Research Article

Integrating IPR Integrity and Freedom of Expression: A Normative Analysis

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ABSTRACT

Algorithm as a digital innovation plays a crucial role in facilitating communication and public discourse. Its utilization is a significant issue that must be carefully analyzed to ensure it doesn't impede key human rights, specifically the right to freedom of expression. The widespread use of digital platforms has created an urgency to examine this issue. The purpose of this study is to analyze the interaction between algorithms as digital innovations, their protection through the relevant IPR regimes, and their implications on freedom of expression. Through normative legal research methods and a statutory approach, this research finds that among various intellectual property regimes, the patent system offers the best potential for balancing the protection of algorithmic innovations with transparency. However, the analysis also reveals that current patent regulations still lack certain provisions to adequately safeguard freedom of expression in relation to patented algorithms. This research offers a proposed model of development that can be utilized to improve Indonesia's protection of the right to freedom of expression through the patent regime, while also protecting algorithms as a key digital innovation.

Keywords: Algorithm; Human Rights; Freedom of Expression; Intellectual Property Rights

A. INTRODUCTION

In the current digital era, technological innovation is rapidly evolving, enabling information and ideas to circulate more widely and swiftly than ever before (Kraus et al, 2021). Social media stands as a crucial innovation that has revolutionized how many people communicate, interact, and disseminate information (van Dijck, 2013). However, this advancement does not come without challenges. One significant issue often regarded as sensitive in the dynamics of social media development is the role of algorithms in content filtration on social media platforms (Elliott-Harvey, 2021). Algorithms controlled by many major technology companies wield significant power in determining which posts, news, and opinions can be seen by the public, driven by requests or agendas pushed by various entities, including governments (King, Pan, & Roberts, 2017). This phenomenon raises critical questions regarding freedom of expression, which is one form of human rights guaranteed by various international legal instruments, such as the Universal Declaration of Human Rights as a non-binding declaration that sets forth international norms and standards for human rights and the International Covenant on Civil and Political Rights as a binding international treaty (Nagy, 2024).

Algorithmic content filtering is a process where algorithms automatically curate and prioritize content on social media platforms (Taylor, & Choi, 2022). This practice often relies on business logic and corporate interests, which can lead to bias or unfair designs in the context of freedom of expression, censoring certain perspectives (Mittelstadt et al, 2016). This has profound implications for public discourse, risking the restriction of the diversity of ideas and opinions available to society. In this context, it is important to consider how freedom of expression, as one of the fundamental principles of democracy, can be upheld in a digital environment dominated by algorithms (Manheim, & Kaplan, 2019). Furthermore, the proprietary nature of algorithms protected by software patents poses another challenge: transparency. Patent protection can render the technical details and decision-making logic of algorithms as part of a company's policy, thereby limiting access for the public and government to understand how decisions regarding content visibility are made (Burk, 2018). This lack of transparency makes it difficult to assess whether content is moderated fairly or respects the principles of freedom of expression.

The impact of this practice is not only limited to the users of social media in general but also affects content creators who rely on these platforms to reach users from diverse socio-economic backgrounds. The opaque and often unpredictable decisions made by algorithms can be utilized to decrease and restrict interactions, or even conceal specific content, without justifiable reasons, ultimately limiting the potential reach and impact of such postings (Zerilli et al, 2019). An example of this is the practice of shadow-banning and down-tiering replies, which have raised significant concerns among social media users (Jaidka, Mukerjee, & Lelkes, 2023). Such practices raise implications of violations against the right to freedom of expression, which must be consistently safeguarded and upheld in a digital ecosystem increasingly controlled by algorithmic logic (Waldman, & Martin, 2022). This discourse holds significant importance in Indonesia as a country that actively protects human rights. Human rights remain a key aspect of the Indonesian democracy, which is based on Pancasila and the rule of law (Aswandi, & Roisah, 2019). Therefore, analyzing the legal frameworks that are relevant to this discourse is key in ensuring the protection of the right to freedom of expression as a key human right in the digital context.

