The Urgency of Artificial Intelligence Regulation in Supporting the National Defence System

Urgensi Pengaturan Artificial Intelligence Dalam Mendukung Sistem Pertahanan Negara

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Article Info

Abstract

This research analyzes the urgency of regulating Artificial Intelligence in supporting the national defense system. This research is a perspective normative legal research. The approaches used include the Legislation approach and the comparative approach. Legal materials consist of primary and secondary legal materials. Legal materials are obtained through library studies. Analysis of legal materials is done through deductive syllogism. Based on the discussion results, it is known that first, the use of Artificial Intelligence in strengthening the national defense system is increasingly developed by countries worldwide. Second, Indonesia still needs to be more optimal in using Artificial Intelligence technology to enhance the national defense system. Third, Indonesia still needs laws and regulations that specifically regulate the use of Artificial Intelligence in the national defense system. Researchers provide suggestions, including, first, forming laws and regulations that specifically restrict the use of Artificial Intelligence in the national defense system. Second, strengthening the position of institutions that specifically handle and are responsible for using Artificial Intelligence in the national defense system. Third, enhancing the capacity and capability of human resources in utilizing Artificial Intelligence in the national defense system. Fourth, prioritize Artificial Intelligence in national defense by allocating the special defense budget.

INTRODUCTION

Information technology continues to develop rapidly and significantly impacts various aspects of human life.(Arif Rahman Muttaqin, Aji Prasetya Wibawa, 2021) Technological development is a challenge that must be addressed in human life.(Muhammad Aminullah, 2020) This development affects the community, nation, and State life. (Danuri, 2019) The advancement of technology

has provided a very broad sourceof information and communication from what humans have. The need for information and communication is no less important than the need for human clothing and food. (Ahmad, 2012).

One of the hotly discussed developments in technology is Artificial Intelligence. Artificial Intelligence is the ability of machines to mimic and perform tasks that usually require human Intelligence.(Afandi & Kurnia, 2023) Artificial Intelligence will be able to perform simple and repetitive tasks more efficiently. In contrast, tasks that require creativity, empathy, and human emotional Intelligence can be safer from the impact of this technology. However, the future revolution of Artificial Intelligence can create new opportunities.(Afandi & Kurnia, 2023)

Artificial Intelligence has developed dramatically and is increasingly institutionalized in the 21st century. (Liu et al., 2018) Humans as humanistic beings also have the ability of creativity which is the nature of human ability as a living being. Therefore, Artificial Intelligence is more appropriate to function as a device that helps human activities in all their activities.(Rony Sandra Yofa Zebua, Khairunnisa, Hartatik, Wahyuningtyas, Ahmad M Thantawi, I Gede Iwan Sudipa, Grace Christien Sumakul, & Kharisma, 2023) One of the uses of Artificial Intelligence is in supporting the national defense system. Artificial Intelligence in the national defense system is believed to support the main tasks of the national defense apparatus. Artificial Intelligence is considered very efficient and effective in reducing the risk of threats to national defense.

State defense is based on the philosophy and outlook of life of the Indonesian people to ensure the integrity and upholding of the Unitary State of the Republic of Indonesia based on Pancasila and the 1945 Constitution. State defense is one of the functions of the state government, which is an effort to create a unified state defense to achieve national goals, namely to protect the entire nation and all of Indonesia's spilled blood, advance public welfare, educate the nation's life and participate in implementing world order based on independence, eternal peace, and social justice.

Increased productivity and accelerated innovation are owned by Artificial Intelligence, making it easier for people to solve problems. Artificial Intelligence in national defense has unlimited potential, such as logistics support, simulation,

target recognition, and threat monitoring (Lee Hadlington, Jens Binder, Sarah Gardner, Maria Karnika Murray, 2023). Furthermore, national defense is based on digital technology, which can hide information and data to maintain the secrecy of war strategies (Farid, Reksoprodjo, & Suhirwan, 2023).

