



Artificial Intelligence: Legal Status and Development in the Establishment of Regulatory

Erma Defiana Putriyanti^{1*}, Rumainur Rumainur², Rara Nadia³

¹Lecturer at the Faculty of Law National University, Jakarta, Indonesia

²Lecturer at the Faculty of Law, National University, Jakarta, Indonesia

³Student of the Faculty of Law of the National University, Jakarta, Indonesia

erma.defiana@civitas.unas.ac.id*

Abstract. The expansion of AI development and application across a number of industries of life turns out to be in line with the challenges it faces. A guideline is needed in the form of a legal framework that regulates how to develop AI, its use, and how settlements can be made regarding losses caused by AI. Depending on whether we consider AI to be a legal subject or an object, the legal idea that will be established in AI will be defined differently. This study intends to investigate if artificial intelligence can become a legal topic and how artificial intelligence policies are developing across various nations. This type of research is normative juridical with statutory, conceptual, and comparative law approaches. The results of this research indicate that AI can become a legal subject, namely a derivative legal subject like a legal organization. This view is according to the theory of fiction and the theory of organs in legal entities. Several countries such as Russia, the United States, China, and the European Union already have rules for the creation and application of AI. The guidelines generally focus more on developing ethical AI usage standards and guidelines. These guidelines will be developed into regulations. Regulations that are applicable as a rationale for using AI in Indonesia are contained in Law Nos. 16 of 2016 relating to ITE and 27 of 2022 relating Personal Data Protection.

Keywords: Artificial Intelligence, Legal Status, Development, Regulatory

1 Introduction

The era of digitalization 4.0 brought very rapid technological developments, one of which was Artificial Intelligence (AI) technology. The field of artificial intelligence (AI) is concerned with creating intelligent machines that can do jobs like and as well

© The Author(s) 2023

M. Umiyati et al. (eds.), *Proceedings of the International Conference on "Changing of Law: Business Law, Local Wisdom and Tourism Industry" (ICCLB 2023)*, Advances in Social Science, Education and Humanities Research 804,

https://doi.org/10.2991/978-2-38476-180-7_49

as those done by humans or even better than what humans do Nilsson (2000), by using big data technology and algorithms. AI can perform actions just like humans, such as solving problems, recognizing faces and voices, and making decisions. The use of big data in AI systems is as a source of searching for relevant data and can be the basis for learning automation and repeated discovery, while the algorithms used by AI are used for finding structure and regularity in data as the basis for classifying or predicting functions.

AI is currently widely used in almost all areas of human life, such as medicine, business, finance, education, law, and manufacturing. For example, the Google Assistant application which is available on almost all smartphones, and the Siri feature or personal assistant found in Apple Inc. products, which can understand human language. The next example is the Tesla driverless car which can drive itself and can adapt to existing traffic conditions. The rapid use of AI in people's social life has a positive impact because it can help humans carry out tasks quickly and efficiently, provide accurate information, make decisions, and increase work productivity. However, AI also has a negative impact, namely it can eliminate jobs for humans, AI can absorb and collect all information unlimitedly so that it can violate someone's privacy and is prone to misuse of personal data.

One of the challenges in using AI is the unavailability of regulations that specifically regulate the development of AI, its use, legal responsibility for AI actions, and other problems caused by AI. Therefore, currently, several developed countries are drafting regulations related to AI, such as Russia, the United States, China, and the European Union. The system in AI uses intelligent machine technology which is run with a certain algorithm formula, but sometimes it does not carry out actions according to the commands that have been programmed and in the end, it can cause harm to other people. This happened in 2016, Microsoft made the Robot "Tay" (AI chatterbot) which was modeled to talk like a teenage girl. This robot is capable of using millennial slang, to help improve customer service. Tay should have adapted through learning after interacting with humans, but the robot's ability to store all the information in the system turned out to be unable to sort through the information. As a result, Tay started posting bad and offensive tweets, forcing Tay's systems to shut down just hours after launch to avoid negative repercussions Elle Hunt (2016).

Another case occurred in 2017 with an AI developed by Amazon called "Alexa". Alexa is an AI that functions as an intelligent personal assistant who can interact, listen, play music, stream, and control home appliances automatically and to some extent have certain embedded skills. In November 2017, Alexa on her own devices decided to throw a house party while her owner was out of the house. In repeated incidents, in May 2018, Alexa recorded the owner's conversation and shared the recorded conversation with third parties, and a privacy violation occurred Abdulah (2020).

