

FORMULATION OF POLICIES TO HANDLE DEVIATIONS AND ABUSE OF ARTIFICIAL INTELLIGENCE

Daddy Hartadi¹, Yos Johan Utama², Dedi Prasetyo³

¹Doctoral Program in Law, Faculty of Law, Diponegoro University, Semarang

^{2,3}Lecturer in Doctoral Law Program, Faculty of Law, Diponegoro University, Semarang
Jl. Prof. Soedarto, SH., Tembalang, Semarang
daddyhartadi@students.undip.ac.id.

ABSTRACT

This study aims to examine (1) the regulation of Artificial Intelligence (AI) crimes in the current laws and regulations in Indonesia; (2) Legal problems in law enforcement against Artificial Intelligence (AI) crimes in Indonesia; (3) Future Legal Concepts on Artificial Intelligence (AI) Crime in Indonesia. The research method used is empirical juridical with a legislative approach, concepts, and case studies. The results of the study show that; (1) The regulation of Artificial Intelligence crimes in the current laws and regulations in force in Indonesia includes; the 1945 Constitution of the Republic of Indonesia; Criminal Code; Law of the Republic of Indonesia Number 19 of 2016 concerning amendments to Law number 11 of 2008 concerning information and electronic transactions; Law of the Republic of Indonesia Number 5 of 2018 concerning Amendments to Law Number 15 of 2003 concerning the Stipulation of Government Regulations in Lieu of Law Number 1 of 2002 concerning the Eradication of Terrorism Crimes into Law; Law Number 12 of 2011 concerning the Establishment of Laws and Regulations; Law Number 28 of 2014 concerning Copyright; Law of the Republic of Indonesia Number 36 of 1999 concerning Telecommunications; Permenkominfo number 20 of 2016 concerning the Protection of Personal Data in Electronic Systems and other related regulations. (2) Legal problems in law enforcement against Artificial Intelligence (AI) crimes in Indonesia include; (a) There is no special regulation on the crime of Artificial Intelligence, (b) Artificial Intelligence is not a Subject of Law; (c) The Legal Object of Artificial Intelligence has a wide scope; (d) The legal liability of Artificial Intelligence is still difficult to prove between intentionality and negligence of users; (e) Forms of Crime Artificial Intelligence continues to develop its mode and role in line with technological advances. (3) The Future Legal Concept of Artificial Intelligence Crime in Indonesia can be a solution to several legal problems in law enforcement against artificial intelligence crimes in Indonesia, including the following: (a) the establishment of special legislation against artificial intelligence crimes, (b) the subject of Artificial Intelligence Law is an Artificial Intelligence user, both individuals and legal entities; (c) the regulation of Artificial Intelligence is adjusted to a broad Legal Object; (d) Further regulation of Artificial Intelligence Legal Liability between intentionality and negligence of users; (e) Synergy of Laws and Regulations Related to Artificial Intelligence Crime in accordance with the advancement of Technology and Information.

Keywords: Formulation, Policy, Handling, Deviation, Abuse, Artificial Intelligence

INTRODUCTION

Background

This study is focused on law enforcement against artificial intelligence (AI) crimes. The latest technological developments have triggered an artificial intelligence technology or Artificial Intelligence (AI) whose existence has not been concretely regulated in the National Law in Indonesia. According to Russel Stuart: "Artificial Intelligence is often used to describe machines (or computers) that mimic "Cognitive" functions that humans associate with the human mind, such as "Learning" and "Problem Solving". Free translation can be interpreted as AI or artificial intelligence is a term that is often used to describe computing machines (computers) that imitate the "cognitive" functions (intelligence) possessed by humans, such as to learn and solve a problem.

Artificial Intelligence (AI) is a result of the development of technology and information to help and ease human work, but in the end it also encounters problems in the crime or crime of Artificial Intelligence (AI). Even Artificial Intelligence (AI) crimes are always experiencing developments along with the development of technology and information. Artificial Intelligence (AI) crime is a crime in the field of cyber crime, namely a crime that utilizes the internet which has a wide global scope and transcends national borders.

Artificial Intelligence (AI) crime is a type of crime in cyberspace that utilizes an unlimited information technology and has strong characteristics with a technological engineering that relies on a high level of security and credibility of information conveyed and accessed by internet customers. The motives of cyber crime perpetrators can generally be grouped into two categories, namely: a) Intellectual motives, namely crimes committed only for personal satisfaction and showing that they are able to engineer and implement the field of information technology. b) Economic, political, and criminal motives, namely crimes committed for personal gain or certain groups that have an impact on economic and political losses to other parties. Because it has a purpose that can have a big impact, crimes with this motive are generally committed by a corporation.

Problem Formulation

Some of the problems that will be studied in this study include the following:

1. How is Artificial Intelligence (AI) crime regulated in the applicable laws and regulations in Indonesia?
2. What are the legal problems in law enforcement against Artificial Intelligence (AI) crimes in Indonesia?
3. What is the future legal concept of Artificial Intelligence (AI) crime in Indonesia?

Theoretical Framework

Governance is defined as the mechanism, practice and procedure of government and citizens managing resources and solving public problems. In the concept of *governance*, the government is only one of the actors and is not always the decisive actor. The implications of the government's role as a development and service and infrastructure provider will shift to encourage the creation of an environment that is able to facilitate other parties in the community. *Governance* demands a redefinition of the role of the state, and that means a redefinition of the role of citizens. There are greater demands on citizens, including to monitor the accountability of the government itself.¹

According to Hans Kelsen, legal norms are rules, patterns or standards that need to be followed. Then it is further explained that the functions of legal norms, are:² Command, Forbid, Control, Enable, and Save. In specializing in the discussion or discussion of legal rules or norms, it is necessary to understand the theory more deeply "*Stufenbau*" from Hans Kelsen. According to Hans Kelsen, the legal system of a country, is a hierarchical system of legal methods that in its very simple form.³

The restorative justice *theory* is one of the theories in law to close the loopholes of weaknesses in the resolution of conventional criminal cases, which is a repressive approach as implemented in the Criminal Justice System. The weakness of the repressive approach as a settlement of criminal cases is that it is oriented towards retaliation in the form of punishment and imprisonment of the perpetrator, but even though the perpetrator has served his sentence, the victim does not feel papacy.⁴

Research Methodology

The research in this dissertation is included in the type of non-doctrinal research, where the approach method used is empirical juridical. Empirical research is research conducted by researching primary data, namely data obtained directly from the public. This empirical thinking is also called sociological thinking. The empirical juridical approach examines how normative provisions actually manifest in society.⁵ This sociological approach

¹ Sumarto Hetifa Sj, *Innovation, Participation and Good Governance*, (Bandung: Yayasan Obor Indonesia, 2003), pp. 1-2.

² Yuliandri, *Principles of Forming Good Laws and Regulations*, (Jakarta: PT. King Grafindo, 2010), p. 21

³ Purnadi Purbacaraka, *Regarding the Rule of Law* (Bandung: Opset Alumni, 1979), p. 41

⁴ Mansyur Kartayasa, "Restorative Justice and Its Prospects in Legislation Policy" paper presented at the National Seminar, The Role of Judges in Improving Professionalism. Towards Great Research, Organized by IKAHI in the context of the 59th Anniversary of IKAHI, April 25, 2012, pp. 1-2.

⁵ Noor Muhammad Aziz, Legal Research and Assessment of Urgency Establishment of Legislation, *Journal: Rechtsvinding*, Vol 1 No 1, 2012, pp. 17-32

identifies and conceptualizes law as a real and functional social phenomenon in a real-life system.⁶

This data collection method is by *library research* or commonly called literature study, this method is carried out to obtain secondary data both in the form of primary legal materials and secondary legal materials. After being inventoried, a review is carried out to make the essence of each regulation concerned. Data is collected by studying literature sources in the form of literature books, laws and regulations, and collecting existing data in the form of data that is directly related to the research being conducted.⁷

RESULTS & DISCUSSION

REGULATION OF ARTIFICIAL INTELLIGENCE (AI) CRIME IN APPLICABLE LAWS AND REGULATIONS IN INDONESIA

Artificial *intelligence* (AI) crime is a type of crime or crime in the field of *cyber crime*. AI crimes have not been regulated grammatically in laws and regulations in Indonesia. However, there are various criminal rules outside the ITE Law that are able to ensnare these crimes because the ITE Law is the most recent and most specific regulation to handle cyber crimes.

