Compensation for Damages Caused by Artificial Intelligence under Indonesian Civil Law

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Abstract
Artificial intelligence (AI) is a technology that refers to the simulation of human intelligence programmed into electronic devices to think like humans and mimic human actions. The rapid development of AI has sparked debates in the legal field, particularly when errors occur and cause harm to the public. Currently, Indonesian law does not explicitly regulate legal protection for a party who suffers material or immaterial damages due to errors caused by AI. This research aims to contribute to the development of civil law discourses through a normative and descriptive approach. The data used are secondary data, and a qualitative method is used to analyze and present the data descriptively. The research finds that there are no specific regulations governing liability for material or immaterial damages resulting from AI activities. The conclusion drawn is that AI cannot be considered a legal subject and lacks control over its actions and intent. Therefore, the burden of compensation for errors caused by AI falls on the creators and users of AI, as stipulated under Article 1365 of the Civil Code and Article 1367 of the Civil Code, which states that: "A person is not only liable for losses caused by their own actions but also for losses caused by the actions of those for whom they are responsible or by goods under their supervision."

I. Introduction

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Damages under the Indonesian Civil Codex (Kitab Undang-Undang Hukum Perdata, or KUHPerdata) may derive from a breach of contract as stipulated under Article 1238 in conjunction with Article 1243, and from unlawful acts under Article 1365 of the Civil Code. In this paper, the author focuses on compensation for unlawful acts. Article 1365 of the Civil Code states that when a person commits an unlawful act, they must pay compensation for their actions. This differs from claims for compensation in breach of contract cases. Claims for compensation in unlawful acts lack clear regulation; however, as implied in Article 1371 paragraph (2) of the Civil Code: "This compensation is also assessed according to the status and capacity of both parties, and according to the circumstances."

An unlawful act begins with an action performed by the perpetrator. In this case, the actions may be committing an act or omitting to act, despite their obligation to avoid certain actions or to perform certain duties. This act is considered unlawful if it meets one of the elements that, since 1919, have been generally interpreted as violating provisions regulated under statutes; infringing the rights of others; contradicting the legal obligations of the perpetrator; opposing morality; or being incompatible with proper conduct in societal life respecting the interests of others.[4]

Responsibility, as defined in the Kamus Umum Bahasa Indonesia, means the position of being obliged to bear all legal consequences (if an event occurs, one can be sued, blamed, taken to court, and so forth).[5] Responsibility, by definition, is human awareness of one's behavior or actions, whether intentional or unintentional. It also means acting as a manifestation of the awareness of one's obligations.

Indonesian Civil Law recognizes the concept of vicarious liability, which serves as an extension of an individual's responsibility, as stipulated in the relevant provisions. Vicarious liability, or substitute liability, can be interpreted as a form of liability imposed on a party responsible for another individual's actions, for actions committed by those under their supervision.[6] Vicarious liability is regulated in Article 1367(1) of the Indonesian Civil Code which states:

> *"A person is not only liable for damages caused by their own actions, but also for damages caused by the actions of individuals under their*

[4] Yolanda Simbolon, "Pertanggungjawaban Perdata Terhadap Artificial Intelligence Yang Menimbulkan Kerugian Menurut Hukum Di Indonesia," *Veritas et Justitia* 9, no. 1 (July 1, 2023): 246–73, https://doi.org/10.25123/VEJ.V9I1.6037.

[5] Welfridus Josephus Sabarija Poerwadarminta, *Kamus Umum Bahasa Indonesia* (Jakarta: Balai Pustaka, 2000).

[6] Anita Mihardja, Cynthia Kurniawan, and Kevin Anthony, "Vicarious Liability: Perspektif Masa Kini," *Jurnal Education And Development* 8, no. 1 (2020): 73–81, https://journal.ipts.ac.id/index.php/ED/article/view/1503.

supervision or by objects under their control."

Pursuant to Article 1367 of the Indonesian Civil Code, a person is not only responsible for damages caused by their own unlawful acts but also for damages caused by individuals under their care. The Civil Code further elaborates on liability for unlawful acts committed by others in Articles 1367 paragraph (2) to 1367(4), Article 1368, and Article 1369, which specify the parties who may be held liable for the actions of others. These include the responsibility of guardians for minors, employers for their employees, school teachers for pupils under their supervision, animal owners for their pets, and others.

