

THE POTENTIAL OF GENERATIVE ARTIFICIAL INTELLIGENCE BASED ON APPLICATIONS IN JUDICIAL SUPERVISION IN AN EFFORTS TO REDUCE CORRUPTION, COLLUSION, AND NEPOTISM

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Abstract

Time has become more advanced and artificial intelligence technology AI (Artificial Intelligence) is developing rapidly. Electronic court-based court technology (e-Court) is starting to become commonplace in the Supreme Court Jurisdiction. However, in practice, the behavior of corruption, collusion, and nepotism still occurs recently in the Supreme Court Jurisdiction, ranging from cases of bribery of judges in handling cases, arrogant behavior of judges in trials, to the behavior of judges or employees committing ethical and legal violations. It seems like an endless stream of incidents that should not exist, due to technological advances, are instead emerging. This research aims to provide new ideas regarding the potential of Generative. Application-based AI (Artificial Intelligence) in the context of Judicial Supervision to reduce corruption, collusion, and nepotism behavior. This study applies a library research approach study (Literature Study) with an analytical prescriptive method (analytical method using legal materials and information and communication technology materials to produce appropriate recommendations in application-based decision making) and application-based legal hermeneutics (interpretation). The results of this research data indicate that there is a fairly large anomaly, where advances in information and communication technology have not been able to suppress the behavior of corruption, collusion, and nepotism in the judiciary. This problem emerged the idea of using application-based Generative AI (Artificial Intelligence) in judicial supervision management. Generative AI (Artificial Intelligence) is a type of AI that can create new content and ideas.

Keywords: Generative, AI (Artificial Intelligence), Supervision, Justice, Corruption Collusion Nepotism

Introduction

One of the principles of judicial power's accountability that must be adhered to by judges is the principle of objectivity. This principle can be explored based on Article 4 paragraph (1) of Law Number 48 of 2009 stating "The court serves the law without discriminating against people." However, this principle is often denied due to problems of executive interference, economic power, and internal problems of judges. This problem can be seen concretely in the case of the KPK (Corruption Eradication Commission) Hand-Catching Operation in November 2023 against two prosecutors from the Bondowoso District Attorney's Office, namely Puji Triasmoro and Alexander Silaen, for playing related to case management.¹ In addition, the case of Supreme Court Justice Sudrajad Dimiyati in 2023 for bribery in the KSP Intidana case, followed by Gazalba Saleh (Supreme Court Justice) and Hasbi Hasan (Secretary of the Supreme Court) with different criminal cases also added to the dark record of judicial power in Indonesia.² Furthermore, in 2024, the former Head of the Supreme Court's Research and Development Agency for Legal and Justice, Zarof Ricar, was arrested by the Attorney General's Office for accepting bribes along with three judges at the District Court of Surabaya who had previously been arrested in the Ronald Tannur case. Finally, Rudi Suparmono (former Chief Judge of District Court of Surabaya) was named a suspect by the Attorney General's Office in early 2025 in a similar case. It didn't stop there, a new case emerged in April 2025 at the South Jakarta District Court involving judges and the Chief Judge in a corruption case involving Crude Palm Oil (CPO) imports. The numerous weaknesses in the judicial system have risen the urgency of oversight to ensure accountability in its implementation. The Supreme Court and the Judicial Commission, under Articles 24A and 24B of the 1945 Constitution, are the institutions authorized to oversee

¹ Azhar B. Ramadhan, "The Corruption Eradication Commission (KPK) arrested two prosecutors in connection with a case being investigated by the Bondowoso District Attorney's Office.", detik.com (16 November 2023), <https://news.detik.com/berita/d-7039446/kpk-ott-2-jaksa-terkait-kasus-yang-diusut-kejari-bondowoso> accessed 19 Maret 2025

² Rifat Alhamidi, "The Traces of Sudrajad Dimiyati, the First Supreme Court Justice to be Imprisoned in a Corruption Case", detik.com . (31 Mei 2023), <https://news.detik.com/berita/d6748200/jejak-kasus-sudrajad-dimiyati-hakim-agung-pertama-yang-dibui-dikases-korupsi>. accessed 19 Maret 2025

the judiciary. However, these two institutions are only authorized to oversee the technical aspects of the judiciary and the behavior of judges. The 1945 Constitution does not authorize oversight of first-instance court decisions because this would violate the principle of judicial independence. Oversight and intervention in decisions are only possible when a legal remedy is petitioned to a higher level court, as a form of oversight that does not violate the principle of judicial independence.

The importance of the role of the judicial power supervision system needs to be examined more deeply, because the supervision so far model is still repressive or acts as feedback control when a judge has violated the applicable provisions in deciding a case.³ Mechanisms that can significantly reduce the risk of detrimental and interest-affiliated verdicts have not yet been implemented. There are frequent indications that judicial independence is determined by external parties based on vested interests through analysis of the final verdicts rendered.⁴ Therefore, to guarantee clean verdicts and decisions, judicial instruments require a technological system working neutrally and is able to accurately analyze how judges should make decisions based on substantive justice.

