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Artificial Intelligence Misuse in Crime: Legal Accountability and Justice in Indonesia

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ABSTRACT

The increasing misuse of artificial intelligence (AI) in cyber fraud, identity theft, deepfake manipulation, and automated criminal activities presents significant challenges to Indonesia's criminal justice system. The central legal problem is the absence of a comprehensive legal framework that clearly defines criminal liability when AI is used to facilitate or partially execute criminal acts, creating uncertainty regarding the accountability of users, developers, and service providers. This study examines how Indonesian criminal law addresses AI-enabled crime and identifies the regulatory gaps that hinder effective law enforcement while safeguarding justice and fundamental rights. Using a normative juridical method, the research analyzes statutory regulations, legal doctrines, judicial principles, and comparative approaches to AI governance. The findings demonstrate that existing legislation remains technology-neutral and relies on conventional concepts of human culpability, rendering it inadequate for AI-assisted offenses involving autonomous decision-making, digital evidence, and shared responsibility. The study contributes to the literature by proposing a risk-based legal accountability model that distinguishes human intent from AI-assisted conduct while allocating proportional responsibilities among relevant actors. It further recommends harmonizing Indonesia's criminal law with emerging international AI governance standards through explicit liability provisions, AI-specific evidentiary rules, and mandatory risk management obligations to strengthen legal certainty, accountability, and justice in the digital era.

KEYWORDS *Artificial Intelligence, AI-Enabled Crime, Criminal Liability, Legal Accountability, Justice*

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I. INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed contemporary society, creating unprecedented opportunities for economic growth, innovation, and public service while simultaneously generating new forms of legal and criminal risks.[1] Computer network systems that were once primarily confined to research institutions and universities are now integral to banking, electronic commerce, government administration, military and defense operations, judicial institutions, and virtually every aspect of daily life.[2] The integration of digital technologies has reshaped patterns of communication, economic transactions, and social interaction, making societies increasingly dependent on interconnected information systems. While these developments have significantly improved efficiency and productivity, they have also expanded opportunities for cybercrime and other technology-enabled criminal activities.

Among the technologies driving the Fourth Industrial Revolution are blockchain, the Internet of Things (IoT), cloud computing, big data analytics, additive manufacturing, and artificial intelligence (AI). AI, in particular, has emerged as one of the most transformative technologies because of its capacity to simulate human cognitive functions, automate complex decision-making, and perform tasks that previously required human intelligence.[3] Supported by the widespread availability of the internet and digital infrastructure, AI has become increasingly accessible across diverse sectors, including finance, healthcare, education, manufacturing, transportation, and public administration. However,

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1 David S. Wall, *Cybercrime: The Transformation of Crime in the Information Age*. (London: John Wiley & Sons, 2024).

2 Scott Shackelford, and Amanda Craig. "Beyond the New 'Digital Divide': Analyzing the Evolving Role of National Governments in Internet Governance and Enhancing Cybersecurity." *Stanford Journal of International Law* 50 (2014): 119. *See also* Junaidi Junaidi. "Kajian Yuridis Pasal 362 Kitab Undang-Undang Hukum Pidana dan Pasal 30 Undang-Undang Nomor 11 tahun 2008 tentang Informasi dan Transaksi Elektronik Terhadap Pencurian Internet Wifi." *Jurnal Wajah Hukum* 4, no. 2 (2020): 325-330. http://dx.doi.org/10.33087/wjh.v4i2.190

3 Jan Rymarczyk, "Technologies, Opportunities and Challenges of the Industrial Revolution 4.0: Theoretical Considerations." *Entrepreneurial Business and Economics Review* 8, no. 1 (2020): 185-198; Soha Rawas, "AI: The Future of Humanity." *Discover Artificial Intelligence* 4, no. 1 (2024): 25. https://doi.org/10.1007/s44163-024-00118-3; Balkrishna Rasiklal Yadav, "The Ethics of Understanding: Exploring Moral Implications of Explainable AI." *International Journal of Science and Research (IJSR)* 13, no. 6 (2024): 1-7. https://dx.doi.org/10.21275/SR24529122811

alongside these substantial benefits, AI has introduced complex legal challenges relating to data protection, privacy, cybersecurity, and criminal accountability. The growing collection and processing of personal information by AI systems have intensified concerns regarding the protection of individual rights and the adequacy of existing legal safeguards.[4]

Beyond its legitimate applications, AI has increasingly become a powerful instrument for criminal activity. AI-enabled technologies facilitate sophisticated cyber fraud, identity theft, automated phishing, financial scams, ransomware attacks, algorithmic manipulation, and the large-scale dissemination of disinformation.[5] Among these technologies, deepfake applications represent one of the most significant legal concerns. Using advanced machine learning algorithms, deepfake technology can generate highly realistic synthetic images, audio recordings, and videos capable of convincingly imitating an individual's face, voice, expressions, and movements. Such technologies have been exploited to spread false information, impersonate public officials, manipulate financial transactions, damage personal reputations, distribute non-consensual explicit content, and influence political discourse.[6] Unlike conventional digital manipulation, AI-generated content has become increasingly difficult to distinguish from authentic material, thereby creating substantial evidentiary and enforcement challenges for criminal justice institutions.[7]

The increasing sophistication of AI-assisted criminality exposes important weaknesses in traditional criminal law. Criminal law has historically been constructed around the principles of *actus reus* and *mens rea*, assuming that criminal conduct is committed by human actors possessing intention, knowledge, recklessness, or negligence.[8] Contemporary AI systems, however, are capable of autonomous or semi-autonomous decision-making that influences or partially executes actions without direct human intervention. Although AI itself does not

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4 Tiffany C. Li, "Privacy In Pandemic: Law, Technology, and Public Health in the COVID-19 Crisis." *Loyola University Chicago Law Journal* 52, no. 3 (2021): 767-865; Laura Bradford, Mateo Aboy, and Kathleen Liddell. "COVID-19 Contact Tracing Apps: A Stress Test for Privacy, Tthe GDPR, and Data Protection Regimes." *Journal of Law and the Biosciences* 7, no. 1 (2020): 1-21. https://doi.org/10.1093/jlb/lsaa034

5 Kacper Zdrojewski, "AI-Powered Cyberattacks: A Comprehensive Review and Analysis of Emerging Threats." *Advances in IT and Electrical Engineering* 31 (2025): 55-70. https://doi.org/10.7862/re.2025.5; Anirban Majumder, "Rise and Impact of AI Agents in the Digital Landscape." *American Journal of Intelligent Systems* 14, no. 1 (2025): 10-17. https://doi.org/10.5923/j.ajis.20251401.02

6 Ivana Dewi Kasita, "Deepfake Pornografi: Tren Kekerasan Gender Berbasis Online (KGBO) di Era Pandemi COVID-19." *Jurnal Wanita dan Keluarga* 3, no. 1 (2022): 16-26. http://dx.doi.org/10.22146/jwk.5202; Muhammad Faqih Faathurrahman, and Enni Soerjati Priowirjanto. "Pengaturan Pertanggungjawaban Pelaku Penyalahgunaan Deepfakes dalam Teknologi Kecerdasan Buatan Pada Konten Pornografi Berdasarkan Hukum Positif Indonesia." *Jurnal Indonesia Sosial Teknologi* 3, no. 11 (2022): 1156-1168. https://doi.org/10.59141/jist.v3i11.528

7 David Ghiurău, and Daniela Elena Popescu. "Distinguishing Reality from AI: Approaches for Detecting Synthetic Content." *Computers* 14, no. 1 (2024): 1. https://doi.org/10.3390/computers14010001

8 Cumaran Nadaradjan, "Criminal Liability in the Digital Age: A Comparative and Behavioural Framework for Cybercrime in an AI-Driven World." *International Journal of Engineering Science & Humanities* 15, no. 1 (2025): 123-128; Budi Kristian, and Tubagus Ahmad Ramadan. "The Deterrence Dilemma: Assessing Criminal Liability Standards for Emerging Digital Offenses in the AI Era." *Realism: Law Review* 3, no. 3 (2025): 1-22. https://doi.org/10.71250/rlr.v3i3.86

possess legal personality or criminal intent, its operational autonomy complicates the attribution of criminal responsibility among developers, software providers, system operators, organizations deploying AI, and end users. Consequently, determining legal accountability has become considerably more complex where criminal harm results from the interaction between human decisions and algorithmic processes rather than from direct human conduct alone.

