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Publication Articles Mei - Jun 2025 Dosen UMM
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Conference Paper

Regulatory Arrangements and Utilization of Artificial Intelligence (AI) in Realizing Personal Data Protection in Indonesia

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Abstract.
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Keywords: personal data, artificial intelligence, protection, urgency

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Published 5 January 2024

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Selection and Peer-review under the responsibility of the 4th INCLAR Conference Committee.

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1. INTRODUCTION

Indonesia has entered the Industrial 4.0 era, which is marked by the era of automation and ease of access to communicate with each other. The Industrial Revolution consists of two words, namely revolution and industry. Revolution itself means very rapid change, while industry means efforts to carry out production. From these two words it can be concluded that the Industrial Revolution is a change that occurs rapidly in the implementation of the production process which was originally carried out by humans, starting to be replaced in the process by machines, while the goods produced have commercial value.[1] This has changed human work patterns, which were initially carried out "manually", but have now developed towards "digitalization" or "automation". One sign of the start of this era is the application of various advanced technologies in various lines of life which make it easier for humans to carry out their activities. This very

How to cite this article: Nur Amalina Putri Adytia, Sofyan Arief*, Duflitama Astesa , (2024), "Regulatory Arrangements and Utilization of Artificial Intelligence (AI) in Realizing Personal Data Protection in Indonesia" in *4th International Conference on Law Reform*, KnE Social Sciences, pages 920–927. DOI 10.18502/kss.v8i21.14807

significant increase can be seen in life, such as the increase in increasingly sophisticated information technology and the introduction of artificial intelligence to the general public.[2] Artificial intelligence or what is better known as artificial intelligence (AI) is basically a "machine" that is capable of doing various things that are considered to require intelligence when humans operate it.[3] For example, artificial intelligence can understand human language commands, recognize a person's face, drive a vehicle, even the most sophisticated artificial intelligence can operate production machines in a company.[4] Initially, the term artificial intelligence was coined in 1956, but the term artificial intelligence is increasingly popular thanks to increasing data volumes, sophisticated algorithms, and increased computing storage. Initial research on artificial intelligence began in the 1950s, exploring the topics of problem solving and symbolic methods.[5] In the early days of its discovery, artificial intelligence was only available in universities and research laboratories and no practical products could be found resulting from the use of artificial intelligence. Then in the 1960s the United States Department of Defense took an interest in the development of artificial intelligence and produced an initial product called the Defense Advanced Project Agency (DARPA) which successfully completed the road mapping project in the 1970s.[6] This early work paved the way for the automation and formal reasoning that can be seen in computers today. As time goes by, artificial intelligence systems are developing rapidly and with increasingly enhanced capabilities. This can be seen from the development of artificial intelligence systems that can operate autonomously without human intervention, even today artificial intelligence often comes into contact with legal action, such as Tesla vehicles which can operate on the highway autonomously. [7] In essence, the existence of artificial intelligence can make a huge contribution to the development and progress of human civilization. One of the impacts felt by the presence of artificial intelligence is that humans can do their work more productively and more efficiently which can directly bring progress in the economic development of a country. This is evident from the contribution that artificial intelligence has made to the economies of developed countries, with the very rapid development of artificial intelligence having pushed productivity levels to increase significantly. Another impact felt on the development of human civilization with the presence of technological advances is the ease of communicating and accessing information. This is due to the development of information technology which has given rise to various services such as e-commerce, e-government, and various services based in cyberspace. The presence of various internet-based services makes it easy for anyone to access them. [8] Various services and the ease of accessing these various services through cyberspace, in essence, also give rise to various legal problems. The fundamental legal issue in this

DOI 10.18502/kss.v8i21.14807

case is related to the protection of consumer user personal data. For example, in August 2020 there was a leak of consumer personal data from a technology company engaged in Kreditplus financial technology (Fintech) services. Based on the background of the problems that have been described, the goal to be achieved in this research is how to use artificial intelligence as a tool to protect personal data and how important a special regulation in Indonesia is in creating protection for personal data.

2. METHODOLOGY/ MATERIALS

The research in this writing is legal research normative. Normative legal research is legal research that places law as a building system of norms. The norm system in question is about principles, norms, rules of laws and regulations, court decisions, agreements and doctrines (teachings). As normative legal research, the approach used is Statutory Approach. As normative legal research, the approach used by the author in discussing this issue is to use a statutory approach (Statuta Approach) which is carried out by examining all laws and regulations that are interconnected with the legal issue being handled.

