

Conceptualization Of Regulations On The Use Artificial Intelligence Technology In Indonesia

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Abstract

Artificial Intelligence (AI) has become an integral part of everyday life, and this technology has now transformed the way we work and has controlled various industries and sectors of human life. The potential benefits of AI today are enormous, including increased efficiency, productivity, and innovation. However, the use of AI also raises concerns about ethical, legal, social, and privacy issues for society. This paper aims to measure the benefits of AI in human life, the urgency of regulating the use of AI technology, and the concept of regulating the use of AI in Indonesia. This paper reviews various literature and studies related to AI and its impact on society. The results show that AI has the potential to bring significant benefits to human life, but its unregulated use can also pose significant risks. Therefore, it is important to establish regulations that address AI concerns from ethical, legal, and social perspectives. This paper also proposes a concept of regulating AI in Indonesia that includes general requirements, development to use and sanctions, and AI use must also uphold ethical and legal principles, such as transparency, accountability, and human rights protection. This paper emphasizes the importance of balancing the benefits and risks of AI to ensure safe and responsible use in society.

I. Introduction

Artificial Intelligence or abbreviated as AI, is a technology that is increasingly developing and is widely used by society in various fields. This AI technology has enabled a machine to process and understand data, and learn from that data so that it can predict the desired results accurately and quickly. The use of AI technology today is very widespread, this technology can be applied to several programs such as facial recognition, natural language processing, and big data processing. In Indonesia, the use of AI technology has

begun to be applied in various sectors, such as banking, government and creative industries. However, the use of AI in Indonesia is still limited to large companies and is not evenly distributed across all levels of society. Even though AI technology has a positive impact in making human life easier, the use of AI technology also raises several challenges, such as issues of data privacy and security, as well as economic inequality that may occur due to increasingly widespread job automation. Therefore, efforts need to be made to minimize the negative impacts of using AI technology and increase the benefits provided to society at large.

Recently there was news reporting that the development of AI technology needed to be postponed because it could potentially be dangerous to human life. In the news there was an open letter written by a group of artificial intelligence (AI) experts and industry executives led by Elon Musk. They asked for a six-month delay in training and development of new AI models more advanced than GPT-4, due to the potential harm it might cause to humans and society. The authors of the letter expressed concern about the threat of AI which might endanger society and pose a serious threat to human civilization, including threats in the economic and political sectors. They call for security protocols for AI to be created, audited, and implemented before training and development of more sophisticated AI models takes place. Apart from that, they also asked developers to work together with policy makers in the government to create these regulations.

The threat and importance of regulation regarding AI technology has also been conveyed by Europol, where Europol has warned about the potential misuse of AI chatbots such as ChatGPT made by OpenAI. This chatbot service allows it to be used for phishing, disinformation and cybercrime efforts. ChatGPT reproduces language patterns to imitate the speech style of certain individuals or groups, making it amenable to abuse by criminals against potential victims. This new technology has the ability to produce authentic text at speed and scale, making it an ideal tool for propaganda and spreading disinformation. Therefore, AI experts and industry executives emphasize the importance of having security protocols in place to protect society from the potential dangers of uncontrolled AI.

In the increasingly developing digital era, the use of artificial intelligence (AI) is increasingly widespread in various sectors, including in Indonesia. However, as a country that is just starting to rise in the use of AI technology, there needs to be clear and measurable regulations to regulate its use so that it does not have a detrimental impact on society. On this basis, this article will try to provide a novelty in the form of a regulatory concept that regulates the use of AI in Indonesia.

2. Research Method

This type of research is normative research. Research that uses secondary

data as the main data. The main data consists of Primary Legal Materials (Burgelijk Wet boek, the Criminal Code, Law No. 28 of 2014 concerning Copyright and other IPR Laws) and secondary legal materials (books, journal articles, data from the web). The data were analyzed using qualitative analysis techniques. Conclusions are drawn using deductive techniques.