These developments have prompted governments and international organizations to strengthen AI governance through principles emphasizing transparency, accountability, human oversight, safety, and risk management.[9] Nevertheless, most existing regulatory frameworks primarily address AI from the perspectives of technological governance, consumer protection, and ethical standards rather than criminal liability. Consequently, substantial uncertainty remains concerning how criminal law should allocate responsibility when AI materially contributes to fraud, identity manipulation, cyberattacks, or other criminal offences.[10] This uncertainty has become one of the most significant contemporary challenges in technology law and criminal justice.

Indonesia provides a particularly important jurisdiction for examining these issues because of its rapidly expanding digital economy and increasing adoption of AI technologies across both public and private sectors. AI has accelerated digital transformation in banking, electronic commerce, public services, and industrial production, while simultaneously increasing the prevalence of AI-assisted cybercrime. The rapid technological transformation has altered patterns of social interaction, public communication, and individual behavior, creating legal consequences that were not anticipated when existing criminal legislation was enacted.[11] Despite these developments, Indonesian law has yet to comprehensively regulate artificial intelligence, particularly from the perspective of criminal law. Existing legislation, including the Criminal Code (*Kitab Undang-Undang Hukum Pidana*), the Electronic Information and Transactions Law (Law No. 19 of 2016), and related statutes, adopts a largely technology-neutral approach and continues to rely on conventional assumptions of direct human participation in criminal conduct. As a result, current legislation provides limited guidance regarding criminal liability where AI autonomously generates outputs, facilitates criminal decision-making, or functions as an essential instrument in complex digital offences.[12]

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[9] Matthijs M. Maas, "International Law Does Not Compute: Artificial Intelligence and the Development, Displacement or Destruction of the Global Legal Order." *Melbourne Journal of International Law* 20, no. 1 (2019): 29-57. https://search.informit.org/doi/10.3316/agispt.20190903016408

[10] Jesús Abarca Sánchez, "Reflexiones sobre inteligencia artificial y derecho." *Revista de Ciencias Jurídicas* 159 (2022): 1-14. https://doi.org/10.15517/gwaqdb73

[11] Bert-Jaap Koops, "Technology and the Crime Society: Rethinking Legal Protection." *Law, Innovation and Technology* 1, no. 1 (2009): 93-124. https://doi.org/10.1080/17579961.2009.11428366; Aditya Kurniawijaya, Alya Yudityastri, and Ayuta Puspa Citra Zuama. "Pendayagunaan Artificial Intelligence dalam Perancangan Kontrak Serta Dampaknya Bagi Sektor Hukum di Indonesia." *Khatulistiwa Law Review* 2, no. 1 (2021): 260-279. http://dx.doi.org/10.24260/klr.v2i1.108

[12] Susilowati Suparto, et al. "Consumer Protection of Girls from Cybercrime in a Gender Perspective." *Journal of Law and Legal Reform* 5, no. 4 (2024): 2045-2070. https://doi.org/10.15294/jllr.v5i4.11899; Aloisius Arizendy Nugraha, et al. "Cybercrime, Pancasila, and Society: Various Challenges in the Era of the Industrial Revolution 4.0." *Indonesian Journal of Pancasila and Global Constitutionalism* 1, no. 2 (2022): 307-390.

This regulatory gap has significant implications for legal certainty and effective law enforcement. Indonesia adheres to the continental European civil law tradition, where legal certainty is fundamentally grounded in codified legislation.[13] Furthermore, the principles of legality (*nullum crimen, nulla poena sine lege*) and due process require that criminal liability be based upon explicit statutory provisions.[14] In the absence of comprehensive AI-specific legislation, legal loopholes may be exploited by individuals who misuse AI technologies while simultaneously creating uncertainty regarding the scope of criminal responsibility. Fundamental questions therefore remain unresolved: Can existing criminal law adequately address AI-assisted criminal conduct? Who should bear legal responsibility when AI contributes to criminal harm—the user, developer, software provider, deploying organization, or another responsible actor? These questions challenge the traditional doctrine that criminal liability is exclusively attributable to human conduct and require careful reconsideration of existing legal principles.[15]

Although previous studies have examined AI ethics, digital governance, cybersecurity, data protection, and technological regulation, relatively few have systematically analyzed criminal liability for AI-enabled offences within the Indonesian legal system.[16] Existing research generally focuses either on AI governance from an ethical or administrative perspective or on cybercrime regulation without integrating criminal law doctrine, legal accountability, evidentiary challenges, and comparative international developments. Consequently, there remains a significant gap concerning how Indonesian criminal

https://doi.org/10.15294/ijpgc.v1i2.59802; Tegar Islami Putra, et al. "Challenges in Ensuring Personal Data Protection For Society in The Era of Society 5.0: Indonesia's Case Study." *Unnes Law Journal* 10, no. 2 (2024): 223-254; Massulthan Rafi Wijaya, and Ridwan Arifin. "Cyber Crime in International Legal Instrument: How Indonesia and International Deal with This Crime?." *Indonesian Journal of Criminal Law Studies* 5, no. 1 (2020): 63-74; Ana Tasia Pase, and Zico Junius Fernando. "Dark Web Crime: Criminal Law Challenges in the Era of Cybercrime." *The Indonesian Journal of International Clinical Legal Education* 7, no. 1 (2025): 131-166.

[13] M. Tasbir Rais, "Negara Hukum Indonesia: Gagasan dan Penerapannya." *Jurnal Hukum Unsulbar* 5, no. 2 (2022): 11-31. https://doi.org/10.31605/j-law.v5i2.1854

[14] Danel Aditia Situngkir, "Asas Legalitas dalam Hukum Pidana Nasional dan Hukum Pidana Internasional." *Soumatera Law Review* 1, no. 1 (2018): 22-42. http://dx.doi.org/10.22216/soumlaw.v1i1.3398; Itok Dwi Kurniawan, "Analisis Terhadap Artificial Intelligence Sebagai Subjek Hukum Pidana." *Mutiara: Jurnal Ilmiah Multidisiplin Indonesia* 1, no. 1 (2023): 35-44. http://dx.doi.org/10.61404/jimi.v1i1.4

[15] Brian Amy Prastyo, and Ronald Tumpal Hutagalung. "Prospek Menetapkan Robot Sebagai Subyek Hukum." *Technology and Economics Law Journal* 2, no. 1 (2023): 177-191. https://doi.org/10.21143/TELJ.vol2.no1.1030; Thamer Najm Abdullah Abbas, et al. "Artificial Intelligence and Criminal Liability: Exploring The Legal Implications of AI-Enabled Crimes." *Encuentros: Revista de Ciencias Humanas, Teoría Social y Pensamiento Crítico* 22 (2024): 140-159. https://doi.org/10.5281/zenodo.13386675

[16] Mark Anthony Camilleri, "Artificial Intelligence Governance: Ethical Considerations and Implications for Social Responsibility." *Expert systems* 41, no. 7 (2024): e13406. https://doi.org/10.1111/exsy.13406; Muhammad Danish, and Malik Muhammad Siraj. "AI and Cybersecurity: Defending Data and Privacy in the Digital Age." *Journal of Engineering and Computational Intelligence Review* 3, no. 1 (2025): 25-35; Pouya Kashefi, Yasaman Kashefi, and AmirHossein Ghafouri Mirsaraei. "Shaping the Future of AI: Balancing Innovation and Ethics in Global Regulation." *Uniform Law Review* 29, no. 3 (2024): 524-548. https://doi.org/10.1093/ulr/unae040. *See also* Gordon Bowen, Janakan Sothinathan, and Richard Bowen. "Technological Governance (Cybersecurity and AI): Role of Digital Governance." In *Cybersecurity and Artificial Intelligence: Transformational Strategies and Disruptive Innovation*. (Cham: Springer Nature Switzerland, 2024), pp. 143-161. https://doi.org/10.1007/978-3-031-52272-7_6

law should distinguish intentional human conduct from AI-assisted actions, allocate proportional responsibility among multiple actors involved in AI deployment, and adapt evidentiary standards to accommodate algorithmic decision-making and digital evidence.