Lex Specialis derogat lege generali is a principle that contains the meaning that the law that is special (*Lex Specialis*) overrides the law that is general (*Lex generali*). *Lex posterior derogat legi priori* is a principle of legal interpretation that states that the latest law (*Lex Posterior*) overrides the old law (*Lex prior*). Law of the Republic of Indonesia Number 19 of 2016 concerning amendments to Law number 11 of 2008 concerning information and electronic transactions is *Lex Specialis* and *Lex Posterior* which is currently the most appropriate to regulate the crime of *artificial intelligence* (AI).

The crime of *artificial intelligence* (AI) can not only be charged through Law of the Republic of Indonesia Number 19 of 2016, but can also be charged through the Criminal Code. Through the Criminal Code (KUHP), including; 1) Article 335 concerning Threats 2) Article 362 concerning theft 3) Article 378 concerning fraud and embezzlement 4) Article 406 concerning destruction or *hacking*. Then Law of the Republic of Indonesia Number 36 of 1999 concerning Telecommunications includes; 1) Article 22 on acts without rights 2) Article 40 on wiretapping.

⁶ Soerjono Soekanto, *Introduction to Legal Research*, Jakarta: Universitas Indonesia Press Press, 1986, p. 51.

⁷ Ediwarman, 2010, *Monograph, Legal Research Methodology*, Postgraduate Program, University of Muhammadiyah North Sumatra, Medan, p. 24 reviews

The crime of *artificial intelligence* (AI) can also synergize with the crime of terrorism, therefore it can also be prosecuted through Law No. 5 of 2018 concerning amendments to Law No. 15 of 2003 stipulating government regulations in lieu of Law No. 1 of 2002 concerning the eradication of terrorism crimes into law. In addition, considering that the crime of *artificial intelligence* (AI) is a crime that continues to develop along with the development of technology and information, it can also be charged through Permenkominfo number 20 of 2016 concerning the Protection of Personal Data in Electronic Systems, including; 1) Article 68 concerning personal data violations 2) Article 69 concerning threats of personal data in public places 3) Article 70 concerning criminal tools of personal data violations 4) Article 71 concerning acts 5) Articles 72, 73 and 74 concerning Misuse of personal data 6) Article 75 concerning falsification of personal data 7) Article 76 concerning additional criminal acts 8) Article 77 concerning criminal acts of personal data by corporations.

Various laws and regulations can be used temporarily in dealing with *artificial intelligence* (AI) crimes, before finally the Government can issue laws and regulations that are specialized in dealing with *artificial intelligence* crimes (*AI Lex Specialis derogat lege generali* is a principle that contains the meaning that special laws (*Lex Specialis*) set aside the law of a general nature (*Lex generali*). In addition, *artificial intelligence* (AI) crime is a type of crime that is always evolving.

Legally, Indonesia already has a special law regarding cybercrime, namely the ITE law in 2016, which discusses procedures, restrictions on the use of computers and sanctions that will be given if there is a violation. For example, the act of illegal access or making unauthorized access has been regulated in article 30 of Law Number 19 of 2016 concerning Information and Electronic Transactions, which states: "every person intentionally and without rights or unlawfully accesses a computer and/or electronic system belonging to another person paragraph (1) in any way, (paragraph (2)) in any way with the aim of obtaining electronic information and/or electronic documents, (paragraph (3)) in any way by violating, breaking through, exceeding, or breaking into the safety system.

Aspects of Proof Currently, the legal proof system in Indonesia (especially in article 184 of the Criminal Code) does not recognize the term electronic/digital evidence as valid evidence according to the law. There is still a lot of debate, especially between academics and practitioners regarding this matter. For the civil aspect, basically the judge can even be guided to *rechstivinding* (legal discovery). But for criminals, this is not the case, the principle of legality stipulates that no act can be punished if there is no legal rule that regulates it (*nullum delictum nulla poena sine previe lege poenali*). For this reason, there needs to be a strong enough postulate so that the debate between academics and practitioners about this does not need to happen again.

LEGAL PROBLEMS IN LAW ENFORCEMENT AGAINST *ARTIFICIAL INTELLIGENCE* (AI) CRIMES IN INDONESIA

Some of the legal problems in law enforcement against *artificial intelligence* (AI) crimes in Indonesia include the following:

There Is No Special Regulation on AI Law in Indonesia

Looking at AI technology that can perform actions and deeds like humans, of course, this is the basis for a legal arrangement in a country to have a special regulation related to AI. Based on the legal sources that apply in Indonesia related to technology regulation, namely Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Information and Electronic Transactions, which is then hereinafter referred to as the "ITE Law", this regulation is a form of the state responding to the rapid development of technology in Indonesia.

In the positive law in Indonesia, namely the ITE Law, AI is classified as an electronic system and an electronic agent, which if you look at the characteristics of AI with the definition of an electronic system in the regulation of the ITE Law, it has many matches and suitability where one of the ways AI works can collect data, then process it, even to analyze it, and can display and transmit electronic information, this is explained in "Article 1 Number 5 of the ITE Law". Then than that, the basis for classifying AI as an electronic agent is not much different from the classification of AI as an electronic system where the suitability of AI's actions and deeds is linked to the definition of an electronic agent, which is a device of an electronic system that aims to take action on an electronic system automatically based on human commands, which of course is in accordance with the characteristics of AI itself based on understanding "Article 1 Number 8 of the ITE Law".

Artificial intelligence has quickly made its way into legal practice, based on a survey of law firm managing partners in the United States of 50 (fifty) or more lawyers, finding that more than 36% (thirty-six percent) of law firms and more than 90% (ninety percent) of large law firms employing more than 1,000 lawyers in their legal practices are actively using artificial intelligence systems in their legal practices.⁸

Based on the starting point of progressive legal thinking above, the study of progressive law needs to be considered as material in forming laws related to artificial intelligence technology which is expected to be beneficial to humans and for the development of technology itself, so that what must be a concern is not to let artificial intelligence technology which should be a tool for humanity to escape from slavery, Instead, it turns into a mechanism that enslaves humans themselves (dehumanization).

⁸ Thomas S. Clay and Eric A. Seeger, Law Firms in Transition <http://www.altmanweil.com/LFIT2017/>.

AI is not recognized Legal Subject

AI based on the legal arrangements that apply in Indonesia is actually not a legal subject but only limited to legal objects, which of course AI itself is a technology operated by humans in its implementation, associated with positive law, AI is operated by electronic system operators, this is in accordance with what is explained in Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (PP 71/2019). The electronic system operator in this case is responsible as a legal subject for the implementation of the electronic system carried out by him, except for force *majeure*.

Regarding the position of legal subjects associated with AI, this certainly raises many debates that have different opinions and perspectives in seeing the position of AI towards the legal acts it does. If the problem of AI as a subject cannot be equated with a legal entity, according to Otto Von Gierke through the theory of organs, the legal entity is actually the real reality of a natural nature and personality of humans in their legal association. Which of course a legal entity has rights and obligations and can act independently in every decision issued as a legal subject.⁹

Another opinion of L. J. Van Apeldoorn "to be able to perform a legal act, the subject of the law itself in this case must have the ability to hold the rights given to him" and the meaning of the ability to hold the right is that in terms of capacity it is differentiated like a minor in performing a legal act and a person under custody, in general the person can be given rights that can then be used in carrying out a legal act, However, legally the person is not capable of doing his legal deeds and this determines a legal subject.¹⁰

AI cannot be equated with a legal entity to be a legal subject, where a legal entity has a clear and firm intention and purpose in its stance and there is a scope of humans, and AI cannot stand independently which as is known, the computer is regulated and programmed by humans and if the computer or AI takes a decision that can be likened to a human then the perfection in the decision cannot be ensured if not There is human supremacy in decision-making, as computers are not always immune to system errors. A progressive law is a law that has freedom in terms of thinking and taking legal action, so that it is able to free the law to be able to provide service to humanity.¹¹

The actions "done" by AI do not always provide positive benefits and impacts. It is not uncommon to encounter cases of AI "doing" actions that are not in accordance with orders or

⁹ Amboro, F. Y. P., & Komarhana, K. (2021). Artificial Intelligence as Private Law Subject in Indonesia: The Prospect. *Law Review*, (2), 145-172.