Through these cases, the question arises as to who can be held legally responsible for these losses. It also makes many people aware of the need for a guideline in the form of a legal framework that regulates how to develop AI, its use, and how to resolve what can be done regarding the losses caused by AI. Although there are concerns among AI development companies, that the existence of rules will hinder the

development and innovation in AI. However, the existence of legal instruments can protect people's rights that have been violated due to AI's deviant actions. Depending on whether we consider AI to be a legal subject or object, the legal idea that will be established in AI will be defined differently Yana (2022). The legal position of AI (as an object or legal subject) is an issue that is still being debated today. Some experts argue that AI does not need to have the same legal status as humans, Halim (2023) so AI is considered an object. However, various recent research results suggest that AI can be considered a legal subject.

AI can produce Intellectual Property Rights, such as paintings, videos, short stories, rhymes, and other digital works. This also raises the question, can AI own intellectual property rights and be considered the owner of these intellectual property rights? This is also still being debated. In 2017, Andres Guadamuz in his publication entitled, "Do Androids Aspirational Copyright Electric? Analyzing the Originality of Artificial Intelligence-Generated Works Comparatively" Andres (2017), argues that the work created by AI is an abstraction from previous works, so it is not a new creative process. Meanwhile, the results of other research conducted by Nekit K, Zubar V, and Tokareva V (2020) entitled " Potential Subjects of Property and Intellectual Property Relations: Artificial Intelligence" argues that: Artificial intelligence can have property and intellectual property rights. However, options for granting Intellectual Property Rights to Artificial intelligence is one of the potential subjects of property and intellectual property relations.

In Indonesia, there are only two known legal subjects, namely humans (*naturalijke persoon*) and legal entities (*rechts persoon*). AI is not one of the two, so it is not a legal subject. However, is it possible for AI to become a derivative legal subject like a legal entity? There are no specific rules governing how AI is used in Indonesia, including how legal responsibility for AI's actions is related to AI's ability to make decisions like humans. This is still in the "grey area" and is still being debated. Based on the thoughts of Prof. Mochtar Kusumaatmadja who argues that the ideal law is a law that can not only provide justice, order, and protection, but the law must also be a tool for change and community development. Therefore, the legal basis that regulates AI must also be used as a tool for change and community development.

In addition, when referring to the progressive law initiated by Prof. Satjipto Rahardjo, the legal basis needs to return to its basic philosophy, namely law for humans Rahardjo (2004). Progressive law has a concept that understands the legal process as a process of liberation from a conventional concept, which can no longer be used to serve today's life Dewi (2019). The law should be proactive and ideally a regulation is made as a first step to prevent problems from occurring. Therefore it is not recommended to wait until problems arise when there has been a large-scale utilization of AI technology and then look for the law, what are the policies, or what actions must be taken in society to be able to establish a symbiosis of mutualism with AI Stamatis (2017).

In line with what has been described above, the author conducted a search related to the issues to be raised in this paper. The author found several studies that are in line with the issues that the author will raise. 1). Publication by Vavilin E entitled "The Status of AI: From an Object to a Subject in Legal Relationships". This paper dis-

cusses the two sides of a machine with artificial intelligence (AI), as a legal object in its essential operations while also being able to gain independence and take legally significant actions without human participation like legal subjects. 2). The publication by Deyi Tong and Zhifeng Wen entitled " Analysis of Artificial Intelligence's Legal Subject Status " discusses whether Artificial Intelligence has the prerequisites for becoming a true legal subject. 3). Revizki E and Lintang Yudhantaka's publication entitled "Indonesian Regulatory Challenges and Conceptual Review of Artificial Intelligence as a Legal Subject". This paper discusses whether AI has legal rights and protection like humans and what its criminal responsibility is.

Based on these studies, it will be used as a reference again for this research itself which focuses on the problem: Is it possible for artificial intelligence to become a legal topic, and how are attempts to create laws governing it progressing in various nations?.