This study addresses these gaps by examining the legal accountability framework governing AI-enabled crime in Indonesia through a normative juridical analysis of statutory regulations, legal doctrines, judicial principles, and comparative international approaches to AI governance. The study does not argue that AI should become a subject of criminal liability. Rather, it evaluates how Indonesian criminal law should attribute responsibility to natural and legal persons who design, develop, deploy, supervise, or intentionally misuse AI technologies in criminal activities.

The principal contribution of this article is the development of a risk-based legal accountability model that distinguishes human intent from AI-assisted conduct while allocating proportional legal responsibility according to each actor's degree of control, foreseeability, and capacity to prevent harm. The proposed framework integrates traditional criminal law principles with emerging international AI governance standards by recommending explicit statutory provisions on AI-related criminal liability, AI-specific evidentiary rules, and mandatory risk management obligations. These reforms are intended to strengthen legal certainty, improve law enforcement effectiveness, protect fundamental rights, and support responsible AI innovation within Indonesia's evolving digital legal landscape.

This study employs a normative juridical (doctrinal) legal research approach to examine the legal accountability arising from the misuse of artificial intelligence (AI) in criminal activities in Indonesia. Normative legal research focuses on the analysis of legal norms, statutory provisions, legal principles, and legal doctrines governing criminal liability in the context of emerging technologies. The legal materials consist of Indonesian legislation, including the Criminal Code (*Kitab Undang-Undang Hukum Pidana*), Law No. 1 of 2023 concerning the Criminal Code[17], Law No. 19 of 2016 on Electronic Information and Transactions[18], Law No. 27 of 2022 on Personal Data Protection[19], and other relevant regulations relating to digital technology and cybercrime. The collected legal materials were analyzed using statutory, conceptual, comparative, and analytical approaches. The statutory approach examines the consistency and adequacy of Indonesia's existing legal framework in addressing AI-enabled crime. The conceptual approach explores fundamental criminal law doctrines, including legality, culpability, criminal responsibility, and accountability, to determine their applicability to AI-assisted criminal conduct. The comparative approach evaluates Indonesia's legal framework against emerging international AI governance standards and comparative regulatory developments to identify best practices for allocating

[17] *See* Republic of Indonesia. *Undang-Undang Nomor 1 Tahun 2023 tentang Kitab Undang-Undang Hukum Pidana.* Available online at https://peraturan.bpk.go.id/details/234935/uu-no-1-tahun-2023

[18] *See* Republic of Indonesia. *Undang-Undang Nomor 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik (ITE Law*). Available online at https://jdih.komdigi.go.id/produk_hukum/view/id/167/t/undangundang+nomor+11+tahun+2008

[19] *See* Republic of Indonesia. *Undang-Undang Nomor 27 Tahun 2022 tentang Pelindungan Data Pribadi (PDP Law).* Available online at https://jdih.komdigi.go.id/produk_hukum/view/id/832/t/undangundang+nomor+27+tahun+2022

responsibility among AI users, developers, providers, and deploying organizations. Finally, qualitative legal analysis was employed to identify regulatory gaps, evaluate the effectiveness of existing legal norms, and formulate a risk-based legal accountability model capable of strengthening legal certainty, proportionality, and justice in addressing AI-assisted criminal activities in Indonesia.

II. THE POSITION OF ARTIFICIAL INTELLIGENCE IN CRIMINAL LIABILITY ACCORDING TO POSITIVE LAW IN INDONESIA

Before assessing whether artificial intelligence (AI) can be held criminally liable, it is first necessary to examine its legal status under Indonesian law. Within the Indonesian legal system, two categories are recognized as legal subjects: natural persons and legal entities. Natural persons are regarded as legal subjects because they possess human attributes, including reason, emotions, and free will. In contrast, a legal entity is defined as an organization that is legally recognized as an artificial legal construct created by humans, established in accordance with applicable laws and regulations, and endowed with legal rights and obligations.[20]

Indonesian law recognizes both natural persons and legal entities as subjects of law. This principle is reflected in Article 1 of the Indonesian Civil Code[21], which provides that the enjoyment of civil rights is independent of citizenship status. This provision implies that legal personality is inherent in every human being from birth until death, regardless of nationality. Furthermore, Article 1654 of the Indonesian Civil Code recognizes legal entities as legal subjects distinct from natural persons. As legal persons, they possess the capacity to perform civil legal acts, subject to the limitations and conditions prescribed by law. Examples of legal entities recognized under Indonesian law include limited liability companies (*Perseroan Terbatas* or PT), state-owned enterprises, foundations, government institutions, and other legally established organizations.[22]

The concept of legal subject may be understood from both natural law and legal positivist perspectives. Natural law theory maintains that the legal status of human beings derives from their inherent nature. Accordingly, every individual possesses fundamental rights that exist independently of state recognition and cannot be arbitrarily restricted by governmental authority or competing interests.

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[20] Salim H.S. *Pengantar Hukum Perdata Tertulis (BW), Cetakan ke-12*. (Jakarta: Sinar Grafika, 2019). *See also* Ugo Pagallo, "Apples, oranges, robots: four misunderstandings in today''s debate on the legal status of AI systems." *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* 376, no. 2133 (2018): 20180168. https://doi.org/10.1098/rsta.2018.0168; Roman Dremliuga, Pavel Kuznetcov, and Alexey Mamychev. "Criteria for Recognition of AI as a Legal Person." *Journal of Politics and Law* 12, no. 3 (2019): 105-112. https://doi.org/10.5539/jpl.v12n3p105; Nadia Banteka, "Artificially Intelligent Persons." *Houston Law Review* 58, no. 3 (2021): 537-596; Robert Van den Hoven van Genderen, "Do we need new legal personhood in the age of robots and AI?." In *Robotics, AI and the Future of Law*. (Singapore: Springer Singapore, 2018), pp. 15-55. https://doi.org/10.1007/978-981-13-2874-9_2

[21] *See* Republic of Indonesia. *Kitab Undang-Undang Hukum Perdata.* Available online at https://learning.hukumonline.com/wp-content/uploads/2020/12/Kitab-Undang-undang-Hukum-Perdata.pdf

[22] Nindyo Pramono, *Hukum Perseroan Terbatas.* (Jakarta: Sinar Grafika, 2024). *See also* Soonpeel Edgar Chang, *Indonesian Company Law*. (London: Routledge, 2018).

Under this view, human beings constitute the primary subjects of law, and the function of law is to recognize and protect their inherent rights.

In contrast, legal positivism argues that legal rights and obligations arise solely from laws enacted by competent state authorities. From this perspective, legal personality is not inherent but is conferred by the legal system. Consequently, only individuals or organizations expressly recognized by law are considered legal subjects and are capable of holding legal rights and assuming legal obligations. This positivist approach is particularly significant when examining whether emerging technologies, such as artificial intelligence, may be recognized as legal subjects within the existing Indonesian legal framework.

In many cases, Artificial Intelligence can be considered a legal subject. First of all, artificial intelligence can be viewed as a subject with legal status, which means that it has legal rights and obligations like a person or company. Artificial intelligence can be held legally accountable for the behavior it produces and can make agreements. Second, regulations can regulate artificial intelligence. Law No. 11 of 2008 concerning Electronic Information and Transactions (ITE Law)[23] and Law No. 19 of 2016 concerning Amendment of Electronic Information and Transactions Law[24] are two of the many laws that can be applied to artificial intelligence. Third, this regulation forms the legal foundation that will be used to regulate the implementation of intellectual property and technology rights. Fourth, artificial intelligence can be subject to lawsuits if it does things that harm others, such as violating copyright or privacy.