¹⁰ Surden, H. (2019). Artificial intelligence and law: An overview. *Georgia State University Law Review*, 35, 19-22

¹¹ Yamani, R. R. (2016). Prof. Satjipto Rahardjo's Thoughts on Progressive Law and Its Relevance to Islamic Law in Indonesia (Doctoral dissertation, Alauddin State Islamic University of Makassar).,

can even harm other parties. Acts that violate ethics and the rule of law should be accounted for, especially if they cause harm to other parties. Unfortunately, positive law in Indonesia does not recognize AI as a legal subject. The massive use of AI in the online business sector today without further regulation can cause chaos in society. Such as several cases of user privacy violations and data leaks on Marketplace users that have occurred several times lately. Inappropriate AI actions can be one of the causes. This can occur due to a programming error in the system used by the AI.¹²

In addition, there are also other problems such as inaccurate information or instructions provided by AI which lead to consumer losses that can also occur in the system. Before AI can perform analysis and decision-making, there is a first input of data, facts, and information into an AI system. This data and information makes AI work like human intelligence. However, this similarity of abilities does not necessarily make AI recognized as a legal subject who can perform legal acts, establish legal relationships, and create legal consequences.

The subject of law, according to Van Apeldoorn¹³, is everything that has legal authority (*Persoonlijkheid*). The subject of law can perform a legal act, that is, any act of the subject of law that is carried out deliberately that gives rise to rights and obligations.¹⁴ Legal subjects have a legal responsibility in carrying out every legal act.

Like the legal subject of a person, a legal entity also has its own rights and obligations even if it is not a human being (*Naturlijkpersoon*). In this case, a legal entity is in the form of a body or organization consisting of a group of people who join for a certain purpose and have certain wealth. The legal entity must be represented by persons acting for and on behalf of (representing) and for the benefit of the legal entity.

Artificial Intelligence is a computing program that can make machines work like human intelligence. AI that can work like human intelligence indirectly makes AI can be recognized as a legal subject like humans.¹⁵ The intelligence possessed by AI to answer questions, perform orders, make decisions and other human actions, needs to be preceded by humans in a form of human action in the form of data input on the knowledge base (*Knowledge Base*) which is facts, theories, thoughts, and relationships between each other.¹⁶

¹² Soner Yildirim, Data Leakage in Machine Learning, accessed from <https://towardsdatascience.com/data-leakage-in-machine-learning-6161c167e8ba>

¹³ L. J. van Apeldoorn, Introduction to Law, Pradnya Paramita Publisher, Jakarta, 1983, p.203

¹⁴ R. Soeroso, Introduction to Law, Sinar Grafika Publisher, Jakarta, 2011, p.291.

¹⁵ Victor Amrizal and Qurrotul Aini, Artificial Intelligence, Page Publisher Moeka Publishing, Jakarta, 2013, p.12

¹⁶ Wahyu Beny Mukti Setiyawan, Corporate Accountability in Corruption Crimes, Corruption Seminar Proceedings, Faculty of Law, University of Surakarta, Surakarta, 2014, p.3

AI Legal Objects Have a Wide Scope

In the ITE Law and PP PSTE, there is no explicit mention of provisions regarding AI, but AI is included in the scope of the main points regulated in the ITE Law. AI is included in the scope of electronic agents, which are devices from an Electronic System that are made to perform an action on a certain Electronic Information automatically organized by a person. As an electronic agent, AI works as a software that mimics human intelligence with the ability to perform an action based on commands given by people automatically. AI is also part of Electronic Systems, and the objects that are the focus of AI's work are included in the Electronic Information referred to by these regulations.

There are several concepts of utilizing *artificial intelligence* in contract design as follows:

First, legal due diligence reviews (LDD) are legal examination or research activities carried out by advocates against a company to obtain facts or objective data that can describe the condition of a company, assets and legal relationships of a company.¹⁷ Basically, *artificial intelligence* is equipped with big data and machine learning capabilities. This ability can identify documents that have been uploaded to him, which automatically generates a risk analysis of the document in 20 to 60 percent less time than manual checks by experienced advocates. Moreover, to carry out a merger, it requires a large cost and takes a long time to obtain information about the company that the merger is aimed at. This can be seen through artificial intelligence called "kirasystems" which can be used in the LDD process. "Kirasystems" may collect and track the company's information from various sources on the internet. Even "kirasystems" can provide a warning when a document or contract is about to expire.¹⁸

Second, the activity of preparing a contract requires many things that need to be prepared, namely the ability to make a contract draft. One of them is being able to make requirements and obligations with good legal language. *Artificial intelligence* used in contract drafting is fast-track drafting and contract provided by "thomsonreuters.com". Fasttrack drafting and contract can prepare contract documents and arrange them according to the parameters desired by a company. In addition, the company as a client can choose the type of contract they want to use and can automatically process it quickly.¹⁹

Third, contract management/archiving is a tiring job when done manually, be it contracts that must be renewed, which contracts need to be broken, to sorting contracts

¹⁷ Syahrul Sitorus, "Legal Opinion and Legal Due Diligence," Hikmah 15, no. 2 (2018): 166–178.

¹⁸ Kira, "Accurate Due Diligence, Done in Minutes," Kirasystems.Com, last modified 2018, accessed September 27, 2020, <https://kirasystems.com/how-kira-works/due-diligence/>

¹⁹ Thomson Reuters, "Put Legal Forms and Contracts on the Fast Track," Thomsonreuters.Com, last modified 2017, accessed September 27, 2020, <https://legal.thomsonreuters.com/en/solutions/fast-track-drafting>.

based on the number of transaction objects. However, *artificial intelligence* can do it without the need for excessive human influence. The software used in this activity is "twobirds contract risk assessment" Broadly speaking, the process is almost the same as other artificial intelligence functions in preparing contracts.²⁰

Fourth, legal research is the basis of contract preparation. However, advocates often take a long time to do it with limited resources even though it is sourced from the internet. Meanwhile, artificial intelligence can conduct legal research in various languages and is able to sort from laws and regulations, legal cases, to resolution. In fact, artificial intelligence makes it possible to provide logical predictions of judges' decisions based on existing data.²¹

The problem of legal objects *Artificial Intelligence* is a very broad scope of legal objects considering that *Artificial Intelligence* is growing rapidly in accordance with advances in information and technology. This has an impact on the implementation of *Artificial Intelligence* law from a regulatory perspective.

This mechanism will analyze a specific problem and will then look for the best answer or conclusion. The engine will start tracking by matching the rules in the knowledge base with the facts in the database.²² AI actions that cause losses such as data leaks and other deviant acts can be caused by inconsistencies when commands are processed on the machine.

At least, there are two possibilities that happen. *First*, the commands given are not in accordance with or are not perfect with the data input on the machine so that the Inference Engine cannot process them properly. *Second*, the initial negligence of humans at the time of data input can also be the cause, namely through errors when the machine is trained (*Training*) and *Misprogramming*.²³

The problem with the subject of *Artificial Intelligence* Law or artificial intelligence is that it cannot be classified as a subject of law as the Constitution of the Republic of Indonesia of 1945 constitutionally stipulates that all people are supporters of rights and obligations (legal subjects) in legal relationships, as well as in the Civil Code the subjects of law are persons/humans (*Natuurlijkpersoon*) and legal entities (*Rechtspersoon*), as well as in the criminal law rules in the Criminal Code starting with the word "whom".