Over time, the provisions on liability under Articles 1367 to 1369 of the Civil Code have become increasingly inadequate due to the evolving scope of liability concepts. One significant development in this regard is the rise of liability for errors caused by AI, *i.a.*, a field within computer science, that focuses on creating systems and machines capable of performing tasks that typically require human intelligence. It relies on algorithms and mathematical models to enable computers and other systems to learn from data, recognize patterns, and make autonomous, intelligent decisions.[7]

In Indonesia, AI has been implemented in several governmental institutions, *e.g.*, the Ministry of Communications and Informatics utilizes an anti-hoax chatbot to combat the spread of misinformation in society. Moreover, the Department of Population and Civil Registration (Dinas Kependudukan dan Pencatatan Sipil) utilizes face recognition to match uploaded facial images with E-KTP photo data. In addition, AI was used in COVID-19 detection tools, such as GeNose, during the pandemic's spread.

The integration of AI into technological systems inherently carries the risk of errors that may result in damages to affected parties due to the inaccuracies made by these systems. Numerous instances illustrate errors in AI, including Google Photos. This application, which used the early version of artificial intelligence for people recognition (computer vision), incorrectly labeled photographs of black people as gorillas. This error occurred because the training data used to teach the algorithm contained only a few images of black people. This incident demonstrates that computer vision systems still struggle to recognize the characteristics of different races. Similarly, the blood oxygen monitoring on the Apple Watch demonstrated inadequate functionality for individuals with darker skin tones. Although Apple asserted that the application had been tested across various skin types and colors, critics contended that the technology had not been adequately designed to

[7] Emi Sita Eriana and Afrizal Zein, Artificial Intelligence (AI) (Purbalingga: EUREKA MEDIA AKSARA, 2023).

accommodate dark-skinned users.

Another case involves a real estate company that launched Zillow Offers, a program initiated in 2018 to purchase homes and quickly resell them. According to CNN, since its launch in April 2018, Zillow had purchased 27,000 homes but had sold only 17,000 by the end of September 2021. Zillow attributed the business failure to the use of artificial intelligence. The algorithm miscalculated home prices, leading Zillow to overpay for properties. Despite the company promptly terminated the program, it had to lay off 25 percent of its staff. By unintentionally purchasing homes at prices exceeding their projected values, the company incurred losses totaling $304 million.[8]

Another case related to AI errors within the judiciary occurred in Brazil. A federal judge in Brazil was investigated for having made an error in a ruling written using AI, attributing past decisions to the Supreme Court. The judge stated in documents submitted to the supervisory body that the judgment was written by a trusted advisor, with assistance from artificial intelligence. An example of an AI error case adjudicated by an Indonesian court is the Supreme Court Cassation Decision No. 2822 K/Pdt/2014 from the Central Jakarta District Court Decision No. 506/Pdt.G/2011/PN Jkt Pst, between a passenger and PT. Lion Air/PT Lion Mentari Airlines. The passenger sued PT. Lion Air/PT Lion Mentari Airlines because the ticket he had booked was not recorded in the passenger database. As a result, the passenger suffered damages due to being late for an event he was required to attend. Apart from that case, there was also an AI error that caused losses, namely double tickets for Garuda passengers, which caused the passengers to have to transfer to another plane.

The current law in Indonesia lacks clear regulations governing legal protection for victims who suffer damages due to erroneous outputs made by AI. However, there are several regulations that regulate aspects of AI, such as Law No. 1 of 2024 concerning Electronic Information and Transactions (ITE) and Law No. 27 of 2022 concerning Personal Data Protection (PDP). In addition, regulations regarding AI are also mentioned in the Circular of the Minister of Communication and Informatics (SE Kominfo) Number 9 of 2023 concerning Artificial Intelligence Ethics.

Liability for compensation can only be imposed on legal subjects, whether natural persons or legal entities, as bearers of rights and obligations. The issue of liability concerning technology that imitates human intelligence, such as AI, requires government attention, and there needs to be regulation regarding the liability of the owner or creator of the AI when errors occur that cause harm to the users. This

[8] Ioana Bratu and Steven Freeland, "Artificial Intelligence, Space Liability and Regulation for the Future: A Transcontinental Analysis of National Space Laws," in *73rd International Astronautical Congress (IAC)*, 2022, 18–22, https://papers.ssrn.com/abstract=4230848.

regulation is necessary considering that AI involves many parties, such as programmers, data analysts, and users.

Based on the above explanation, the author raises two legal issues: (1) How is the liability of the owner and creator of AI for the damages suffered by users? (2) What forms of compensation can be provided by the owner and creator for the errors committed by AI?

2. Research Method

This research adopts a normative approach, involving analysis of statutes and understanding statutes as positive laws in Indonesia that regulate human life.[9] The author analyzes the provisions under the Indonesian Civil Code concerning liability, compensation for unlawful acts, and other related positive laws in Indonesia.