Confronting these challenges, this research aims to analyze the intricate interaction between algorithms as a digital innovation protected under a specific intellectual property rights (IPR) regime, and its implications on freedom of expression. This study will explore how the current legal frameworks, both at the international and national levels, regulate and can be enhanced to protect the right to freedom of expression in the digital context. Considering the challenges posed by content filtering technology and the need for algorithmic transparency, this research will propose recommendations to ensure that digital technology supports, rather than impedes, pluralism, democracy, and human rights.

In a study, the interaction between patents and freedom of expression in the digital space is complex,

particularly when it involves algorithms used to manage digital content (Chiang, 2018). Patent protection of algorithms can limit transparency and accountability, restricting access for researchers and the public to examine and critique digital platforms. The study also highlights that, unlike copyright, patent law lacks doctrinal safeguards such as fair use doctrine and constitutional rights scrutiny to balance innovation with free speech. Consequently, there are limitations on access to certain patented algorithm codes, restricting the ability of researchers and the public to examine and critique the workings of digital platforms, ultimately affecting transparency and accountability in online content management. This results in a paradox where efforts to protect innovation through intellectual property rights may constrain freedom of expression, which is a pillar of democracy and human rights.

Moreover, patent activities are typically used as proxies in innovation studies, providing insights into the impact of protection on important aspects of innovation and the level of progress brought about by various innovations (Burhan, Singh, & Jain, 2017). Additionally, the impact of copyrights and patents on freedom of expression is intertwined with the promotion of innovation through personal financial incentives (Burk, 2018). However, neither literature explains how patents can be distinguished as an intellectual property regime with impacts beyond economic effects, such as social, cultural, or even political impacts. Elements like these are consistently linked to accountability and ethical implications of algorithms in decision-making processes within a digital platform, as they may shift responsibility to the algorithms being described (Lima et al, 2022). In the everyday national context, the exploitation of algorithmic systems to restrict freedom of expression has its own negative implications for society, particularly in their ability to realize and exercise rights within a democratic state system (Walker, Kalathil, & Ludwig, 2020).

An even narrower focus on algorithm transparency within the realm of IPR has also been analyzed by a study (Ugwu, 2022). The study crucially highlights the potential of the patents regime to improve algorithm transparency, suggesting that the utilization of the trade secrets regime, while capable of protecting the algorithm as an intellectual property, might not be sufficient in ensuring transparency. However, this study doesn't dive into the potentials and challenges that are specifically relevant to the utilization of the patents regime to protect algorithms as intellectual property while also ensuring transparency.

Current literature reveals a complex relationship between patent protection and freedom of expression in the digital realm. Chiang (2018) identified how patent protection of algorithms can impede transparency and accountability in content moderation. While Burhan, Singh, & Jain (2017) and Burk (2018) explored the economic implications of patents, they didn't fully address the broader societal impacts. Gabriel Lima et al (2022) and Walker, Kalathil, & Ludwig (2020) highlighted the ethical and societal implications of algorithmic systems, particularly on free expression. Ugwu (2022) suggested patents' potential for improving algorithmic transparency but didn't fully explore the challenges in

balancing IP protection with transparency. Although the development of the literature mainly points out to patent as the most relevant regime, further analysis must be made to ensure that the chosen regime for the protection of algorithm, can maintain a suitable level of transparency and accountability in the context of freedom of expression.

This research aims to address these gaps by examining the interplay between various intellectual property regimes, algorithm transparency, and freedom of expression in digital spaces. It will analyze how different IPR mechanisms affect the balance between protecting algorithmic innovations and ensuring public scrutiny of systems that impact free speech. Ultimately, this study seeks to identify and propose improvements to the most relevant IPR regime for safeguarding both algorithmic intellectual property and freedom of expression in the digital age. The theory utilized to sharpen the analysis of this research is a functionalist legal theory, as proposed by Bronislaw Malinowski, with a focus on holistic approaches to legal concepts (Stępień, 2016).

B. RESEARCH METHODS

This study employs a normative legal research method by analyzing the norms within the applicable positive law (Disemadi, 2022). The approach utilized is a legislative approach, utilizing secondary data in the form of primary legal sources. Data is gathered through literature study techniques and subsequently analyzed utilizing qualitative descriptive data analysis techniques. The secondary data utilized comprises the Constitution of the Republic of Indonesia 1945, Law No. 39 of 1999 on Human Rights, Law No. 30 of 2000 on Trade Secrets, and Law No. 13 of 2016 on Patents.