²⁰ TwoBirds Client Solution, "Contract Risk Assessment," TwoBirds.Com, last modified 2017

²¹ Sterling Miller, "Benefits of Artificial Intelligence: What Have You Done for Me Lately?," Legal.Thomsonreuters.Com, last modified 2017 <https://legal.thomsonreuters.com/en/insights/articles/benefits-of-artificial-intelligence>

²² Ana Kurniawati, et al., Utilization of Knowledge-Based Expert System Technology to Identify Orchid Types Using Java Programming Language, paper presented at Seminar on Application and Research in Industrial Technology, SMART Yogyakarta, July 22, 2009, p.2

²³ *Ibid*

AI Legal Accountability

Arrangements for legal accountability for AI actions are currently needed, especially in the midst of the current technological disruption in the online business sector. In fact, according to the World Economic Forum in "*The Future of Jobs Report 2020*", the ongoing pandemic at this time coupled with automation has caused massive disruption (Double Disruption).²⁴

Regulations regarding AI accountability within the scope of the Marketplace have been regulated in Article 31 of the PTSE PP. As the AI is part of the electronic system, according to Article 31, the Electronic System Operator is obliged to protect its users and the wider community from the losses caused by the Electronic System it organizes. Thus, in the event of an AI "act" that goes against norms or the law and causes harm to other parties, the responsibility lies with the AI organizer. This provision indirectly implies that the accountability of AI actions by the organizer is an application of the doctrine of *vicarious liability*.

The presence of artificial intelligence in civil terms needs to be elaborated in depth regarding its existence as a subject of law and the consequences that need to be responded to by legal norms from actions carried out by artificial intelligence.²⁵ Artificial Intelligence (*Artificial Intelligence*) is a unilateral legal act and gives rise to rights and obligations (Agustin, 2019). The inherent rights and obligations in a legal act have the consequence of liability for the legal act committed by the subject of the law.

One of these legal liabilities is civil liability arising from an unlawful act in the field of civil law. In civil law, liability for unlawful acts is regulated in Articles 1365 to 1380 of the Civil Code. Liability for unlawful acts exists to protect a person's rights which outlines the rights and obligations when a person commits an act of either negligence or mistake or injures another person and the act causes harm to others.

Based on the formulation of the normative framework as stipulated in Article 1367 paragraph (1), the relationship between Artificial Intelligence and the owner of Artificial Intelligence has an analogous relationship pattern almost the same in the context of liability to a person who is not only responsible for losses caused by his own actions, but also for losses caused by the actions of people who are his dependents or caused by goods under his supervision.

A person is civilly responsible for losses due to violations committed by other persons who are his or her dependents or caused by goods under his supervision while in Article 1367

²⁴ World Economic Forum, *The Future of Jobs Report 2020*, World Economic Forum Publisher, Cologny, 2020, p.5.

²⁵ Agustin, M. (2019). Considering Civil Liability for Artificial Intelligence Legal Subjects (Part Two). *Bahasan.Id*. <https://bahasan.id/mempertimbangkan-pertanggungjawaban-perdataterhadap-subyek-hukum-artificial-intelligence-bagian-kedua/>

paragraph (3) between the worker and the employer. Civilly, the concept of liability in Article 1367 paragraph (1) is the division of the burden of liability for losses caused by violations committed by other persons who are the dependents.

Artificial Intelligence as a subject of artificial law, if it commits an unlawful act, the owner of Artificial Intelligence can also be held civilly liable. The concept of liability in Article 1367 paragraph (3) is a form of accountability of the employer and the person who represents his affairs to the person he or she hires.

Artificial intelligence is not responsible for unexpected events in the future, both civilly and administratively and even criminally. Artificial intelligence does not adhere to values and ethics, Artificial intelligence does not have a conscience, so the Artificial Intelligence does not have an inner responsibility, known in the criminal law *actus* and *mensrea*²⁶, to be able to get a person or legal subject to be criminalized, the legal subject meets two qualifications, namely his deeds and accountability. Artificial Intelligence does not have the rights and obligations that an Inventor has, but artificial intelligence can be the object of a Patent/invention and is entitled to legal protection.²⁷

The problem of legal liability Artificial Intelligence or *Artificial Intelligence* is that *Artificial Intelligence* is not included in the subject of law, because Artificial Intelligence is only an extension of human hands as a subject of law, it works according to the program that has been set by humans as a subject of law, therefore it is responsible based on *the theory of risk* and *liabilities*. Artificial Intelligence does not have an inner responsibility, known in the criminal law *actus* and *mensrea*, in order for a person or legal subject to be criminalized, the legal subject meets two qualifications, namely his deeds and responsibilities.

Forms of AI Crime Continue to Evolve as Technology Advances

The convergence of information technology into the industrial world has given birth to the Industrial Revolution 4.0. The convergence is driven by several technological developments such as *the Internet of Things (IoT)*, *block chain*, *artificial intelligence (AI)* or artificial intelligence, big data, cloud computing, and 3D printing.²⁸ The top technologies that are said to be influencing the fourth industrial revolution are block chains and artificial intelligence. Artificial intelligence is an activity devoted to making intelligent machines, and that intelligence allows an entity to function appropriately and have foresight.²⁹

²⁶ M. Ali Zaidan, *Towards Criminal Law Reform*. (Jakarta: PT. Sinar Grafika, 2015).

²⁷ Haris Munandar and Sally Sitanggang, "Getting to Know Intellectual Property Rights Copyright," *Patents, Brands, and the Intricacies of Erlangga*, Jakarta, 2008.

²⁸ Susskind, R. and Susskind, D, *the future of the professions: How technology will transform the work of human experts*, Oxford University Press, 2015, p. 1

²⁹ Nils John Nilsson, *The Quest for Artificial Intelligence: A History of Ideas and Achievements*, Cambridge University Press, 2010, no pages

Artificial intelligence is increasingly being applied in pharmaceuticals, medical devices, and healthcare to help with various stages of research and development, as well as patient care. Artificial intelligence software combines machine learning *and the* ability to learn from data (*autonomy learning*) without rule-based programming.³⁰ Artificial intelligence can include machine learning, natural language processing, expert systems, vision, speech, planning, and robotics.³¹

The field of law and artificial intelligence has had a relationship for a long time, which is about 30 (thirty) years, which results in artificial intelligence is not new to the law. However, the use of artificial intelligence technology in government systems, the legal industry, and legal professionals in previous years has been very slow. At the time of the industrial revolution 4.0, interest in artificial intelligence increased and developed dramatically. This increase occurs because of the need for transformation in legal services, and the availability of legal data. The impact of artificial intelligence technology is also seen in courses in law schools, where there is a new emphasis on learning using computerized tools, and more and more legaltech startups, legaltech associations, and legaltech conferences are being held.

In addition, several law campuses in the United States and Europe have established research and training centers related to "law and artificial intelligence technology", and robot lawyers (robolawyers) and robots capable of producing legal decisions (*robojudges*) have also begun to be developed.³² Robots are said to be able to have a positive impact in several aspects related to the judicial system process, because automation is considered capable of outperforming humans and increasing productivity. On the other hand, robots are also able to provide assessments secretly.³³

A set of basic ideas related to artificial intelligence is a necessary starting point to see the impact of such technology in the legal arena.³⁴ Artificial intelligence will not only have an effect on the existence of a revolution, but also have a disruptive effect in almost every industry. This, of course, in addition to having an impact on products and services, will also

³⁰ Lincoln Tsang, Daniel A. Kracov, Jacqueline Mulryne, Louise Strom, Nancy Perkins, Richard Dickinson, Victoria M. Wallace, and Bethan Jones. The Impact of Artificial Intelligence on Medical Innovation in the European Union and United States. August 2017 issue of the Intellectual Property & Technology Law Journal

³¹ Michael Mills, Artificial Intelligence in Law: The State of Play 2016, Legal Executive Institute, <http://legalexecutiveinstitute.com/artificial-intelligence-in-law-the-state-of-play2016-part-1>.

³² Adam Wyner, Artificial Intelligence and the Law, IJCAI-ECAI 2018 Tutorial, Swansea University School of Law and Department of Computer Science, <http://www.ijcai-18.org/wpcontent/uploads/2018/05/T04-AI-and-the-Law-IJCAI-ECAI-18.pdf>.

