

Personal Data Protection Of Artificial Intelligence In The Public Interest

Clara Ignatia Tobing¹

¹ Universitas Bhayangkara Jakarta Raya

Email: clara.tobing@ubharajaya.ac.id

DOI : <https://doi.org/10.31599/sasana.v11i1.3225>

Received:
21-11-2024

Revised:
09-12-2024

Accepted:
17-12-2024

Abstract: *The rapid development of artificial intelligence has a major influence on society. Speculations and paradigms in society give rise to many pros and cons regarding artificial intelligence. The research is classified as normative juridical research, utilizing written materials as data sources. Qualitative research methods are employed to describe and analyze various phenomena and perspectives. The research relies on secondary data from library research, including official documents, research reports, and primary legal materials with authoritative significance. In Indonesia, the rules regarding artificial intelligence can only rely on Regulation No. 27 of 2022. Unfortunately, this is also happening globally. There is no official policy governing the use of artificial intelligence. However, Personal data breaches often due to artificial intelligence cannot rely solely on that regulation. Artificial intelligence does have many benefits and uses, but the disadvantages and problems caused by artificial intelligence cannot be underestimated. Official regulations regarding artificial intelligence are needed to be a solution in protecting personal data that is often harmed by artificial intelligence.*

Keywords: *Artificial Intelligence, regulation, official.*

License:
Copyright (c)
2024 Author(s)

This work is
licensed under a
Creative
Commons
Attribution-
NonCommercial
4.0 International
License.



Abstrak: Pesatnya perkembangan kecerdasan buatan memiliki pengaruh besar bagi masyarakat. Spekulasi dan paradigma dalam masyarakat memunculkan banyak pro dan kontra mengenai kecerdasan buatan. Penelitian ini tergolong penelitian yuridis normatif, memanfaatkan bahan tertulis sebagai sumber data. Metode penelitian kualitatif digunakan untuk menggambarkan dan menganalisis berbagai fenomena dan perspektif. Penelitian ini mengandalkan data sekunder dari penelitian perpustakaan, termasuk dokumen resmi, laporan penelitian, dan materi hukum primer yang memiliki makna otoritatif. Di Indonesia, aturan mengenai kecerdasan buatan hanya bisa mengandalkan Peraturan No. 27 Tahun 2022. Sayangnya, ini juga terjadi secara global. Tidak ada kebijakan resmi yang mengatur penggunaan kecerdasan buatan. Namun, pelanggaran data pribadi sering kali disebabkan oleh kecerdasan buatan tidak dapat hanya mengandalkan peraturan tersebut. Kecerdasan buatan memang memiliki banyak manfaat dan kegunaan, tetapi kerugian dan masalah yang disebabkan oleh kecerdasan buatan tidak dapat diremehkan. Peraturan resmi mengenai kecerdasan buatan diperlukan untuk menjadi solusi dalam melindungi data pribadi yang sering dirugikan oleh kecerdasan buatan.

Kata Kunci: Kecerdasan Buatan, regulasi, resmi.

INTRODUCTION

Artificial intelligence is intelligence added to a system that can be arranged in a scientific context or can also be called artificial intelligence abbreviated as AI, defined as the intelligence of scientific entities. Andreas Kaplan and Michael Haenlein define artificial intelligence as "the ability of a system to correctly interpret external data, to learn from that data, and to use that learning to achieve specific goals and tasks through flexible adaptation". Such systems are generally considered computers. Intelligence is created and incorporated into computers to do work the way humans can. Some fields that use artificial intelligence include expert systems, computer games, fuzzy logic, artificial neural networks, and robotics.¹

In this modern era, artificial intelligence is rapidly growing. The relationship between technology and human life is inseparable. The symbiotic connection between technology and human existence has become indelible. It is assertible that artificial intelligence substantially addresses various human requisites. The advent of artificial intelligence has bestowed numerous advantages upon humanity. Notably, the prevalence of artificial intelligence is prominently manifested in social media, where its influence is pervasive. Social media platforms constitute a principal medium through which artificial intelligence is predominantly encountered.