Artificial Intelligence (AI) is a technological development that has attracted attention from several countries, including Indonesia. Furthermore, the development of Artificial Intelligence presents a new challenge that must be faced due to its various impacts, as conveyed by Indonesian President Joko Widodo on November 1-4, 2018, at the opening of the Indonesia Science Expo (ISE). At the event, President Joko Widodo expressed his concerns about the threats posed by new technological developments. In addition to the concerns expressed by President Joko Widodo, state regulations in facing the development of Artificial Intelligence are also a very complex challenge that must be carefully prepared because so far, sophisticated technology must be balanced with qualified human resources, adequate infrastructure, and clear and definite legal regulations.

³ Wahyu Wiriadinata, "Judicial Commission and Judicial Oversight in Indonesia", *Jurnal Ilmu Syariah dan Hukum*, vol 48, no.2 (2014) pp. 513-525

⁴ Andra Triyudiana, Ahmad Solehudin, Azhary Fathama, dan Nabilla Putri Aryani, "The Neutrality of the Judicial Profession Amidst Political Intervention", *Das Sollen: Jurnal Kajian Kontemporer Hukum Dan Masyarakat*, vol 1, no.01 (2022), pp. 1-21

Artificial Intelligence or Artificial Intelligence is "technology in the form of a machine that can imitate human behavior and is developed with human thinking knowledge and can carry out thinking procedures like humans."⁵ Since artificial intelligence may perform legal actions or acts that are identical to those that humans can perform, the technology that was developed to be able to perform tasks similarly to humans has become a problem for people's life..

An alternative way to developing surveillance technology could be artificial intelligence (AI), specifically the Generative AI (Gen AI) branch, which is a subset of AI that can produce original ideas and content such as dialogues, narratives, pictures, movies, and music. It is capable of learning complex subjects including biology, chemistry, art, programming languages, and human language. This AI solves new issues by applying its existing knowledge. Undoubtedly, this can be implemented with a number of Gen AI technology criteria, such as the application of the technology in applications or related fields in the administration of information and communication technology-based judicial supervision. This implies that the entire current legal process is not immune to this Gen AI surveillance paradigm, nor is it limited to tracking judges' rulings.

This research differs from previous research because it is more practical in the application of Generative Artificial Intelligence in the form of an application that functions to oversee clean judicial management so as to reduce the potential for corruption, collusion, and nepotism. Previous research, for example, "AI in Court: The Future of the Judicial System in the Era of Artificial Intelligence," "Potential Utilization of Artificial Intelligence Technology as a Product of Judicial Institutions in Indonesia," "Application of Artificial Intelligence in Supervision of Judicial Power as an Effort to Reduce Disparity in Criminal Decisions in Indonesia," and several similar studies.

Several previous studies focused solely on theoretical aspects without directly addressing practical issues. This research, however, is practical in nature, as it is based on a judicial oversight application incorporating generative artificial intelligence. This means the AI can detect performance violations by judges and judicial officials. This

⁵ Kirana Rukmayuninda Ririh, Nur Laili, Adityo Wicaksono, dan Silmi Tsurayya, "Comparative Study and SWOT Analysis of Artificial Intelligence Implementation in Indonesia", *Jurnal. Teknik Industri Undip*. vol. 15, no. 2 (2020), pp. 122-133

information will be incorporated into the performance monitoring application for judges or employees to monitor abuse of authority in their positions.

From the background above, there are several problems that need to be studied, namely: how does generative artificial intelligence work and how to implement generative artificial intelligence in a real application-based manner in judicial supervision management to reduce corruption, collusion, and nepotism behavior.

This research is conducted with the aim of increasing maximum judicial supervision with the help of generative artificial intelligence (Gen AI) technology based on the performance application of judges and employees to create a clean judiciary that is free from corruption, collusion, and nepotism.

This research is quite important and relevant in the era of advances in information and communication technology, particularly in the judicial sector. The advancement of electronic courts (eCourt) has become commonplace, representing an initial step to reduce corruption, collusion, and nepotism. However, the reality is that corruption, collusion, and nepotism remain rampant in judicial institutions. Therefore, application-based generative AI (Artificial Intelligence) technology is crucial to reduce these behaviors in judicial institutions, of course, by applying more sophisticated and advanced oversight methods than before.

This research is conducted by applying a normative legal research method, with a philosophical and juridical approach through legislation. The sources of legal materials used in this research are primary, secondary and tertiary legal materials. While the technique of collecting legal materials is carried out using Library Research, both for materials in the form of legislation, as well as other sources of legal materials. Legal materials are processed using analytical prescriptive methods ((analytical methods using legal materials and information and communication technology materials to produce appropriate recommendations in application-based decision making) and application-based legal hermeneutics (interpretation).⁶ So that these

⁶ M. Nur Syafuddin, "Reformulation of Regulations on Fulfillment of Child Support Rights Based on Child Protection and Family Welfare", PhD Disertasi (Universitas Brawijaya, 2021), p. 40, https://scholar.google.co.id/citations?view_op=view_citation&hl=id&user=Z3lIua

approaches and methods are hoped to obtain research results that are paradigms in legal construction based on Generative Artificial Intelligence applications that are able to translate and operationalize legal supervision of judicial management precisely and deeply. Where using a deductive thinking model (general to specific), namely discussing problems in general and then providing specific solutions to resolve the problems of judicial supervision management which have so far been application-based, but have not yet implemented Generative Artificial Intelligence comprehensively.