C. RESULTS AND DISCUSSION

1. Relevant IPR Regimes and The Implication of IPR Protection of Algorithms on Freedom of Expression

Intellectual property rights (IPR) are important in protecting the economic interests of creators and inventors, fostering innovation and creativity (Arıcıoğlu, & Ucan, 2015). Indonesia recognizes seven IPR types: copyright, patent, trademark, geographical indication, trade secret, industrial design, and integrated circuit layout design (Habibah, 2021). Each type has unique characteristics and limitations in the forms of intellectual property it can protect. For example, copyrights safeguard original creative works, while patents protect novel inventions. These distinct categories ensure comprehensive coverage for various forms of intellectual property, encouraging diverse contributions across different fields. The implementation of IPR systems aims to balance the rights of creators with the broader societal benefits of innovation and cultural expression.

However, it's important to note that not all IPR regimes are equally relevant to the discourse of algorithms and freedom of expression. Among the various forms of intellectual property protection, it is primarily trade secrets and patents that are most closely aligned with the context of algorithms and the protection of intellectual property. These two forms of IPR are particularly pertinent due to their capacity to

protect the underlying mechanisms and processes of algorithmic systems (de Laat, 2022).

Which can limit public scrutiny and understanding of how these systems operate and make decisions. It's important to compare the trade secret regime with the patent regime, which is provisioned by Law No. 30 of 2000 on Trade Secret and Law No. 13 of 2016 on Patent respectively. This is to ensure the applicability of each regime for the protection of algorithms and to analyze the baseline level of transparency and accountability that each of the regimes offers.

Table 1: **Comparison of applicability between the trade secret and patent regime.**

Aspect	Trade Secret (Law No. 30 of 2000)	Patent (Law No. 13 of 2016)
Applicability to Algorithms	Article 2: Can protect algorithms as "methods" with economic value	Article 4 letter (d): Excludes rules and methods that only contain computer programs, with exceptions made in explanation
Disclosure Requirements	Article 3 paragraph (1): Must be kept confidential through proper efforts	Article 25 paragraph (3): Requires clear and complete disclosure of invention
Protection Criteria	Article 3 paragraph (1-4): Information is secret, has economic value, and is kept confidential	Article 3 paragraph (1): Invention must be new, involve inventive step, and industrially applicable

Between trade secrets and patents, patents hold a distinct advantage in terms of their potential to safeguard freedom of expression in the context of algorithms. This advantage stems from the inherent transparency requirement in the patent system (Foss-Solbrekk, 2021). Typically, trade secret protection allows companies to maintain confidentiality over their proprietary algorithms (Levine, 2021), This is also the case with the comparison in **Table 1**, which implies that the patent regime offers a distinct advantage in safeguarding freedom of expression. The key difference lies in disclosure requirements. While trade secrets mandate confidentiality, patents require clear and complete disclosure of the invention. This transparency allows for public scrutiny of patented algorithmic systems that may impact free speech, such as content moderation tools. Therefore, patents provide a better baseline level of transparency and accountability for the protection of algorithms and their implications on freedom of expression.

The Patent Regime in general aims to facilitate innovation and economic development by providing incentives to innovators through exclusive rights over their inventions (Budi, 2019; Sudirman, & Disemadi, 2021; Roisah, Rahayu, & Rachmanda, 2023). The regulation of the Patent Law is partly based on the TRIPs Agreement (Roisah, 2018), wherein countries grant exclusive rights to creators over their technological inventions for a certain period (Disemadi, 2023), allowing the creators to utilize the invention themselves or grant permission to others to use it (Masnun, & Astanti, 2020). Algorithms are mentioned as one of the forms of innovation that can

be protected by the Patent Law, particularly in the explanation of Article 4 letter d, wherein an algorithm is defined as an efficient method, embodied in a series of limited and clear steps for performing function calculations (Ramadhan, 2021). Starting from initial conditions and inputs (which may not exist), these steps organize the computational process, which, when executed, goes through a series of limited and specific clear phases, thus producing an output and ending in a final condition.