Artificial intelligence raises many pros and cons in society. The problem caused by Artificial Intelligence such as privacy concerns. Indonesia has not regulated AI in a specific legal regulation, in addition, There are not many legal rules in the form of laws and regulations that regulate the use and impact of technological developments such as AI.² Regulations such as Law Number 11 of 2008 concerning Electronic Information and Transactions juncto Law Number 19 of 2016 concerning Electronic Information and Transactions (ITE Law) and Government Regulation Number 71 of 2019 concerning System and Transaction Implementation Electronic (PP PSTE) regulate technology in general, does not discuss specifics regarding certain technologies such as AI. PP PSTE can support the use of AI in various sectors, such as finance, retail, healthcare, transportation, agriculture, and manufacturing. However, the regulation does not cover AI specifically, as it only regulates electronic systems and transactions. Therefore, this research was created to outline some of the interests of AI, how it is regulated, and divulge those problems caused by Artificial Intelligence. This research also discusses legal issues that occur due to AI and suitable

¹ Michael Haenlein, Andreas Kaplan, Chee-Wee Tan dan Pengzhu Zhang, Artificial Intelligence (AI) And Management Analytics, Journal of Management Analytics Volume 6, 2019 - Issue 4.

² Edmon Makarim dalam Simposium Hukum Nasional bertajuk "Peran Hukum dalam Menyongsong Revolusi Industri 4.0" 2019.

solutions to use. It is imperative for individuals to remain informed about developments in the field consistently. Persistent ignorance may result in obsolescence, analogous to individuals lacking awareness. The realm of artificial intelligence (AI) exhibits perpetual evolution marked by continuous discoveries. A comprehensive understanding of AI is essential for personal development, intellectual enrichment, and advancing educational and research endeavors, fostering a heightened comprehension of the dynamic and ever-changing global landscape.

RESEARCH METHOD

This research is classified as normative juridical research.³ Consequently, the data sources utilized in this study are derived from written materials pertinent to the research problem. Qualitative research describes and analyzes various phenomena, events, and individual and group perspectives from data, documents, and notes. The collected data is first compiled, elucidated, and subsequently analyzed in this research.

The author adopts a library research method and approaches to maintain alignment with the research's objectives and the subject of study. The data source for this research consists of secondary data, which refers to data collected indirectly through intermediary sources, including materials obtained from library research,⁴ such as official documents, research reports, and other documents relevant to the research subject. Meanwhile, the legal materials employed are considered primary legal materials, characterized by their authoritative nature.⁵ These materials possess absolute and binding authority in the form of laws with significant influence on the regulation of social life.

DISCUSSION

Legal Regulation of Artificial Intelligence in Indonesia and Global

The importance of AI regulation in Indonesia to prevent harm to users. The relationship between AI and cybersecurity is dynamic and continues to evolve as technology advances. It is important to constantly update the security strategy to deal with new threats that continue to evolve, both in terms of defense and attack. Moreover, the importance of AI regulation is to protect our personal data. In Indonesia, Legal regulation of Artificial intelligence is

³ Zainal Asikin, Pengantar Metode Penelitian Hukum, (Jakarta: Raja Grafindo Persada, 2004).

⁴ Zed Mestika, Metode Penelitian Kepustakaan, (Jakarta: IKAPI DKI Jaya, 2004).

⁵ Amiruddin and H. Zainal Asikin, Pengantar Metode Penelitian Hukum (Jakarta: PT. Raja Grafindo Persada, 2006).

regulated in regulation No.19 of 2016 concerning Amendments to regulation No.11 of 2008 concerning Electronic Information and Transactions. This regulation distinguishes between Artificial Intelligence and personal data protection. The focus of this discussion revolves around prohibited acts.

Article 27 of the regulation states:

1. Any Person intentionally and without rights to distribute and/or transmit and/or make accessible Electronic Information and/or Electronic Documents with infringing content Decency.
2. Any Person intentionally and without rights to distribute and/or transmit and/or make accessible Electronic Information and/or Electronic Documents with gambling content.
3. Any Person intentionally and without rights to distribute and/or transmit and/or make accessible Electronic Information and/or Electronic Documents with a defamatory charge and/or defamation.
4. Any Person intentionally and without rights to distribute and/or transmit and/or make accessible Electronic Information and/or Electronic Documents that have the content of blackmail and/or threats.