Discussion

How Generative Artificial Intelligence Works

The era of artificial intelligence (AI) has recently become a topic of interest for many people. Quoting Cornell Law School, artificial intelligence is defined as the use of machine learning technology, software, automation, and algorithms to perform tasks and/or make predictions based on existing data sets and instructions. Everything has been touched, including the legal world, which is synonymous with morality. This is not surprising, as google assistance and automatic reference categorizing have long been used in solving case studies.

The concept and model of artificial intelligence (AI), is not something completely new to humans, this concept has inspired the birth of various science fiction films, even the presence of the film "Metropolis" directed by Fritz Lang in the Weimar period in 1927 is considered the first film to have digital aspects, including issues of online buying and selling, copyright cases, and e-commerce product liability claims. The concept of artificial intelligence has also become an idea continuing to be explored in modern science fiction films. For example, the film *The Terminator* (1984), *Robo Cop* (1987), *AI: Artificial Intelligence* (2001), *A Space Odyssey* (2001), *I Robot* (2004), *Avengers: Age of Ultron* (2012), *Her* (2013), *Ex Machina* (2014). Currently, science fiction works are not only films that can be enjoyed on the big screen, but can also be felt in real life. JARVIS (Just A Rather Very Intelligent System) technology, the virtual personal assistant created by Tony Stark (Iron Man) in the film *Avengers: Age of Ultron*,

which can do various jobs, from turning on the lights, adjusting the room temperature to making predictions with voice commands, can now be conducted by AI made by several technology giants such as Google Assistant, SIRI, Cortana and so on.⁷

The application of AI has also permeated a number of industries, including the legal sector. An AI judge was established in Hangzhou, China, in 2017, although its purview is still restricted to resolving matters involving digital elements, such as copyright cases, online purchasing and selling conflicts, and e-commerce product liability claims. AI has the potential to replace the legal profession. In a contest to comprehend legal connections, AI has defeated top attorneys for the first time, according to the Daily Mail on February 26, 2018, which Tempo cited. The AI selected hazards with a 94 percent accuracy rate in four hours by recognizing 30 legal concerns. In contrast, attorneys with decades of experience only had an 85% success rate.

Basically, Artificial Intelligence (AI) is a technology that has undergone a long development and over time, this technology has influenced human life. Russell Norvig defines AI as "a computing program that is able to give machines the ability to function like human intelligence, such as making decisions, solving problems, and making predictions." Because AI can have capabilities almost equal to humans, this technology is often referred to as External Intelligence.⁸

The working idea of AI is to simulate human intelligence in a machine run by a program to enable it to think and act like a human. This concept can also be applied to technology or machines exhibiting human-like mental traits, through a learning process to acquire and organize information.⁹ Reasoning methods are used to reach estimates and will produce conclusions and self-corrections. AI is designed to mimic human intelligence and then implemented in machines

⁷ Eka N. A. M. Sihombing and Muhammad Yusrizal Adi. Syaputra, "The Implementation of Artificial Intelligence Usage in Local Legislation Forming," *Jurnal Ilmu. Kebijakan Hukum*, vol. 14, no 3 (2020), pp. 419–434

⁸ Ramadhan Hakim Agung, *Big Data, Artificial Intelligence, Blockchain, and Financial Technology in Indonesia*. (Jakarta: CIPG (Centre For Innovation Policy and Governance, 2018), Working Paper, p. 25.

⁹ Galih Dwi Ramadhan, "Legal Protection for Artificial Intelligence Inventions in the Era of Industrial Revolution 4.0 & Society 5.0", Master Tesis: Indonesia: Universitas Islam Indonesia, 2022, p. 15, <https://dspace.uui.ac.id/handle/123456789/37792> accessed 13 Juli 2025.

programmed to perform tasks with a high degree of accuracy and consistency.

AI is implemented by computer programs that employ sophisticated algorithms and quickly and repeatedly combine vast volumes of data. Programs and software can then automatically learn from the features and patterns found in the data. By analyzing data using algorithms created in structured programming languages, artificial intelligence (AI) can comprehend and analyze a wide range of issues. the way AI operates, it can be explained as a propensity to anthropomorphize human behaviors and sensations in the following ways:¹⁰

- a. *Learning*: AI can have the ability to acquire and process new, up-to-date information.
- b. *Reasoning*: AI can change data in a number of ways.
- c. *Single Source of Truth*: AI is able to assess the reliability of misrepresented data.
- d. *Seeing Relationships*: AI is able to forecast the relationships and interactions between data.
- e. *Considering Meaning*: AI can use consistent data to determine the truth in a given situation.
- f. *Separating Fact from Belief*: AI is able to discriminate between belief and fact.

Artificial Intelligence (AI) may be an alternative for constructing surveillance technology, particularly the generative artificial intelligence (Gen AI) branch, which is a sort of AI that can create new content and ideas, including conversations, tales, photographs, videos, and music. It can learn human language, programming languages, art, chemistry, biology, or difficult subject matter. This AI solves new issues by applying its existing knowledge. This can undoubtedly be adopted with a number of Gen AI technology criteria, such as the application of the technology in applications or related fields in judicial surveillance management based on information and communication technology. This means not only monitoring judges' decisions, but also the entire ongoing judicial process is also included in this Gen AI surveillance model.