³³ Manyika, J, Chui, M, Miremadi, M, Bughin, J, George, K, Willmott, P. and Dewhurst, M, A future that works: automation, employment, and productivity, McKinsey Global Institute, <http://www.mckinsey.com/global-themes/digital-disruption/harnessing-automation-for-a-future-that-works>

³⁴ Frank Levy and Richard J. Murnane, The New Division of Labor, How Computers Are Creating the New Job Market, Princeton University Press, 2005, no pages. See Tommi Jaakkola and Regina Barzilay, Introduction to Machine Learning, MIT, 2015

affect the daily lives of citizens around the world. On the one hand, artificial intelligence will bring opportunities and socio-economic challenges that need to be observed early. Meanwhile, on the other hand, global jurisdictions around the world currently still have significant differences in their regulatory approach to this artificial intelligence technology.³⁵

There are several levels of evolution of artificial intelligence technology, namely the first, called Artificial Narrow Intelligence (ANI) or Weak AI, for example this Weak AI can be seen in the artificial intelligence of chess games or in the Weak AI of car drivers. Artificial General Intelligence (AGI) or Strong AI can also be called human-level AI, namely living beings that have abilities equivalent to those possessed by humans; Therefore, the machine can learn and perform according to human procedures so that it cannot be distinguished from humans. Third, Artificial Super Intelligence (ASI) is artificial intelligence technology that is deliberately made to surpass human capabilities. Breastfeeding can be defined as any intelligence that exceeds human cognitive performance and occurs in almost any area of interest.³⁶

AI technology has shown clearly, for example in self-driving cars or in voice interaction technology, for example the Siri or Cortana application, Amazon and Facebook, on the automatic translation side, AI is found in Google Translate, Watson, IBM etc. Currently, artificial intelligence is still in the AI stage, while AGI and ASI are still categorized as future technologies. However, this future can be categorized as not a process that takes a long time for artificial intelligence to be present. Kurzweil³⁷ predicts that AGI can be achieved by 2029, while breast milk in 2045 will then be followed by a radical transformation of thinking in society and the economic sector, although of course there are still skeptics about this.³⁸

PwC's research places artificial intelligence as a "game changer" because the potential economic value it will provide to the global economy will reach \$15.7 trillion by 2030. The figure is calculated based on an analysis of the benefits obtained from artificial intelligence technology.³⁹ In addition, based on research from the McKinsey Global Institute issued at the 2017 Singapore Summit, it is known that artificial intelligence in Southeast Asia is still in its infancy. One of the sectors that is most proactive for digital transformation using artificial

³⁵ Graham Greenleaf, Legal Expert Systems: Robot Lawyers? an Introduction to Knowledge-Based Applications to Law, <http://www2.austlii.edu.au/cal/papers/robots89/> (last accessed March 26, 2019), or Robert Moles and Bib Sangha, Logic Programming (an Assessment of Its Potential for Artificial Intelligence Applications in Law, <http://web.archive.org/web/20020401072624/law.uniserve.edu.au/law/pub/compute/logic/>

³⁶ Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies*, 1st edition, Oxford University Press, United Kingdom, 2014

³⁷ Kurzweil, R., *The Singularity Is Near: When Humans Transcend Biology*, Penguin, 2006

³⁸ Spyros Makridakis, 'The forthcoming artificial intelligence (AI) revolution: Its impact on society and firms', *Futures*, 2017

³⁹ Price Water Coopers, *Global Artificial Intelligence Study, Sizing the Prize: Exploiting the AI Revolution (What the real value of AI for your business and how can you capitalize?)* <https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prizereport.pdf>

intelligence technology is the *healthcare* sector and the financial *services* sector, although if you recalculate it, it can be seen that the largest projection is in the manufacturing sector, which reaches \$311 billion.⁴⁰

Artificial intelligence has quickly made its way into legal practice, based on a survey of law firm managing partners in the United States of 50 (fifty) or more lawyers, finding that more than 36% (thirty-six percent) of law firms and more than 90% (ninety percent) of large law firms employing more than 1,000 lawyers in their legal practices are actively using artificial intelligence systems in their legal practices.⁴¹

The problems that occur with AI not only provide many benefits in human life, but on the other hand also cause crimes that continue to grow. Future Legal Concepts on *Artificial Intelligence* (AI) Crime in Indonesia.

FUTURE LEGAL CONCEPTS IN ARTIFICIAL INTELLIGENCE (AI) CRIME IN INDONESIA

Special Regulations on AI Law in Indonesia Are Needed

AI is classified as an electronic system and an electronic agent, which if you look at the characteristics of AI with the definition of an electronic system in the regulation of the ITE Law, it has a lot of matches and suitability where one of the ways AI works can collect data, then process it, even to analyze it, and can display and transmit electronic information, This is explained in "Article 1 Number 5 of the ITE Law". Then than that, the basis for classifying AI as an electronic agent is not much different from the classification of AI as an electronic system where the suitability of AI's actions and deeds is linked to the definition of an electronic agent, which is a device of an electronic system that aims to take action on an electronic system automatically based on human commands, which of course is in accordance with the characteristics of AI itself based on understanding "Article 1 Number 8 of the ITE Law".

On the one hand, there is a thought, if robots can make autonomous decisions through technology within themselves that grows by themselves in a way that robot systems will automatically evolve following the human world, then it is possible that robot actions can endanger humans and the wider community. But on the other hand, there is an opinion that robots only stimulate human behavior and cannot be considered "fully human", so there is no need for legal entities and legal arrangements for artificial intelligence technology. The common belief that is growing today is that robots should be treated only as mere machines, and robots were created to serve humanity in that role. If we look at progressive law, legal thinking needs to return to its basic philosophy, which is law for humans.

⁴⁰ Mc Kinsey Global Institute, Artificial Intelligence and Southeast Asia Future, <https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Artificial%20Intelligence /AI%20and%20SE%20ASIA%20future/Artificial-intelligence-and-Southeast-Asias-future.ashx>.

⁴¹ Thomas S. Clay and Eric A. Seeger, Law Firms in Transition, <http://www.altmanweil.com/LFiT2017/>

With this philosophy (individual), it is considered to be the determinant and orientation point of progressive law. Law is in charge of serving humans, not the other way around, so law is not an institution that is independent of human interests. The quality of law is determined by its ability to serve human welfare. This causes progressive law to adhere to ideologies, namely pro-justice laws and pro-people laws.⁴²

Based on the starting point of progressive legal thought, the study of progressive law needs to be considered as a material in forming laws related to artificial intelligence technology which is expected to be beneficial to humans and for the development of technology itself, so that what must be a concern is not to let artificial intelligence technology which should be a tool for humanity to escape from slavery, Instead, it turns into a mechanism that enslaves humans themselves (*dehumanization*).

ITE Law has not been able to cover the whole and in detail about *Artificial Intelligence* (AI). Future Legal Concepts in *Artificial Intelligence* (AI) Crime in Indonesia requires special legal regulations that regulate *Artificial Intelligence* (AI) Crime. This is so that there is no legal vacuum and is a guideline for law enforcement in Indonesia in terms of *Artificial Intelligence* (AI) Crimes.

The creation of special regulations related to *Artificial Intelligence* (AI) crimes takes time, cost, and long discussions. Therefore, an in-depth study is needed related to the modus operandi and forms of *Artificial Intelligence* (AI) crime that are increasingly developing following technological and information advances.

AI is not recognized Legal Subject

AI cannot be equated with a legal entity to be a legal subject, where a legal entity has a clear and firm intention and purpose in its stance and there is a scope of humans, and AI cannot stand independently as it is known, the computer is regulated and programmed by humans and if the computer or AI takes a decision that can be likened to a human then the decision cannot be ascertained if there is no human supremacy in decision-making, because computers are not always free from system errors.⁴³

The actions "done" by AI do not always provide positive benefits and impacts. It is not uncommon to encounter cases of AI "doing" actions that are not in accordance with orders or can even harm other parties. Acts that violate ethics and the rule of law should be accounted for, especially if they cause harm to other parties. Unfortunately, positive law in Indonesia does not recognize AI as a legal subject. The massive use of AI in the online business sector today without further regulation can cause chaos in society.

⁴² Satjipto Rahardjo, *Legal Sciences. Seventh Printing* (Bandung: PT. Citra Aditya Bakti, 2012).

⁴³ Yamani, R. R. (2016). Prof. Satjipto Rahardjo's Thoughts on Progressive Law and Its Relevance to Islamic Law in Indonesia (Doctoral dissertation, Alauddin State Islamic University of Makassar).,.