Moreover, this research utilizes the statutory approach and case approach and applies a literature review to collect legal materials from relevant references. The analysis of legal materials is conducted through content analysis of primary legal materials, which is then supplemented with secondary legal materials.[10]

3. Results and Discussion

Liability Of Ai Owners And Creators For Losses Experienced By Users

AI is a branch of computer science technology that simulates human intelligence within computer systems to solve problems and perform tasks with a proficiency equal to or even surpassing human capabilities.[11] AI was first used in 1956 by a group of computer scientists and researchers from various academic, industrial, and other fields at Dartmouth College.[12] They focused on the potential of computers to simulate human intelligence. Some prominent scientists involved in the meeting were Allen Newell, Herbert Simon, Marvin Minsky, Oliver Selfridge, and John McCarthy.

AI has become one of the most popular technologies today, widely adopted across industries such as healthcare, finance, and others. Beyond industrial applications, AI has also been integrated into everyday life, assisting in communication and location finding.[13] AI technology is embedded in platforms frequently used by society daily.

[9] Abdulkadir Muhammad, *Hukum Dan Penelitian Hukum* (Bandung: Citra Aditya, 2024).
[10] Soerjono Soekanto and Sri Mamudji, *Penelitian Hukum Normatif* (Depok: Rajawali Press, 2013).
[11] Hari Sutra Disemadi, "Urgensi Regulasi Khusus Dan Pemanfaatan Artificial Intelligence Dalam Mewujudkan Perlindungan Data Pribadi Di Indonesia," *Jurnal Wawasan Yuridika* 5, no. 2 (September 28, 2021): 177, https://doi.org/10.25072/JWY.V5I2.460.
[12] Hendy Wijaya et al., "Implementation of Artificial Intelligence and Robotics That Replace Employees in Indonesia," in *ICUIS 2021. Smart Innovation, Systems and Technologies* (Singapore, 2022), 733–42, https://doi.org/10.1007/978-981-19-2541-2_61.
[13] M. Sobron Yamin Lubis, "Implementasi Artificial Intelligence Pada System Manufaktur Terpadu," in *SEMNASTEK UISU* (Medan, 2021), 1–7.

Examples of AI in everyday life include platforms such as Facebook and Instagram, which use AI to recognize and analyze user interests, ensuring the content shown aligns with the users' preferences. Similarly, Twitter utilizes AI to detect tweets containing hate speech. On these platforms, AI collects user data, and the content presented on users' accounts is tailored to match their interests and needs.

In addition to the use of technology in social media, Artificial Intelligence (AI) technology is also applied in the following applications:

1. Search Engines; simplify the process for users to obtain the information they require.
2. Music and Film Streaming Applications; are used for listening to music on streaming platforms such as Spotify, JOOX, and Apple Music. These streaming platforms are examples of AI frequently utilized in daily activities.
3. Mobile Banking; this technology enables users to perform financial transactions without the necessity of visiting a bank or the nearest ATM.
4. Online Transportation Applications; such as Grab, Gojek, or Maxim, are commonly used by the public for ordering transportation or delivery services.
5. Online Shopping Applications are retail platforms frequently used to fulfill various needs.

Given the increasing use of AI in Indonesia and its development across public and private sectors, it is necessary to conduct a comprehensive analysis in the forms of civil liability related to the implementation of AI. This topic needs to be discussed to contribute to the development of civil law knowledge and policymaking. Dynamic and open regulations are required to anticipate and mitigate risks.

Based on Article 1367 of the Indonesian Civil Code, AI could be classified as goods (objects), therefore it cannot be considered a legal subject. Consequently, when an object causes harm, the liability rests with the party exercising control over it. The critical issue here is the responsibility for errors made by AI. The existence of AI, fundamentally created to help human work and tasks, undoubtedly provides significant benefits to humanity. However, alongside these benefits, the negative impacts resulting from the use of AI are inevitable. The intelligence inherent in AI allows for errors[14] that may result in losses to its users. One common experience is the use of map applications. Cases of wrong directions often occur among Google Maps users. For example, someone wants to travel from location A to B using a car. Google Maps shows an estimated travel time of about 20 minutes. In reality, that 20 minutes can only be achieved by taking roads that are accessible only by motorcycles or bicycles, not cars. As a result, due to over-reliance on Google Maps, the user ends up wasting almost an hour. Moreover, the car's tire could fall into a drainage hole on that road.

[14] Wardhani Sri Saraswati Wisjnu, "Strategi Nasional Kecerdasan Artifisial Indonesia 2020-2045" (Jakarta, 2020).