3. Results and Discussion

1. Measuring the Benefits of AI in Human Life

Artificial intelligence (AI) technology has had a significant impact on various aspects of human life. AI allows computers to learn and make decisions independently using complex algorithms. This opens the door to various applications and benefits in various sectors of life. In industry, AI technology has helped increase efficiency and productivity through automation of production processes. By leveraging data and analysis generated by AI, companies can improve product quality, reduce costs, and increase customer satisfaction. In the health sector, AI is used to diagnose diseases and assist in patient care. AI can help doctors and nurses analyze medical data, determine diagnoses, and prescribe appropriate treatment.

Apart from the Industrial and Health sectors, in the financial sector, AI has helped develop prediction models and risk analysis to help companies manage risk more effectively. AI can also be used to optimize investment portfolios and assist customers in making investment decisions. In the field of transportation, AI is used to develop autonomous vehicles and predict the most efficient travel routes. AI can also be used to monitor and optimize public transport networks. Lastly, in the fields of education and entertainment. AI can be used to develop online learning applications that can be tailored to student needs. In the entertainment field, AI is used to develop more realistic and interactive virtual reality games and applications.

Furthermore, can AI technology be used for law enforcement? Artificial Intelligence (AI) technology has great potential in helping law enforcement. Some of the benefits of AI in law enforcement are as follows, increase the speed of data analysis and criminal identification: In law enforcement, data collection and analysis is very important. With AI, police can process data faster and more efficiently, and thus identify crimes or suspicious activity more quickly. AI can also help identify criminals based on behavioral patterns or forensic data. Improved security and surveillance: AI can help improve security through surveillance via cameras and sensors, and detect suspicious behavior, such as vandalism or other criminal acts. This technology can also be used to predict the likelihood of crime in a particular area and help prevent it. Information processing: In legal cases, AI can help collect and process data related to legal violations, as well as filter information from various sources. This can help investigators or prosecutors in developing their case and finding the necessary

evidence. Decision making: In some cases, AI can aid decision making by calculating certain probabilities or risks associated with a particular event or situation. In the context of law enforcement, this can help judges and juries make more accurate and data-driven decisions.

Based on what has been said, overall, AI technology has provided significant benefits in various aspects of human life. With its ability to analyze data accurately and make informed decisions, AI helps improve efficiency, productivity and the quality of human life. However, it is important to remember that the use of AI technology must also be properly regulated to minimize the risks and negative impacts that may occur. As stated at the beginning, although artificial intelligence (AI) technology can help optimize many aspects of human life, this technology also has negative impacts that must be taken into account. One of the negative impacts of using AI is the potential to trigger crime or violate people's ethics and privacy. The following will explain the possible uses of AI that have the potential to have negative impacts, namely as follows.

First, the use of natural language processing (NLP) technology in creating fake texts or deepfakes. In a political context, deepfakes can be used to incite conflict or manipulate elections. In the business world, deepfakes can be used to create fake products or trick consumers. This poses a risk to individual security and privacy, as well as causing confusion and harm to society. For example, a real case in Indonesia where there was a video that allegedly showed someone who looked like the artist Nagita Slavina performing an indecent scene, went viral and was widely shared. However, the police have carried out an investigation and found that the video is the result of engineering using deepfake technology. In the 61 second video, the perpetrator, who looks like Nagita Slavina, is seen carrying out an indecent scene. The police confirmed that the face of the actor in the pornographic video was the result of manipulation that was deliberately made to resemble Nagita Slavina.

Second, the use of artificial intelligence algorithms in mass monitoring and surveillance. Some countries have used AI surveillance technology, such as the use of CCTV cameras and facial recognition to track individual activities. However, the use of this technology can cause fear and suspicion in society, and can trigger human rights violations. For example, the South Wales Police in England have used automatic facial recognition technology (Automatic Facial Recognition, AFR) in several law enforcement operations since 2017. This AFR technology allows police to scan the faces of people in a location using cameras and compare facial data. them with a database of images of people wanted by the police.