Based on the previous theory of legal subjects, it can be concluded that artificial intelligence (AI) can be considered a subject of law. However, more specific and in-depth rules are still needed for the legal status of AI in Indonesia. The observation of individuals and legal entities as legal subjects is very different in various aspects of law, both in civil and criminal law. Legal subjects in civil law consist of legal entities and recognized human individuals from birth. In the discussion of Subjects in Civil Law Principles, a person's rights and responsibilities begin to apply when they are born and end when they die.[25] The subject then explains that the characteristics of legal entities are similar to those of people. The legal organization owns assets, can be a party to the lawsuit, and has the right to file a lawsuit.

As explained by Wirjono Prodjodikoro, human individuals are those who are held accountable for an act in the criminal law system. People are considered the main perpetrators responsible according to the Criminal Code (KUHP).[26] This can be seen from the definition of a criminal act, its conditions, and sanctions such as imprisonment or fines regulated in it. In addition, a legal entity can also be legally liable in criminal law if it performs an act through its directors or management.

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[23] *See* Republic of Indonesia. *Undang-Undang Nomor 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik.* Available online at https://jdih.komdigi.go.id/produk_hukum/view/id/167/t/undangundang+nomor+11+tahun+2008

[24] *See* Republic of Indonesia. *Undang-Undang Nomor 19 Tahun 2016 tentang Perubahan Atas Undang-Undang Nomor 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik*. Available online at https://jdih.komdigi.go.id/index.php/produk_hukum/view/id/555/t/undangundang+nomor+19+tahun+2016

[25] Subekti Subekti. *Pokok-Pokok Hukum Perdata*. (Jakarta: Intermesa, 1983).

[26] Wirjono Prodjodikoro, *Asas-asas Hukum Pidana di Indonesia*. (Bandung: Eresco, 1981).

Responsibility remains with the legal entity itself, even if the action is carried out by the individual.[27]

With the development of the law, the subject of the law itself has also evolved, as shown by the designation of corporations as the subject of criminal law in the latest Criminal Code. Corporations have the ability to act like humans, meaning they have rights, obligations, and responsibilities for what they do. Therefore, they are recognized as subjects of law.[28] Therefore, the recognition of corporations as legal subjects opens up opportunities for further development related to the legal status of individuals and corporations.

The Indonesian Criminal Code (Law No. 1 of 1946) did not expressly recognize corporations as perpetrators of criminal offences. Consequently, under the previous Criminal Code, criminal liability was generally limited to natural persons. Although several sectoral statutes introduced corporate criminal liability, the absence of a general provision in the Criminal Code resulted in an inconsistent framework for imposing criminal responsibility on corporations.[29]

The recognition of corporations as subjects of criminal law was first introduced in the Netherlands through the 1976 amendment to Article 51 of the *Wetboek van Strafrecht* (Dutch Criminal Code), which incorporated principles previously established under the *Wet Economische Delicten* (Economic Offences Act) of 1950. In Indonesia, the concept of corporate criminal liability was first introduced through Emergency Law No. 7 of 1955 on Economic Crimes. Although the previous Criminal Code did not formally recognize corporations as criminal subjects, it adopted the principle that corporate managers could be held criminally liable for offences committed by, or on behalf of, the corporation. As a result, criminal responsibility was attributed primarily to the individuals managing the corporation rather than to the corporation itself.

Since the entry into force of the new Criminal Code (Law No. 1 of 2023) on 2 January 2026, corporations have been expressly recognized as subjects of criminal law and may be held criminally liable for offences committed within the scope of their business activities or for their benefit, in accordance with the provisions governing corporate criminal liability under the Code. This development represents a significant reform of Indonesian criminal law by establishing a comprehensive legal basis for imposing criminal responsibility directly on corporations.[30]

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27 Prodjodikoro.

28 Subekti. *Pokok-Pokok Hukum Perdata*.

29 *See* Herlina Manullang, Martono Anggusti, and Binsar Manogu Tua. "Legal Reform of Corporate Criminal Liability Model in the National Criminal Code." *Journal of Law, Politic and Humanities* 5, no. 2 (2025): 1304-1313. https://doi.org/10.38035/jlph.v5i2.1089; Evi Djuniarti, "The Criminal Liability of Corporations as Crime Perpetrators." *Jurnal Penelitian Hukum De Jure* 21, no. 3 (2021): 311-320; Nur Aripkah, et al. "Pembaharuan Konsep Hukum Pidana dalam Undang-Undang No. 1 Tahun 2023 Tentang KUHP." *Jurnal Fundamental Justice* 6, no. 2 (2025): 209-226. https://doi.org/10.30812/fundamental.v6i2.5268

30 *See* Januar Agung Saputera, et al. "Rekonstruksi Pertanggungjawaban Pidana Korporasi dalam KUHP Nasional: Telaah Kritis atas UUNo. 1 Tahun 2023 dalam Persepektif Hukum Pidana Modern." *Jurnal Ilmu Hukum: The Juris* 9, no. 2 (2025): 388-394. https://doi.org/10.56301/juris.v9i2.1750

Article 6 paragraphs 1 and 2 of Law Number 8 of 2010 concerning the Prevention and Eradication of Money Laundering Crimes[31] stipulates that if a company commits the crime of money laundering as stated in Article 3, Article 4, and Article 5, the company and/or the party controlling the company may be subject to criminal sanctions. According to this approach, the company's management is responsible for the company's actions and policies. According to this model, only company administrators who are considered to have committed violations can be held criminally liable. Therefore, the management bears the responsibility that should be carried out by the company, and they can be punished if they violate it.

Articles 169, 398, and 399 of the Indonesian Commercial Code (*Kitab Undang-Undang Hukum Dagang,* KUHD)[32] regulate criminal liability. The founders, administrators, and commissioners of a limited liability company may be subject to criminal sanctions if they commit or engage in criminal acts, according to the articles. Therefore, this provision emphasizes more on the criminal liability of the management than the company's legal entity. Economic glory has individual actors and legal entities, just like crime in general. Artificial intelligence (AI) is starting to emerge as a result of technological advancements. The two fields of artificial intelligence and law can work together, from speeding up investigations and investigations to helping law enforcement prepare cases for court. Various aspects of life have been made easier by the advancement of the times, especially with the existence of artificial intelligence. However, technological advancements have also allowed for the evolution of crime. Artificial intelligence also has the ability to commit offenses, even criminal acts, instead of functioning as a tool of law enforcement.

Electronic devices evolved into machines that could think on their own as science advanced. The development of artificial intelligence (AI) began in the 1950s with the advent of "machine to machine" technology that allowed computers to communicate with humans. Artificial intelligence is a technology that is intended to have the ability to act and think like a human.[33] This technology is intended to solve a number of problems by mimicking the human decision-making process.

Special regulations are needed in many countries, including Indonesia, due to the ability of artificial intelligence (AI) to mimic human actions. Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Information and Electronic Transactions (UU ITE) is a response to the rapid technological progress in Indonesia. Nonetheless, the ITE Act does not provide a clear definition of artificial intelligence, which has resulted in various

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[31] *See* Republic of Indonesia. *Undang-Undang Nomor 8 Tahun 2010 tentang Pencegahan dan Pemberantasan Tindak Pidana Pencucian Uang.* Available online at https://peraturan.bpk.go.id/Details/38547/uu-no-8-tahun-2010

[32] *See* Republic of Indonesia. *Kitab Undang-Undang Hukum Dagang.* Available online at https://jdih.kemenkeu.go.id/api/download/fulltext/1847/23tahun~1847stbl.htm

[33] Galih Dwi Ramadhan, "Perlindungan Hukum atas Invensi Artificial Intelligence di Era Revolusi Industri 4.0 & Society 5.0." *Thesis* (Yogyakarta: Universitas Islam Indonesia, 2022). *See also* Asti Wasiska, and Ahmad Faisal. "Perlindungan Hukum atas Karya Yang Dihasilkan oleh Kecerdasan Buatan (AI) dalam Kerangka Hak Kekayaan Intelektual di Indonesia." *Mustika Justice* 4, no. 2 (2025); Irsyad Maulana Achmadi, Aisha Tsabita Kamila, and Feymi Angelina. "Penegakan Perlindungan Hak Cipta Bagi Karya Buatan Artificial Intelligence Menggunakan Doktrin Work Made For Hire." *Anthology: Inside Intellectual Property Rights* 1, no. 1 (2024): 1-23.

interpretations from various parties on how the provisions contained in the law can be linked to artificial intelligence.[34]

In Indonesia, the legal status of artificial intelligence (AI) as a perpetrator of economic crimes is still debated. Joanna Bryson argues that artificial intelligence should be considered an agent and have rights and obligations comparable to humans.[35] However, as explained by Harahap[36], Article 1365 of the Civil Code only regulates compensation for mistakes committed by the legal subject itself. This explanation suggests that AI does not have to have the same legal status as humans; rather, it can be considered a legal object, and the person who makes or uses it is responsible.