3. RESULTS AND DISCUSSIONS

3.1. Personal Data Protection and the Urgency of Personal Data Protection Regulations in Indonesia

Since the start of the Covid-19 Pandemic in Indonesia and the government implemented large-scale social restrictions or PSBB as a step in suppressing the spread of the Covid-19 Pandemic in Indonesia, this has resulted in a significant increase in the use of information and communication technology to meet meeting needs and consumer spending. Various applications such as Zoom, Webex, Skype, and Ms Teams are quite popular applications for holding online meetings. Along with this, online shopping applications are no less popular and the majority use them to meet their needs during the PSBB period. With the rapid use of information technology and online trade transactions or e-commerce, this is usually accompanied by an increase in the potential for criminal acts and disputes.[9] Such as the potential for data leakage of application users which will of course cause losses to society. In general, personal data can be defined as data that contains information about a person's identity, which can be in the form of personal codes, symbols, letters or numbers that are only attached to each individual.[10]

DOI 10.18502/kss.v8i21.14807

Within the scope of existing data protection regulations in Indonesia, currently, there is no specific legal instrument that regulates the use and protection of personal data. Meanwhile, the current regulations governing this matter are still contained and spread across several laws which only reflect aspects of personal data protection in general and regulations specifically containing aspects of personal data protection have not been ratified.

General personal data protection regulations include Law Number 8 of 1997 concerning Company Documents, Law Number 36 of 1999 concerning Telecommunications, Law Number 24 of 2013 concerning Population Administration, Law Number 19 of 2016 concerning Information and Transactions. Electronics, Law Number 36 of 2009 concerning Health, and Law Number 43 of 2009 concerning Archives. However, the study in this research is limited by the protection of personal data that is directly related to electronic data. Regulations regarding the security of a person's personal data in Indonesia regarding the use of various services in cyberspace have been regulated in several laws, including Law Number 19 of 2016 concerning Electronic Information and Transactions (UU ITE), Government Regulation Number 82 of 2016 2012 concerning Implementation of Electronic Systems and Transactions, Minister of Communication and Information Technology Regulation Number 20 of 2016. Several of these regulations have legally explained the definition of personal data, including Article 26 paragraph (1) of the ITE Law which reads "unless otherwise determined by statutory regulations, the use of any information via electronic media that concerns a person's personal data must be carried out on the consent of the person concerned, but this law does not yet provide a specific definition of personal data itself.

A person's right to privacy is an embodiment of the human rights inherent in each individual where the protection of this right to privacy has previously been guaranteed in Article 28 G paragraph (1) of the 1945 Constitution which reads "everyone has the right to protection of their person, family, honor, dignity, and property under his control, and has the right to a sense of security and protection from the threat of fear of doing or not doing something which is a human right." With the spread of various provisions related to personal data protection and their non-integrated nature, in this case the government is expected to immediately pass the Personal Data Protection Bill so that it can further provide legal certainty for the public. Protection of personal data is not something that can be underestimated, so legal protection is necessary.

Legal protection is protection related to dignity and recognition of human rights possessed by the legal subject itself which is based on applicable legal provisions. Good legal protection is comprehensive and non-discriminating protection that is linked

DOI 10.18502/kss.v8i21.14807

to the recognition and protection of human rights. In several developed countries, issues regarding personal data protection are considered as a form of legal protection for human rights and therefore require comprehensive regulations that can accommodate them.

Indonesia needs legislation that specifically regulates the management of personal data that can provide firm and comprehensive legal protection so that its development and use can run well because up to now the regulations regarding personal data protection in Indonesia are still scattered in several laws and regulations. and only partially regulates personal data protection and conforms to the main content of the regulation. The absence of a specific regulation governing the protection of personal data will of course give rise to several problems such as the lack of protection received by the public due to weak legal regulations because until now the draft law on personal data protection has not been passed. [11]

By passing the draft law on personal data protection as a clear and comprehensive regulation, it can make it clearer in determining the exact steps in the security process and can provide legal protection that is equivalent to other countries. In addition, the personal data protection law in the future must regulate strict sanctions for violators and have a compelling effect so that data and information can be protected properly.

In order to realize personal data protection, based on regulations that have previously been implemented in other countries as described above, there are provisions that can be used as a reference and need to be specifically regulated in future personal data protection laws by the Government. Indonesia in order to realize comprehensive personal data protection. This includes establishing a body that specifically has the authority to supervise the flow of a person's personal data as has been implemented in other countries that have special personal data protection regulations.[12]

3.2. Utilization of Artificial Intelligence in Protecting Individuals' Personal Data in Indonesia

As is known, Artificial Intelligence (AI) is the science and engineering of creating intelligent machines like humans that are operated through computer programs and are associated with the design, development and implementation of computer systems.[13] The existence of AI is currently experiencing quite rapid development by following the needs of human life and can be said to have made a huge contribution to the development and progress of human civilization. There are many areas of life that AI can do, one of which is the use of AI as a means of protecting personal data. This aims

DOI 10.18502/kss.v8i21.14807

to maximize efforts to protect personal data, for example, the occurrence of human error, data leaks, etc. This will result in major losses for someone and the leaked data is vulnerable to misuse by irresponsible actors, resulting in criminal acts.

Because it cannot be denied that cases such as the personal data of Indonesian people have been leaked or hacked by hackers so that it has been spread widely and used improperly. As is also known, someone's personal data is sensitive and it is not permissible for just anyone to have other people's personal data, unless the personal data is used for certain needs such as school registration, health, work and others.