The mastery of Artificial Intelligence is intensifying in the military world, many countries are developing artificial Intelligence to defend their sovereignty and balance their military capabilities with other countries in the world. (Komando, 2021) Along with the development of science and technology, forms of military threats and non-military threats from outside and within the country threaten the nation's sovereignty, territorial integrity, and safety. (Komando, 2021)

Modern warfare will rely heavily on advanced technologies alongside Artificial Intelligence, such as Internet-of-Things (IoT), Cyber-Physical Systems (CPS), and Big Data. (Komando, 2021) These technologies will play an important role in the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) framework. Seeing the dynamics of the rapid development of world technology, the Indonesian National Army (TNI) must be adaptive by updating its defense equipment, which carries the concept of Artificial Intelligence. (Komando, 2021) The use of artificial Intelligence by the TNI is a must, this is due to the pattern of threats that are increasingly developing and increasingly sophisticated, so the use of technology is very relevant to use. (Komando, 2021).

The development of technology, especially Artificial Intelligence, has brought new opportunities and challenges to the sociotechnical aspects in Indonesia. The existence of these opportunities and challenges makes the government, as a regulator, need to issue policies that can optimize the potential of technology and, at the same time, mitigate the negative risks of the presence of these technologies. (Putri, 2018) Artificial Intelligence and robotics technology will play an important role in national defense in the future. Artificial Intelligence in the national defense system is believed to support the main tasks of the national defense apparatus. (Komando, 2021) However, the reality of the defense sector owned by Indonesia

currently needs to be more optimal for Indonesia's defense system, especially regarding the Main Equipment of the Armed System (Alutsista). (Komando, 2021) Currently, on the one hand, Artificial Intelligence is developing rapidly, constantly changing, and being implemented. While on the other hand there is a condition of the absence of regulations on Artificial Intelligence. (Ramli, 2023) Regulations must also be directed to maintain the sovereignty, integrity of the State, and the welfare of all its citizens. (Ramli, 2023) This includes regulations related to the use of Artificial Intelligence in the defence sector in Indonesia.

As Lon Fuller states (Fuller, 1969), this is "The first and most obvious lies in a failure to achieve rules at all so that every issue must be decided on an ad hoc basis. The other routes are: (2) a failure to publicize, or at least to make available to the affected party, the rules he is expected to observe; (3) the abuse of retroactive legislation, which not only cannot itself guide action, but undermines the integrity of rules prospective in effect, since it puts them under the threat of retrospective change; (4) a failure to make rules understandable; (5) the enactment of contradictory regulations or (6) rules that require conduct beyond the powers of the affected party; (7) introducing such frequent changes in the rules that the subject cannot orient his action by them; and, finally, (8) a failure of congruence between the rules as announced and their actual administration. Lon Fuller emphasizes the importance of the existence of a legal system that allows humans to regulate their interactions with each other by referring to the rules. (DR, 2021) Regulation provides legal certainty, especially regarding using Artificial Intelligence.

The current problem is that Indonesia needs specific regulations governing the use of Artificial Intelligence in the defense sector. The current regulations are still sectoral, which has the potential to be unable to answer the problems of State defense in the use of Artificial Intelligence. On the other hand, technological developments, threats, and disturbances to State defense move quickly and dynamically. Therefore, a regulation that specifically regulates the use of Artificial Intelligence in national defense is needed to provide legal certainty.

RESEARCH METHODOLOGY

Legal research is conducted to find solutions to legal issues that arise. (Marzuki, 2011) This legal research is normative legal research that is perspective. The approach used in this research uses a statutory approach and a comparative approach. Legal materials in this research include primary and secondary legal materials. Primary legal materials include Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions, Law Number 27 of 2022 concerning Personal Data Protection, and other laws and regulations relevant to this research. Secondary legal materials include books and journals that have relevance to this research. Legal materials were obtained through library studies. Analysis of legal materials is done through deductive syllogism. Deductive syllogism stems from the submission of major premises, which are then submitted to minor premises, and then a conclusion is drawn (Marzuki, 2011).

RESULTS AND DISCUSSION

The Use of Artificial Intelligence in National Defence

Artificial Intelligence is present as a branch of Computer Science that promises benefits in answering needs. Artificial Intelligence is a field of computer science that has an important role in the present and future era. (Susdarwono, 2021) Artificial Intelligence is an important element of the era referred to as the Fourth Industrial Revolution. Artificial Intelligence technology and applications have a tremendous impact. (Rahmatika, 2022) The way Artificial Intelligence works is divided into two types, namely first, ANI (Artificial Narrow Intelligence), serving according to what has become a program for him. Second, namely, AGI (Artificial General Intelligence), which is a system that has a level of Intelligence equivalent to humans and maybe even more (Theory of Mind) (Muhammad Fikri Ridwansyah & Amalia Zuhra, 2022).