Article 27 of the ITE Law provides a legal basis for personal data protection in the context of electronic transactions in Indonesia. It places the onus on data users to ensure that personal data is kept confidential, used judiciously in accordance with the purposes for which it was collected, and protected from misuse or unauthorized access. The government and related institutions have a role in developing derivative regulations or, more specifically, implementing regulations to regulate in more detail the protection of personal data in accordance with the needs and developments of information technology. Indonesia is in the process of discussing the Personal Data Protection Bill, which also covers aspects of the use of AI in personal data processing. While it does not directly regulate AI across the board, the bill could affect AI usage practices in the context of personal data protection. Another regulation on Artificial Intelligence is Regulation No 27 of 2022 concerning personal data protection, while the name regulation on article 17 no 1 and 2 stated:

1. Installation of visual data processing or processing equipment in public places and/or in-service facilities Public is carried out provided that:
 - a) For the purposes of security, disaster prevention, and traffic administration or the collection, analysis, and organization of traffic information;

- b) Must display Information in areas where visual data processing or processing devices have been installed;
 - c) not used to identify a person.
2. The provisions referred to in paragraph (1) The letter B and the letter C are excluded for prevention criminal acts and appropriate law enforcement processes with the provisions of laws and regulations.

In the event of observing disparate regulatory frameworks on a global scale, it is noteworthy that the European Union (EU) and the United States (US) have entered an Administrative Arrangement concerning Artificial Intelligence (AI) and Computing. The primary objective of this arrangement is to collectively address global challenges in the public interest, particularly in domains such as climate change, natural disasters, healthcare, energy, and agriculture. This accord is constructed upon the foundational principles articulated in the Declaration on the Future of the Internet. It underscores the shared significance and values of leveraging emerging digital technologies to tackle worldwide challenges. It is anticipated that the execution of this agreement will be overseen by pertinent institutions within both the United States and the European Union, as well as by entities dedicated to advancing initiatives in this field.

The absence of a unified global legal framework regulating artificial intelligence is a prevailing condition. Most nations are presently in the incipient stages of formulating regulations and conducting inquiries into potential transgressions. In addition, notwithstanding the absence of binding legal force, UNESCO has promulgated a code of ethics designed to encapsulate foundational principles and ethical considerations within the realm of artificial intelligence:

1. This Recommendation addresses ethical issues related to the domain of Artificial Intelligence to the extent that they are within UNESCO's mandate. It approaches AI ethics as a systematic normative reflection, based on a holistic, comprehensive, multicultural and evolving framework of interdependent values, principles and actions that can guide societies in dealing responsibly with the known and unknown impacts of AI technologies on human beings, societies and the environment and ecosystems, and offers them a basis to accept or reject AI technologies. It considers ethics as a dynamic basis for the normative evaluation and guidance of AI technologies, referring to human dignity, well-being and the prevention of harm as a compass and as rooted in the ethics of science and technology.

2. This Recommendation is addressed to Member States, both as AI actors and as authorities responsible for developing legal and regulatory frameworks throughout the entire AI system life cycle, and for promoting business responsibility. It also provides ethical guidance to all AI actors, including the public and private sectors, by providing a basis for an ethical impact assessment of AI systems throughout their life cycle.
3. This Recommendation aims to provide a basis to make AI systems work for the good of humanity, individuals, societies and the environment and ecosystems, and to prevent harm. It also aims at stimulating the peaceful use of AI systems.
4. Because the complexity of the ethical issues surrounding AI necessitates the cooperation of multiple stakeholders across the various levels and sectors of international, regional and national communities, this Recommendation aims to enable stakeholders to take shared responsibility based on a global and intercultural dialogue.
5. No human being or human community should be harmed or subordinated, whether physically, economically, socially, politically, culturally or mentally during any phase of the life cycle of AI systems. Throughout the life cycle of AI systems, the quality of life of human beings should be enhanced, while the definition of “quality of No human being or human community should be harmed or subordinated, whether physically, economically, socially, politically, culturally or mentally during any phase of the life cycle of AI systems. Throughout the life cycle of AI systems, the quality of life of human beings should be enhanced, while the definition of “quality of this definition.
6. Human rights and fundamental freedoms must be respected, protected and promoted throughout the life cycle of AI systems. Governments, private sector, civil society, international organizations, technical communities and academia must respect human rights instruments and frameworks in their interventions in the processes surrounding the life cycle of AI systems. New technologies need to provide new means to advocate, defend and exercise human rights and not to infringe them.

