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Topic: Human Right Issues of Artificial Intelligence (AI) Gaps and Challenges, and Affected Future Legal Development in Various Countries

**Review of Human Rights Violations in the Use of Biometric Technology in Security Systems in Indonesia**

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**Abstract.** Overview law in use technology biometrics on the system security has become an important and controversial topic in realm laws and rights basic man. Indonesia, as a developing country with need will increasing security increases, neither does it escape from application technology biometrics in various aspect life. However, use technology This No regardless from risk violation right basic humans, especially in matter privacy individual and potential discrimination. Use technology biometrics also have potential increase risk discrimination and injustice, esp to vulnerable groups. The refore That's the existing regulations need implemented in a way effective and enforced in a way consistent for ensure that use technology biometrics No violate right basic man. Involvement society and transparency in development and implementation technology Biometrics are also important for ensure accountability and trust public. The method used in this paper is normative legal research, where research is carried out by research library materials or data secondary, not only studying the law in terms of statutory regulations However, it covers broader aspects and can be traced from literature. In context this is necessary balanced approach between need will security national and protection rights basic human, so use technology biometrics can give benefit without sacrifice right individual. Study more go ahead and work the same between government, society civil, and sector private very required for reach objective the. With So, review law This give contribution important in understand and overcome related challenges with use technology biometrics in system security in Indonesia.

**Keywords:** Review Law; Right Basic Humans; Technology Biometrics.

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**1. Introduction**

In today's technological developments, many technologies have been discovered formed to facilitate human activities, for example Artificial Intelligence (hereinafter "AI") and biometric data. AI is a structured technology in computer systems to solve problems by imitating actions man. The imitation actions carried out by AI can take the form of learning about data-information, forming conclusions, and self-improvement independently without requiring assistance from other parties. The owner of the data, biometric data is unique data, difficult to falsify, and is only inherent to the data owner, which is the reason for using biometric data in the field security and authenticity.<sup>1</sup>

The use of biometric recognition technology has experienced rapid development rapidly in various sectors, including the security system in Indonesia. Biometrics, that is including facial recognition, fingerprints, iris, and voice patterns, has become a solution increasingly popular in verifying an individual's identity with a high degree of accuracy tall. In a security context, this technology promises improvements in detection and identify potential threats, thus attracting the interest of governments and companies to integrate them into their systems. However, as the use of biometric technology increases, it also appears important questions regarding the legal implications. Indonesia as a country that committed to the principles of protecting privacy and human rights, must consider the legal consequences that may arise from the implementation of the technology This. In this context, the protection of personal data and individual privacy is <sup>2</sup>of concern Mainly, because biometric technology involves the collection and processing of sensitive data.

Biometrics are physical characteristics or human behavior that can be used to digitally identify those related to access to systems, devices or data. states that biometric recognition or biometric identification is the automatic recognition of a person based on unique physiological characteristics (certain body parts such as fingerprints, face and retina) and behavior. There are a number of biometric characteristics in use today, each with different means of collection, measurement, evaluation and application. The shape and/or composition of a person's body is a manifestation of the physiological characteristics used in this biometric technology. Some examples include DNA, fingerprints/palm prints, iris/retina, face, vein geometry and aroma/smell. Meanwhile, unique patterns shown through actions are a form of behavioral

<sup>1</sup> Miyuki Fattah Rizki, Abdul Salam, *Legal Liability for Collecting Biometric Data Through Artificial Intelligence Without the Data Owner's Consent (Case Study of Clearview AI Inc. in Greece and England)*, Lex Patrimonium, Vol. 2, Issue 2 (2023), matter. 2.

<sup>2</sup> Rizki Natalina Silalahi, *Legal Implications of the Use of Biometric Recognition Technology in Security Systems in Indonesia*, Faculty of Law, Medan Area University, Indonesia, p. 2.

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characteristics or also known as biometrics. Some examples of these behavioral characteristics include voice, gait, signature, keystrokes and heart rate. The advantage of biometrics itself is that it is difficult to manipulate because it uses the concept of *something you are*, allowing *trial audits to be carried out* on every incident that occurs, where through *biometric security* it can be seen who accessed organizational assets, where and when the individual did so, preventing individuals who did not. has authorization to access organizational assets.<sup>3</sup>