The concept that artificial intelligence (AI) can be held criminally liable is still very new. Artificial Intelligence is not considered a subject of criminal law in the Criminal Code (KUHP), which comes from the Dutch tradition. However, along with the advancement of the times and technology, Artificial Intelligence is now considered a legal matter, especially after the entity has been granted citizenship status. Sophia, the first artificial intelligence robot to be granted citizenship status in 2017 by Saudi Arabia.[37] Sophia, an artificial intelligence capable of thinking and acting independently, even has a coveted job in the company's marketing field.[38]

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[34] FL Yudhi Priyo Amboro, and Khusuf Komarhana. "Prospek Kecerdasan Buatan Sebagai Subjek Hukum Perdata di Indonesia [Prospects of Artificial Intelligence as a Subject of Civil Law in Indonesia]." *Law Review* 21, no. 2 (2021): 145-172. https://doi.org/10.19166/lr.v0i2.3513

[35] Joanna J. Bryson, "Artificial Intelligence and Pro-Social Behaviour." In *Collective Agency and Cooperation in Natural and Artificial Systems: Explanation, Implementation and Simulation*. (Cham: Springer International Publishing, 2015), pp. 281-306.

[36] M. Yahya Harahap, *Hukum Perseroan Terbatas*. (Jakarta: Sinar Grafika, 2016).

[37] *See* Emily Reynold, "The agony of Sophia, the world's first robot citizen condemned to a lifeless career in marketing", *WIRED*, June 2018. Online at https://www.wired.com/story/sophia-robot-citizen-womens-rights-detriot-become-human-hanson-robotics/

[38] Sophia is a humanoid robot developed by Hanson Robotics. In October 2017, during the Future Investment Initiative held in Riyadh, Saudi Arabia announced that Sophia had been granted Saudi citizenship. This made Sophia the first robot to be publicly declared a "citizen" by a sovereign state. However, the legal significance of this announcement has been widely debated. From a legal perspective, Sophia's "citizenship" should not be understood as conferring the full legal status of a natural person. The announcement was largely symbolic and promotional, highlighting Saudi Arabia's interest in artificial intelligence and technological innovation rather than creating a comprehensive legal framework for AI personhood. No publicly available legislation or royal decree amended Saudi nationality law to define robots as citizens or to specify the rights and obligations associated with Sophia's citizenship. Several legal issues remain unresolved: *first, lack of legal rights and duties.* There is no evidence that Sophia acquired the legal rights ordinarily associated with Saudi citizenship, such as voting rights, property rights, or access to public services. Likewise, Sophia cannot independently bear legal obligations such as paying taxes or being held criminally liable. *Second, no legal personality.* Citizenship ordinarily presupposes legal personality. Sophia has not been recognized as a legal person capable of entering contracts, owning property independently, or appearing in court in its own name. *Third, responsibility for actions.* If Sophia were to cause harm, liability would likely rest with the manufacturer, programmer, operator, or owner under existing principles of civil or criminal law, rather than with Sophia itself. For scholars examining AI and criminal liability, the Sophia case is therefore better understood as an illustration of the distinction between citizenship and legal personality. Citizenship is a political and legal status that normally belongs to persons recognized by law, whereas legal personality refers to the capacity to hold rights and obligations. Granting symbolic citizenship to an AI system does not, by itself, establish that the AI is a legal subject capable of bearing civil or criminal liability. At this the context, the Sophia case demonstrates that even where an AI system has been described as a "citizen," this does not mean that it has been recognized as a legal subject comparable

There is a lack of clarity in law enforcement in Indonesia because there is no law that regulates criminal liability for criminal acts committed by artificial intelligence (AI). In ideal, the law should be constantly updated to adapt to the progress of the times and be able to control people's lives. The emergence of technologies such as artificial intelligence without strong regulations can cause anxiety due to potential problems that can arise due to a legal vacuum. According to Rahardjo (2004), the term "*het recht hinkt achter de faiten aan*" describes law as something that lags behind social and technological progress.

In general, Indonesia's laws on the use of artificial intelligence (AI) are still incomplete. However, Law Number 1 of 2024 is the second amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE Law), especially Article 21 paragraph 3, which states that if the function of the Electronic Agent does not function properly due to the actions of a third party against the Electronic System, then the legal responsibility lies with the operator of the Electronic Agent.

Current Indonesian legislation does not recognize artificial intelligence as a legal subject independently, only treating it as a tool or device. Legal subjects are entities that have the ability to carry out legal actions and give rise to rights and obligations.[39] However, the Electronic Information and Transaction Law (ITE Law) stipulates artificial intelligence as an electronic agent. The implementing regulation of the ITE Law, PP 71/2019, regulates the responsibilities of electronic agent operators, including providing features that allow users to change information during the transaction process.

An electronic agent is defined in the Electronic Information and Transactions Act (ITE Law) as an electronic component that automatically processes electronic information received from various parties. As an explanation, the Government issued Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Transaction Systems, which was later known as PP 71/2019. This regulation specifically regulates electronic agents, including AI. In addition, PP 71/2019 explains the responsibilities of electronic agent operators. Article 31 of GR 71/2019 emphasizes that electronic system operators must protect users and the public from negative impacts caused by the electronic systems they develop or operate.

It is very clear that artificial intelligence cannot be considered an independent legal subject as described in the article. Although artificial intelligence has the ability to function and act like humans, artificial intelligence is still a product of human creation through the input of interconnected data. Thus, the person who creates the AI is fully responsible for his actions if he does something outside the

to a natural person or a legal entity. Consequently, Sophia does not provide a legal precedent for treating artificial intelligence as a subject of criminal law. Instead, it illustrates the continuing gap between technological developments and existing legal concepts of legal personality and criminal responsibility. *See* Jaana Parviainen, and Mark Coeckelbergh. "The political choreography of the Sophia robot: beyond robot rights and citizenship to political performances for the social robotics market." *AI & Society* 36, no. 3 (2021): 715-724. https://doi.org/10.1007/s00146-020-01104-w; Fuchs, Thomas. "Understanding Sophia? On human interaction with artificial agents." *Phenomenology and the Cognitive Sciences* 23, no. 1 (2024): 21-42. https://doi.org/10.1007/s11097-022-09848-0

[39] R. Soeroso, *Pengantar Ilmu Hukum*. (Jakarta: Sinar Grafika, 2011).

limits that have been programmed by the creator[40], unless the failure of the system is caused by the negligence of the creator. Thus, Indonesian law currently only regulates certain elements of the Electronic Information and Transactions Law, which has not specifically regulated the use of artificial intelligence. Thus, artificial intelligence cannot be considered as a legal subject that has rights and obligations, but only as a legal object or object.