The General Use of Artificial Intelligence In Indonesia

The application of artificial intelligence (AI) technology has been expanding in everyday life with various examples of its use. For example, the use of Google Search and Google Maps to find directions shortest, measuring travel distance, and estimating travel time. Assistant virtual like Google Assistant and Amazon's Alexa is also used to perform tasks that were previously just done by man. Moreover Deep Face technology has implemented in several smartphones and social media such as Instagram, Facebook, and WhatsApp to recognize the user's face and obtaining benefits in processing data-based AI and other applications.⁶ Face recognition is one of the most effective technology in identify individuals and have Advantages compared to technology Others such as identification can be done without the user having to do anything inconspicuous features.⁷

In the realm of business and economics, the application of Artificial Intelligence (AI) is seen through the characteristics of chatbots, recommendation engines and logistics in the e-commerce industry. The presence of artificial intelligence facilitates a streamlined process for customers in the domain of e-commerce to acquire products tailored to their specific needs and preferences. On the other hand, e-commerce can improve their services through the utilization of this AI technology, which ultimately has a positive impact on the level of customer satisfaction.⁸ In the public sector, AI is useful, for example, in formulating appropriate tax policies. Kanowitz explains how AI can be used to simulate policy implementation, showing the consequences of implementing certain rules in tax policy, including identifying various tax avoidance efforts. In Indonesia, taxation issues are a public issue that is always important to improve governance.⁹ Weak data on tax objects and tax avoidance by certain individuals and corporations are just two problems in taxation in Indonesia. Learning from a team of researchers from Computer Science at Institut Polytechnique de Paris, these two issues could potentially be fixed using AI. Another example of using AI in the public sector is a smart city project in Canada called Sidewalk Toronto. But in this project, the threat of surveillance AI emerges. It is suspected that this

⁶ R. Pakpahan, "ANALISA PENGARUH IMPLEMENTASI ARTIFICIAL INTELLIGENCE DALAM KEHIDUPAN MANUSIA," *Journal of Information System, Informatics and Computing Issue Period*, vol. 5, no. 2, pp. 506–513, 2021, doi: 10.52362/jisicom.v5i2.616.

⁷ T. Sutabri, Pamungkur, A. Kurniawan, and R. E. Saragih, "Automatic attendance system for university student using face recognition based on deep learning," *Int J Mach Learn Comput*, vol. 9, no. 5, pp. 668–674, Sep. 2019, doi: 10.18178/ijmlc.2019.9.5.856.

⁸ Maryani Farwati, Irenda Talitha Salsabila, Kholifah Raihanun Navira, Tata Sutabri, ANALISA PENGARUH TEKNOLOGI ARTIFICIAL INTELLIGENCE (AI) DALAM KEHIDUPAN SEHARI-HARI, *Jurnal SIstem Informasi dan Management*, Vol 11 No 1 (2023): Volume 11 Nomor 1 2023.

⁹ Ibid.

project contains surveillance capitalism, which is a violation of privacy and the potential for data harvesting.¹⁰

Recent developments in AI cover many areas, such as speech and image recognition, natural language processing, autonomous cars, robotics, and digital platforms. Technologies such as deep learning, cloud computing, and big data processing continue to expand the capabilities of AI. Since its inception, AI has advanced rapidly and is used in various sectors, including technology, healthcare, transportation, finance, and government. The use of Artificial Intelligence in Government Institutions / Agencies is as follows:¹¹

1. **Data Analysis and Decision Making:** AI can be used to analyze large and complex data, thus assisting government agencies in making better and evidence-based decisions. With advanced machine learning algorithms and models, AI can manually identify patterns, trends, and relationships between hard-to-find data. This helps the government in formulating more effective and efficient policies.
2. **Chatbots and Virtual Assistants:** Government agencies can leverage AI-based chatbot and virtual assistant technology to provide faster and more responsive public services. Chatbots can answer common questions from the public, provide information about government services, and assist users in accessing various documents or forms. With chatbots, time and human resources can be allocated more efficiently.
3. **Natural Language Processing (NLP):** NLP enables communication between machines and humans in natural human language. In the context of government agencies, NLP can be used to analyze and understand texts contained in legal documents, regulations, or reports. This facilitates information retrieval and document processing and speeds up analysis and decision-making.
4. **Surveillance and Law Enforcement:** AI can be used in surveillance and law enforcement to detect suspicious or unlawful activities. For example, machine learning algorithms can analyze patterns of financial transactions to detect indications of money laundering or other financial crimes. With AI, government agencies can improve the effectiveness of surveillance and law enforcement.
5. **Artificial Intelligence in Learning System is the Application of AI in learning activities.**