However, the use of AFR technology by the police has attracted controversy and criticism from various parties. Some critics say the technology could violate citizens' privacy rights and give rise to the potential for abuse of

power by police. Several cases have occurred where this AFR technology has resulted in misidentification resulting in innocent people being arrested or detained by the police. There are also concerns that this technology could be discriminatory against certain minority groups or groups who are often the targets of security monitoring. The use of AFR technology by South Wales police itself is also being trialled by the Information Commission, a privacy watchdog in the UK. The commission found that the use of AFR technology by South Wales police did not meet legal and privacy requirements, and was not transparent in providing information to the public about AFR technology. Ultimately, a British court in 2020 ruled that South Wales police's use of AFR technology was illegal and violated citizens' privacy rights.

Third, the use of artificial intelligence algorithms in decision making. AI algorithms can be used in various fields, such as banking, insurance, and courts. However, decisions made based on AI algorithms can result in discrimination and injustice, especially if the data used is incomplete or biased. Racial Discrimination by AI Systems in Job Admissions Processing In 2018, the American Civil Liberties Union (ACLU) filed a lawsuit against the Amazon company, because their AI system was used to process job admissions selection allegedly discriminatory against applicants with certain ethnic backgrounds. Fourth, the use of AI technology in creating autonomous weapons. Autonomous weapons are weapons that are capable of operating on their own without human intervention. The use of autonomous weapons could pose enormous risks to world security, as well as violate international law and ethics. In this case, it needs to be acknowledged that AI technology has the potential to trigger crimes and ethical violations. Therefore, there needs to be strict regulations on the use of AI technology to ensure that the technology is used for good purposes and does not pose a risk to people's security and privacy.

2. The urgency of regulating the use of AI technology

The use of AI technology is increasingly important in this digital era, both at the national and international levels. AI can help optimize business processes, increase efficiency and productivity, and provide convenience in various sectors of life. Apart from that, AI can also be used in various fields such as health, security and the environment. The use of AI can also increase a country's competitiveness in facing global competition. Developed countries such as the United States, China and Japan have implemented AI in various sectors to increase their economic growth and international competitiveness. However, the use of AI must also be properly regulated and comply with applicable ethical and security standards. This is to prevent the possibility of crimes or ethical violations committed by utilizing AI technology. Therefore, the participation of the government and related institutions is needed in regulating the use of AI technology, both in terms of regulation, technology

development and supervision of the use of AI technology.

China has established ethical principles for the use and development of AI where these ethics include, among others, improve human welfare by adhering to human-oriented principles, adhering to common human values, respecting human rights and fundamental human interests, and complying with national or regional ethics. Promote justice and equality by adhering to the principle of inclusiveness, effectively protecting the legitimate rights and interests of all relevant subjects. Protect privacy and safety by fully respecting the right to consent to personal information, protecting personal privacy and data security and not collecting data illegally. Guarantee control and credibility by ensuring that humans have independent decision-making power, the right to choose whether to accept services provided by artificial intelligence, and the right to withdraw from interaction with artificial intelligence at any time. Strengthen the responsibility of artificial intelligence by affirming that humans are the final responsible subjects, clarifying the responsibilities of stakeholders, and comprehensively enhancing the sense of responsibility. Improve ethical literacy by proactively studying and promoting ethical knowledge of artificial intelligence, understanding ethical issues objectively, and not underestimating or exaggerating ethical risks.

In these regulations there are also several management standards encouraging the implementation of flexible and sustainable governance in the development of artificial intelligence. This is done by integrating ethical standards into management processes in accordance with applicable laws, as well as ensuring the development of artificial intelligence is orderly and in line with reality. The two management standards also emphasize the separation of responsibilities between various stakeholders and standardize operational conditions and management procedures, as well as increase risk prevention efforts through better research and risk assessment in the development of artificial intelligence. Encourage the use and diversification of artificial intelligence technologies to address economic and social problems, and support exchange and cooperation across disciplines, fields, regions and countries.