At least, there are two possibilities that happen. *First*, the commands given are not in accordance with or are not perfect with the data input on the machine so that the Inference Engine cannot process them properly. *Second*, the initial negligence of humans at the time of data input can also be the cause, namely through errors when the machine is trained (*Training*) and *Misprogramming*.⁴⁴

The problem with the subject of *Artificial Intelligence* Law or artificial intelligence is that it cannot be classified as a subject of law as the Constitution of the Republic of Indonesia of 1945 constitutionally stipulates that all people are supporters of rights and obligations (legal subjects) in legal relationships, as well as in the Civil Code the subjects of law are persons/humans (*Natuurlijkpersoon*) and legal entities (*Rechtspersoon*), as well as in the criminal law rules in the Criminal Code starting with the word "whom".

Therefore, even though *Artificial Intelligence* or artificial intelligence can not be used as a legal subject, a formulation of the crime of *Artificial Intelligence* or artificial intelligence is needed. So the legal subject is *Persoon* or humans or legal entities that use *Artificial Intelligence* or artificial intelligence that causes losses or even that cause crimes.

AI Legal Objects Have a Wide Scope

The problem of legal objects *Artificial Intelligence* is a very broad scope of legal objects considering that *Artificial Intelligence* is growing rapidly in accordance with advances in information and technology. This has an impact on the implementation of *Artificial Intelligence* law from a regulatory perspective.

In the ITE Law and PP PSTE, there is no explicit mention of provisions regarding AI, but AI is included in the scope of the main points regulated in the ITE Law. AI is included in the scope of electronic agents, which are devices from an Electronic System that are made to perform an action on a certain Electronic Information automatically organized by a person. As an electronic agent, AI works as a software that mimics human intelligence with the ability to perform an action based on commands given by people automatically. AI is also part of Electronic Systems, and the objects that are the focus of AI's work are included in the Electronic Information referred to by these regulations.

Artificial intelligence has quickly entered legal practice, the problem that AI has occurred in addition to providing many benefits in human life, but on the other hand it also causes crimes that continue to grow. Some of the crimes that have developed from AI crimes include the following: Malware Crime, Personal Data Theft, Cybercrime, Banking Crime and Business Crime.

⁴⁴ *Ibid*

The issue of broad legal objects in *Artificial Intelligence* (AI) crimes is growing following advances in technology and information. *Artificial Intelligence* (AI) also gives rise to a growing number of crimes. Some of the crimes that have developed from AI crimes include the following: Malware Crime, Personal Data Theft, Cybercrime, Banking Crime and Business Crime. Because it is necessary to make special regulations related to *Artificial Intelligence* (AI) crime and adjust it to an in-depth study related to the modus operandi and forms of *Artificial Intelligence* (AI) crime that are increasingly developing following technological and information advances.

AI Legal Accountability

Artificial Intelligence (*Artificial Intelligence*) is a unilateral legal act and gives rise to rights and obligations (Agustin, 2019). The inherent rights and obligations in a legal act have the consequence of liability for the legal act committed by the subject of the law. One of these legal liabilities is civil liability arising from an unlawful act in the field of civil law. In civil law, liability for unlawful acts is regulated in Articles 1365 to 1380 of the Civil Code. Liability for unlawful acts exists to protect a person's rights which outlines the rights and obligations when a person commits an act of either negligence or mistake or injures another person and the act causes harm to others.

Based on this in the context of civil law using an analogous interpretation when studying the accountability of the subject of Artificial Intelligence law, the closest norm construction is as stipulated in Article 1368 and Article 1367 paragraphs (1) and (3) of the Civil Code. Based on the formulation of the normative framework as stipulated in Article 1367 paragraph (1), the relationship between Artificial Intelligence and the owner of Artificial Intelligence has an analogous relationship pattern almost the same in the context of liability to a person who is not only responsible for losses caused by his own actions, but also for losses caused by the actions of people who are his dependents or caused by goods under his supervision.

A person is civilly responsible for losses due to violations committed by other persons who are his or her dependents or caused by goods under his supervision while in Article 1367 paragraph (3) between the worker and the employer. Civilly, the concept of liability in Article 1367 paragraph (1) is the division of the burden of liability for losses caused by violations committed by other persons who are the dependents.

In this case, Artificial Intelligence as a subject of artificial law, if it commits an unlawful act, the owner of the Artificial Intelligence can also be held civilly liable. The concept of liability in Article 1367 paragraph (3) is a form of accountability of the employer and the person who represents his affairs to the person he or she hires. In this case, Artificial Intelligence as a subject of artificial law is a worker who receives a job from the owner of Artificial Intelligence (employer) so. If Artificial Intelligence commits an unlawful act, the owner of Artificial

Intelligence as an employer can be held accountable. The relationship between Artificial Intelligence and the owner is analogous to the relationship between a pet animal and its owner (vide Article 1368 of the Civil Code).

Based on the formulation of the normative framework as stipulated in Article 1368 of the Civil Code, the relationship between Artificial Intelligence and the owner is analogous to having almost the same relationship pattern between pet owners and their owners or users. Civilly, if a pet animal causes losses either when it is under the supervision of its owner or user, or if the animal gets lost and is detached from supervision, then the responsibility for the burden of loss is attached to the owner of the animal or the user. In this context, Artificial Intelligence is a legal subject in the supervision and ownership of the owner of Artificial Intelligence or the user of Artificial Intelligence which is then used for certain interests and purposes for others.

As an artificial legal subject that has an autonomous nature, if Artificial Intelligence commits acts that cause harm to others or unexpected actions, the owner of Artificial Intelligence can be held civilly liable. Artificial Intelligence is criminally legal, if a criminal act occurs. Artificial Intelligence cannot be accounted for because the second element to be a subject of law or a person can be punished must meet the elements of *actus Reus* and *Mensrea*, namely the elements of action and error. The element of action of Artificial Intelligence meets these requirements, because it can commit illegal acts or can commit criminal acts such as hitting people to death, but the element of "Mensrea" / element of error, cannot be fulfilled because between the act and there is no inner awareness, in other words Artificial Intelligence has no conscience.

Artificial intelligence does not adhere to values and ethics, Artificial intelligence does not have a conscience, so the Artificial Intelligence does not have an inner responsibility, known in the criminal law *actus* and *mensrea*⁴⁵, to be able to get a person or legal subject to be criminalized, the legal subject meets two qualifications, namely his deeds and accountability. Artificial Intelligence does not have the rights and obligations that an Inventor has, but artificial intelligence can be the object of a Patent/invention and is entitled to legal protection.⁴⁶

The problem of legal liability Artificial Intelligence or *Artificial Intelligence* is that *Artificial Intelligence* is not included in the subject of law, because Artificial Intelligence is only an extension of human hands as a subject of law, it works according to the program that has been set by humans as a subject of law, therefore it is responsible based on *the theory of risk*

⁴⁵ M. Ali Zaidan, *Towards Criminal Law Reform*. (Jakarta: PT. Sinar Grafika, 2015).

⁴⁶ Haris Munandar and Sally Sitanggang, "Getting to Know Intellectual Property Rights Copyright," *Patents, Brands, and the Intricacies of Erlangga*, Jakarta, 2008.

and *liabilities*. Artificial Intelligence does not have an inner responsibility, known in the criminal law *actus* and *mensrea*, in order for a person or legal subject to be criminalized, the legal subject meets two qualifications, namely his deeds and responsibilities. Artificial Intelligence has no rights and obligations. Therefore, Ai Liability is given to the creator or user of AI who causes loss or crime.

Synergy of Laws and Regulations Related to Artificial Intelligence

Artificial intelligence *crime* is a type of crime in the field of *cyber crime* that has developed along with the development of technological and information advances. Cybercrime is a type of crime that utilizes an unlimited information technology and has strong characteristics with a technological engineering that relies on a high level of security and credibility of information that is conveyed and accessed by internet customers.⁴⁷

Legally, Indonesia also has a special law regarding cybercrime, namely the ITE law in 2016, which discusses procedures, restrictions on the use of computers and sanctions that will be given if there is a violation. For example, the act of illegal access or making unauthorized access has been regulated in article 30 of Law Number 19 of 2016 concerning Information and Electronic Transactions, which states: "every person intentionally and without rights or unlawfully accesses a computer and/or electronic system belonging to another person paragraph (1) in any way, (paragraph (2)) in any way with the aim of obtaining electronic information and/or electronic documents, (paragraph (3)) in any way by violating, breaking through, exceeding, or breaking into the safety system.