¹⁰ Perkumpulan Basis Data Indonesia, *AI & Data Science: Technology, Innovation & Use Cases in Indonesia*. (Jakarta: PT. Gramedia Jakarta, 2020), p. 5.

Gen AI's way of working is better than ordinary AI, because it has the ability to perform analysis or predictions related to something that is usually run by humans, for example: Gen AI is able to read actions taken by humans, then make temporary conclusions about the results of human work when carrying out the main tasks and functions in their positions. This means that by using certain applications, Gen AI is then entered into the program. Where the application is directly related to work, which is inputted every day by each employee in carrying out their work.

This Gen AI system will accurately read employee work patterns according to job descriptions and based on pre-established rules, creating specific work patterns with a specific, consistent and precise algorithm. The use of Gen AI is generally considered superior to conventional AI because it can predict various things or create new ones.

Implementation of Application-Based Generative Artificial Intelligence in Real-Life Judicial Supervision Management to Reduce Corruption, Collusion, and Nepotism

In the Big Indonesian Dictionary written by the Dictionary Compilation Team of the Language Development and Cultivation Center, the definition of KKN, collusion and nepotism is as follows:

In the Big Indonesian Dictionary written by the Dictionary Compilation Team of the Center for Language Development and Cultivation, the following definitions of Corruption, Collusion and Nepotism are given:¹¹

1. Corruption is the misappropriation or embezzlement (of state, company, or organizational funds) for personal gain.
2. Collusion is a secret conspiracy for an ignoble purpose or goal.
3. Nepotism is defined as the tendency to prioritize (benefit) one's own relatives, especially in positions of office, rank, or within government, or the act of selecting one's own relatives or family members to hold government positions.

The Latin words "corruptio" (bribery) and "corruptore" (to damage) are the origins of the word corruption. Embezzlement, accepting bribes, and other negative behaviors are examples of

¹¹ Tim Penyusun Kamus Pusat Pembinaan dan Pengembangan Bahasa, *Big Indonesian Dictionary* (Jakarta: Balai Pustaka, 1988), p. 527.

corruption. Therefore, it is evident from a literal interpretation that the term corruption encompasses a wide range of actions, such as theft or misuse of state or corporate funds for one's own or others' benefit; Corruption manifested as a preference for using funds or products entrusted to him can be bought off (using his influence for personal benefit).¹²

Law Number 31 of 1999 on the Eradication of Criminal Acts of Corruption as amended by Law Number 20 of 2001 on the Eradication of Criminal Acts of Corruption contains the definition of corruption, namely: any person giving or promising something to a judge with the intention of influencing the decision on a case filed to him for court hearing, or giving or promising something to a person who according to statutory regulations is determined to be an advocate to attend a court hearing with the intention of influencing the advice or opinion that will be given in relation to a case filed to the court for trial.¹³

Samuel P. Huntington in his book *Political Order in Changing Societies*, states that in terms of typology, corruption can be divided into seven types, including:¹⁴

1. Transactional corruption (Transactive Corruption), involving two parties. Both parties benefit and therefore actively contribute to the corruption.
2. Tortive corruption (Extortive Corruption), involving the first party bribing the second party to avoid obstacles to their business.
3. Autogenic corruption (Autogenic Corruption), involving only the individual involved. For example, a member of parliament supports a bill solely because it will benefit them.
4. Defensive corruption (Defensive Corruption), involving someone offering a bribe to defend themselves.
5. Inventive corruption (Investitive Corruption), for example, providing the best possible goods or services in order to receive money as a "thank you" for the good service.

¹² Evi Hartanti, *Criminal Act of Corruption*. (Jakarta: Sinar Grafika, 2012), p. 19

¹³ Adeng Septi Irawan, "The Criminal Act of Participating as an Intermediary in Bribery from an Islamic Criminal Law Perspective", *Al-Jinayah*, vol. 3, no. 1 (2017), pp 65-90.

¹⁴ Samuel P. Huntington, *Political Order in Changing Societies* (New Haven: Yale University Press, 1977), p.37-39.

6. Nepotistic corruption, involving favoring "my people" for public positions, or favoring "my own family" in many cases.
7. Supportive corruption, involving corruption that does not directly involve services, money, or gifts. For example, allowing a corrupt act to continue and remaining indifferent to the corrupt environment and situation.

The demand for performance accountability in judicial institutions is crucial for both internal and external parties. Data and technology based performance accountability can provide confidence in the performance of judicial institutions. The rise in corruption, collusion, and nepotism in judicial institutions is one of the key reasons for implementing artificial intelligence (AI) to minimize corruption, collusion, and nepotism in judicial institutions.

Justice seekers, especially those receiving services from judicial institutions, are currently experiencing a decline in trust in the judiciary due to several negative cases occurring within the judiciary. Therefore, with advances in technology, artificial intelligence (AI)-based judicial oversight management is crucial and essential.

The incorporation of technology, especially artificial intelligence (AI), into the legal system has become a hot issue of discussion in many nations in the current digital era. Numerous nations have started to realize how effective this technology is at boosting productivity and guaranteeing promptness and precision in case resolution. For instance, by incorporating AI judges into its legal system, Estonia has made a groundbreaking move.¹⁵ This action aims to reduce the backlog of court cases and improve the effectiveness of government services.¹⁶ Under this plan, small claims disputes more especially, contract claims for up to 7,000 euros are to be decided by AI-based judges..