3. Concept of Regulating the Use of AI in Indonesia

The Indonesian government should consider creating rules and regulations governing the use of AI technology so that it is in line with national interests and public security. These regulations could include regulating the use of AI in health, finance, and other fields. These regulations should include, general AI settings which include various terms that are relevant in activities using AI technology such as Machine learning, Deep learning Neural network Natural language processing and so on. The use of AI technology that is permitted to be developed and used in any sector, such as law enforcement, Health Education and so on and to what extent such use and development is carried out. Requirements for AI developers, including testing procedures,

security and data privacy. The statement has the first meaning that AI Developers must follow established testing standards to ensure consistent performance and accuracy of AI systems. Both AI Systems must be equipped with appropriate security measures and procedures to protect personal data and information from unauthorized access or misuse.

All three AI Developers must implement strict data privacy practices to ensure that personal data is not misused or shared without proper permission. Fourth, all AI systems must comply with applicable laws and regulations regarding data privacy and information security in the relevant country or region. Fifth Before an AI system is launched, developers must conduct security testing and identify and fix all detected security gaps. Sixth AI Developers must ensure that their systems do not create bias or discrimination in decision making, including those related to sensitive ethical and social issues. Provisions that regulate the government's obligations and community participation to play an active role in promoting the ethical and responsible use of AI. Sanction Provisions, the following is the concept of sanctions provisions in regulations for the use of AI in Indonesia, First, Violation of privacy: Sanctions are given to companies or organizations that use AI to obtain users' personal information without permission or use this information in a way that is not in accordance with applicable regulations. Sanctions can take the form of fines or legal prosecution.

Second, Discrimination: Sanctions are imposed on companies or organizations that use AI to decide on matters such as hiring, credit, or insurance, and are proven to discriminate against certain groups based on race, gender, religion, or other characteristics. Sanctions can take the form of fines or legal prosecution. Third, environmental damage: Sanctions are given to companies or organizations that use AI that has a negative impact on the environment, such as inefficient energy use or poorly managed waste disposal. Sanctions can take the form of fines or legal prosecution. Fourth, Safety and security: Sanctions are imposed on companies or organizations that use AI in a way that is unsafe and endangers the safety of users or the general public. Sanctions can take the form of fines or legal prosecution. Fifth: Fraud: Sanctions are imposed on companies or organizations that use AI to commit fraudulent or manipulative acts, such as manipulating data or assessment results, or violating applicable rules or requirements. Sanctions can take the form of fines or legal prosecution. Sixth, Dependence on AI: Sanctions are imposed on companies or organizations that use AI unethically by making users too dependent on AI technology, resulting in losses for users. Sanctions can take the form of fines or legal prosecution.

The sanctions provisions mentioned above need to be clearly regulated in regulations for the use of AI in Indonesia to ensure that the use of AI technology is carried out ethically and does not harm users and the general public. In addition, the regulatory concept regarding the use of AI that upholds

ethical and legal principles can include the following, transparency, the use of AI must be transparent, that is, users must be given sufficient information about how the AI system used works and how the data used in the system is generated and processed. Accountability, responsibility and responsibility must be clearly defined in the use of AI. Additionally, the system must be trackable and monitorable, so that users can understand and improve the decisions made by the AI system. Protection of human rights: The use of AI must be carried out with due regard for human rights, such as the right to privacy and non-discrimination. This can be done by taking 1 steps to minimize bias in AI systems, protect personal data, and ensure that systems are not used for purposes that harm humans. Collaboration, the involvement of all stakeholders, including government, private sector, academia, and civil society, must be increased in regulating the use of AI. This collaboration can help build trust and ensure that the arrangements made truly reflect the needs and aspirations of the community. Regular evaluation and review: Regulations for the use of AI should be evaluated periodically to ensure that they are still in line with technological developments and societal needs. This evaluation should involve all stakeholders and may result in changes or improvements in existing arrangements.

In the regulatory concept regarding the use of AI that upholds ethical and legal principles, it is important to note that the arrangements made must be flexible and adaptable to keep up with rapid and ever-changing technological developments. In addition, these regulations must be able to provide adequate protection for the community, while still encouraging innovation and technological development that is beneficial to humans and the environment.