2 Methods

In this work, normative legal research, which evaluates secondary evidence from libraries, was utilised, such as Law Number 16 of 2016 concerning ITE, Law Number 27 of 2022 Concerning the Protection of Personal Data, and other laws and regulations that related to the research theme. This study also uses literature sources from various previous studies such as legal journals, books, and other relevant articles. The types of legal approaches used in this study are statutory approaches, conceptual approaches, and comparative legal approaches. This study also compares the development of the formation of AI regulations in Indonesia with Russia, the United States, the European Union, and China. All legal materials obtained from library research will be sorted, arranged systematically, and analyzed descriptively and qualitatively using interpretation techniques. From these data, conclusions will then be drawn to get answers to the problems.

3 Result and Discussion

3.1 Meaning of Legal Subjects

This article will first explore legal concerns before debating whether AI qualifies as a legal subject or not. According to Logemann, the legal subject is one of the important elements in a legal discussion. The legal subject comes from the words "Recht Subject" (Dutch) and "Legal of Subject" (English), according to E. Utrecht is defined as a defender of rights Utrecht (1989). This opinion is in line with Subekti, who said that legal subjects are bearers of rights, in this case, humans. Legal topics, in the words of Sudikno Mertokusumo, are all things that are subject to both legal obligations and rights. This opinion is in line with Shidarta and Mochtar Kusumaatmadja who argue that legal subjects are owners or carriers of rights and obligations Mochtar (2000).

Meanwhile, L.J. Van Apeldoorn said that everything that has legal authority is considered a legal subject Apeldoorn (1986). Agra argues that a legal subject is every

person who has rights and obligations, thus having legal authority, which is called *Rechtbevoegtheid*. Referring to the various opinions of these experts, it is concluded that legal issues are everything that is capable of acquiring legal obligations and rights Usman (2006). In general, legal subjects consist of two kinds, persons or individuals (*Natuurlijke Persoon*) and legal entities (*Rechts Persoon*).

Natuurlijke Persoon is a person in human form as an individual, who is a perfect legal subject. This is because humans are spiritual beings who have creativity, and feelings, who can act and have value, and who have knowledge and character Septiana (2004). Meanwhile, *Rechts Persoon* is derivative legal subjects. According to E. Utrecht, a legal entity is an entity that according to law has the power (authority) to support rights, which is soulless or not human Neni (2009). Meanwhile, Molengraff said that in essence, a legal entity consists of the collective rights and obligations of its members as well as jointly owned assets that cannot be split.

According to Black's Law Dictionary, a legal entity or legal person is "a being, real or imaginary, who for the purpose of legal reasoning is treated more or less as a human being; an entity, such as a corporation, created by law given certain legal rights and duties of a human being" Brayon (2004).

A legal entity can also be referred to as a group of people who have goals or directions to achieve, have assets, as well as rights and obligations. The requirements for a legal entity to be referred to as a legal subject are if: 1). Associations of people (organizations); 2). Can perform legal actions in a legal relationship; 3). Have own assets; 4). Have administrators; 5). have rights and obligations; and 6). Can carry out lawsuits as well as being sued in court.

3.2 Determination of Artificial Intelligence as a Legal Subject.

Since 1936, artificial intelligence history has been documented, Alan Turing (British mathematician) proposed the concept of a Turing machine that carries a calculation model. In 1950, Alan Turing published an article entitled *Computer Machines and Intelligence*. This is the origin of the modern idea of artificial intelligence, in which a machine has human-like capacities such as a mindset of reasoning, learning, planning, and creativity. John McCarthy also believed that every feature of the learning and intelligence domains could be characterized in great detail and subsequently be emulated by a machine when he initially coined the term artificial intelligence and began research on it in 1955 Ryan (2014).

AI has undergone several evolutions, begins with Artificial Narrow Intelligence, the most primitive AI used in chess and driving simulations. Artificial General Intelligence, or AGI, is the second generation of AI, which is a powerful AI that has human-equivalent capabilities. Artificial super intelligence (AGI) is the third generation of AI, which is deliberately made to exceed human capabilities. For example, self-driving technology in cars, Siri applications, Amazon, Facebook, Google Translate, IBM, etc.

The next discussion in this study is that by having human-like abilities, can AI be classified as a legal subject? In essence, AI is a machine that uses a computer device that can act and has capabilities equal to or exceeding human capabilities, but AI has

limitations. AI has no soul, no character, no morals, and no senses and feelings like humans. However, isn't there a derivative legal subject such as a legal entity that also does not have a soul like a human but can be called a legal subject? Through this frame of mind, this research tries to look at AI from the perspective of legal entities. To respond to and clarify if AI may be categorized as a derivative legal topic like a legal entity, the following will discuss the legal entity theories as the rationale for this research.

a. Fiction Theory.