Biometrics offer a number of profit For management identity, however identification biometrics it's not solution bulletproof For fraud or theft identity. Like case steps security other, usage biometrics own vulnerability and can compromised. For example, artifacts fake (like replica characteristics biometrics) sometimes can created and used For trick biometric sensors. This matter generally known as spoofing, and presenting challenge to security system biometrics. Because way Work vision computer very different with vision humans, some spoofing techniques sometimes opposite with intuition. Many systems biometrics containing method for try and fight spoofing threats, such as detection liveliness. Detection liveliness is technique used for determine is source sample biometrics is man life or representation false. For example, this can used for differentiate between picture life and representation 2D or 3D printing of face somebody. However, even with detection liveliness, solution biometrics Possible Still risky to detrimental attack.<sup>4</sup>

Indonesia already use technology biometrics For analyze method public act, appear, and express self them in the room public and private. Its use range from patrol border until open key cell phone smart, however One the obvious thing: its use Already normalized. Which is worrying, right basic man almost forgotten along with introduced technology this, though right basic man should be the essence of How technology biometrics developed and used. Misuse and abuse technology biometrics result making profiles and categorization of people based on age, type gender, and color skin. In other words, technology biometrics can used with a fundamentally discriminatory manner and continues harm those who historical marginalized. Likewise, they can used for monitor What is done someone, with who, how his feelings, and even How possibility big they will behave in the future. This is very practical invasive. As a

<sup>3</sup> Muhammad Adin Palimbani . August 8 2020. *Polemic on Biometric Data Security*. Available on the site <https://gc.ukm.ugm.ac.id/2020/08/polemik-keamanan-data-biometrik/>. Accessed May 9, 2024.

<sup>4</sup> Ovic, *Biometrics and Privacy Problems and Challenges* . Available on the site [https://ovic-vic-gov-au.translate.goog/privacy/resources-for-organisations/biometrics-and-privacy-issues-and-challenges/?\\_x\\_tr\\_sl=en&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=en&\\_x\\_tr\\_pto=tc&\\_x\\_tr\\_hist=true](https://ovic-vic-gov-au.translate.goog/privacy/resources-for-organisations/biometrics-and-privacy-issues-and-challenges/?_x_tr_sl=en&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=tc&_x_tr_hist=true). Accessed May 9, 2024.

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result, use technology This violate right public on privacy and data protection, dignity human, non- discrimination, determination fate own, and rights For access effective solution.<sup>5</sup>

Introduction technology biometrics has bring solution breakthrough in secure transactions in the sector finance. Technology This use identity physiological unique individual, like fingerprint finger, face, or iris, as key access to system. With system biometrics, verification process identity become more accurate and difficult faked. However, protection personal data privacy is ongoing issue considered.<sup>6</sup> Therefore, in dealing with these risks, the government and regulators have introduced various laws, including the Information and Transactions Act Electronics (ITE Law). This law regulates various actions in the information technology sector and communications, including cyber crimes and criminal acts of fraud. These steps are part of the government's efforts to ensure that the use of biometric technology in some transactions can be carried out safely and legally, protecting individual privacy rights while strengthening the security of the banking system as a whole. Thus, it is crucial to understand and dig deeper into how the law works and the extent of legal protection provided to users of biometric technology in the context of transactions in the financial sector.<sup>7</sup>

The research aims to find a legal review of human rights violations in the use of biometric technology in security systems in Indonesia is an analysis that highlights the potential violation of privacy rights, the risk of discrimination, and legal uncertainty associated with the use of this technology. In this context, there needs to be a clear legal framework to protect individual rights while ensuring that the benefits of biometric technology can be exploited fairly and responsibly. In examining the legal review of human rights violations in the use of biometric technology in identification systems in Indonesia, namely: how is biometric data protected as a form of personal data protection in Indonesia? and what is the legal review of human rights violations in the use of biometric technology in security systems in Indonesia?

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<sup>5</sup> Article19. *When Bodies Become Data: Biometric Technology and Freedom of Expression*. Available on the site: [https://www-article19-org.translate.goog/biometric-technologies-privacy-data-free-expression/?x\\_tr\\_sl=en&\\_x\\_tr\\_tl=id&\\_x\\_tr\\_hl=id&\\_x\\_tr\\_pto=tc](https://www-article19-org.translate.goog/biometric-technologies-privacy-data-free-expression/?x_tr_sl=en&_x_tr_tl=id&_x_tr_hl=id&_x_tr_pto=tc). Accessed 9 M4i 2024.

<sup>6</sup> Bagas Wahyu Priambodo, Dipo Wahjoeono, *Legal Protection for the Use of Biometric Technology in Banking Transactions to Improve Security*, Madani: Multidisciplinary Scientific Journal Volume 1, Number 11, 2023, Pages 322-327, p. 322.