III. CRIMINAL LAW ACCOUNTABILITY FOR THE UTILIZATION OF ARTIFICIAL INTELLIGENCE

The rapid advancement of technology has significantly transformed various aspects of human life, generating both substantial benefits and emerging challenges.[41] Technological innovation has enhanced efficiency and productivity by enabling the automation of complex tasks that were previously performed exclusively by humans.[42] Among these innovations, artificial intelligence (AI) has become one of the most influential technologies of the Fourth Industrial Revolution, alongside blockchain, the Internet of Things (IoT), and big data analytics.[43] AI refers to computer systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, decision-making, and problem-solving.[44]

The development of AI is commonly classified into three stages. The first is Artificial Narrow Intelligence (ANI), which is designed to perform specific tasks within a limited domain. The second is Artificial General Intelligence (AGI), a theoretical form of AI possessing cognitive abilities comparable to those of humans across a broad range of activities. The third is Artificial Super Intelligence (ASI), a hypothetical stage in which AI surpasses human intelligence in virtually all cognitive functions.[45]

At present, AI technology remains predominantly within the ANI stage. Nevertheless, it has been widely integrated into everyday life across numerous sectors. In the automotive industry, autonomous driving systems equipped with autopilot functions assist or partially replace human drivers under certain conditions. Similarly, AI-powered applications such as Google Translate facilitate multilingual communication by providing rapid and increasingly accurate language translation without the need for conventional dictionaries.[46] Beyond improving

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40 Febri Jaya, and Wilton Goh. "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/10.33592/jsh.v17i2.1287

41 Min Xu, Jeanne M. David, and Suk Hi Kim. "The Fourth Industrial Revolution: Opportunities and Challenges." *International Journal of Financial Research* 9, no. 2 (2018): 90-95. https://doi.org/10.5430/ijfr.v9n2p90

42 Hari Sutra Disemadi, "Urgensi Regulasi Khusus dan Pemanfaatan Artificial Intelligence dalam Mewujudkan Perlindungan Data Pribadi di Indonesia." *Jurnal Wawasan Yuridika* 5, no. 2 (2021): 177-199. https://doi.org/10.25072/jwy.v5i2.460

43 FL Yudhi Priyo Amboro, and Khusuf Komarhana. "Prospek Kecerdasan Buatan Sebagai Subjek Hukum Perdata di Indonesia [Prospects of Artificial Intelligence as a Subject of Civil Law in Indonesia]." *Law Review* 21, no. 2 (2021): 145-172. https://doi.org/10.19166/lr.v0i2.3513

44 Amboro, and Komarhana.

45 Miftahud Daroini Ashshidqi, "Proyeksi Dampak Teknologi Artificial General Intelligence dan Tanggung Jawab Ilmuwan". *Dissertation.* (Yogyakarta: Universitas Gadjah Mada, 2019).

46 Harry Surden, "Artificial Intelligence and Law: An Overview." *Georgia State University Law Review* 35 (2019): 19-22. https://readingroom.law.gsu.edu/gsulr/vol35/iss4/8

efficiency, AI has the potential to reshape economic, social, and legal relationships by automating decision-making processes that were traditionally performed by humans.[47]

The application of AI has also expanded into the legal sector. Since 2017, China has utilized AI technologies to support the handling of online litigation and digital court services, although these systems continue to evolve and remain subject to technical and legal limitations.[48] Likewise, the Netherlands has adopted AI-based legal technologies to facilitate access to legislation, judicial decisions, and legal agreements, thereby improving the efficiency of legal research and legal services.[49]

The integration of AI into legal practice is not limited to foreign jurisdictions. In Indonesia, AI has increasingly been incorporated into legal services through platforms such as the Legal Intelligence Assistant (LIA), which assists users in accessing and analyzing legal information.[50] AI is also employed in contract drafting and review through electronic contract systems, enhancing the efficiency and accuracy of legal documentation.[51]

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47 Endang Irawan Supriyadi, and Dianing Banyu Asih. "Implementasi Artificial Intelligence (AI) di Bidang Administrasi Publik Pada Era Revolusi Industri 4.0." *Jurnal RASI* 2, no. 2 (2020): 12-22. https://doi.org/10.52496/rasi.v2i2.62

48 Eka NAM Sihombing, and Muhammad Yusrizal Adi Syaputra. "Implementasi Penggunaan Kecerdasan Buatan dalam Pembentukan Peraturan Daerah." *Jurnal Ilmiah Kebijakan Hukum* 14, no. 3 (2020): 419-434. http://dx.doi.org/10.30641/kebijakan.2020.V14.419-434

49 Bart Verheij, "Artificial Intelligence as Law: Presidential Address to the Seventeenth International Conference on Artificial Intelligence and Law." *Artificial Intelligence and Law* 28, no. 2 (2020): 181-206. http://dx.doi.org/10.1007/s10506-020-09266-0

50 Sihombing, and Syaputra. "Implementasi Penggunaan Kecerdasan Buatan dalam Pembentukan Peraturan Daerah." *See also* Hary Abdul Hakim, Chrisna Bagus Edhita Praja, and Sung Ming-Hsi. "AI in Law: Urgency of the Implementation of Artificial Intelligence on Law Enforcement in Indonesia." *Jurnal Hukum Novelty* 14, no. 1 (2023): 122-134. https://doi.org/10.26555/novelty.v14i1.a25943; Mutia Qori Dewi Masithoh, et al. "AI in Law: How Artificial Intelligence Is Transforming the Legal Profession in Indonesia." *Justitia Jurnal Hukum* 7, no. 2 (2023): 137-152. https://doi.org/10.30651/justitia.v7i2.17832

51 Kurniawijaya, et.al. "Pendayagunaan Artificial Intelligence dalam Perancangan Kontrak Serta Dampaknya Bagi Sektor Hukum di Indonesia." Furthermore, it is emphasized that artificial intelligence (AI) has increasingly been integrated into contract formation and management, transforming traditional contracting processes through automation, predictive analytics, and natural language processing. AI is now capable of drafting contracts, reviewing contractual clauses, negotiating standardized terms, and, in some cases, executing transactions through smart contracts or autonomous systems. These developments enhance efficiency, reduce transaction costs, and minimize human error, making AI an attractive tool in commercial and legal practice. However, the growing use of AI in contractual relationships also raises significant legal challenges, particularly regarding the validity of contracts, allocation of liability, and the legal status of AI within private law. One of the principal legal issues concerns whether AI can validly express contractual consent. Under classical contract law, a valid agreement requires mutual consent between legal subjects possessing legal capacity. AI systems, regardless of their degree of autonomy, do not possess legal personality or legal capacity because they lack consciousness, intention, and free will. Consequently, AI cannot independently become a contracting party. Instead, any declaration of intent generated by AI is generally attributed to the natural person or legal entity that owns, deploys, or authorizes the system. This attribution becomes increasingly complex where AI operates with minimal human intervention or produces decisions that were neither anticipated nor directly controlled by its users. Another challenge concerns liability for contractual errors or losses caused by AI-generated decisions. AI systems may produce inaccurate recommendations, misinterpret contractual language, or execute transactions based on biased or erroneous data. Determining responsibility in such circumstances is often difficult because multiple actors—including developers, software providers, operators, and users—may contribute to the AI's

The growing sophistication and widespread adoption of AI have prompted significant legal and regulatory challenges. As AI systems become increasingly capable of performing functions traditionally undertaken by humans, questions arise concerning the legal consequences of their actions and the allocation of responsibility for harm resulting from their operation. Although AI can independently generate decisions and execute tasks based on algorithms and machine learning models, its capabilities remain constrained by the design, programming, and objectives established by human developers.[52]

Despite the increasing use of AI across various sectors, Indonesia has not yet enacted comprehensive legislation specifically governing artificial intelligence. This regulatory gap may create legal uncertainty as AI systems become more autonomous and capable of making decisions with significant legal consequences. In particular, the absence of a dedicated legal framework raises fundamental questions regarding liability when AI systems cause harm or are involved in activities that constitute criminal offences. Rather than assuming that AI itself can be regarded as a criminal offender, these developments require careful examination of whether existing principles of criminal law are sufficient to address AI-related conduct or whether new legal concepts are needed to determine responsibility for actions performed through or by artificial intelligence. Several countries that have implemented artificial intelligence in several industries have recognized artificial intelligence as a legal subject with rights and obligations. However, Indonesian law does not yet recognize artificial intelligence as a subject of law. Therefore, it is very important for this study to provide an explanation of accountability for legal actions and behaviors generated by artificial intelligence, especially from the point of view of criminal law.