This theory was initiated by Friedrich Carl van Savigny who revealed that legal entities are just fictions that are made by the state. A legal entity is a fiction that does not exist but is lived in the shadow of a legal subject who can perform legal actions like humans. It can be said that according to nature, only humans are legal subjects, but people create legal entities as their shadows as unreal beings. Legal entities do not have a real form, so legal entities in carrying out legal actions are carried out by humans as their representatives.

Based on this theory, if related to the form of AI, it can be seen that the form of AI is not real or fictional, but AI is turned on to be able to carry out the actions ordered to it. The command here aims to imitate behavior patterns, and mindsets and make decisions like humans. The form of AI is not real, so even though it can perform actions like humans, these actions are carried out by humans, namely through machines that are made and programmed by humans. The actions carried out by AI are the implementation of algorithm formulas that have been programmed and entered into computer systems made by humans. In this study, it can be concluded that according to this theory, AI is like a legal entity that is not real but can perform actions like humans so it is possible to be classified as a legal subject.

b. Organ Theory.

This theory was initiated by Otto van Gierke who argued that a legal entity is like a human being who forms his will using the organs of the body, namely the administrator (human). The legal entity is not abstract and not property that is not subject. A legal entity is a real organism that is truly incarnated in a legal society and can form its own will using the tools (administrators) at its disposal, such as humans who have organs (five senses).

Based on this theory, just like a legal entity, AI can carry out its will through the intermediaries of the organs contained therein. The organs contained in AI are computer devices that have been programmed based on algorithmic formulas formed by humans and entered into the AI black box. It can be said clearly that the will carried out by AI is based on control made by humans. So that through theory it can be concluded that AI is like a legal entity that can become a legal subject.

The results of previous research conducted by Amelia Puspita Sari and Dara Manista Hawiska in their publication entitled "Legal Liability of Artificial Intelligence from the Indonesian Civil Law Perspective" revealed that AI work patterns are likened to legal actions. This opinion refers to the criteria for classifying legal subjects. In general, the criteria for being called a legal subject are: 1. anything with the power

or authority to take legal action; 2. anything with the legal right to support rights; this is known as acting in a "rights supporter" capacity (rechtbevoegdheid); 3. Everything has obligations and rights under the law. The existence of legal acts, the right to act, and rights and obligations are some examples of factors that are essentially connected to the legal issue when taking the criteria into account. One of them starts with legal acts (work patterns) to identify legal subjects. Artificial intelligence (AI) work patterns refer to the simulation of human intellect that is then replicated in robots that are trained to think and act like humans Amelia (2022). Therefore, it can be concluded that AI can perform legal actions just like legal subjects.

3.3 Developments in the Establishment of Artificial Intelligence Regulations in Several Countries

In recent years, the debate about AI governance has been largely centered on "ethical frameworks" and limited to basic AI guidelines. The formation of regulations regarding AI is one of the considerations in discussions in international organizations such as the OECD 2019 and the G-20 international forums. The forum issued considerations for the implementation of ethical and trustworthy AI. Two aspects influence the consideration of whether or not regulation of AI is necessary. People's worries about their security and rights when faced with knowledge asymmetry in AI algorithmic decision-making processes is the first component. Another aspect is that AI development companies are afraid that legal uncertainty will hinder AI development. However, legal instruments are needed to resolve the complexities of AI and to strike a balance between the value of individual freedom and the desire of economic progress Dimitar (2021). It is also worth considering that the current law may not be able to resolve challenging legal issues in AI. Until now, there have been no specific regulations regarding AI, but several countries are currently drafting the formation of these AI regulations. In the following, we will discuss the development of draft AI regulations in several countries.

a. AI Regulation in Russia

Through its own industry legislation, Russia utilizes a policy of "widespread existence of unenforceable ethical standards" to regulate AI. Based on the research of Paphysev G. and Yarime M. in their publication entitled "Regulatory Gifting in Russia: The Limitations of Ethics-Based Approaches to Artificial Intelligence Regulation", revealed that the formation of regulations on AI in Russia in this regime was influenced by large technology companies in Russia, they recognized a chance to escape regulation's scrutiny by deleting the policy's specific regulatory measures "Ethics-based self-regulation that cannot be enforced" is a regulation granted by the Government of Russia to regional businesses. The government purposefully created this gift because it believes that putting local innovation first will benefit the community more than emphasizing consumer protection Paphysev (2022).

b. AI Regulations in the European Union.