<sup>7</sup> Bagas Wahyu Priambodo, Dipo Wahjoeono, *Legal Protection for the Use of Biometric Technology in Banking Transactions to Improve Security*, Madani: Multidisciplinary Scientific Journal Volume 1, Number 11, 2023, Pages 322-327, p. 323.



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**2. Research Methods**

The method used in this paper is normative legal research, where research is carried out by research library materials or data secondary, not only studying the law in terms of statutory regulations. However, it covers broader aspects and can be traced from literature. Approach Which used in in writing This is approach regulation legislation, namely examining various legal rules relating to the issues raised. The primary legal materials used are related to regulations law related data personal. Then For material law secondary form literature or book, journals, as well as literature other Which related with human rights violations in the use of biometric technology in security systems in Indonesia.<sup>8</sup>

**3. Results and Discussion**

**3.1. Biometric Data Protection as a Form of Personal Data Security in Indonesia**

Characteristics of biometric data that are only attached to the data owner are characteristics that differentiate biometric data from other types of data. Due to these characteristics, biometric data has unique properties that are difficult to falsify, tend to be permanent, and so on. Based on these characteristics, it is not uncommon for biometric data to be used for security and authenticity needs. Biometric data itself is widely used among society, p It is estimated that by 2024, 66% of mobile phone users in the world will use biometric data for security and payment functions. Examples of biometric data can be fingerprints, face print, X-Ray images, MRI images, walking rhythm, typing speed, and so on. These examples divide two types of biometric data, namely physical and biometric data behavior, where fingerprints and face prints are data physical biometrics, while walking rhythm and typing speed are examples of behavioral biometric <sup>9</sup>data.

Before discussing biometric data protection, it is necessary prior understanding regarding personal data protection. Personal data protection has a close relationship with personal data, which is based on Article 1 paragraph 1 Law Number 27 of 2022 concerning Personal Data Protection (hereinafter called "PDP Law") is defined as data that can be used to identify a person, either independently or together with other data in electronic or non-electronic form (PDP Law, 1: 1). Based on this definition, Personal data protection is an effort to protect personal data on when processing such data from irresponsible parties. Protection Personal

<sup>8</sup> Rian Mangapul Sirait, Roy Fachraby Ginting, Chris Dayanti, *Legal Challenges of Using Biometric Data for Business Needs*, JKPI, Journal of Islamic Education Counseling, Vo. 4 No. 2, July 2023, matter. 470.

<sup>9</sup> Miyuki Fattah Rizki , Abdul Salam , *Legal Liability for Collecting Biometric Data Through Artificial Intelligence Without the Data Owner's Consent (Case Study of Clearview AI Inc. in Greece and England)*, Lex Patrimonium , Vol. 2, Issue 2 (2023), matter. 4.



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data itself is an effort to fulfill the constitutional rights of Indonesian citizens (PDP Law, 1: 2), namely to fulfill the right to privacy accordingly provisions in Article 28G paragraph (1) of the Constitution of the Republic of Indonesia 1945.<sup>10</sup>

Referring to the definition of personal data in Article 1 paragraph (1) of the PDP Law, biometric data including any personal data. This is also appropriate with Article 4 paragraph (2) of the PDP Law, which includes biometric data including personal data categories with characteristic Specific. Referring to article these, provisions related personal data protection Biometric data also applies. Provision related right Data owner (PDP Law, 5-15), consent data processing only can provided by the data owner (ITE Law, 26 & PDP Law, 21-23), as well as obligation from Data manager as well obligation guard confidentiality (PP 71/2019, 100 & UU PDP, 19-50) also applies against biometric data as form biometric data protection.<sup>11</sup>

Biometric data based on Article 4 paragraph (2) of the PDP Law constitutes personal data specific, which is biometric data is one of of personal data that should be get protection moreover If compared to with personal data of a nature general. That matter in accordance with attachment Article 4 paragraph (2) of the PDP Law, which is explained that biometric data must guarded and cared for. But at the moment This is in Indonesia, no can found terms and conditions special discuss related use of personal data in a way specific, p the including to use of biometric data. No exists governing provisions in a way special the give rise to obstacle for maximize biometric data protection in Indonesia, which causes obstruction fulfillment right constitutional Indonesian society as a whole comprehensive.<sup>12</sup>

Draft personal data protection moment this too has been oblige personal data controller for stop the slowest processing of personal data in 3 x 24 hours if owner of personal data interesting return his approval. Owners of personal data can also submit delays and restrictions processing of personal data to personal data controller, however No applies if endanger safety party others, there are regulation or agreement written which is not possible done delays and restrictions by personal data controllers. If personal data No Again required, owner of interesting data return agreement processing of personal data, existence request

<sup>10</sup> Miyuki Fattah Rizki, Abdul Salam, *Legal Liability for Collecting Biometric Data Through Artificial Intelligence Without the Data Owner's Consent (Case Study of Clearview AI Inc. in Greece and England)*, Lex Patrimonium, Vol. 2, Issue 2 (2023), matter. 5.