¹⁰ <https://iap.unpar.ac.id/2023/09/28/penggunaan-kecerdasan-buatan-menciptakan-nilai-publik/>

¹¹ <https://www.djkn.kemenkeu.go.id/kpknl-manado/baca-artikel/16383/Pemanfaatan-Kecerdasan-Buatan-dalam-Lembaga-Pemerintah-Meningkatkan-Efisiensi-dan-Pelayanan-Publik-Yang-Lebih-Baik.html>

6. Mentor Virtual
7. The new universal Internet was created to disseminate information, knowledge, and thoughts on various topics. Virtual Mentor is one program that runs alongside The Lab System, which operates more as a multimedia environment with integrated eLearning.
8. Users can learn without having to read thanks to the voice assistant feature or voice assistant, a voice replacement. Reading information that activates voice assistants will be different from human cognition processes such as the absorption of information from voice. Voice Assistant is described in one example as a tool for understanding the teacher's point of view. This essay discusses how teachers see the integration of voice assistant technology in the classroom, which will provide insight into future classroom settings. Voice Assistant is currently being developed for use in a variety of technology devices. In the classroom, this feature speeds up students' search for additional materials. The existence of voice assistants also makes it possible for students to get transparent and accurate information.
9. An app called Smart Content offers data such as weather reports, breaking news, alarms, and stock market trading reports. This function provides the latest reading materials from newly released books and information seekers according to the learning needs covered in education. This capability is available in apps like Cram101, which divides digital textbooks into chapters. This will make it easier for the reader—in this case, the student, to dig up the information they seek.

10. Presentation Translator.

Presentation Translator or presentation translator aims to explain or present a text from a different language into the desired language. Users only need to listen to various kinds of speech texts, articles, or digital books without reading and translating one by one. This technology allows users to listen to foreign language speech or sentences in their native language.

Problem caused by Artificial Intelligence

It is widely acknowledged that Artificial Intelligence (AI) yields numerous benefits, substantially enhancing the ease and efficiency of our lives. However, it is imperative to recognize the potential for significant challenges posed by AI. Vigilance is essential to

prevent the undue proliferation of AI applications, and a judicious approach is necessary to mitigate the risks associated with excessive reliance on Artificial Intelligence.

1. General Sector :

Job Loss or Transfer: AI automation can replace human jobs in some sectors or lead to job transfers to countries with cheaper labor costs.

2. Ethical Limitations: AI may face challenges in ethical decision-making, such as autonomous cars having to decide in emergencies.

3. Bias and Discrimination: AI algorithms can reflect the bias of the training data used. This can result in discrimination against certain groups if not managed properly.

4. Dependence on Technology: Reliance on AI can become a problem when this technology becomes so important that it replaces human decisions without adequate consideration.

5. Legal Sector: Using AI in personal data collection and analysis potentially threatens individual privacy. The Use of artificial intelligence (AI) in collecting and analyzing personal data raises serious concerns related to individual privacy. AI in this context can increase the risk of invasion of privacy. One of the main reasons why the use of AI can be a threat to Individual privacy is due to its ability to identify patterns in personal data. AI algorithms can analyze data with a degree of accuracy and speed that traditional methods cannot achieve. However, in this process, sensitive information contained in personal data may be disclosed without the individual's consent or knowledge.¹² For example, AI algorithms used for online behavior analysis can Collect and integrate data from various sources such as social media, history browsing, and online transactions. In this case, information related to preferences, interests, habits, or personal information such as addresses or phone numbers can inadvertently be revealed through AI pattern analysis. These implications become more significant when personal data is used in the context of more sensitive ones, such as medical or financial data. AI in medical data analysis can reveal sensitive information such as a history of disease, lab test results, or genetic conditions without the consent of individuals. This poses a serious risk to individual privacy and susceptibility to data misuse.¹³

¹² <https://ppg.kemdikbud.go.id/news/peranan-kecerdasan-buatan-artificial-intelligence-dalam-pendidikan>.