Although patent protection granted to algorithms can generally support the advancement of digital technology in Indonesia by acknowledging the efforts of algorithm developers, the legal implications regarding freedom of expression remain a distinct challenge within the dynamics of intellectual property protection. Patented algorithms are often designed to filter and prioritize content based on certain metrics, thus holding the potential to significantly influence what can be viewed and shared by Internet users (Riemer, & Peter, 2021). Without adequate transparency regarding how content is filtered and presented, there is a risk that freedom of expression may be suppressed by unseen and inaccessible automated control mechanisms.

The patent protection granted to algorithms within the legal context through patent protection creates a paradox. On one hand, patents support innovation by providing incentives for researchers and developers to create new technological solutions. However, on the other hand, when patented algorithms are used to regulate access to information and communication in the digital public sphere, they become instruments that can disproportionately affect freedom of expression (Calvin, 2020). This paradox is further highlighted given the lack of substantive requirements such as prioritizing the public interest in the patent registration requirements under Article 9 letter a of the Patent Law, which only excludes patents for processes or products against the law, public order, or morality, without ensuring broader public accountability. With this normative loophole, algorithms can be used as tools enabling social media platform owners to selectively choose information displayed to users, potentially driving specific agendas while suppressing alternative views. In the context of democracy and pluralism, as pursued by Indonesia, this situation raises serious concerns regarding the ability of algorithms to limit open discussion and dampen marginal voices, which are crucial in the dynamics of democracy in Indonesian Pancasila society.

Concerns regarding the impact of algorithms on freedom of expression are exacerbated by the exclusive nature of patent rights, which prevent third parties from imitating such inventions. In practice, this means that the operational details of algorithms used by social media platforms remain a secret often protected under the IPR regime of trade secrets, rendering it nearly impossible for users and researchers to fully comprehend how decisions regarding content visibility are made (Ugwu, 2022). Without access to this information, it is extremely difficult to assess whether content moderation practices are conducted fairly and nondiscriminatory, or if they prioritize certain interests over broader public interests (Ananny, & Crawford, 2018). Therefore, at a glance, the patent regime remains the

better option to improve transparency as it requires details of the invention that is going to be patented.

Conceptually, the protection of freedom of expression is one of the constitutional mandates. This is evident in the provisions outlined in Article 28E paragraph (3) of the Constitution of the Republic of Indonesia (UUD NRI 1945), which states that every individual has the right to freely organize, assemble, and express their views (Ardiansah, & Ismail, 2023). Based on the hierarchy of legislation, this constitutional mandate needs to be upheld in all prevailing regulations in Indonesia. It means that the legal norms in force must not contradict the rights and obligations of citizens as stipulated in the 1945 Constitution of the Republic of Indonesia. Further indications are also found in Article 28F, which stipulates that every person not only has the right to communicate but also has the right to obtain information (Cokorde, 2021). Therefore, patent protection in the context of algorithms in Indonesia has multidimensional implications, affecting not only the development and protection of innovation but also influencing the protection of pluralism and freedom of expression, as safeguarded by the constitution.

Another important legal source regarding freedom of expression is Law No. 39 of 1999 on Human Rights (Human Rights Law). The Human Rights Law doesn't explicitly mention "freedom of expression" per se but does govern the protection of related freedoms. Article 23 paragraph 2 guarantees every person's freedom to hold, express, and disseminate opinions in accordance with their conscience, both orally and in writing, through printed or electronic media. This provision helps ensure some degree of protection for freedom of expression within the broader framework of human rights in Indonesia. This law has often been brought up in some of the instances where freedom of expression is restricted in Indonesia, particularly through the provisions provided by the Electronic Information and Transactions (EIT) legal framework. This framework consists of Law No. 11 of 2008 on Electronic Information and Transactions, and Law No. 19 of 2016 on Amendment to Law No. 11 of 2008 on Electronic Information and Transactions, which have both been criticized as potentially restrictive to freedom of expression (Raskasih, 2021).