IV. ARTIFICIAL INTELLIGENCE AND CRIMINAL LIABILITY UNDER INDONESIAN LAW

Artificial intelligence (AI) has become one of the most transformative technological developments of the twenty-first century. While AI is generally understood as a human-created system capable of performing tasks that ordinarily

decision-making process. Existing contract law was primarily designed for human actors and provides limited guidance for allocating liability where autonomous technologies are involved. These challenges demonstrate that current legal frameworks are not fully equipped to regulate AI-assisted contracting. Rather than recognizing AI as a legal subject, future legal reform should establish clear rules governing human oversight, transparency, accountability, and the attribution of contractual responsibility. Such reforms are essential to ensure legal certainty while enabling the continued use of AI in commercial transactions. *See* Rajesh Gupta, et al. "Smart Contract Privacy Protection Using AI in Cyber-Physical Systems: Tools, Techniques and Challenges." *IEEE Access* 8 (2020): 24746-24772. https://doi.org/10.1109/ACCESS.2020.2970576; Norhafiza Awang, "Contract Law and Artificial Intelligence: Examine the Implications of AI on Contract Negotiation and Execution, Including the Challenges of Automated Contracting." *International Journal of Academic Research in Business and Social Sciences* 14, no. 11 (2024); Fatihani Baso, et al. "The Overview of Smart Contract: Legality and Enforceability." *Dialogia Iuridica* 16, no. 1 (2024): 96-111. https://doi.org/10.28932/di.v16i1.10024; Muhammad Ilman Abidin, "Legal Review of the Validity of the Use of Smart Contracts in Business Transactions in Indonesia and Its Regulation in Various Countries." *Unnes Law Journal* 9, no. 2 (2023): 289-310. https://doi.org/10.15294/ulj.v9i2.74957

[52] Tom CW. Lin, "Artificial Intelligence, Finance, and the Law." *Fordham Law Review* 88, no. 2 (2019): 531-551. https://ir.lawnet.fordham.edu/flr/vol88/iss2/6

require human intelligence, its defining characteristic lies not merely in automation but in its capacity to process vast amounts of data, learn from experience, identify patterns, and generate decisions with varying degrees of autonomy.[53] Unlike conventional software that operates through predetermined commands, contemporary AI systems increasingly rely on machine learning algorithms that enable adaptive decision-making. This evolution has blurred the traditional distinction between human decision-making and machine-assisted decision-making, thereby creating unprecedented legal challenges.

From a legal perspective, the emergence of AI raises a fundamental jurisprudential question: *can an autonomous technological system be regarded merely as a legal object, or has its increasing autonomy necessitated reconsideration of its legal status?* This question becomes particularly significant in criminal law because criminal liability has traditionally been founded upon the assumption that the offender possesses consciousness, free will, and moral culpability.[54] Consequently, technological autonomy should not automatically be equated with legal autonomy.

The Indonesian legal framework has yet to provide a comprehensive legal definition of artificial intelligence. Although Law No. 1 of 2024 concerning the Second Amendment to Law No. 11 of 2008 on Electronic Information and Transactions (ITE Law) regulates electronic systems and electronic agents, it does not specifically regulate AI or distinguish AI from other automated technologies. Under Article 1 of the ITE Law, an electronic system is defined as a series of electronic devices and procedures used to prepare, collect, process, analyze, store, display, announce, transmit, and disseminate electronic information. Similarly, an electronic agent is defined as an electronic system designed to perform certain actions automatically based on information or instructions provided by its operator.

These statutory definitions encompass many current AI applications because AI systems receive, process, and generate electronic information autonomously within parameters established by human developers. Nevertheless, the inclusion of AI within the categories of electronic systems and electronic agents should not be interpreted as recognition of AI as an independent legal subject. Rather, Indonesian law conceptualizes AI as an instrument through which legal subjects perform electronic activities. Consequently, the legal consequences arising from AI-generated decisions remain attributable to the human actors operating, developing, or controlling the relevant electronic system.

This position is reinforced by Government Regulation No. 71 of 2019 concerning the Operation of Electronic Systems and Transactions, which places legal responsibility upon Electronic System Operators (*Penyelenggara Sistem Elektronik*). The regulation reflects the fundamental principle that technological systems cannot independently bear legal obligations because responsibility continues to rest with identifiable legal subjects. Therefore, under the current

[53] Ahmad Rickianto Afandi, and Heri Kurnia." Revolusi Teknologi: Masa Depan Kecerdasan Buatan (AI) dan Dampaknya Terhadap Masyarakat." *Academy of Social Science and Global Citizenship Journal* 3, no. 1 (2023): 9-13. https://doi.org/10.47200/aossagcj.v3i1.1837

[54] Andrea Bertolini, and Francesca Episcopo. "Robots and AI as Legal Subjects? Disentangling the Ontological and Functional Perspective." *Frontiers in Robotics and AI* 9 (2022): 842213. http://dx.doi.org/10.3389/frobt.2022.842213; Samir Chopra, and Laurence F. White. *A Legal Theory for Autonomous Artificial Agents*. (Michigan: University of Michigan Press, 2011).

Indonesian legal framework, AI remains a legal object rather than a bearer of legal rights and obligations.

From a jurisprudential perspective, this conclusion is consistent with classical theories of legal personality. Otto von Gierke's Organ Theory explains that legal entities possess legal personality because the law attributes to them a collective human will exercised through their organs. Although corporations lack biological existence, they are capable of acquiring legal rights and obligations because their decisions ultimately reflect the intentions of human actors.[55] Artificial intelligence differs fundamentally from legal entities in this respect. AI systems do not possess an independent institutional structure, collective intention, or legally recognized decision-making authority. Their outputs remain dependent upon algorithms, training data, and operational objectives determined by human designers.

Similarly, Van Apeldoorn[56] argues that legal subjects must possess legal capacity, namely the ability to exercise legal rights and undertake legal obligations independently. Legal capacity presupposes not only the possession of rights but also the capability to understand and manage those rights. While certain individuals, such as minors or persons under guardianship, possess legal personality despite limitations on their legal capacity, they nevertheless remain

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[55] Otto von Gierke's Organ Theory (Organismus Theory) is one of the most influential theories of corporate legal personality in continental European legal thought. The theory was developed by the German jurist Otto von Gierke (1841–1921) as a response to the earlier fiction theory advanced by Friedrich Carl von Savigny. While Savigny argued that legal entities exist only as legal fictions created by the state, Gierke maintained that corporations are real social organisms that possess an existence independent of both their individual members and the state. According to Organ Theory (*Organtheorie*), a legal entity acts through its organs, such as directors, managers, or other authorized representatives. These organs are not merely agents acting on behalf of the corporation; rather, they are integral parts of the corporation itself. Consequently, the acts and intentions of these organs are legally regarded as the acts and intentions of the corporation. This theoretical framework explains why corporations are capable of acquiring rights, assuming obligations, entering into contracts, owning property, and bearing legal responsibility despite lacking a physical human existence. The significance of Organ Theory extends beyond private law into criminal law. It provides a doctrinal foundation for corporate criminal liability by allowing the mental state (*mens rea*) and conduct (*actus reus*) of corporate officers to be attributed directly to the corporation. Modern legal systems, including Indonesia's current Criminal Code, rely on attribution doctrines that reflect this theoretical approach when imposing criminal liability on corporations. However, Organ Theory does not readily support extending legal personality to artificial intelligence (AI). Unlike corporations, AI systems do not possess an organizational structure composed of human members pursuing collective objectives. More importantly, AI does not exercise an independent legal will recognized by law. Although AI may autonomously generate outputs or make decisions based on algorithms and machine learning, these outputs remain dependent upon programming, training data, and operational objectives established by human actors. Therefore, AI lacks the institutional and normative characteristics that justify recognizing corporations as legal persons under Organ Theory. For this reason, many scholars argue that Organ Theory reinforces the conclusion that AI should currently be regarded as a legal object rather than a legal subject. Responsibility for AI-generated conduct should therefore be attributed to the human actors—such as developers, operators, users, or corporations—who design, deploy, or control the AI system. *See* Otto von Gierke, "Verbände als korporative "Realpersönlichkeiten"." In *Klassiker der Verbändeforschung* (Wiesbaden: Der VS Verlag fur Sozialwissenschaften, 2006): 259. *See also* Eilis Ferran, "Corporate Attribution and the Directing Mind and Will." *Law Quarterly Review* 127 (2011): 239-259; Ernest Lim, "Attribution in Company Law." *The Modern Law Review* 77, no. 5 (2014): 794-807. https://doi.org/10.1111/1468-2230.12091

[56] *See* L. J. van Apeldoorn, *Inleiding tot de studie van het nederlandsche recht*. (Deventer, Netherlands: Gouda Quint, 1942); L. J. van. Apeldoorn, *Pengantar Ilmu Hukum*. (Jakarta: Pradnya Paramita, 1983).

human beings capable of moral agency. Artificial intelligence lacks this essential characteristic. Regardless of its computational sophistication, AI cannot exercise legal rights for its own benefit nor assume legal obligations independently.

