Kebijakan Penegak Hukum Dalam Penanggulangan Tindak Pidana Perjudian Melalui Media Elektronik Di Indonesia." *Sibatik Journal*, 2023. https://doi.org/https://doi.org/10.54443/sibatik.v2i7.1113.

PPATK. "Promensisko 2025: Menjawab Ancaman Judi Online Dan Kejahatan Digital Lewat Aksi." *Ppatk.Co.Id*, May 2024.

Riis, Thomas. "A Model of 'Rough Justice' for Internet Intermediaries from the Perspective of EU Copyright Law." *Computer Law & Security Review* 56 (April 2025): 106094. https://doi.org/10.1016/j.clsr.2024.106094.

Rizka Albar, Lukman Hakim Azma, Mahendar Dwi Payana, and M Bayu Wibawa. "Analisis Dan Implementasi Domain Name Sistem (Dns) Pada Router Os V6.48.3 Menggunakan Router Board Rb 301 Ui As-Rm Guna Memblokir Situs Judi Online Di Internet Analysis and Implementation of Domain Name System (Dns) on Router Os V6.48.3 Using Router Board." *Journal of Informatics and Computer Science* 10, no. 1 (2024). https://doi.org/https://doi.org/10.33143/jics.v10i1.3905.

Robert Antonius, Achmad Rizky Zulkarnain, and Hafiz Irsyad. "Pendekatan TF-IDF, SMOTE, Dan SVM Dalam Klasifikasi Sentimen Masyarakat Terhadap Pemblokiran Judi Online." *Buletin Ilmiah Informatika Teknologi* 2, no. 3 (June 2024): 115–22. https://doi.org/10.58369/biit.v2i3.65.

Rosidi, Ahamad, M Zainuddin, and Ismi Arifiana. "Metode Dalam Penelitian Hukum Normatif Dan Sosiologis (Field Research)." *Journal Law and Government* 2, no. 1 (February 2024): 46. https://doi.org/10.31764/jlag.v2i1.21606.

Ryu, Dojin, Seunghuk Lee, Sumi Yang, Jaeyeong Jeong, Yongjoon Lee, and Dongkyoo Shin. "Enhancing Cybersecurity in Energy IT Infrastructure Through a Layered Defense Approach to Major Malware Threats." *Applied Sciences* 14, no. 22 (November 11, 2024): 10342. https://doi.org/10.3390/app142210342.

Sembiring, Ruth Gladys, Madiasa Ablisar, Mahmud Mulyadi, and Jelly Leviza. "Penegakan Hukum Cybercrime Di Wilayah Hukum Kepolisian Daerah Sumatera Utara." *Locus*

Journal of Academic Literature Review, 2023. https://doi.org/https://doi.org/10.56128/ljoalr.v2i3.145.

Seri Mughni Sulubara, Harry Fauzi, Bohari Muslim, M. Fadli Ferdiansyah Putra, and Musmulyadi Musmulyadi. "Judi Online Sebagai Cybercrime Serta Tantangan Penegakan Hukum Pidana Di Era Digital: Antara Regulasi, Pembuktian, Dan Ancaman Cybercrime." *Jurnal Riset Rumpun Ilmu Sosial, Politik Dan Humaniora* 4, no. 2 (May 2025): 539–52. https://doi.org/10.55606/jurrish.v4i2.4990.

Suhaimi. "Problem Hukum Dan Pendekatan Dalam Penelitian Hukum Normatif. Jurnal Yustitia." *Jurnal Yustisia*, 2018. https://doi.org/https://doi.org/10.53712/yustitia.v19i2.477.

Yulianto, Muhammad, Guntari -Sekolah Titiek, Ilmu Tinggi, Iblam Hukum, and Titiek Guntari. "Penegakan Hukum Terhadap Tindak Pidana Perjudian Online Ditinjau Dari Undang-Undang Nomor 11 Tahun 2008 Tentang Informasi Dan Transaksi Elektronik." *Jurnal Kewarganegaraan*, 2022. https://doi.org/https://doi.org/10.31316/jk.v6i2.3334.

Zarsky, Tal. "The Trouble with Algorithmic Decisions." *Science, Technology, & Human Values* 41, no. 1 (January 2016): 118–32. https://doi.org/10.1177/0162243915605575.