¹³ Dongsong Zhang, Virtual Mentor and the Lab System — Toward Building an Interactive, Personalized, and Intelligent E-Learning Environment, *Journal of Computer Information Systems*, 2004, Volume 44, p35-43.

Underestimation of AI Risks

Along with these abundant overestimations of AI capacities, which are supposed to be either excessively beneficial for humankind or excessively maleficent, many predatory applications of AI techniques are partly ignored, or at least their potential harm is scarcely noticed. What we here characterize as “underestimations” of AI risks are just as problematic from an ethical point of view as are overstatements of nonexistent threats. Here we consider a few of these neglected “underestimations” of some AI techniques.¹⁴

The utilization of artificial intelligence within the public sector is observed without requisite authorization, constituting a contravention of the Personal Data Protection Regulation. Ideally, governmental oversight should extend to the regulation of data privacy concerning artificial intelligence, yet the formalization of such regulations remains pending. An illustrative model for Indonesia may be gleaned from the United States, where the development of National Institute of Standards and Technology (NIST) standards serves as a framework, guiding the enhancement of technological security and competitiveness within the nation. Some of the important policies that have been issued or are being worked on by NIST are:

1. Framework for Improving Critical Infrastructure Cybersecurity: NIST developed this framework to assist organizations and enterprises in improving the security of their information systems and infrastructure.
2. Standards for Information Security: NIST develops various information security standards such as SP 800-53, SP 800-171, and SP 800-63 that provide technical guidelines for protecting sensitive information.
3. Privacy Framework: NIST has released a privacy framework that aims to help organizations better understand and manage data privacy risks.
4. Artificial Intelligence Standards and Guidelines: NIST is also involved in developing guidelines and standards for artificial intelligence (AI), including guidelines for AI security testing, trustworthy algorithm development, and AI risk management.

NIST collaborates with experts from more than 240 organizations through a consensus-driven, open, transparent, and collaborative process on the development of the AI Risk Management Framework (AI RMF). The AI RMF, released by NIST in January

¹⁴ Alex Jean-Charles, Internet of Things in Education: Artificial Intelligence Voice Assistant in the Classroom, Proceedings of Society for Information Technology & Teacher Education International Conference.

2023, contains voluntary guidance explaining the AI risk taxonomy and a structured way to map, measure, and manage it. NIST continues to work closely with the AI community to incorporate key concepts from RMF AI into international standards related to nomenclature, data capture and analysis, trust, and risk management.¹⁵

CONCLUSION

Artificial Intelligence (AI) bears considerable potential for transformative impact on the public sector, offering enhanced analytical capabilities, accelerated decision-making processes, and heightened operational efficiency. Nevertheless, incorporating AI in the public domain introduces a spectrum of challenges necessitating judicious policy interventions. While AI application promises improved services and operational efficiency, policy formulation must prioritize safeguarding personal data. A sustainable and ethics-centric approach becomes imperative to strike a harmonious equilibrium between technological innovation and the preservation of individual privacy.

Considering the rapidly advancing landscape of artificial intelligence, Indonesia cannot afford to remain inert. The reliance on Law No. 27 of 2022 as a singular reference for addressing AI-related issues proves insufficient. Urgent and decisive government action is imperative to avert potential personal data breaches. Adherence to extant regulations is incumbent upon responsible citizenship, as AI, fundamentally designed to propel national progress, should not render subsequent generations inert and indifferent to change. Rather, artificial intelligence should be harnessed as a facilitative instrument for advancing individual potential, thereby contributing meaningfully to the collective welfare of the nation.

SUGGESTION

Strengthening AI-Specific Regulations: The Indonesian government urgently needs to draft specific regulations governing the use of artificial intelligence, especially regarding personal data protection. These regulations should include ethical principles, accountability for AI usage, and penalties for violations. They could also adopt international frameworks or guidelines, such as those issued by UNESCO or the National Institute of Standards and Technology (NIST), to enhance national technological security and competitiveness.

¹⁵ <https://www.nist.gov/standardsgov/fact-sheet-nist-and-united-states-government-national-standards-strategy-critical-andx>.