<sup>11</sup> Miyuki Fattah Rizki, Abdul Salam, *Legal Liability for Collecting Biometric Data Through Artificial Intelligence Without the Data Owner's Consent (Case Study of Clearview AI Inc. in Greece and England)*, Lex Patrimonium, Vol. 2, Issue 2 (2023), matter. 5.

<sup>12</sup> Miyuki Fattah Rizki, Abdul Salam, *Legal Liability for Collecting Biometric Data Through Artificial Intelligence Without the Data Owner's Consent (Case Study of Clearview AI Inc. in Greece and England)*, Lex Patrimonium, Vol. 2, Issue 2 (2023), matter. 5.



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from owner of personal data, or personal data obtained with deed oppose law, then as consequence the law personal data controller must delete personal data.<sup>13</sup>

developed countries, issues personal data protection is part from protection law to right basic. Because of that is, developed countries consider that needed something comprehensive regulations that can accommodate it. Confession to Personal data protection in a number of countries is provided in form of "hebeas data", ie right somebody For get security of his personal data and obtain something protection law If happen violation of personal data (Disemadi Silk Day. 2021: 186) In Indonesia itself effort for protect personal data is mandate constitution in accordance with Article 28G of the Constitution of the Republic Indonesia in 1945 which states: "*Everyone has the right on protection self personal, family, honor, dignity and property the thing below his power, as well entitled for a sense of security and protection from threat afraid for door No do something which is right basic.*"<sup>14</sup>

### **3.2. Legal Review of Human Rights Violations in the Use of Biometric Technology in Security Systems in Indonesia**

enforcement is a process by which the government ensures that existing laws operate in accordance. The government employs legal agencies to ensure that laws are implemented and those who violate them can be prosecuted. To bring suspects to justice requires accurate identification and evidence that shows their involvement in breaking the law. To avoid legal proceedings, suspects will try to change their identity, name and even face. This was easier to do before the discovery of biometric technology. The suspect will commit forgery in any form to deceive the police and law enforcement agencies. They change appearances, places, fake identities and documents that don't require much technology. Law enforcement agencies require speed and accuracy in identifying suspects in criminal cases. Misidentification can cause suffering and even loss of a person's life. Therefore, without accurate identification, law enforcement cannot be carried out.<sup>15</sup>

Biometrics play an important role in system security and user effectiveness (Utami, 2023). This is because no one can access personal accounts such as mobile banking except the user himself because they have different biometrics. The use of biometrics can also be said to be

<sup>13</sup>Anjar Setiarma1, Elfrida Ratnawati Gultom , *Transformation of Data Security Systems Through Biometrics in Indonesia Legal Technology Perspective* , Encyclopedia of Journals, Vol. 5 No.4 Edition 3 July 2023, matter. 595.

<sup>14</sup>Anjar Setiarma1, Elfrida Ratnawati Gultom , *Transformation of Data Security Systems Through Biometrics in Indonesia Legal Technology Perspective* , Encyclopedia of Journals, Vol. 5 No.4 Edition 3 July 2023, p. 595.

<sup>15</sup> PT. Original RI. 3 September 2018. *Biometric Identification for Law Enforcement Agencies: Local Crime to State Security*, available on the site: <https://asliri.id/blog/identification-biometrik-untuk-badan-penegak-law/>. Accessed May 9, 2024.

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low risk for counterfeiting because it uses a person's characteristics. The existence of a biometric system is expected to reduce *cybercrime* which is widespread, especially in the economic field. Biometric innovation has become an appropriate and professional response to address security issues. A growing field of biometric research in recent years has been devoted to identifying and authenticating individuals based on inherent physical or behavioral characteristics. The implementation of biometric technology must be carried out carefully and considering all related aspects.<sup>16</sup>

The success of this implementation depends greatly on the balance between privacy security, accuracy and cost. Biometric systems must have high performance and be able to be used effectively in a variety of environmental conditions and use situations. This includes the ability to recognize faces in different lighting conditions, perform fingerprint scanning in varying humidity as well as identify the user's voice in varying noise levels. The biometric system must also be able to be integrated with existing technology and systems in the company or organization. This allows biometric systems to become a coherent part of existing IT infrastructure. One of the advantages resulting from biometric technology is its ease of use. Biometric identification systems free users from having to memorize passwords or carry physical access cards that are vulnerable to loss. Instead, users only need to utilize their unique physical features or behavior to access the system. These advantages have made biometric technology a relevant solution in the financial industry to properly protect accounts and transactions. Thus, biometric technology provides an easier and more efficient user experience in transactions.