In Indonesia itself, the use of Artificial Intelligence in the field of defense has not been much. However, research and development of Artificial Intelligence is being carried out. (Rahmatika, 2022) In 2020, Indonesia issued a National Strategy for Artificial Intelligence (STRANAS-KA), which included plans to utilize Artificial Intelligence in various national aspects, namely health, education, food,

government, and smart cities. This STRANAS-KA has not discussed the use of Artificial Intelligence in the field of defense as a national defense strategy. (Rahmatika, 2022) The use of AI in national defense requires transparency in the process of collecting, integrating, and sharing data (Yudopratomo, 2023). This is a concern because each field of Artificial Intelligence use has its own characteristics, including, in this case, in the field of defense.

According to Roth et al. in Azizah Nur Rahmatika (Rahmatika, 2022), in general, the use of Artificial Intelligence in defense mostly exists in six main areas, including first, weapon targeting and autonomous weapons. Currently, autonomous weapon platforms use computer vision to identify and track targets. Autonomous weapons mainly become autonomous when the system can identify and track targets in the space it has been deployed to guard. Secondly, Surveillance(Intelligence, surveillance, reconnaissance). Artificial Intelligence is particularly useful in Intelligence because of the large data sets available for analysis.

Third, Cybersecurity. Cybersecurity threats come in all shapes and sizes. Artificial Intelligence has the ability to play a big role in countermeasures for a military. Artificial Intelligence will likely be a key technology in advancing cybersecurity and operations. Fourth, Homeland Security. One of the core capabilities of AI is identifying trends and patterns in data sets to then predict the likelihood and when those trends will occur again. This is called predictive analytics and is currently being applied to homeland security issues. Fifth, Logistics. Artificial Intelligence may have future uses in the field of military logistics, and sixthly, Autonomous vehicles. Most countries are now seeking to incorporate AI into semi-autonomous and autonomous vehicles, including fighter aircraft, drones, ground vehicles, and naval vessels.

Colonel Arwin Datumaya Wahyudi Sumari said there are 14 (14) implementations of Artificial Intelligence in the defense sector. The 14 (fourteen) implementations of Artificial Intelligence in the defence sector include (Kurniawan, 2020) first, an Autonomous Machine System or an autonomous machine system that is able to see patterns from Hybrid warfare. Second, AI which is a collaboration between humans - machines. Third, AI assists human / army

operations (Assisted human operations). Fourth, Advanced Human-Machine which combines humans with machines in a more advanced and intensive manner. For example, AI combines the human brain with a processor (Combat-Teaming). Next, AI for network-enabled semi-autonomous weapons. Sixth, AI for image understanding. Seventh, AI for Face Recognition or human recognition and understanding. Eighth, Cognitive C41SR or AI for decision support. Ninth, Cognitive command decision-making or AI is developed to make decisions more quickly, precisely, and accurately. Tenth, AI for Cognitive processor implemented on Unmanned Combat Aerial Vehicle (UCAV). Eleventh, AI for Cognitive countermeasure or protecting information. Twelfth, AI to predict cyber-attacks (cyber attack predictive system). Thirteenth, AI to help troops in the field (energy usage predictive system). Fourteenth, AI to monitor electronic devices in a war (Health Condition predictive System).

Other forms of Artificial Intelligence implementation in national defense include (Harjadi, 2024), first, Intelligence and surveillance. Artificial Intelligence has the ability to collect and analyze intelligence data from various sources, including satellites, radars, and other sensors. Second, planning and decision-making. Artificial Intelligence can be used to help military commanders plan military operations and make quick and precise decisions. It can also be useful for predicting enemy movements and potential threats. Thirdly, operations and maintenance. Artificial Intelligence can serve to operate and maintain weapon systems and military equipment and reduce the risk of accidents and damage. Fourth is cyber defense. Artificial Intelligence is able to protect military information systems from cyber-attacks. In addition, with Artificial Intelligence, the national defense apparatus is able to identify and respond to cyber attacks automatically.