In the legal tradition of Western Europe, it was postulated that in order for AI to become self-aware, users of AI must be given clear, enforceable norms that safeguard their basic liberties and rights. On 16 February 2017, discussions on the structure and reach of AI regulation under European law were launched by a resolution of the European Parliament, in which the recommendation was to develop (regulatory) solutions in the field of private law regarding robotics. The creation of a data-based economy is the main emphasis of the legislation that will be drafted. They contend that data is essential for the advancement of AI. The European Union is aware that all significant social groups and economic sectors would be impacted by AI systems.

The main focus of the legislation that will be written is the development of a data-based economy. They claim that the development of AI depends on data. The European Union is aware that AI systems would have an impact on all key social groups and economic sectors. The document outlines fundamental tenets for AI development, such as the need to pursue morally and legally responsible AI and ensure the protection of users' fundamental rights, such as nondiscrimination, informed consent, human dignity protection, privacy protection, and data processing (Marta (2021)). In order to strengthen the development of strong AI, the EU will also establish an International European Agency to coordinate cooperation between EU nations.

c. AI regulations in the United States.

As one of the world's leaders in AI research, the United States, chose the option of providing financial support to the AI industry by providing minimal interference in its legal regulations. Although the AI industry in the United States is constrained by privacy and human rights protections through the industry's guiding framework, AI advancement will not affect these limitations. This is because necessary prescriptive regulations are thought to impede the development of technology. The development of artificial intelligence is a high national goal in the United States and is supported heavily, particularly financially.

The initiative to create a proposed rule on AI was initiated by President Donald Trump in 2019. The draft regulation introduces five basic principles, including: (1) Seeking technological advancements; (2) Creating suitable technical standards; (3) Training staff in the creation and use of AI technology; (4) Upholding US ideals, such as civil liberties and privacy; (5) Increasing public confidence in AI technologies; and (6) Preserving US technological leadership in AI.

d. AI regulation in China.

Since 2013, China has released a number of national-level policy documents outlining its plans to create and implement AI across numerous industries. For instance, the State Council published directions for China's "Internet +" operations in 2015. The importance of developing the newly emerging AI industry and funding AI research and development is emphasized in the document. The New Generation Artificial Intelligence Development Plan (AIDP), which serves as a unifying document detailing the objectives of AI policy in China, was released by the State Council in 2017 and is a new generation artificial intelligence development plan.

China is to become the global hub for AI innovation by 2030, and AI is to serve as the primary engine for China's industrial upgrading and economic transformation. Additionally, AIDP stressed the need for developing ethical standards and norms for AI use and highlighted the need of utilizing AI in a wider range of fields, such as military and social welfare. Overall, the Plan offers a thorough AI strategy and opposes other dominant forces in many crucial domains Roberts (2023). AIDP is also pushing AI as a means of assisting in the solution of several significant societal issues, such as pollution and standard of living.

e. AI Regulation in Indonesia.

Indonesia is still limited as an AI user and not yet at the level of a country that develops AI. Therefore, in Indonesia, there are no guidelines or draft regulations for AI. The use of AI in Indonesia has not been specifically regulated in law, but the regulation is implicitly contained in the Electronic and Information Technology (ITE) Law.

Referring to Article 21 of Law Number 16 of 2016 as it relates to electronic information and technology (ITE) there are rules with relation to "Digital Agents". An electronic agent is a component of an electronic system designed to automatically respond to specific electronic information, according to Article 1 Number 8 of the ITE Law. Based on this definition, it is implicitly understood that AI has the same characteristics as Electronic Agents. The similarity of these characteristics lies in the function of information automation using AI processing which is comparable to an Digital Agents.

Because an electronic agent is a subset of an electronic system operator, it is also an electronic operator. This implies that all duties and responsibilities of operators of electronic systems also apply *mutatis mutandis* to operators of electronic agents. Therefore legal responsibility for losses due to AI's actions is attached to electronic users and operators. Government Regulation Number 71 of 2019 relating to Electronic Transactions and Implementation. The regulation stipulates how the responsibilities of electronic agents, including the obligation to keep data confidential, control user personal data, guarantee user privacy, and convey information related to the system it uses so that it does not harm the user.