So efforts are needed to overcome this in terms of protecting personal data so that it can be stored properly and used properly. Providing maximum protection for the security of a person's personal data is the responsibility of all elements in the state. Following human developments and needs is an innovative and preventive step. One of them is utilizing existing technology by collaborating with the use of artificial intelligence as a means of protecting personal data.

The existence of artificial intelligence is considered to be able to provide an effective and efficient contribution, because its existence, which is equipped with anti-malware or Cloud Computing capabilities, is considered capable of preventing system errors and minimizing the risk of personal data leakage.[14] So, starting from this, AI can make an active and positive contribution in protecting someone's personal data.

4. CONCLUSION AND RECOMMENDATION

1 Currently, Indonesia has Law Number 19 of 2016 concerning Information and Electronic Transactions (UU ITE) as a regulation that regulates the legal protection of personal data in data traffic in cyberspace, but the ITE Law only touches on the subject of personal data protection without containing further provisions. -provisions detailing the protection of personal data. Furthermore, personal data protection regulations are still spread across several laws and regulations and adapt to the main content of these regulations indicates that the government has not taken personal data protection seriously. So regulations that do not yet regulate the protection of personal data comprehensively cause several problems, such as the lack of protection received by the public due to legal regulations. Which is still weak. For this reason, the government is expected to immediately pass the Personal Data Protection Bill which specifically regulates the protection of personal data. The existence of clear and comprehensive laws can provide clarity in determining definite steps in the security process and can provide legal protection that is equal to that of other countries. In order to provide maximum protection

DOI 10.18502/kss.v8i21.14807

for the security of personal data. With the presence of artificial intelligence that is more effective and efficient and equipped with anti-malware capabilities, it is hoped that it can prevent system errors and minimize the risk of personal data leakage due to human error.

References

[1] Paulus Wisnu Yudoprakoso, "Kecerdasan Buatan (Artificial Intelligence) Sebagai Alat Bantu Proses Penyusunan Undang-Undang Dalam Upaya Menghadapi Revolusi Industri 4.0 Di Indonesia," *Simposium Hukum Indonesia* 1, No. 1 (2019): 450-461., hlm. 452.

[2] Jaya F, Goh W. "Analisis Yuridis Terhadap Kedudukan Kecerdasan Buatan Atau Artificial Intelligence Sebagai Subjek Hukum Pada Hukum Positif Indonesia," *Supremasi Hukum* 17, No. 2 (2021): 1-11, https://doi.org/https://doi.org/10.33592/jsh.v17i2.1287., hlm. 2. https://doi.org/10.33592/jsh.v17i2.1287.

[3] Eka N.A.M Sihombing and Muhammad Yusrizal Adi Syaputra, "Implementasi Penggunaan Kecerdasan Buatan Dalam Pembentukan Peraturan Daerah," *Jurnal Ilmiah Kebijakan Hukum* 14, No. 3 (2020): 419-434, https://doi.org/10.30641/kebijakan.2020.V14.419-434.., hlm. 420-421

[4] Adis Nur Hayati, "Analisis Tantangan Dan Penegakan Hukum Persaingan Usaha Pada Sektor E-Commerce Di Indonesia," *Jurnal Penelitian Hukum De Jure* 21, No. 1 (2021): 109-122, https://doi. org/https://doi.org/10.30641/dejure.2021.V21.109-122.., hlm. 113.

[5] Arfian Setiantoro et al., "Urgensi Perlindungan Hukum Konsumen Dan Penyelesaian Sengketa E Commerce Di Era Masyarakat Ekonomi Asean," *Jurnal Rechts Vinding: Media Pembinaan* Rosalinda Elsina Latumahina, "Aspek Hukum Perlindungan Data Pribadi Di Dunia Maya," *Jurnal Gema Aktualita* 3, No. 2 (2014): 14-25., hlm. 17.

[6] Rosalinda Elsina Latumahina, "Aspek Hukum Perlindungan Data Pribadi Di Dunia Maya," *Jurnal Gema Aktualita* 3, No. 2 (2014): 14-25., hlm. 17.

[7] Halimawan A, et al. *Kajian Mencari Solusi Permasalahan Instrumen Hukum Perlindungan Data Pribadi Di Indonesia* (Yogyakarta: Dewan Mahasiswa Justisia, 2020)., hlm. 20.

[8] Michael Haenlein dan Andreas Kaplan, "A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence", California Management Review, 2019, hlm. 1.

[9] Disemadi HS. Urgensi Regulasi Khusus dan Pemanfaatan Artificial Intelligence dalam Mewujudkan Perlindungan Data Pribadi di Indonesia. Jurnal Wawasan Yuridika.

2021;2(2):177.

DOI 10.18502/kss.v8i21.14807

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Page count:	8
Word count:	3,012
Character count:	16,895
Submission date:	28-May-2025 04:06PM (UTC+0700)
Submission ID:	2686698383

KnE Social Sciences
4th INCLAR
4th International Conference on Law Reform
Volume 2024

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Published 5 January 2024

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