Under the legal framework, the state has a significant obligation to protect AI users and holds full responsibility for its citizens as according to human rights principles the state is the primary entity that possesses obligations under human rights law—one of which is the obligation to protect the rights of every individual within its jurisdiction. On the other hand, the state has another obligation to enforce the law to uphold justice for individuals who suffered damage from using AI. Indonesia has established legislation regarding AI, under Law No. 11 of 2008 concerning Electronic Information and Transactions ("EIT Law"). However, there are not sufficient regulations that specifically address AI and its violations as regulated under the EIT Law. This alerts AI users due to the lack of specific regulations in the EIT Law, *e.g.*, the absence of articles that address the dangers of AI, the protection of harmed parties, and the penal system for offenders.[15]

There are several parties involved in the procurement of AI in Indonesia, such as the Ministry of Communications and Informatics issuing an anti-hoax chatbot developed by PT Prosa Solusi Cerdas; a face recognition platform developed by Nodeflux; a facial recognition platform integrated with e-KTP in the Department of Population and Civil Registration; and the GeNose C19, a COVID-19 detector invented by experts at Universitas Gadjah Mada to detect coronavirus infection through exhaled breath. In the case of the Ministry of Communication and Informatics, the Ministry acts as the owner, commissioning the AI from PT Prosa Solusi Cerdas which will be the creator, with the public as the user. This raises a legal issue: if an error is caused by the AI, who is liable for the compensation of damages for users?

There are three theories related to liability for unlawful acts committed by another person: the theory of vicarious liability (*respondeat superior*, a superior risk-bearing theory); the theory of substitute liability for persons under one's responsibility; and the theory of substitute liability for objects under one's control.[16] Liability is not only imposed on an individual for damages caused by their own actions but can also be extended to someone for the harm caused by the acts of those under their responsibility or for objects under their supervision, as stipulated under Article 1367 paragraph (1) of the Indonesian Civil Code.

Liability for unlawful acts from individuals under one's responsibility, or from objects or even pets under one's supervision, constitutes strict liability, *i.e.*, liability without fault. Munir Fuady outlines three types of unlawful acts: those that occur due to intentional wrongdoing; those caused by negligence; and those that occur without fault, meaning there is no element of intent or negligence. Therefore, three categories

[15] Maria Magdalena Astrina Bratajaya, "A Legal Protection Study of Intellectual Property Rights Infringement Committed by the Artificial Intelligence," *SHS Web of Conferences* 204 (November 25, 2024): 07009, https://doi.org/10.1051/shsconf/202420407009.

[16] Krisnadi Nasution, "Penerapan Prinsip Tanggung Jawab Pengangkut Terhadap Penumpang Bus Umum," *Mimbar Hukum - Fakultas Hukum Universitas Gadjah Mada* 26, no. 1 (June 25, 2014): 55–71, https://doi.org/10.22146/jmh.16054.

of legal liability arise: liability with fault, particularly negligence; liability with intent; and strict liability (without fault).[17]

In light of the provisions of Article 1367 of the Indonesian Civil Code (KUHPerdata), the following conclusions can be drawn. First, when an individual feels harmed, they must prove that the harm resulted from the actions of a person under their responsibility. In this context, AI cannot be categorized as the action of a person. Second, Article 1367 of the Civil Code stipulates that an individual is responsible for damages caused by objects under their supervision. This form of liability includes several elements, such as the existence of harm, caused by an object, and under the supervision of a legal subject. The legal subject in this case refers to either a natural person or a legal entity. It should be noted that the provisions in the second point satisfy the criteria for an individual's liability in relation to AI.

Losses resulting from AI errors can manifest in forms in daily life, depending on the type of AI utilized. AI systems that generate outputs such as sound, images, and other creations have the potential to cause harm to users (in this case, the public). For instance, an AI error may occur when a facial recognition system reports an accurate match, but in reality, the identified object is incorrect, thereby leading to the misuse of personal data by unauthorized parties.

Pursuant to Article 499 of the Indonesian Civil Code, property is defined as any object or right that can be attached with ownership rights. Based on the terminology of property, an object is considered the opposite of a legal subject, which in law refers to individuals and legal entities (*rechtspersoon*). Thus, the definition of property under the law encompasses everything to which rights can be attached or that can be owned by an individual. By way of a contrario, anything that cannot be attached to rights or owned by an individual cannot be considered property under the Civil Code.