This AI-based approach was selected because it can evaluate claims without requiring human judgment, making it quicker and more impartial. Another time, China created Xiaofa, a highly advanced robot that can offer legal advice and explain different legal jargon to the

¹⁵ Tanel Kerikmäe and Evelin Pärn-Lee, "Legal Dilemmas of Estonian Artificial Intelligence Strategy: In Between of E-Society and Global Race", *AI and Society*, vol. 36, no. 2 (2021), pp. 561-572.

¹⁶ Panca Sarjana Putra, Zico Junius Fernando, Bhanu Prakash Nunna, dan Rizaldy Anggriawan, "Judicial Transformation: Integration of AI Judges in Innovating Indonesia's Criminal Justice System", *Kosmik Hukum*, vol. 23, no. 3 (2023), pp. 233-247

general people.¹⁷ This robot can tackle 30,000 different legal challenges and has a wealth of knowledge spanning over 40,000 litigation-related questions. China has installed more than a hundred robots, including Xiaofa, in courts throughout the nation as part of its "smart justice" initiative. The objective is to lessen the workload of court officials by assisting to summarize case histories and prior rulings. The need for AI integration is growing more pressing and pertinent, especially since China's 120,000 judges decide about 19 million cases a year.¹⁸

The Supreme Court, its subordinate courts, and a Constitutional Court in Indonesia exercise the judiciary's independence. According to Article 24 paragraph (1) of the 1945 Constitution, the main goal of the judiciary's independence in Indonesia is to uphold the rule of law and justice. The concept of judicial independence, demanding judges to make decisions free from both internal and external judicial interference, is derived from this independence. However, while exercising the judiciary's independence, judges' freedom is still constrained by their commitment to the accountability principle.¹⁹

Regarding AI, Stephen Hawking (Physicist) stated, "The rise of powerful Artificial Intelligence will be either the best or the worst thing ever to happen to humanity. We do not yet know which." According to this assertion, the advancement of artificial intelligence will usher in a new era that profoundly affects human existence. Therefore, law becomes one of the most important instruments in the future life. According to Satjipto Raharjo (Professor of Law at Diponegoro University), in the theory of progressive law, "progressive law is a law that provides liberation, both in ways of thinking and acting within the law, so that it is able to allow the law to flow to complete its task of serving human being and humanity."

It is possible to interpret "Article 1 Number 1 of Law No. 19 of 2016" as limiting artificial intelligence to a legal object and without considering it a legal subject. Only the following legal subjects are listed

¹⁷ Xu Jian Zhao et al, "An Overview of Artificial Intelligence Research and Development in China", in *The New Silk Road Leads through the Arab Peninsula: Mastering Global Business and Innovation (Emerald Publishing Limited)*, (2019), pp. 143-151.

¹⁸ Nu Wang, "Black Box Justice: Robot Judges and AI-Based Judgment Processes in China's Court System. in 2020 IEEE International Symposium on Technology and Society (ISTAS)", (2020), pp. 58-65,

¹⁹ Rahayu Prasetyaningih, "Accountability of Judicial Power", *Jurnal Konstitusi*, vol. 8, no. 5 (2011), pp. 829-848.

in Law No. 19 of 2016: Sender, Recipient, Person/Business Entity, and Government. Point c of Law No. 19 of 2016's contemplation section also provides room for Law No. 19 of 2016 to modify, adapt, and keep up with technology advancements in order to create new types of legal acts. As a result, the possibility of artificial intelligence as a legal topic is not a pipe dream or fiction; rather, it is a development, advancement, and breakthrough enabling the law to function.

Theoretically, "human beings (*natuurlijke persoon*)" and "legal entities (*rechts persoon*)" are the legal subjects included in Indonesian positive law and have the ability to carry out legal actions or deeds. However, according to Sir John Salmond (New Zealand Judge), "So far as legal theory is concerned, a person is any being whom the law regards as capable of rights and duties. Any being that is so capable is a person, even though he is a man."²⁰ Legal subjects have human or non-human capacities as defined by law, according to Salmond's assertion. He asserts that the law itself did not consider people to be legal persons or subjects throughout the time of slavery. On the other hand, non-human entities that are legally defined could be considered legal subjects or individuals with rights and obligations comparable to those of humans.

Law enforcement plays a vital role in achieving democratic rule of law. In the digital era, the role of information technology becomes increasingly significant in the context of law enforcement, particularly within the political system. The use of information technology by law enforcement officers in political institutions involves several aspects, such as the dissemination of information and legal education to the public. Citizens can better understand their rights and responsibilities as a result of the use of information technology.²¹ In today's fast-paced digital world, innovation and technology are crucial in every field, including law enforcement. The legal system has benefited greatly from digital transformation, allowing for significantly improved access, analysis, and processing of relevant data. Several aspects of human life, including the judicial system, have been significantly impacted by the exponential growth of technological innovation. Technology has

²⁰ Ririen Kusumawati, "Artificial Intelligence: The Future's Dream Technology," *ULUL ALBA, Jurnal Studi. Islam*, vol. 9, no. 2 (2018), pp. 257-274

²¹ Andy Satria, Kristina Sinaga, Hylmiana Nadya, Mutia Mutia, dan Inggrit Nadeak, "The Use of Information Technology in Law Enforcement in the Political System", *Doktrin: Jurnal Dunia Ilmu Hukum dan Politik*, vol. 2, no. 2 (2024), pp. 185-191

become a crucial component of law enforcement in this digital age. The creation of positive laws, or rules and regulations for the legal use of technology, often lags behind the pace of technical progress.