Aspects of Proof Currently, the legal proof system in Indonesia (especially in article 184 of the Criminal Code) does not recognize the term electronic/digital evidence as valid evidence according to the law. There is still a lot of debate, especially between academics and practitioners regarding this matter. For the civil aspect, basically the judge can even be guided to *rechstivinding* (legal discovery). But for criminals, this is not the case, the principle of legality stipulates that no act can be punished if there is no legal rule that regulates it (*nullum delictum nulla poena sine previe lege poenali*). For this reason, there needs to be a strong enough postulate so that the debate between academics and practitioners about this does not need to happen again.

Lex Specialis derogat lege generali is a principle that contains the meaning that the law that is special (*Lex Specialis*) overrides the law that is general (*Lex generali*). *Lex posterior derogat legi priori* is a principle of legal interpretation that states that the latest law (*Lex Posterior*) overrides the old law (*Lex prior*). Law of the Republic of Indonesia Number 19 of 2016 concerning amendments to Law number 11 of 2008 concerning information and electronic transactions is *Lex Specialis* and *Lex Posterior* which is currently the most appropriate to regulate the crime of *artificial intelligence* (AI).

⁴⁷ Abdul Wahid and Mohammad Labib, *Cyber Crime*, PT. Rafika Aditama, Jakarta, 2005, p. 40

The crime of *artificial intelligence* (AI) can not only be charged through Law of the Republic of Indonesia Number 19 of 2016, but can also be charged through the Criminal Code. Through the Criminal Code (KUHP), including; 1) Article 335 concerning Threats 2) Article 362 concerning theft 3) Article 378 concerning fraud and embezzlement 4) Article 406 concerning destruction or *hacking*. Then Law of the Republic of Indonesia Number 36 of 1999 concerning Telecommunications includes; 1) Article 22 on acts without rights 2) Article 40 on wiretapping.

The crime of *artificial intelligence* (AI) can also synergize with the crime of terrorism, therefore it can also be prosecuted through Law No. 5 of 2018 concerning amendments to Law No. 15 of 2003 stipulating government regulations in lieu of Law No. 1 of 2002 concerning the eradication of terrorism crimes into law. In addition, considering that the crime of *artificial intelligence* (AI) is a crime that continues to develop along with the development of technology and information, it can also be charged through Permenkominfo number 20 of 2016 concerning the Protection of Personal Data in Electronic Systems, including; 1) Article 68 concerning personal data violations 2) Article 69 concerning threats of personal data in public places 3) Article 70 concerning criminal tools of personal data violations 4) Article 71 concerning acts unlawful by a third party 5) Articles 72, 73 and 74 concerning Misuse of personal data 6) Article 75 concerning falsification of personal data 7) Article 76 concerning additional criminal acts 8) Article 77 concerning criminal acts of personal data by corporations

Various laws and regulations can be used temporarily in dealing with *artificial intelligence* (AI) crimes, before finally the Government can issue laws and regulations that are specialized in dealing with *artificial intelligence* crimes (*AI Lex Specialis derogat lege generali* is a principle that contains the meaning that special laws (*Lex Specialis*) set aside the law of a general nature (*Lex generali*). In addition, *artificial intelligence* (AI) crime is a type of crime that is always evolving.

The problem that occurs is that *artificial intelligence* (AI) crime as a *cyber crime* does not only penetrate into the computer sector, but also several crimes that develop from AI crimes including the following: Malware Crime, Personal Data Theft, Cybercrime, Crime in the Banking Sector and Crime in the Business Sector. Therefore, the synergy of laws and regulations is needed to overcome *artificial intelligence* (AI) crimes, both civilly as in the Civil Code, criminally as in the Criminal Code, even business law as in the PTSP Law and electronically in the ITE Law.

CONCLUSION

The regulation of *Artificial Intelligence* (AI) crimes in the current laws and regulations in force in Indonesia includes; the 1945 Constitution of the Republic of Indonesia; Criminal Code; Law of the Republic of Indonesia Number 19 of 2016 concerning amendments to Law number 11 of 2008 concerning information and electronic transactions; Law of the Republic of Indonesia Number 5 of 2018 concerning Amendments to Law Number 15 of 2003

concerning the Stipulation of Government Regulations in Lieu of Law Number 1 of 2002 concerning the Eradication of Terrorism Crimes into Law; Law Number 12 of 2011 concerning the Establishment of Laws and Regulations; Law Number 28 of 2014 concerning Copyright; Law of the Republic of Indonesia Number 36 of 1999 concerning Telecommunications; Permenkominfo number 20 of 2016 concerning the Protection of Personal Data in Electronic Systems and other related regulations.

Legal problems in law enforcement against *Artificial Intelligence* (AI) crimes in Indonesia include; (a) There is no specific regulation on *Artificial Intelligence* (AI) crimes, (b) *Artificial Intelligence* (AI) is not a Subject of Law; (c) The Legal Object of *Artificial Intelligence* (AI) has a wide scope; (d) Legal Accountability of *Artificial Intelligence* (AI) is still difficult to prove between intentionality and negligence of users; (e) Forms of Crime *Artificial Intelligence* (AI) continues to develop its mode and role in line with technological advances.

The Future Legal Concept of *Artificial Intelligence* (AI) Crime in Indonesia can be a solution to several legal problems in law enforcement against *artificial Intelligence* (AI) crimes in Indonesia, including the following: (a) the establishment of special legislation against *Artificial Intelligence* (AI) crimes, (b) the subject of *Artificial Intelligence* (AI) Law is the user *Artificial Intelligence* both individuals and legal entities; (c) the regulation of *Artificial Intelligence* in accordance with the Legal Object of *Artificial Intelligence* (AI) has a wide scope; (d) Further regulation of *Artificial Intelligence* Legal Liability between intentionality and negligence of users; (e) Synergy of Laws and Regulations Related to *Artificial Intelligence* Crimes in accordance with Technological and Information Advances

BIBLIOGRAPHY

- Abdul Wahid and Mohammad Labib. 2005. *Cyber Crime*. Jakarta: PT. Rafika Aditama.
- Ali, Zainuddin. 2016. *Legal Research Methods*. Jakarta: Sinar Grafika.
- Arief, Barda Nawawi. 1998. *Several Aspects of Criminal Law Enforcement and Development Policy*. Bandung: Citra Aditya Bakti.
- Arief, Barda Nawawi. 2000. *Legislation Policy in Countering Crime with Prison Sentences*. Semarang: Diponegoro University Publishing Board
- Arief, Barda Nawawi. 2002. *Potpourri Criminal Law Policy*. Jakarta: PT. Citra Aditya Bakti, Bandung, 2002, p. 2.
- Arief, Barda Nawawi. 2003. *Kapita Selekta Criminal Law*. Bandung: Citra Aditya Bhakti
- Arief, Barda Nawawi. 2007. *Law Enforcement Issues and Criminal Law Policies in Crime Countermeasures*. Jakarta: Kencana Predana Media Group.
- Bullock, J. B. (2019). "Artificial Intelligence, Discretion, and Bureaucracy". *American Review of Public Administration*, 1-11.
- Donovan Typhano Rachmadie, Supanto. (2016). "Regulation of Artificial Intelligence Deviations in Malware Crimes Based on Law of the Republic of Indonesia Number 19 of 2016", *Recidive Journal* Volume 9 No. 2, May - August 2020, p. 129
- Elaine Rich and Kevin Knight. 1991. *Artificial Intelligence*. New York: McGraw-Hill
- Friedmen, Lawrence. 1984. *America Law an Introduction*. Terj. Wisnu Basuki. Jakarta: PT. Tatanusa.
- Goralski, M. A., & Tan, T. K. (2020). "Artificial intelligence and sustainable development". *The International Journal of Management Education*, 18 (1), 100330
- Hadjon, Philipus M. 1987. *Protection of the People for the People in Indonesia (A Study on Its Principles, Its Handling by the Courts in the General Judicial Environment and the Establishment of State Administrative Courts)*. Surabaya: PT. Fostering Knowledge
- Halim, A. Ridwan. 1987. *Evaluation of Philosophy of Law Lectures*. Jakarta: Ghalia Indonesia