Subekti states that property (*zaak*) refers only to tangible objects that can be physically perceived. However, some views associate it with a wealth of individuals. The wealth in question includes rights. Abdulkadir Muhammad presents another view that classifies property into several categories, including tangible and intangible property, movable and immovable property, tradeable and non-tradeable property, and consumable and non-consumable property.[18] Property is regulated under Book II of the Civil Code which stipulates provisions regarding objects, including goods and rights. Article 503 of the Civil Code divides property into corporeal (tangible) and incorporeal (intangible) properties. Corporeal properties include movable objects, which can either be consumable or non-consumable. Property is considered consumable if, through continuous use, it can be entirely consumed.[19]

[17] Munir Fuady, *Perbuatan Melawan Hukum Pendekatan Kontemporer* (Bandung: Penerbit Citra Aditya Bakti, 2018).

[18] Subekti Subekti, *Pokok-Pokok Hukum Perdata* (Jakarta: PT Intermasa, 2017).

[19] Muhammad, *Hukum Dan Penelitian Hukum*.

Based on the above explanation, it can be concluded that AI fulfills the elements of intangible property included as legal objects because it has economic value, can be owned, and lacks physical form/is intangible. Based on that, the existence of AI that has committed an error against the user becomes the strict liability of the owner who controls the AI. As for the creator of the AI, he is only responsible to the owner who commissioned the AI technology. The liability between the owner and the creator of the AI can be seen from the clauses in the agreement they have made.

AI liability refers to how a person or entity can be held responsible for the actions or outcomes of AI. In general, AI liability involves questions about who is liable if AI makes mistakes or causes harm, and how AI can be regulated and managed to ensure responsible and safe use. Here are some important aspects related to AI liability:

1	**Legal Subjects of AI:**
	a. Legal Objects: AI, such as social robots, are now more often considered legal objects, rather than legal subjects. This means that AI does not have direct legal responsibility, but the actions of AI can result in legal liability for its owners, developers, or users. b. Human Liability: Legal liability for AI typically lies with the humans who design, develop, operate, or use the AI.
2.	**Principles of Liability:**
	a. Owner/Developer Liability: AI developers are responsible for ensuring that AI functions as intended, is safe, and does not harm others. b. User Liability: AI users are also responsible for ensuring that AI is used responsibly and does not cause misuse. c. Strict Liability: In some cases, strict liability can be applied, meaning that the owner or developer of AI can be held liable for harm caused by AI without having to prove fault. d. Tort Liability: AI can be considered to have committed a tort if its

	actions violate the rights of others, the obligations of the perpetrator, or social norms.
3.	**Examples of AI Liability:**
	a. AI in Hiring: If AI used for hiring makes a discriminatory decision, then the AI developer is responsible for correcting the error and ensuring fairness. b. AI in Medicine: If AI used for medical diagnosis makes an incorrect recommendation, then the AI developer is responsible for ensuring the accuracy and reliability of the system. c. AI in Autonomous Vehicles: If an AI-driven autonomous vehicle has an accident, then the owner or developer of the autonomous vehicle is liable.
4.	**Challenges in AI Accountability:**
	a. Immature AI Capabilities: AI is still in its infancy and may have limited intelligence. b. Complex Systems: AI often involves complex algorithms that are difficult for humans to understand. c. Shifting Responsibility: Shifting responsibility from humans to AI can raise legal and ethical issues.
5.	**Regulation and Ethics:**
	a. Legal Regulation: Legal regulations related to AI are still in the development stage, but some countries have started to create regulations for AI. b. Code of Ethics: A code of ethics and guidelines for the responsible use of AI need to be developed and implemented.

6.	**Benefits of Responsible AI:**
	a. Fairness: AI can be used to reduce bias in decision-making, creating a fairer system. b. Transparency: AI can be made more transparent so that people can understand how AI makes decisions. c. Accountability: AI can be regulated so that people can know who is responsible for its actions.

By understanding the principles and challenges associated with AI accountability, we can encourage the development and use of AI that is responsible, safe, and beneficial to society.

Forms Of Compensation By The Owner And Creator For Errors Committed By Artificial Intelligence (AI)

A property owner has a legal obligation to supervise and maintain the property. Article 584 provides that property ownership may be acquired through prescription, possession, accession, inheritance, by virtue of law, or through a will, and by assignment or delivery. Delivery is a method of obtaining ownership, and in relation to AI, delivery can be done through a sale and purchase agreement between the creator and the owner. For example, as outlined above, the Ministry of Communication and Informatics of the Republic of Indonesia is the owner of the anti-hoax chatbot created by PT Prosa Solusi Cerdas, and the Face Recognition platform created by Nodeflux upon the order of the Civil Registration and Population Service, which becomes the owner after the sale and purchase agreement between them.