Prof. Larry Lessig (American Academic and Political Activist): In his book "Code and Other Laws of Cyberspace," Prof. Lessig puts forward the important idea that computer code plays a significant role in shaping legal rules and behavior in the digital world. He highlights the importance of understanding how technology governs our lives and its impact on justice in this context. And Prof. Richard Susskind (UK Independent Counsel): As a leading legal expert on technology and law enforcement, Prof. Susskind has emphasized the dramatic changes that technology has brought to the way of law enforcement operates both practically and theoretically. His concepts of "Online Courts" and "The End of Lawyers?" have sparked important debates about the future of law enforcement.

Due to rapid and drastic changes in the technology itself, high levels of competition, and changes in business processes, technological innovation is becoming more complicated, expensive, and risky. Technology is a vital resource and an organizational subsystem. Technology therefore has a significant impact on long-term profitability and competitiveness. Companies must be aware of capability of utilizing technological opportunities to support their business objectives and enhance their operations and services if they want to thrive in a competitive market. In this sense, an organization's or company's ability to respond and adapt to technological innovation plays a role in determining its success.

Before the advent of digitalization, people might settle their differences peacefully or file lawsuits in local courts, which would ultimately result in a judge's decision. New breakthroughs have come with technological advancements, allowing for easier and more efficient use of all kinds of online mechanisms. In such a situation, this can inspire a country to introduce new policies in line with the trend of modernization.²² It is crucial for Indonesian law to evolve in line with social and technical changes. Legal rules can be made more effective

²² Wardah Yuspin, Anindhita Nurfaatin Sukirman, Arief Budiono, Jompon Pitaksantayothin, dan Ata Fauzie, "Legal Reconstruction of Indonesian Banking Laws: Challenges and Opportunities for Digital Bank Regulation", *Varia Justicia*, vol. 19, no. 1 (2023), pp. 52-69

and efficient with the assistance of technology, particularly digitalization. The public expects faster, more transparent, and more accessible legal processes, and the Indonesian legal system needs to adopt digital technology to keep pace with cultural and substantive changes. These changes, oriented toward justice and efficiency, are enabled by digitalization, transforming the functions of legal institutions and the public's interaction with the legal system.²³ Utilizing technology has become a crucial aspect of law enforcement in the current digital era. However, the creation of positive law that is, the laws controlling the use of technology frequently lags behind the rapid advances in technology.

Digitalization drives the development and utilization of AI in the legal field to become a crucial matter needing to be considered, so it is important to realize that new breakthroughs in the implementation of AI are also accompanied by a number of negative impacts needing to be considered in their protection.²⁴ This leads to challenges related to balancing societal values or interests with the advancement and innovation of AI technology.²⁵ The existence of AI, created with the image of the quality of human life, does not rule out the possibility of debates arising about the ability of AI to realize justice, honesty, compassion and empathy, as well as concern for helping weaker parties in the decision-making process and resolving cases in the legal field.²⁶ As emphasized by Anshori, the way AI works is designed to assist data analysis, reasoning and problem solving, and decision making in a shorter timeframe.²⁷ In relation to restorative justice and progressive law, Anshori views AI, positioned as an instrument or tool for law enforcement, as not parallel or relevant to the principles of restorative

²³ Dedi Putra, "A Modern Judicial System in Indonesia: Legal Breakthrough of e-Court and e-Legal Proceeding", *Jurnal Hukum Dan Peradilan*, vol. 9, no. 2 (2020), pp. 275-297..

²⁴ Bart Verheij, "Artificial Intelligence as Law. Presidential Address to the Seventeenth International Conference on Artificial Intelligence and Law", *Jurnal Artificial Intelligence and Law*, vol. 28, no. 2 (2020), pp. 181-206

²⁵ Stanley Greenstein, "Preserving the Rule of Law in the Era of Artificial Intelligence (AI)", *Jurnal Artificial Intelligence and Law*, vol. 30, no. 3 (2022), pp. 291-323

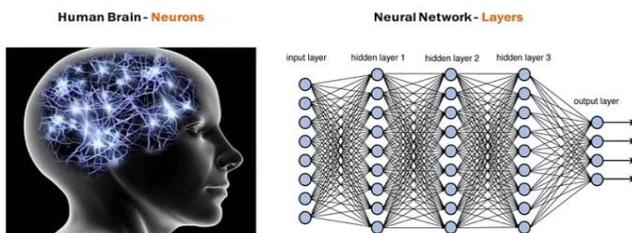
²⁶ Qur'ani Dewi Kusumawardani, "Progressive Law and the Development of Artificial Intelligence Technology", *Veritas et Justitia*, vol. 5, no 1 (2019), pp. 166-190

²⁷ Anshory, "The Idea of Artificial Intelligence in the Implementation of Law in the 4.0 Era: The Perspective of Case Resolution Using the Restorative Justice Model and Progressive Law", *Legal Studies Journal*, vol. 2, no. 2 (2022), pp. 1-13

justice, particularly regarding the aspect of deliberation between the parties to the dispute, which is a characteristic of the principle.