In context use technology introduction biometrics in system security in Indonesia, there is a number of chapter related to being focus analysis law. One of relevant articles is Article 26 of the Law Number 11 of 2008 concerning Information and Transactions Electronics (ITE Law). Chapter This arrange about personal data protection, which has implications important to collection and use of biometric data. Article 26 of the ITE Law confirms that everyone has the right on protection of existing personal data in his control. Furthermore, Article 31 of the ITE Law is also relevant in context use technology biometrics, because arrange about data processing general. Chapter This oblige everyone who manages or processing data for protect that data from no access legal and misuse. In matter this, company or institutions that use it technology biometrics required for obey standard specified data security in Article 31.<sup>17</sup>

<sup>16</sup> Fulan Yustinne Nadhotul Sufi, Dinda Kharisma Putri, Dwi Suhartini, *Analysis of Cybercrime Threats and the Role of Biometric Systems: Systematic Literature Review*, Rifle, Vol 3 No. October 1, 2023 p. 19-29, p. 26.

<sup>17</sup> Rizki Natalina Silalahi, *Legal Implications of the Use of Biometric Recognition Technology in Security Systems in Indonesia*, Faculty of Law, Medan Area University, Indonesia, p. 6

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Apart from the ITE Law, Law Number 35 of 2014 concerning Child Protection also has connection with use technology biometrics. Article 26 paragraph (1) of the Law confirm right child for protected from all form violence, neglect, and exploitation, incl personal data protection they. This matter show necessity consideration special in use technology biometrics involving children's data, as well necessity mechanism effective protection. Beside Therefore, Article 28 of the 1945 Constitution is also relevant in context use technology biometrics. Chapter This ensure right on privacy and security personal every citizen. Implications from Article 28 of this is that use technology biometrics must done with notice right privacy individual and not can violate freedom personality guaranteed by the constitution. It's also important to review regulations more further as you can strengthen protection right basic man related use technology biometrics. This including related regulations with freedom expression, non- discrimination, and rights on security personal. In context this is necessary exists coordination between various existing laws and regulations for ensure that use fixed biometric technology in accordance with principles right basic basic human.<sup>18</sup>

Next, it's important for review in a way critical How implementation technology biometrics can influence access fairness and justice in system law. In a number of case, usage technology biometrics can increase efficiency system security, but also can give rise to risk discrimination or abuse power. Therefore that's necessary applied mechanism enforcement strong and transparent laws for prevent abuse technology biometrics and ensure justice for all individual. In context existing regulations, perhaps need done revision or improvement for accommodate change technology and strengthen protection rights individual. This Can covers expansion scope regulations for covers technology biometrics in a way special, as well enhancement penalty or mechanism enforcement law for protect rights individual from abuse technology biometrics. With Thus, in conclusion, improvement regulation and enforcement related laws with use technology biometrics is important for ensure that use technology This No only increase security, but also strengthening protection right basic people and privacy individual. This need cooperation between government, institutions regulator, society civil, and sector private in devise and implement framework laws that are effective and responsive to change technology and needs public.<sup>19</sup>

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<sup>18</sup> Rizki Natalina Silalahi, *Legal Implications of the Use of Biometric Recognition Technology in Security Systems in Indonesia*, Faculty of Law, Medan Area University, Indonesia, p. 7.

<sup>19</sup> Rizki Natalina Silalahi, *Legal Implications of the Use of Biometric Recognition Technology in Security Systems in Indonesia*, Faculty of Law, Medan Area University, Indonesia, p. 8.



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**4. Conclusion**

The legal review of human rights violations in the use of biometric technology in security systems in Indonesia is an analysis that highlights the potential violations of privacy rights, risks of discrimination and justice associated with the application of this technology in the context of national security. In this context, it is important to ensure that the use of biometric technology complies with applicable legal and ethical standards, and protects individual rights without compromising the security of society as a whole. A clear and comprehensive legal framework is needed to regulate the use of biometric technology in security systems, including standards for the collection, storage and use of individual biometric data.

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