Education and Technological Literacy: It is essential to improve public literacy on AI technologies and their implications for privacy and personal data security. The government and educational institutions can organize programs to educate people on how their personal data is managed by AI and how they can protect it. Collaboration Among Stakeholders: The government, private sector, academia, and civil society need to collaborate in formulating AI policies that are inclusive and adaptive to technological advancements. Such collaboration is crucial to ensure that regulations not only protect personal data but also support technological innovation.

Development of Safe and Ethical AI Technology: Industry players are encouraged to develop AI technologies prioritizing safety and ethics. For instance, implementing transparent, unbiased, and non-discriminatory algorithms to minimize potential negative impacts on society. Continuous Monitoring and Evaluation: The government should establish a dedicated body tasked with monitoring and evaluating the impacts of AI usage across various sectors. These evaluations can serve as a basis for updating regulations to remain relevant with technological advancements.

This approach aims to balance innovative AI utilization with the protection of individual rights and privacy, fostering sustainable and equitable growth in Indonesia.

REFERENCE

- Alex Jean-Charles, Internet of Things in Education: Artificial Intelligence Voice Assistant in the Classroom, Proceedings of Society for Information Technology & Teacher Education International Conference.
- Amiruddin and H. Zainal Asikin, Pengantar Metode Penelitian Hukum (Jakarta: PT. Raja Grafindo Persada, 2006).
- Arnold Verbeek, Maria Lundqvist, Artificial intelligence, blockchain and the future of Europe: How disruptive technologies create opportunities for a green and digital economy (Luxembourg: European Investment Bank, 2021).
- Cynthia Dwork, Adam Smith, Thomas Steinke, and Jonathan Ullman, Exposed! A Survey of Attacks.

Dongsong Zhang, Virtual Mentor and the Lab System — Toward Building an Interactive, Personalized, and Intelligent E-Learning Environment, *Journal of Computer Information Systems*, 2004, Volume 44, p35-43.

Edmon Makarim dalam Simposium Hukum Nasional bertajuk “Peran Hukum dalam Menyongsong Revolusi Industri 4.0” 2019.

Khatulistiwa: Jurnal Pendidikan dan Sosial Humaniora Vol.3, No.3, September 2023 e-ISSN: 2962-4010; pISSN: 2962-4444, Hal 83-101 DOI: <https://doi.org/10.55606/khatulistiwa.v3i3.1860>.

Maryani Farwati, Irenda Talitha Salsabila, Kholifah Raihanun Navira, Tata Sutabri, ANALISA PENGARUH TEKNOLOGI ARTIFICIAL INTELLIGENCE (AI) DALAM KEHIDUPAN SEHARI-HARI, *Jurnal Sistem Informasi dan Management*, Vol 11 No 1 (2023): Volume 11 Nomor 1 2023.

Michael Haenlein, Andreas Kaplan, Chee-Wee Tan dan Pengzhu Zhang, Artificial Intelligence (AI) And Management Analytics, *Journal of Management Analytics* Volume 6, 2019 - Issue 4.

Muhammad Ardiansyah Arifin Owen Maskintama Nugroho Adhi Pratama, Indonesia Abuse of Defamation Clause In Article 27 Section (3) Of Electronic Information And Transaction Law, *South East Asia Journal of Contemporary Business, Economics and Law*, Vol. 23, Issue 1.

R. Pakpahan, “ANALISA PENGARUH IMPLEMENTASI ARTIFICIAL INTELLIGENCE DALAM KEHIDUPAN MANUSIA,” *Journal of Information System, Informatics and Computing* Issue Period, vol. 5, no. 2, pp. 506–513, 2021, doi: 10.52362/jisicom.v5i2.616.

T. Sutabri, Pamungkur, A. Kurniawan, and R. E. Saragih, “Automatic attendance system for university student using face recognition based on deep learning,” *Int J Mach Learn Comput*, vol. 9, no. 5, pp. 668–674, Sep. 2019, doi: 10.18178/ijmlc.2019.9.5.856.

The Ethics of the Ethics of AI Thomas M. Powers and Jean-Gabriel Ganascia The Oxford Handbook of Ethics of AI Edited by Markus D. Dubber, Frank Pasquale, and Sunit Das.

Zainal Asikin, *Pengantar Metode Penelitian Hukum*, (Jakarta: Raja Grafindo Persada, 2004).

Zed Mestika, *Metode Penelitian Kepustakaan*, (Jakarta: IKAPI DKI Jaya, 2004).