The privacy and protection of personal data that is collected and processed by everyone (including AI systems) have been rigorously governed by Personal Data Protection Law Number 27 of 2022 Article 16 of the law stipulates that all forms of processing (such as obtaining, collecting, processing, analyzing, storing, repairing, renewing, deleting, and distributing) personal information must comply with the guidelines for protecting personal data and must obtain written approval from the data owner. personal. Violation of this article will be subject to criminal sanctions and fines. Following Article 65 "It is against the law for anybody to access, collect, disclose, or use personal data on another person without their consent in order to advance their own or another person's interests. Doing so could result in the loss of the personal data subjects."

4 Conclusion

The legal position of Artificial Intelligence (AI) is still being debated today, some argue that AI is a legal object, while others argue that AI is a legal subject. By using the framework of the Theory of Fiction and Organ Theory on legal entities, this study concludes that AI can become a legal subject, namely a derivative legal subject like a legal organization. Based on the theory of fiction, the form of AI is not real or fictional like a legal entity, however, AI is turned on to be able to carry out the actions ordered to it. The command here aims to imitate behavior patterns, and mindsets and make decisions like humans. Even though AI can perform actions like humans, actually these actions are carried out by humans, namely through machines that are made and programmed by humans. Meanwhile, based on the Organ Theory, AI can carry out its will using the organs contained in it. The organs contained in AI are computer devices that have been programmed based on algorithmic formulas formed by humans and entered into the AI black box. It can be said clearly that the will carried out by AI is based on control made by humans.

Several cases such as "Tay" and "Alexa" are proof that even though it is controlled by an intelligent computerized system, AI can perform deviant actions that can cause harm to others. Therefore, regulations are needed that govern the creation and application of AI and legal responsibility for AI's actions. Several countries such as Russia, the United States, China, and the European Union already have guidelines on the creation and application of AI. These guidelines will be developed into regulations. The formation of regulations regarding AI is still considered to hinder the development of innovation in AI itself. Therefore, in general, these guidelines focus more on establishing moral guidelines and standards for the use of AI. Meanwhile, Indonesia is a country that has not yet reached the level of AI development but is still limited to using AI. Regulations that can be used as a basis for the use of AI in Indonesia are contained in Law 16 of 2016 pertaining to ITE and Law 27 of 2022 relating Personal Data Protection.

Recommendation

Before forming regulations governing AI, it is better if uniformity is made regarding the position of AI in law. In the future, it is expected that it will be easier to determine the limits of AI's legal liabilities and the legal consequences arising from each of AI's actions.

References

1. Nils John Nilsson, 2010, *The Quest for Artificial Intelligence: A History of Ideas and Achievements*, Cambridge University Press. Page 27.
2. SAS, *Kecerdasan Buatan/Artificial Intelligence: Apa itu dan mengapa hal itu penting*, https://www.sas.com/id_id/insights/analytics/what-is-artificial-intelligence.html#:~:text=Bagaimana%20Cara%20Kerja%20Kecerdasan%20Buatan,pola%20atau%20fitur%20dalam%20data, Accessed on 8 June 2023.