From the functionalist legal theory perspective as articulated by Bronislaw Malinowski, law needs to be viewed as a multidimensional aspect of societal life that connects law with anthropological elements (Ledvinka, 2016). In this regard, patents, often solely associated with the protection of exclusive rights in economic terms and their impact on innovation in general, need to be reexamined considering other aspects such as the social dimension (Geofrey, & Roisah, 2020), whose legal implications can also be discerned as clarified by its relation to human rights as conceptualized by the 1945 Constitution of the Republic of Indonesia. Therefore, given the importance of access to information in a democratic society, there is a need to consider patent law reforms introducing exceptions or specific restrictions for the use of technology in contexts impacting human rights, including freedom of expression (Oliva, 2020). This may include provisions to ensure that algorithmic use does not unjustly impede access to information or restrict public discourse.

It is crucial to strike a balance between patent protection and freedom of expression, requiring careful consideration of the values to be prioritized in national life. In Indonesia, this entails acknowledging the importance of technological innovation and intellectual property rights while ensuring that the digital space remains inclusive and can facilitate the freedom of expression of a society protected by the 1945 Constitution of the Republic of Indonesia. The key to this balance lies in recognizing that intellectual property rights and human rights are not mutually exclusive goals but essential elements of a democratic and innovative society.

Thus, discussions on the legal implications of patents on the protection of freedom of expression in the Indonesian context are not only relevant within academic and legal spheres but also crucial in broader discussions on shaping an inclusive and democratic digital future. Through a holistic approach that encompasses various other disciplines such as information systems and sociology, Indonesia can devise new ways to regulate technology that respect both the need to protect innovation and to ensure that freedom of expression and access to information are valued and upheld.

2. Transparency and Accountability Elements in Algorithm Patent for Social Media Platforms

As highlighted previously, transparency and accountability regarding the patents of social media platform algorithms are crucial for ensuring freedom of expression and public access to information, necessitating that developers and platform owners provide transparency to allow stakeholders to evaluate the decision-making processes behind content promotion and visibility. Analyzing the elements of transparency and accountability becomes an imperative task in understanding the interplay between patents and freedom of speech, particularly in the context of social media algorithms.

Although patent documents are publicly available and disclose certain aspects of technological innovation, the patent protection itself can limit access to the specific implementation details of the algorithm, potentially hindering accountability and transparency (Foss-Solbrekk, 2021). This limits transparency and complicates assessments regarding moderation practices and content presentation carried out by social media platforms, to ensure true neutrality and objectivity. Such assessments are crucial to examine whether content moderation practices and other forms of censorship are conducted disproportionately, thus benefiting or harming certain groups or perspectives. In the context of Indonesia's pluralistic society, this issue is highly relevant as it can pose risks of social tensions that ultimately threaten societal harmony (Anggraeni et al, 2023). Moreover, a deeper indication of this issue includes excessive control that can even be exercised by the government for various purposes, which also violates constitutional rights (Susanto, 2019). A concrete example of this is the censorship in Indonesia during the COVID-19 pandemic, targeting activists and certain media outlets that questioned the transparency of data regarding the pandemic (Utomo, 2021). A simpler but rather brute attack on freedom of expression displayed during that time ultimately indicated an even greater risk for the utilization of algorithms by the government with little

to no restrictions. Therefore, it's important that the protection of freedom of expression isn't just protected in the realm of digital conduct, but also in other domains of law such as intellectual property, mainly through the patent regime.

Efforts to enhance transparency and accountability may include the development of industry standards or regulatory guidelines requiring companies to disclose more information about their algorithms, especially concerning factors influencing content ranking and visibility. Additionally, exploring the use of independent algorithm audits, examining recommendation systems and content moderation to ensure they do not reinforce biases or have negative impacts on freedom of expression. This approach can help build public trust in social media platforms by demonstrating their commitment to democratic principles and justice.

At the policy level, the Indonesian government could consider introducing regulations that require greater transparency from technology companies regarding their algorithms. This could entail obligations to regularly report on their content moderation policies, including how algorithms influence content distribution. Indonesia's existing regulatory framework, such as Regulation of the Minister of Communication and Information Technology No. 5 of 2020 on Private Scope Electronic System Operators, includes provisions that mandate these companies to ensure the reliability, security, and responsibility of their electronic systems and the management of electronic information and documents as stated in Article 9. Additionally, they must provide access to electronic systems and data to regulatory bodies and law enforcement agencies for supervision and enforcement purposes as required by Article 21. However, patent protections can limit access to the specific implementation details of algorithms, potentially hindering the effectiveness of these provisions. Such protections may prevent full transparency and accountability, posing a significant challenge to ensuring that content moderation practices are fair and open to public oversight.