Generative Artificial Intelligence (Gen AI), a branch of AI, is highly applicable in judicial oversight technology, as the intelligence it produces differs from that of conventional AI. Gen AI utilizes a deeper technology, arguably human-like, but lacking human emotions. Gen AI's position lies deeply within Deep Learning (a subset of Artificial Intelligence), which can be described as a fully human mind free from the influence of desires or emotions.

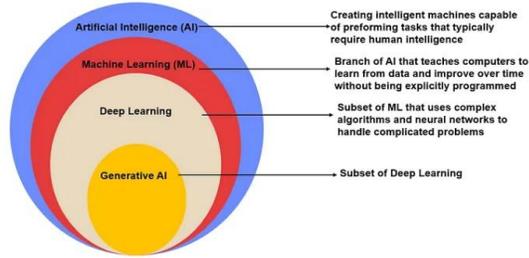
The following data shows the differences between Gen AI and AI, presented in the images and diagrams below.



Picture 1. Input-output comparison command of Generative Artificial Intelligence model with human intelligence
*Source : Medium.com, 19 March 2024 (Edited)*²⁸

Diagram 1. The intersection of Generative Artificial Intelligence with Artificial Intelligence

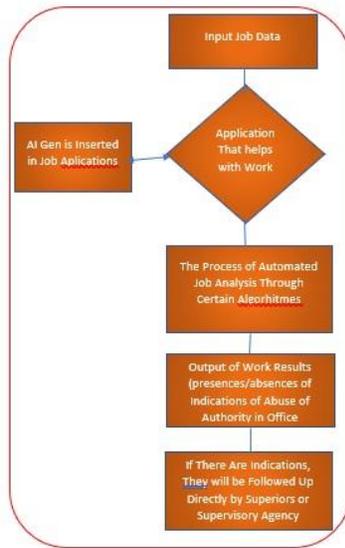
²⁸ Manasmondal, "What are deep learning, generative AI, machine learning (ML), and artificial intelligence (AI)? Which use cases do they have? Which machine learning algorithms are there? And which AWS services are available for developing generative AI applications?", [medium.com](https://medium.com/@manasmondal_27831/what-are-deep-learning-generative-ai-machine-learning-ml-and-artificial-intelligence-ai-d5e3ea0d76ca) (2 Maret 2024). https://medium.com/@manasmondal_27831/what-are-deep-learning-generative-ai-machine-learning-ml-and-artificial-intelligence-ai-d5e3ea0d76ca accessed 19 Maret 2025



Sources : Medium.com, 19 March 2024 (Edited)²⁹

The image and diagram above demonstrate that Gen AI is capable of serving as a tool for general and comprehensive oversight of all units within the judicial system, relating to oversight management. A more detailed explanation of the form and working methods of Gen AI in judicial oversight is presented in the diagram below

Diagram 2. How Gen AI Works in Judicial Oversight



Source : Author Document, 19 March 2024 (Edited)

The inclusion of AI Gen in employee job applications will certainly be able to reduce or mitigate corruption, collusion, and

²⁹ Manasmondal, "What are deep learning.....", accessed 19 Maret 2025.

nepotism within the judiciary because it can identify indications of abuse of authority or position. In the judicial world, for example, AI Gen is inserted into the Case Tracking Information System (SIPP) application to identify certain patterns indicating the origin of deviant behavior in the workplace. Gen AI can also be incorporated into the Sikep (Personnel Information System) application to reorganize the promotion and transfer processes that frequently result in violations.

Furthermore, Gen AI can also serve as a means of routine oversight by direct superiors or oversight agencies, implementing technology-based oversight making things easier for relevant parties, including time efficiency and practicality.

Of course, the existence of Gen AI won't be immediately implemented en masse; more comprehensive studies or Focus Group Discussions (FGDs) are needed in collaboration with specific institutions with adequate capabilities. This is to ensure that the Supreme Court's efforts to create a clean judiciary can be realized, in order to achieve its vision of "The Realization of a Supreme Judicial Body."

The idea of a state founded on the rule of law and the separation of powers is intimately related to an independent judiciary. The country's founders agreed that a state founded on the rule of law (Rechtsstaat) was essential because it protects democracy. Democracy is one of the Pancasila values upon which Indonesia was built. Consequently, it is essential to pledge to use state authority in accordance with the law.

According to Jimly Ashiddiqie, Indonesia as a country adhering to the rule of law makes law as the highest leader in national life.³⁰ Furthermore, Adriaan Bedner argues that an independent judiciary is a mandatory element in upholding the rule of law.³¹ The independence of the judiciary is based on the philosophy of constitutionalism to divide state power in order to limit state power with law.³² These limitations are

³⁰ Jimly Asshiddiqie, *The idea of the Indonesian rule of law*. Paper Presented at the National Legal Development Planning Dialogue Forum Organized by the National Legal Development Agency of the Ministry of Law and Human Rights. 2011.