3. Elle Hunt, 24 March 2016, Tay, Microsoft's AI chatbot, Get a Crash Course in Racism from Twitter, <https://www.theguardian.com/technology/2016/mar/24/tay-microsoftsai-chatbot-gets-a-crash-course-in-racism-from-twitter>, Accessed on 11 June 2023.
4. [Nazura Abdul Manap and Azrol Abdullah, 2020, Regulating Artificial Intelligence in Malaysia: The Two-Tier Approach, *UMM Journals of Legal Studies*, II (2), Pages 183-201.
5. Yana V. Gaivoronskaya, et al., 2022, Logical and Conceptual Constructions, The Theoretical and Legal Versions of The Interpretation of The Artificial Intelligence's "Legal Personality, *Genero E Interdisciplinaridade*, Vo. 2, No. 1, Pages 272-292.
6. Hanif Abdul Halim, 20 March 2023, Kedudukan Hukum Artificial Intelligence: Tantangan dan Perdebatannya, klikle-gal.com/kedudukan-hukum-artificial-intelligence-tantangan-dan-perdebatannya/, Accessed on 8 June 2023.
7. Andres Guadamuz, 2017, Do Androids Dream of Electric Copy-right? Comparative Analysis of Originality in Artificial Intelligence Generated Works, *Intellectual Property Quarterly*, Vo. 2. Page 169-186.
8. Nekit K, Tokareva V, Zubar V, 2020, Artificial Intelligence as a Potential Subject of Property and Intellectual Property Relations, *Ius Husmani Law Journal* (9) 1, 231-250.
9. Satjipto Rahardjo, 2004, Hukum Progresif: Penjelajahan Suatu Gagasan, *Economic, and Business Law Studies*. No. 59, December, Pages 1-14
10. Qur'ani Dewi Kusumawardani, 2019, Hukum Progresif dan Perkembangan Teknologi Kecerdasan Buatan, *VeJ*. Vo. 5. No. 1, Pages. 166.
11. Stamatis Karnouskos, 2017, The Interplay of Law, Robots, and Society, an Artificial Intelligence Era, Master's Thesis in Law, Master's Program in Law, Gender, and Society, Umeå University Forum for Studies on Law and Society.
12. E. Utrecht and Moh. Saleh Djindang, *Pengantar Dalam Hukum Indonesia*, Jakarta: Sinar Harapan, 1989. Page. 264.
13. Mochtar Kusumaatmadja and Shidarta, 2000, *Pengantar Ilmu Hukum*, Bandung: Alumni, Page. 80.
14. L.J. van Apeldoorn, 1986, *Inleiding tot Studie van het Nederlandse Recht (Pengantar Ilmu Hukum)*, Translated by Oetarid Sa-dino, Jakarta: Pradnya Paramita, Page. 203.
15. Rachmadi Usman, 2006, *Aspek-aspek Hukum Perorangan dan Kekeluargaan di Indonesia*, Jakarta: Sinar Graphic, Page. 72.
16. Salim HS and Erlis Septiana, 2014, *Perbandingan Hukum Perdata*, Jakarta: Raja Grafindo, Page 75.
17. Neni Sri Ismmaniyati, 2009, *Hukum Bisnis: Telaah Tentang Pelaku dan Kegiatan Ekonomi*, Yogyakarta: Graha Ilmu, Page . 124.
18. Bryan A. Garner, 2004. *Black's Law Dictionary*, Eight Edition, Wet Publishing Co, St. Paul-Minn, Page. 1178.
19. Ryan Riefri, 15 March 2017, Alan Turing, Pioner Awal Terciptanya Komputer Digital, <https://codepolitan.com/blog/alan-turing-pioner-awal-terciptanya-komputer-digital-58c686f4cdcef>, Accessed on 8 June 2023.
20. Amelia Puspita Sari and Dara Manista Hawiska, 2022, Legal Liability of Artificial Intelligence In Perspective of Civil Law in Indonesia, *International Journal of Social Science Research and Re-view*, Vo. 5, Issue 2, Page 57-60.
21. Dimitar Lilkov, 2021, Regulating Artificial Intelligence in The EU: A Risky Game, *Sage Journal*, Vo. 20. Issue 2, Pages 166-174.
22. Paphysev G. and Yarime M., 2022, The Limitation of Ethics-Based Approaches to Regulating Artificial Intelligence: Regulatory Gifting in Russia, *AI and Society Journal*.

23. Marta Dackow, 2021, Regulating the Ungregulatable: EU Law and The Artificial Intelligence, Student Journal of Law, Administration, and Economics.
24. Future of Life Institute, 2022, AI Policy — United States, <https://futureoflife.org/ai-policy-united-states/?cn-reloaded=1&cn-reloaded=1>, Accessed on 11 June 2023.
25. H. Roberts et al., The Chinese Approach to Artificial Intelligence: an Analysis of Policy, Ethics,
26. Zahrashafa P. Mahardika, & Angga Priancha, 30 April 2021, Pengaturan Hukum Artificial Intelligence Indonesia Saat Ini, <https://law.ui.ac.id/pengaturan-hukum-artificial-intelligence-indonesia-saat-ini-oleh-zahrashafa-pm-angga-priancha/>, Accessed on 8 June 2023.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