Transparency and accountability elements within the patents of social media algorithms play a crucial role in ensuring that technological innovation aligns with democratic principles and human rights. In Indonesia, when social media platforms employ patented algorithms to regulate and filter content, serious questions arise about the extent to which the public can understand and influence this process. Without adequate transparency, it's difficult for users to discern how and why certain content is displayed or filtered, thereby complicating assessments of the platform's fairness and objectivity (Alves, 2018). The implementation of such regulations could be incorporated into user agreements when accessing a social media platform. From this perspective, social media service providers should be able to provide accurate and comprehensive information about how their content moderation policies are applied. However, such policies also have their limitations, as the accuracy and truthfulness of social media user agreement forms are challenging to scrutinize, given the patent protections safeguarding the elements of code that constitute an algorithm (Wang, 2018).

Article 25 of the Patents Law governs the mandatory disclosure requirements for patents in

Indonesia, particularly in paragraphs (2), (3), and (4). These provisions govern that patent applications must include a title, description, claims, abstract, and any necessary drawings of the invention. The description must disclose the invention clearly and completely so that it can be carried out by a person skilled in the art. Claims must clearly and consistently disclose the essence of the invention and be supported by the description. These requirements apply to all patent applications, including those for algorithms, though algorithms are not explicitly mentioned.

While Article 25 of the Patents Law provides a general framework for patent disclosure, it falls short in addressing the unique challenges posed by algorithm patents, particularly in the context of transparency, accountability, and freedom of expression. The provisions do not explicitly mention algorithms or provide specific guidelines for their disclosure, leaving room for ambiguity in how much detail must be revealed about an algorithmic invention. This lack of specificity could allow patent applicants to obscure key aspects of their algorithms, potentially hindering public scrutiny of technologies that may impact free speech and information flow. This is usually done in the case of patent protection using the protection competitive advantage as the main justification (Teixeira, & Ferreira, 2019). Furthermore, the law does not require disclosure of training data, decision-making processes, or potential biases in algorithmic systems, which are crucial for understanding their societal implications.

The importance of transparency is evident in the need to ensure that algorithms do not unfairly discriminate against certain content or promote one set of ideas over others without clear justification. In the legal context of Indonesia, this demands a legal framework and policies that not only regulate the use of patents in digital technology but also encourage the disclosure of information about how algorithms work to the public. This approach can help build trust between users and social media platforms, enabling users to make more informed decisions about their participation in the digital space. Most importantly, it allows for room for in-depth analysis of how an algorithm is utilized to find out any possible infringements on the right to freedom of expression.

Accountability is important in the utilization of algorithms, as there's a distinct separation between the inventor of an algorithm and the management behind that algorithm, which opens the door of legal liability to the inventor, despite not having the ability to make critical decisions (Shin, & Park, 2019). Therefore it's important to develop a mechanism that supports the enactment of this principle, to better establish the legal liability for an algorithm bias or censor of freedom of speech. As noted previously, the patent regime still has some key weaknesses that can be exploited to limit mandatory disclosure and hide potential practices in the utilization of algorithms, that infringe on the right to freedom of expression.

Key measures in tackling this problem must include developing effective appeal and review procedures, allowing individuals to obtain redress or corrections when they feel aggrieved by content moderation practices. In the legal system of Indonesia, this could mean enhancing the role of supervisory institutions or establishing new bodies

specifically tasked with overseeing the practices of social media platforms, including how they use patented algorithms. Such bodies could ensure that these practices align with principles of fairness, nondiscrimination, and transparency, while also providing a platform for the public to lodge complaints or grievances.

3. Legal Framework and Policy to Balance Digital Innovation Patents and Human Rights

In considering the interaction between digital innovation patents and human rights, particularly freedom of expression, it is crucial to explore how a legal framework and policy can be developed to facilitate a balance between these two domains. The development of digital technology through the use of algorithms in social media platforms, which have become integral parts of society in the era of digital transformation, has opened up new potentials for innovation and expression, while also bringing new challenges to the protection of freedom of expression rights (Barrosoa, & Barroso, 2023). In Indonesia, this interaction necessitates a review of the legal framework and policy to ensure that they can effectively bridge the need to protect intellectual property rights while also respecting and safeguarding human rights. As previously outlined, despite providing the best possible baseline for the balance between protection of innovation and freedom of expression through its disclosure mechanism, the patent regime in Indonesia does have provisions that can still limit the transparency and accountability of the utilization of algorithms. Therefore, changes to regulations must be embedded within the existing patent framework in Indonesia.