4. Conclusion

In the current digital era, AI technology is becoming increasingly popular and used in various areas of human life. The use of AI technology provides many benefits, such as increased efficiency and productivity, cost savings, and the ability to solve more complex problems. However, the use of AI technology also carries some risks, such as concerns about data privacy and security, as well as the potential for replacing human jobs by machines. Therefore, regulating the use of AI technology is very important. Countries around the world are starting to develop regulations to regulate the use of AI technology. The concept of regulating the use of AI technology in Indonesia is that there needs to be clear sanctions provisions to ensure compliance with these regulations. The sanctions must consider the level of the violation and the impact produced by the violation. Apart from that, there also needs to be a supervisory institution that can ensure the implementation of these regulations.

References

- Abdussyukur, Mohammad Azmi. "Analyzing the Effects of Implementing Artificial Intelligence." *Proceedings of SAINTTEK: Science and Technology* 2, no. 1 (2023).
- ACLU. "ACLU Statement on Amazon Face Recognition Moratorium," 2020. <https://www.aclu.org/press-releases/aclu-statement-amazon-face-recognition-moratorium>.
- Barchukov, Vadim K. "Systematization and Improvement Legal Regulation of the Use of Artificial Intelligence in Law Enforcement." *Russian Journal of Legal Studies (Moscow)* 7, no. 1 (2020). <https://doi.org/10.17816/rjls34958>.
- Bosri, Rabeya, Mohammad Shahriar Rahman, Md Zakirul Alam Bhuiyan, and Abdullah Al Omar. "Integrating Blockchain with Artificial Intelligence for Privacy-Preserving Recommender Systems." *IEEE Transactions on Network Science and Engineering* 8, no. 2 (2021). <https://doi.org/10.1109/TNSE.2020.3031179>.
- Campbell, Colin, Kirk Plangger, Sean Sands, Jan Kietzmann, and Kenneth Bates. "How Deepfakes and Artificial Intelligence Could Reshape the Advertising Industry The Coming Reality of AI Fakes and Their Potential Impact on Consumer Behavior." *Journal of Advertising Research* 62, no. 3 (2022). <https://doi.org/10.2501/JAR-2022-017>.
- Chen, Lijia, Pingping Chen, and Zhijian Lin. "Artificial Intelligence in Education: A Review." *IEEE Access* 8 (2020). <https://doi.org/10.1109/ACCESS.2020.2988510>.
- David, Walter, Paolo Pappalepore, Alexandra Stefanova, and Brindusa Andreea Sarbu. "AI-Powered Lethal Autonomous Weapon Systems in Defense Transformation. Impact and Challenges." In *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Vol. 11995 LNCS, 2020. https://doi.org/10.1007/978-3-030-43890-6_27.
- Elena, A. Chelnokova. "Emotion Recognition Using Artificial Intelligence And Neural Network." *International Journal of Advanced Trends in Computer Science and Engineering* 9, no. 4 (2020). <https://doi.org/10.30534/ijatcse/2020/100942020>.
- Floridi, Luciano. "Artificial Intelligence, Deepfakes and a Future of Ectypes." *Philosophy and Technology*, 2018. <https://doi.org/10.1007/s13347-018-0325-3>.
- Gal, Danit. "Perspectives and Approaches in AI Ethics." In *The Oxford Handbook of Ethics of AI*, 2020. <https://doi.org/10.1093/oxfordhb/9780190067397.013.39>.
- Gordon, B. J. "Automated Facial Recognition in Law Enforcement: The Queen (on Application of Edward Bridges) v the Chief Constable of South Wales Police." *Potchefstroom Electronic Law Journal* 24 (2021). <https://doi.org/10.17159/1727-3781/2021/V24I0A8923>.
- Jezova, Daniela. "Artificial Intelligence and Privacy." In *Human Rights - From Reality to the Virtual World*, 2021. <https://doi.org/10.13166/wsge//xuxl1897>.
- Keenan, Bernard. "Automatic Facial Recognition and the Intensification of Police Surveillance." *Modern Law Review* 84, no. 4 (2021). <https://doi.org/10.1111/1468-2230.12623>.
- Korteling, J. E.(Hans), G. C. van de Boer-Visschedijk, R. A.M. Blankendaal, R. C. Boonekamp, and A. R. Eikelboom. "Human- versus Artificial Intelligence." *Frontiers in Artificial Intelligence* 4 (2021). <https://doi.org/10.3389/frai.2021.622364>.
- Manheim, Karl, and Lyric Kaplan. "Artificial Intelligence: Risks to Privacy and Democracy." *Yale Journal of Law and Technology* 21 (2019).
- Martin, Kirsten. *Ethics of Data and Analytics*. Ethics of Data and Analytics, 2022. <https://doi.org/10.1201/9781003278290>.
- Morley, Jessica, Caio C.V. Machado, Christopher Burr, Josh Cows, Indra Joshi, Mariarosaria