- Hamzah, Andi. 1993. *Criminal Law Relating to Computers*. Jakarta: Sinar Grafika
- Hartono, Sunaryati. 2011. *Some Thoughts on the Development of Indonesia's National Legal System*. Bandung: Citra Aditya Bakti.
- Hius, J.J, Saputra, J, Nasution A. (2014). "Recognize and anticipate cybercrime activities in daily online activities in education, government and industry and applicable legal aspects". Proceedings of SNIKOM 2014. Banda Aceh, 24 May 2014
- Hoefnagels, G. Pieter. 1972. *The Other Side of Criminology, An Inversion of The Concept of Crime*. Holland: Kluwer Deventer.
- BPPT Public Relations. (2020). Public Service News. Retrieved from Official Website BPPT: <https://www.bppt.go.id/layanan-informasi-publik/3919-pemerintah-siapkan-strategi-nasionalkecerdasan-buatan-ai>
- Public Relations of the Minister of Public Relations. (2021). Three Pillars to Support the Realization of a New Bureaucratic Order. Retrieved from Official Website Menpan RB: <https://www.menpan.go.id/site/berita-terkini/tiga-pilar-penopang-terwujudnyatatanan-birokrasi-baru>
- Hwian Christianto. (2019). "Formulation of Criminal Acts of Pornography Through the Internet Based on the Nature of Violating Material Law". Dissertation of the Doctoral Program in Law, Gadjah Mada University, Yogyakarta.
- Ibrahim, Jhonny. 2006. *Normative Law Research Theory and Methodology*. Malang: Banyumedia Publishing.
- Kent, Allent and Harold Lancour. 1975. *Jay E. Dally, The Encyclopedia of Library and Information Science*, Routledge - Publisher of Professional & Academic Books, CRC-Press
- Koentjaraningrat. 2014. *Legal Anthropology. Indonesian Anthropology*, Jakarta: Ghalia Indonesia.
- Deepfake controversy, accessed from <https://medium.com/techlab-institute/deepfake-algoritma-kontroversial-yang-memasangwajah-kamu-di-film-b290604841f>
- Kramer, S. & Bradfield, J. C. 2010. "A general definition of malware". *Journal in Computer Virology*, 6 (2), 105–114.
- Lubis, M. Solly. 1994. *Philosophy of Science and Research*. Bandung: Mandar Maju, Bandung, 1994, p. 23.

- Marty Puranik. 2019. AI-Powered Malware, Smart Phishing and Open Source Attack, Oh My! The New Wave of Hacking in 2019 and How to Prevent. Retrieved from Official Website <https://www.cpomagazine.com/cyber-security/aipowered-malware-smart-phishing-and-open-source-attacks-oh-my-the-new-wave-of-hacking-in2019-and-how-to-prevent/>
- Marzuki, Peter Mahmud. 2008. *Legal Research*. Jakarta: Kencana Prenada Media Group.
- Moeljatno. 2008. *Principles of Criminal Law*. Jakarta: Rineka Cipta.
- Moeljatno. 2014. *Criminal Code, Article 6 Paragraph 1 of Law Number 35 of 2009 concerning Narcotics*. Jakarta: Pradnya Paramita
- Muchsin. "Legal protection and certainty for investors in Indonesia." *Faculty of Law, Sebelas Maret University*, 2003.
- Mudzakkir. "Development of Victimology and Criminal Law." *The paper was presented at the Indonesian Criminal Law and Criminology Training (MAHUPIKI), at the University Club UGM Yogyakarta on February 23-27, 2014*, 2014.
- Started. 2002. *Democratization of Human Rights and Legal Reform in Indonesia*. Jakarta: The Habibie Center
- Started. 2002. *Human Rights, Politics and the Criminal Justice System*. Semarang: Diponegoro University Press.
- Nasution, Bahder Johan. 2008. *Legal Research Methods*. Bandung: Mandar Maju.
- Nazir, Moh. 1988. *Research Methods*. Jakarta: Ghalia Indonesia.
- Ondrej Kubovic. 2018. "Can Artificial Intelligence Power Future Malware?". https://www.welivesecurity.com/wpcontent/uploads/2018/08/Can_AI_Power_Future_Malware.pdf.
- Organisation for Economic Co-Operation and Development (OECD). (2008). "Malicious Software (Malware): Security Threat to the Internet Economy". Ministerial Background Report DSTI/ICCP/REG (2007)5/FINAL. Seoul, Korea
- Philippe Nonet & Philip Selzenick. 1978. *Law and Society in Transition, Toward Responsive Law*, Harper Torchbooks, New York, Hagerstown, San Francisco, London.
- Porta, Rafael La. "Investor Protection and Corporate Governance." *Journal of Financial Economics*, No. 58, (October 1999): p. 9. 58, no. 1 (1999): 9–20.

- Prasetyo, Teguh. 2010. *Criminalization of Criminal Law*. Bandung: Nusamedia
- Prasetyo, Teguh. 2016. *Pancasila Legal System*. Yogyakarta: Nusa Media
- Putro, Widodo Dwi. 2011. *Criticism of the Legal Positivism Paradigm*. Yogyakarta: Genta Publishing
- Rahardjo, Satjipto. 1983. *The Problem of Law Enforcement: A Sociological Review*. Jakarta: National Legal Development Agency
- Rahardjo, Satjipto. 1994. *Legal Science*. Bandung: PT. Citra Aditya Bakti.
- Rahardjo, Satjipto. 2000. *Legal Science*. Bandung: Citra Aditya Bakti
- Raharjo, Agus. 2002. *Cybercrime: Understanding and Efforts to Prevent Technological Crimes*. Bandung: Citra Aditya Bakti.
- Rawls, John. 2006. *Theory of Justice*. Yogyakarta: Student Library.
- Riza, H., Nugroho, A. S., & Gunarso. (2020). "Applied Study of Artificial Intelligence at the Agency for the Assessment and Application of Technology". *Journal of Intelligent Systems* 2020 Vol 03 - No 01, 1-24
- Russell, Stuart J.; Norvig, Peter. 2009. *Artificial Intelligence: A Modern Approach* (3rd ed.). Upper Saddle River, New Jersey: Prentice Hall.
- Setiono. 2004. *Rule of Law*. Surakarta: Sebelas Maret University
- Sidharta, B. Arief. 2010. *Indonesian Law*. Bandung: FH Unika Parahyangan
- Sitompul, Joshua. 2012. *Cyberspace, Cybercrimes, Cyberlaw: A Review of Criminal Law Aspects*. Jakarta: PT. Tatanusa.
- Soedarto. 1990. *Kapita Selekta Criminal Law*. Bandung: Alumni.
- Soedarto. 2006. *Kapita Selekta Criminal Law*. Bandung: PT. Alumni
- Soekanto, Soerjono and Sri Mamudji. 2003. *Normative Law Research: A Review of Singkat*. Jakarta: Rajawali Pers.
- Soekanto, Soerjono. 1967. *Some Legal Issues in the Framework of Development in Indonesia*. Jakarta: University of Indonesia Publishing Foundation
- Soekanto, Soerjono. 1979. *Sociology of Law in Society*. Jakarta: Rajawali Press.

- Soekanto, Soerjono. 2013. *Factors Affecting Law Enforcement*. Jakarta: PT. RajaGrafindo Persada
- Soetandyo, Wignjosoebroto. 2002. *Law, Paradigm, Method and Dynamics of the Problem*. Jakarta: Elsam
- Soleh, Roslan. 1983. *Some Principles of Criminal Law in Perspective*. Jakarta: New Aksara
- Stephenson, Peter. 2000. *Investigating Computer Related Crime: A Handbook for Cooperate Investigators*. London New York Washington D.C: CRS Press
- Sugiono. 2014. *Quantitative, Qualitative and R&D Research Methods*. Bandung: Alfabeta.
- Suyanto. 2014. *Artificial Intelligence*. Bandung Informatics.
- Uthman, Sabian. 2014. *Progressive Law Research Methodology*. Yogyakarta: Student Library.
- Wantiknas. 2020. *Preventing Bias and Ethics Problems in Artificial Intelligence*. Jakarta: National Technology and Communication Council (Wantiknas RI)
- Wisnubroto, Aloysius. (2010). "Reconceptualization of Indonesian Criminal Law in Facing the Development of Crime Based on Telematics Technology". Dissertation of Doctoral Program in Law, Diponegoro University Semarang