National defense cannot be separated from technological development. Technology will continue to develop and run dynamically following the changes that occur, including in the context of threats and challenges that move dynamically. The use of Artificial Intelligence has become a common thing used by countries around the world to strengthen a country's defence system.

Regulation of Artificial Intelligence in Indonesia's Defence

The development of adequate technology and infrastructure, along with clear and comprehensive regulations, is the foundation for ensuring that the use of Artificial Intelligence in defense is conducted ethically and safely. (Yudopratomo, 2023) Relevant policies and regulations must be formulated to ensure that the use of artificial Intelligence in defense remains in accordance with ethical values, the law, and the principles of national defense. This includes protecting privacy and data security and ensuring accountability in artificial intelligence decision-making and regulation. (Yudopratomo, 2023).

The Indonesian government has issued several legal products as a first step in creating a defense and security strategy in the digital technology domain, or security guarantees in the cyber world. These legal products aim to be the basis for making and implementing strategic policies related to Artificial Intelligence as a national defense in the operational and tactical stages. These legal products are the first steps of the government of the Republic of Indonesia in developing a national defence strategy by maintaining state sovereignty and ensuring that the rights and obligations of society are fulfilled. In general, the policies address key cybersecurity topics, such as information and technology security management, personnel and personnel operations related to information security, and monitoring and research on information security management and technological advancements used by society and government. Some of the legislation that has currently been made in Indonesia. (Syafi'i, Supriyadi, Prihanto, & Gultom, 2023).

Artificial Intelligence is actually included in the definition of Electronic Agent, which means that all legal obligations and legal liability are attached to the provider of Artificial Intelligence devices.(Zahrasafa P Mahardika, 2021) The characteristics of Artificial Intelligence in the automation of information processing make it equal to an 'Electronic Agent' in Indonesian regulations. In Article 1 of the ITE Law, 'Electronic Agent' is defined as 'a device of an electronic system that is made to perform an action on certain Electronic Information automatically organised by a person.'(Zahrasafa P Mahardika, 2021) To be able to apply Artificial Intelligence beneficially in Indonesia, the Agency for the Assessment and Application of Technology (BPPT) has published the Indonesian National Strategy for Artificial Intelligence 2020-2045. However, the arrangement

is still at the outline policy stage and does not regulate in detail.(Zahrasafa P Mahardika, 2021).

The development of Artificial Intelligence has touched almost all aspects of human life. There have been many Artificial Intelligence programs that can simplify human work. (Putra, 2024) Including the use of Artificial Intelligence in the national defense sector. To this day, Indonesia does not have specific regulations related to Artificial Intelligence. In 2020, the Indonesian government released the Indonesian National Strategy for Artificial Intelligence (Stranas KA) which contains Artificial Intelligence ethics and policies, Artificial Intelligence talent development, as well as data ecosystems and Artificial Intelligence development infrastructure. However, Stranas Artificial Intelligence is not a binding legal document but only a national policy direction (Putra, 2024).

However, this does not mean that the Indonesian government is absent in regulating Artificial Intelligence technology. There are a number of regulations relating to the utilization of Artificial Intelligence technology in Indonesia, for example, Permenkominfo Number 3 of 2021, which regulates the licensing aspects for businesses that utilize Artificial Intelligence. (Putra, 2024) There is also the ITE Law and its derivative regulations that regulate Artificial Intelligence with the terminology of electronic agents. There is a Law on Personal Data Protection that regulates the use of Artificial Intelligence in the processing of personal data. In addition, the Ministry of Communication and Information Technology (Kemenkominfo) has also issued ethical guidelines for the use of Artificial Intelligence for business actors as stated in the Circular Letter of the Minister of Communication and Information Technology Number 9 of 2023 concerning Ethics of Artificial Intelligence. (Putra, 2024) Despite these efforts, Indonesia still needs regulations that specifically target Artificial Intelligence technology so that its use can be carried out responsibly while creating a good ecosystem for the development of Artificial Intelligence technology. (Putra, 2024).