AI, as intangible property, is transferred through the creation of a sale and purchase deed. Once ownership is transferred, the responsibility for supervision shifts to the buyer as the party fully controls the AI. Based on the explanation above, it can be interpreted that the parties fully responsible for compensating for AI errors toward users are the Ministry of Communication and Informatics of the Republic of Indonesia and the Civil Registration and Population Service. The party that created and developed the AI no longer holds ownership rights after the sale to the buyer.

Claims for compensation based on Article 1365 are grounded on the elements of an unlawful act, the existence of fault, damage, and a causal relationship between the fault and the resulting damage. Essentially, the elements that must be fulfilled for an act to be qualified as an unlawful act are determined in Article 1365. The issue of compensation resulting from unlawful acts is not regulated specifically

by law in Indonesia. Normatively, unlawful acts refer to Article 1365, which does not constitute substantive law but serves merely as a structural norm.[20] The lack of clarity regarding compensation in Article 1365 leads to the rules of compensation for unlawful acts being analogously applied using rules from other sources.

Compensation can also be defined as payment to rectify a fault, either in whole or in part, with an amount equivalent to the damage caused. Considering the Supreme Court Cassation Decision No. 2822 K/Pdt/2014, based on the Decision of the Central Jakarta District Court 506/Pdt.G/2011/PN Jkt Pst, which examined the case of PT. Lion Air/PT. Lion Mentari Airlines as the Defendant against a passenger as the Plaintiff, the case involved an error in the passenger database. As a result, the passenger, as the Plaintiff, claimed both material and immaterial compensation. Immaterial loss refers to the loss of benefits or profits that could potentially be received in the future.[21] The Plaintiff demanded immaterial compensation of Rp100,000,000.00 on the grounds that the Plaintiff suffered losses in the form of lost time, the exhaustion of energy and thoughts while staying overnight at the airport, the loss of family time and spiritual values, as well as the disruption of scheduled meetings with business partners, which led to the Plaintiff losing trust from business partners and the neglect of the Plaintiff's work.

In the Decision at the first instance (Central Jakarta District Court), the judge only granted the claim for material damages. Following this decision of the Central Jakarta District Court, the plaintiff filed an appeal. The Decision from the High Court of Jakarta overturned the ruling of Central Jakarta District Court's ruling and declared that the Defendant had committed an unlawful act (onrechtmatige daad). This Decision also granted the Plaintiff's claim for immaterial damages in the amount of Rp50,000,000,00. However, this Decision was subsequently annulled by the Cassation Decision of the Supreme Court.

Material damages can be understood as losses clearly suffered by an individual, and these losses are quantifiable in monetary terms. Judges who examine and decide on material damages will assess the situation based on the actual circumstances (objectively).[22] Immaterial, according to legal terminology, means "cannot be proven," and therefore, proving immaterial damages is difficult and cannot be calculated in monetary terms. Immaterial damages can also be referred to as intangible losses, moral damages, ideal damages, damages that cannot be measured in monetary value, and non-economic damages. Immaterial damages are said to be incalculable in monetary terms because they arise from a person's psychological

[20] Rosa Agustina, "Perbuatan Melawan Hukum" (Universitas Indonesia, 2003).

[21] Hary Abdul Hakim et al., "Artificial Intellegence and Medicine: Proposed Model of Indonesian Criminal Liability," in *3RD BOROBUDUR INTERNATIONAL SYMPOSIUM ON SCIENCE AND TECHNOLOGY 2021*, 2023, 020221, https://doi.org/10.1063/5.0120265.

[22] Riki Perdana Raya, "Perluasan Ruang Lingkup Kerugian Immaterial" (Jakarta, 2024).

pain, or what is termed as mental illness (mental disorder) in psychology.[23]

Based on the Lion Air case above, it can be concluded that compensation for AI errors can be divided into material and immaterial damages. In this case, the judge did not specifically address the subject matter, which was the AI error, but rather focused on the distinction between unlawful acts and breach of contract.

Article 1365 provides the possibility for several types of compensation for unlawful acts, including compensation for financial losses and moral damages (which can be paid in the form of money, compensation in kind or restitution, a declaration that the act committed was unlawful, a prohibition against performing a particular act, the annulment of conducts established unlawfully, and a declaration of court decisions or what has been rectified).[24]

The primary purpose of tort law is to restore the injured party to the position they would have been in had the tort not occurred. Therefore, what should be sought is actual restitution, which may be more appropriate than compensation in the form of money, as monetary compensation is merely an equivalent value and may not necessarily restore the position they would have been in had the tort not occurred.