- Taddeo, and Luciano Floridi. "The Ethics of AI in Health Care: A Mapping Review." *Social Science and Medicine*, 2020. <https://doi.org/10.1016/j.socscimed.2020.113172>.
- Pangkatodi, Edo. "Implementation of Rule Base System and Fuzzy Logic Artificial Intelligence in the Capsa Card Game." *Infra* 4, no. 1 (2016).
- Program, Adrian, Management Studies, College and Economic Sciences Jayakarta. "USE OF ROBOT PROCESS AUTOMATION IN FINANCIAL AUDITING." *Journal of Information Systems, Applied, Management, Accounting and Research* 4, no. 3 (2020).
- Raaijmakers, Stephan. "Artificial Intelligence for Law Enforcement: Challenges and Opportunities." *IEEE Security and Privacy* 17, no. 5 (2019). <https://doi.org/10.1109/MSEC.2019.2925649>.
- Rajpurkar, Pranav, Emma Chen, Oishi Banerjee, and Eric J. Topol. "AI in Health and Medicine." *Nature Medicine*, 2022. <https://doi.org/10.1038/s41591-021-01614-0>.
- Ririh, Kirana Rukmayuninda, Nur Laili, Adityo Wicaksono, and Silmi Tsurayya. "Comparative Study and SWOT Analysis on the Implementation of Artificial Intelligence in Indonesia." *Journal of Industrial Engineering* 15, no. 2 (2020).
- Roberts, Huw, Josh Cowsls, Jessica Morley, Mariarosaria Taddeo, Vincent Wang, and Luciano Floridi. "The Chinese Approach to Artificial Intelligence: An Analysis of Policy, Ethics, and Regulation." *AI and Society* 36, no. 1 (2021). <https://doi.org/10.1007/s00146-020-00992-2>.
- Ruiz-Real, José Luis, Juan Uribe-Toril, José Antonio Torres, and Jaime D.E. Pablo. "Artificial Intelligence in Business and Economics Research: Trends and Future." *Journal of Business Economists*
- Thiebes, Scott, Sebastian Lins, and Ali Sunyaev. "Trustworthy Artificial Intelligence." *Electronic Markets* 31, no. 2 (2021). <https://doi.org/10.1007/s12525-020-00441-4>.
- Tri, Agus. "Polisi Europol Kirim Sinyal Bahaya Penyalahgunaan ChatGPT." *Detik.com*, 2023. <https://inet.detik.com/security/d-6644309/polisi-europol-kirim-sinyal-bahaya-penyalahgunaan-chatgpt>.
- Zhang, Weiping, and Mohit Kumar. "Artificial Intelligence in China." *Big Data*, 2019. <https://doi.org/10.1089/big.2019.29030.edi>.
- Zulfikar Hardiansyah. "Selebriti Dan Tokoh Publik Yang Jadi Korban Video Deepfake Selain Nagita Slavina." *Kompas.com*, n.d. <https://tekno.kompas.com/read/2022/01/19/13160047/selebriti-dan-tokoh-publik-yang-jadi-korban-video-deepfake-selain-nagita?page=all.ics> and *Management* 22, no. 1 (2021). <https://doi.org/10.3846/jbem.2020.13641>.