Utilization of Artificial Intelligence in Various Countries

Superpowers such as the United States, Russia, and China currently prioritize the use of digital technology in the defense and security of their

countries due to their vast territory and also their political goals of controlling the regional areas around their territory.(Syafi'i et al., 2023) Some countries that apply Artificial Intelligence in the defence of their countries(Komando, 2021) United States. The United States has successfully developed unmanned aircraft which has become a trend in the defence of countries in the world today. Unmanned aircraft co, mainly called Remotely Piloted Vehicle (RPV) or Unmanned Aerial Vehicle (UAV), is one type of unmanned aerial vehicle (aircraft) that can be controlled by radio waves from a distance and can be used for both military and non-military purposes. Although it is technology-based, the aircraft is still controlled by humans. Not stopping there, America is currently focusing on developing Artificial Intelligence pilots claimed to be able to beat human pilots in a 5-0 clean sweep of aerial combat.

The next country to use Artificial Intelligence in its defense is China. China is building its third aircraft carrier, which is much larger than the previous two aircraft carriers and has a newly developed electromagnetic catapult. In addition to the construction of aircraft carriers, China also adds other military weapons including stealth fighter jets and electromagnetic rail guns mounted on land warfare equipment and Type 09VI nuclear-powered attack submarines and Type 09VI nuclear-powered ballistic missile submarines.

The next country is Russia. Russia is currently developing a series of autonomous weapon platforms that utilize Artificial Intelligence. The development is a response to the development of AI in the military by some of its competitors. Bendett and Edmonds report that the Russian military's development includes around two dozen platforms that incorporate some level of AI. These include land-, air- and sea-based vehicles as well as specialized mines and even anthropomorphic robots said to be capable of wielding multiple firearms, driving cars, and traveling into space. Also listed are AI-related additions to the Russian military's information management and decision-making complex, defense equipment and logistics, and military training and manufacturing systems.

As is known, a number of countries are developing various regulatory models to govern the development and utilization of AI. The European Union in 2023, the Council and Parliament of the European Union agreed on the final draft

of the EU AI Act- a hard law-based Artificial Intelligence regulation that applies horizontally and is one size fits all for all sectors that involve AI technology in their business activities. (Putra, 2024) The United Kingdom puts forward a concept that is claimed to be pro-innovation with the aim that existing regulations support AI innovation rather than hindering it. Meanwhile, the United States (US), as one of the leading countries in AI development, does not actually have specific regulations related to this matter. However, on 30 October 2023, US President Joe Biden issued an Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence, which contains a number of standards in the development and utilization of Artificial Intelligence(Putra, 2024).

In the context of Indonesian defense, Artificial Intelligence has the potential to significantly increase Indonesia's military power. However, Artificial Intelligence also poses a number of challenges. From a security perspective, defense officials could use artificial Intelligence to develop autonomous weapons that can operate without human intervention. This potentially poses a risk of misuse of Artificial Intelligence for military purposes (Harjadi, 2024). On the other hand, the use of Artificial Intelligence in war raises a number of ethical questions, such as whether the use of autonomous weapons is morally justified. Therefore, Indonesia still needs to develop the capacity to utilize the technology in national defense. This requires investment in research and development, as well as education and training for military personnel (Harjadi, 2024).

The use of Artificial Intelligence in national defence is generally dominated by powerful countries in the world. These countries are competing in developing Artificial Intelligence-based defence systems. Indonesia in general has not been optimal in developing Artificial Intelligence technology in supporting its defence system.

CONCLUSION

Based on the results of the discussion, it can be concluded that first, the use of Artificial Intelligence in strengthening the national defense system is increasingly being developed by countries in the world, especially by strong countries in the world. Second, Indonesia, in general, is still not optimal in using

artificial intelligence technology to strengthen the State defense system. Third, Indonesia does not yet have laws and regulations that specifically regulate the use of Artificial Intelligence in the national defense system. Based on this, the researcher provides suggestions, first, to form legislation that specifically regulates the use of Artificial Intelligence in the national defence system. Second, strengthen the position of institutions that specifically handle and are responsible for the use of Artificial Intelligence in the national defense system. Third, strengthen human resources in terms of the utilization of Artificial Intelligence in the national defense system. Fourth, prioritizing Artificial Intelligence in national defense through increasing the special defense budget allocation.

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