Generally, the party seeking compensation must be able to prove the extent of the damage. However, due to the difficulty of proving damages caused by the use of AI, the judge may determine the amount of damages based on a sense of justice. The Supreme Court Decision No. 610 K/Sip/1968 states that, even if the amount of compensation claimed is deemed unreasonable, and the plaintiff maintains their claim, the judge has the authority to determine the appropriate amount that should be paid for the damages.

At a basic level, the AI Liability Directive is intended to facilitate claims for damages caused by AI:

1. The court will be able to compel AI system providers to provide the plaintiff with relevant evidence regarding the system allegedly causing the damage; and
2. If certain conditions are met, there will be a rebuttable presumption of causality between the defendant's fault and the damage caused by the AI.
3. The proposed AI Liability Directive is part of a broader package of European Union law reforms aimed at regulating AI and other new technologies. As currently designed, the AI Liability Directive aims to achieve three main objectives:
4. Reducing legal uncertainty surrounding liability claims and damages related to AI;

[23] Ranuhandoko Ranuhandoko, *Terminologi Hukum Inggris-Indonesia* (Jakarta: Sinar Grafika, 2013).

[24] Sri Redjeki Slamet, "Tuntutan Ganti Rugi Dalam Perbuatan Melawan Hukum: Suatu Perbandingan Dengan Wanprestasi," *Lex Jurnalica* 10, no. 2 (2013): 18068, https://www.neliti.com/publications/18068/.

5. Ensuring that victims can effectively obtain compensation for damages caused by AI; and
6. Harmonizing certain regulations across Member States and updating national liability laws.[25]

The traditional legal framework of tort law generally represents a branch of law that seeks to resolve damages suffered by the injured party. Several processes can be pursued in claims for damages arising from unlawful acts, with the primary element that must be proven being negligence. Within the framework of negligence, a person (including corporations and other legal entities) who causes harm is held liable and required to compensate the injured party if certain conditions are met. For instance, when a user receives a misdiagnosis from lab results, they can sue the company that issued the lab report and obtain compensation if negligence is proven in court.

Generally, negligence occurs when the person (or other legal entity) causing the harm acts unreasonably. If an institution issues a statement using AI that is inaccurate, the institution must be held liable and ordered by the court to compensate the user. The existing legal framework also "covers" damages caused by products, such as data input errors by AI or even an autopilot system causing an air crash, as the law applies the doctrine of product liability. Under this doctrine, the injured party is typically able to obtain compensation from both the company and the owner of the AI.

Due to various reasons, many argue that AI does not fall within the traditional framework of lawsuits and thus is not subject to the doctrines of negligence or product liability. Unlike a person (or company), AI does not have legal status (interestingly, it should be noted that some parties have called to grant legal status to AI robots, although this remains a theoretical concept). As AI lacks legal capacity, they are unable to pay compensation resulting from the damage they cause.

Because AI lacks a deep understanding of "right or wrong" and is incapable of fully comprehending the consequences of their actions, they are not discouraged from acting negligently simply because such conducts are associated with penalties. Therefore, many consider the doctrine of negligence unsuitable for addressing damages caused by AI. On the other hand, the fact that AI can make independent decisions, often unpredictably, makes these decisions differ from those of a mere product or tool under a human operator. Consequently, many believe that this renders AI systems inappropriate candidates for the application of the product liability doctrine.

[25] Maharani Qaulan Syadida, Nadhila Citra Supriantoro, and Mohamad Suci Sugianto, "Konseptualisasi Badan Pengawasan Dan Perlindungan AI Sebagai Pemenuhan Perlindungan Hukum Teknologi Di Indonesia," *JURNAL PEMULIAAN HUKUM* 6, no. 1 (March 28, 2024): 1–18, https://doi.org/10.30999/ph.v6i1.2800.

Determining the party responsible for AI errors is a complex matter. AI systems are often referred to as "black boxes," whose decisions may not necessarily be anticipated or explained after the fact. Understanding why damage occurs and who is at fault becomes more complicated as it often involves multiple stakeholders. For instance, in the case of an autonomous vehicle involved in a car accident, the damage may be caused by the fault of the human driver inside the car (if any), a pedestrian, another driver, or another autonomous vehicle on the road. This may also be caused by the malfunction of street lighting, or due to poor conditions of the road or the weather. The car itself can also be the source of the damage, for example, if its braking system is defective. However, unlike human drivers and conventional cars, autonomous vehicles involve other parties who may cause such damage. AI systems in the car may cause or contribute to the accident (e.g. if the AI system is trained to read traffic signs only capable in good weather conditions, thus it fails to recognize a stop sign during a storm). Moreover, the AI systems in autonomous cars may consist of different parts that may not all be produced by the same manufacturer. Furthermore, the vehicle owner might have integrated separate and unrelated AI systems as "add-ons" that interact with one another and share information.