The proposed normative construction aims to provide a framework for policymakers and stakeholders to navigate the complexity of the interaction between patents and human rights. By integrating the concepts of transparency and accountability into the patent protection system, the government can protect public interests while also enhancing the integrity of patents as intellectual property. Below is the proposed model of normative constructions that can be used as a consideration to provide updates to the patent regime in Indonesia:

Table 2: Proposal of regulatory aspects in the development of patent regulations to facilitate the protection of freedom of expression rights

Aspect of Regulation	Explanation
Transparency	Mandating patent holders to provide clear information about the operation of algorithms, including non-technical summaries for the public.
Accountability	Introducing the obligation of independent audits to assess the social impact of algorithms, including their effects on freedom of expression.
Access to patent elements	Granting access to algorithm patent components, in case of reports of freedom of expression violations, for government follow-up.
Collaboration between the Directorate General of Intellectual	Integrating human rights considerations into the patent granting process and algorithm usage monitoring policies.

Property and the Ministry of Communication and Informatics	
Sanctions	Implementing punitive measures within the patent regulation framework, as a form of human rights violation.

In the functionalist legal theory, the model of regulatory aspects is structured to enable governments to implement a holistic and multidimensional approach by examining the law as an inseparable part of social dynamics, as further analyzed in anthropology. Without fully delving into anthropology, functionalism associates legal elements with the realities of societal life, prioritizing the concept of justice as the refinement of functionalist theory itself (Donovan, 2016). Such regulation is highly relevant in Indonesia, with its plural society prone to various social conflicts, particularly in digital spaces (Rantona, & Husna, 2018).

The transparency referred to entails creating an environment where algorithmic operations can be understood by the public without requiring deep technical expertise. This enables the community to have a better awareness of how decisions affecting them are made, thus fostering trust and opening avenues for good communication across various societal strata. Regarding accountability, the proposed approach advocates for an audit system that not only examines technical compliance but also considers the broader social impacts of algorithms, including their potential to restrict or distort freedom of expression. These independent audits should be conducted by entities without financial interests in the audit outcomes, ensuring the objectivity and integrity of the assessment. Regulations concerning this matter can also be applied to the rejection of algorithm patent registrations, where registration may be denied if the algorithm is found to infringe upon freedom of expression rights.

The application of criminal penalties for violating freedom of expression rights can be integrated into patent regulations. The justification for this regulatory aspect arises not only from the conceptualization of freedom of expression as a fundamental human right but also from indications of manipulation during the patent registration process. When complemented with algorithm analysis mechanisms as described in the accountability regulatory aspect, these processes should be able to detect indications of freedom of expression violations and reject the patent application for such algorithms. Given the technical nature of these regulations, continuity and cooperation with the Ministry of Communication and Informatics are necessary to ensure accurate analysis of the code composing an algorithm.

D. CONCLUSION

Violation of the right to freedom of expression is an important issue that, based on conceptual analysis, can occur and harm society. Through normative analysis, it is found that the regulation regarding patents does not encompass the aspect of patent integrity, which can ensure that patents do not endanger or harm public interests, such as freedom

of expression, which is indeed protected by the 1945 Constitution. Considering the limitations arising from patent protection, regulating the protection of freedom of expression is difficult to implement outside the framework of patent law itself. A normative construction model was provided using the Patent Law as the main object of legal scrutiny to address these limitations. Through this holistic approach, patent integrity can be enhanced while protecting intellectual property rights and driving innovation in the digital transformation era. The limitation of this research finding is that the provided normative construction does not meet technical aspects related to the analysis of algorithm programming code, which requires further research to ensure regulations that can provide space for the government to examine indications of violations of the right to freedom of expression while also protecting intellectual property rights from various forms of data leaks that can harm patent holders' rights over the algorithm.

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