The distinction between technological autonomy and legal autonomy is particularly important within criminal law. Advances in machine learning have enabled AI systems to generate decisions without direct human intervention, leading some scholars to argue that AI exhibits functional autonomy. However, functional autonomy should not be conflated with legal autonomy. Criminal law is concerned not merely with whether an entity can produce actions but with whether those actions can be attributed to a morally responsible actor. Therefore, the central issue is not whether AI acts autonomously, but whether AI possesses the legal and moral capacities necessary to justify criminal punishment.

Indonesian criminal law adopts a culpability-based model of criminal responsibility (*geen straf zonder schuld*), under which punishment may only be imposed upon a legal subject capable of blameworthiness. The doctrine of criminal liability distinguishes between the commission of a prohibited act (*actus reus*) and the existence of culpability (*mens rea*). Consequently, the mere occurrence of harmful conduct is insufficient to justify punishment unless accompanied by fault attributable to the offender. According to Simons[57], criminal responsibility presupposes that an individual possesses the intellectual capacity to understand the nature and consequences of his or her conduct, recognizes that such conduct violates legal norms, and has the ability to control his or her actions. Hiariej similarly identifies four cumulative requirements for criminal responsibility: the existence of a criminal act, culpability in the form of intention (*dolus*) or negligence (*culpa*), criminal capacity, and the absence of grounds excluding liability. These requirements reflect the moral foundation of criminal law, namely that punishment is justified only where the offender deserves blame.

Measured against these doctrinal standards, AI cannot presently satisfy the conditions of criminal responsibility. Although advanced AI systems may simulate reasoning, predict outcomes, and adapt to new information, such capabilities remain computational rather than cognitive. AI does not possess consciousness, moral awareness, emotions, intentionality, or free will in the legal sense. Its decision-making processes are ultimately the product of mathematical optimization rather than normative judgment. Consequently, AI cannot form criminal intent (*dolus*), appreciate the unlawfulness of its conduct, or consciously disregard legal obligations. The absence of these mental elements precludes the attribution of criminal fault.

Some scholars have proposed extending legal personality to AI by analogy with corporate criminal liability.[58] Such arguments, however, overlook the normative foundations underlying corporate personhood. Corporations are

[57] D. Simons, *Leerboek van het Nederlandsche strafrecht.* (Groningen: Noordhoff, 1917). *See also* Andrew Ashworth, and Jeremy Horder. *Principles of Criminal Law*. (Oxford: OUP Oxford, 2013).

[58] *See* Nora Osmani, "The Complexity of Criminal Liability of AI Systems." *Masaryk University Journal of Law and Technology* 14, no. 1 (2020): 53-82; Simon Chesterman, "Artificial Intelligence and the Limits of Legal Personality." *International & Comparative Law Quarterly* 69, no. 4 (2020): 819-844. https://doi.org/10.1017/S0020589320000366; Edita Gruodytė, and Paulius Čerka. "Artificial Intelligence as a Subject of Criminal Law: A Corporate Liability Model Perspective." In *Smart Technologies and Fundamental Rights*. (Leiden: Brill, 2020), pp. 260-281. https://doi.org/10.1163/9789004437876_013

recognized as legal subjects not because they possess intelligence but because the law deliberately attributes legal personality to facilitate economic and social activities. Corporate criminal liability likewise rests upon attribution doctrines that connect corporate acts to human decision-makers. AI lacks comparable institutional characteristics and therefore cannot simply be assimilated into existing corporate liability models.

Instead, criminal liability for AI-related harm should continue to be analyzed through established attribution doctrines. Where harm results from defective programming, responsibility may lie with developers or manufacturers. Where harm results from misuse, responsibility may attach to users or operators. In organizational settings, liability may extend to corporations under existing doctrines of corporate criminal liability. This attribution-based approach is more consistent with Indonesian criminal law than recognizing AI as an autonomous criminal offender.

One possible doctrinal basis for attributing liability is the principle of vicarious liability. Although originally developed within civil law, vicarious liability has increasingly been incorporated into modern criminal law to address offences committed through organizational structures or delegated authority. Under this principle, liability may be imposed upon persons who exercise control over another actor or instrument. Since AI functions within parameters established by human actors, responsibility should be attributed to those who design, deploy, supervise, or benefit from its operation rather than to the AI itself.

This approach is consistent with the fundamental objectives of criminal law. Criminal punishment serves not only to sanction prohibited conduct but also to express moral condemnation toward blameworthy actors. Because AI lacks moral agency, punishment directed against AI would neither achieve retributive justice nor promote deterrence. By contrast, imposing liability upon human actors responsible for designing, deploying, or negligently supervising AI systems preserves the principles of culpability while ensuring legal certainty.

Accordingly, under the current Indonesian legal framework, AI cannot be regarded as an independent subject of criminal law. Its increasing technological sophistication does not alter the doctrinal requirements of criminal responsibility, which remain grounded in legal personality, moral agency, and culpability. Future legislative reform should therefore focus not on granting criminal personality to AI but on establishing a comprehensive liability regime that clearly allocates responsibility among developers, operators, users, and corporations involved in the deployment of increasingly autonomous AI systems.

V. CONCLUSION

Finally, this study concluded that Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (PP 71/2019) confirms that artificial intelligence (AI) is legally positioned as a legal object rather than a legal subject within the Indonesian legal framework. AI systems operate within structures designed, controlled, and implemented by human actors, particularly electronic system operators who bear primary legal responsibility for the management and consequences of electronic system operations. This regulatory position reflects the broader orientation of Indonesian

positive law, which recognizes only natural persons and legal entities as subjects of law. Accordingly, AI cannot be attributed independent legal personality, as its existence, functionality, and decision-making capacity are entirely contingent upon human design, programming, and operational authorization.

From the perspective of criminal law, this classification is reinforced by the doctrinal requirement that criminal liability must be grounded in consciousness, intention, and volition (*mens rea*). Artificial intelligence, regardless of its operational autonomy or computational sophistication, lacks the cognitive and moral capacities necessary to form intent or appreciate the unlawfulness of conduct. Consequently, it cannot fulfill the fundamental prerequisites of culpability under Indonesian criminal law. Responsibility for AI-related criminal acts must therefore be attributed to human agents, including developers, operators, and users who create, deploy, or benefit from AI systems. This approach preserves the foundational principles of criminal law, particularly culpability and individual responsibility, while ensuring legal certainty in addressing AI-related harm within the existing Indonesian legal order.

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The authors declare that generative artificial intelligence (AI) tools were used solely to assist in improving the clarity of language, grammar, and the organization of the manuscript during the writing process. The AI tools also supported preliminary drafting and language refinement under the direct supervision of the authors. All substantive intellectual contributions, including the conceptualization of the research, legal analysis, interpretation of data, critical evaluation of the literature, and formulation of arguments and conclusions, were undertaken exclusively by the authors. Every AI-assisted output was carefully reviewed, verified, and substantially revised to ensure its accuracy, originality, and compliance with academic and ethical standards. The authors accept full responsibility for the content of this manuscript, including the accuracy of all citations, interpretations, and conclusions presented.

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"Granting legal personality to artificial intelligence would require a fundamental rethinking of what it means to be a legal subject."

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