Ultimately, AI can rely on information transmitted by other external AI systems through what is known as the Internet of Things (IoT), where electronic devices communicate with each other without human involvement. One example is the AI-based lighting system (or other autonomous vehicles on the road) may send inaccurate information to an autonomous vehicle, causing an accident. As a result, when an accident occurs, the difficulty in understanding why the AI acted in a particular way, combined with the large number of involved parties (some of whom may be AI themselves), makes the topic of liability for damages caused by AI challenging to address.

The author argues that compensation should not be solely borne by the owner, but there is a need for the government to establish specific regulations concerning legal protection for users of AI. One legal protection mechanism, in addition to legislation, is the establishment of an institution that can protect the public from the current challenges in society. Before discussing the concept of such an institution, the author provides a comparison of a specialized legal body established by another country, which can offer a safe space regarding AI-related issues in Indonesia. One country that has created and implemented a technology oversight and protection body is Spain, with the Agencia Española de Supervisión de la Inteligencia Artificial. Spain's AI Protection and Oversight Agency is the first oversight body of its kind in both Europe and the world, officially established and tasked with protecting the rights of Spanish citizens in accordance with the legal provisions outlined in Spanish Law No. 22 of 2021 concerning Artificial Intelligence.

The objectives of this oversight and protection agency are aligned with Spain's legal

goals, which aim to create an institution that is functionally independent within public administration, implement measures to minimize risks, and safeguard human rights when these technologies become integrated into everyday life. Observing the establishment of a specialized AI oversight agency in Spain, it is deemed necessary for Indonesia to also create an AI oversight body as a form of legal protection for its citizens.

Not only in Spain, the European Union, on September 28, 2022, introduced the draft Artificial Intelligence Liability Directive, with the objectives to "align private law with the needs of the transition to a digital economy" and facilitate claims for damages caused by AI and the use of AI. The proposal addresses specific issues related to causality and fault concerning AI systems, ensuring that persons suffering damages receive compensation or other appropriate legal remedies.[26]

The consideration of the government's crucial role in regulating AI is founded on the concept of Indonesia as a state governed by the rule of law. Law is a collection of positive norms within the legislative framework, which, based on the current circumstances, necessitates regulation concerning the use of AI technology. Indonesia's legal system adheres to or is influenced by the Dutch, which is accustomed to a codified legal system. Based on the principle of concordance, the legal system developed by Indonesia follows a codified legal system influenced by legal positivism, which perceives the nature of law through positive norms within the legislative framework to achieve legal certainty.

Legal certainty in a normative sense occurs when a regulation is formed and declared definitively as it governs matters in a clear and logical manner. "Clear" in this context means that the regulation does not create ambiguity (multiple interpretations) and is logical. It is also clear in the sense that it forms a harmonized system of norms to avoid conflict or contradiction between them. Legal certainty refers to the application of law that is clear, certain, consistent, and consequential, with its enforcement not subject to influence by subjective circumstances. [27] The existence of legal certainty regarding the rules of AI use can provide legal protection for the public as users. According to Satjipto Rahardjo, legal protection refers to providing protection for human rights that are harmed by other people, and this protection is given to the public for them to enjoy the rights granted by law , whereas, according to Philipus M. Hadjon, the definition of legal protection is an action to protect or to assist legal subjects through the implementation of legal instruments .

[26] Anugrah Muhtarom Pratama and Dona Budi Kharisma, "Civil Liability Regime for Artificial Intelligence in Indonesia: Become a Future Legal Subject?," in *Proceedings of the International Conference for Democracy and National Resilience 2022 (ICDNR 2022)* (Paris: Atlantis Press SARL, 2023), 237–43, https://doi.org/10.2991/978-2-494069-75-6_30.

[27] Christine S.T. Kansil, *Pemerintahan Daerah Di Indonesia: Hukum Administrasi Daerah* (Jakarta: Sinar Grafika, 2014).

4. Conclusion

Article 1367 of the Civil Code stipulates that a person is not only liable for losses caused by their own actions but also for losses caused by the actions of those under their responsibility or by objects under their supervision. Based on this, the party that should be held responsible for the errors of AI is the owner of the AI technology.

The forms of compensation by the owner and creator for the errors by AI include both material and moral compensation. Material compensation may be paid in the form of money, while moral compensation can include remedies such as compensation in kind or restitution, a declaration that the actions were unlawful, an order to prohibit certain actions, the annulment of conducts established unlawfully, and a declaration of court decisions or what has been rectified, as stipulated under Article 1365 of the Civil Code.

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