³¹ Adriaan Bedner, "An elementary approach to the rule of law", *Hague Journal on the rule of law*, vol 2, no. 1 (2010), pp. 48-74

³² Firman Floranta Adonara, "The Principle of Judicial Independence in Deciding Cases as a Constitutional Mandate", *Jurnal Konstitusi*, Vol, 12, No. 2 (2015), pp. 217-236

implemented to prevent state power from being centralized, preventing the state from acting arbitrarily, as Lord Acton once stated, "Power tends to corrupt, and absolute power corrupts absolutely." As a result, the presence of an independent court as a state institution charged with maintaining justice and the rule of law is essential to monitor its application.

Following the amendment, Indonesia's status as a state of law under Article 1 paragraph (3) of the 1945 Constitution suggests that a legal framework is required to uphold the provisions of the constitution. Judicial power is the legal structure referred to in Article 24 paragraph (1) of the 1945 Constitution stating: "Judicial power is an independent power to administer justice to uphold law and justice." Further regulations are outlined in Article 1 paragraph (1) of Law Number 48 of 2009 concerning Judicial Power which states: "Judicial power is an independent state power to administer justice to uphold law and justice based on Pancasila and the 1945 Constitution of the Republic of Indonesia, for the sake of the implementation of the Republic of Indonesia's Constitutional State." The executor of judicial power based on Article 18 paragraph (1) of the 1945 Constitution states: "Judicial power is exercised by a Supreme Court and judicial bodies under it in the general judiciary jurisdiction, religious judiciary jurisdiction, military judiciary jurisdiction, state administrative judiciary jurisdiction, and by a Constitutional Court." This judicial power will later be exercised by judges and constitutional judges who are state officials. This has logical implications for granting judges and constitutional judges the right to exercise this judicial power independently.³³

The court system has been significantly impacted by the rapid advancements in technology, especially in the area of artificial intelligence (AI). In order to maximize services for the public seeking justice in this modern period, the Supreme Court (MA) has taken proactive measures by deploying a number of technological advancements. The goal of this project is to bring judicial services in line with the ideas of quick, easy, and affordable justice. Five artificial intelligence-based applications created by Supreme Court experts were introduced on Friday, August 18, in honor of the court's 78th

³³ Aidul Fitriaciada Azhari, *The Paradigm of Judicial Power Before and After the Reformation, Straightening the Direction of Judicial Power Management*, (Jakarta: Sekretariat Jenderal Komisi Yudisial), p. 296-297

anniversary. The five apps are e-IPLANS, Satu Jari, Court Live Streaming, Lentera 2.0, and Smart Majelis.

The existence of these applications demonstrates the dedication to developing the Indonesian judiciary into a cutting-edge, contemporary organization. This step aligns with the vision outlined in the 2010-2035 Judicial Reform Blueprint, emphasizing the importance of modernization in the judicial system.³⁴

By integrating AI and other information technologies into the judicial process, the Supreme Court seeks to expedite case handling, minimize administrative errors, and provide greater access to information for justice seekers. The use of this technology not only improves the efficiency of judicial officials but also transparency and accountability within the judicial system. Among the various initiatives conducted by the Supreme Court to integrate technology into the judicial system, some of the most prominent include e-Court, Electronic Mediation, and most recently, "SmartMajelis." e-Court³⁵ is a system allowing the submission of case files, court summonses, and the announcement of decisions to be conducted online, facilitating interaction between the court and the parties without the need for face-to-face meetings. This is particularly helpful during the pandemic or for those facing limited physical access to the court.³⁶ Electronic Mediation, on the other hand, is a platform facilitating the mediation process virtually. It allows parties to resolve disputes with the assistance of a mediator through online meetings, reducing the need for physical meetings and expediting the dispute resolution process. The latest innovation, "SmartMajelis," is an AI-based application designed to automate the selection of judges. This application selects judges for a

³⁴ Uji Sukma Medianti, "The Supreme Court Releases an AI-Based Application to Simplify Case Handling", [katadata.co.id](https://katadata.co.id/berita/nasional/64e2fbd5c54f5/permudah-penanganan-perkara-ma-rilis-aplikasi-berbasis-ai/) (21 Agustus 2023), <https://katadata.co.id/berita/nasional/64e2fbd5c54f5/permudah-penanganan-perkara-ma-rilis-aplikasi-berbasis-ai/> accessed 13 Juli 2025

³⁵ Annisa Dita Setiawan, Artaji, dan Sherly Ayuna Putri, "Implementation of the E-Court System in Law Enforcement in District Courts", *Jurnal Poros Hukum Padjadjaran*, vol. 2, no. 2 (2021), pp. 198-217.

³⁶ Burhanuddin Hamnach, Ah Fathonin, Aden Rosadi, dan Eneng Nuraeni, "The Implementation of Electronic Court Services (E-Court) During the Covid-19 Pandemic and Its Relationship to the Principle of Legal Certainty", *Al-Ahwal Al-Syakhsiyah: Jurnal Hukum Keluarga Dan Peradilan Islam*, vol. 3, no. 1 (2022), pp. 49-66.

case based on several factors, including the judge's experience, competence, and workload.³⁷

The implementation or application of Gen AI in judicial oversight management within the Supreme Court is indeed feasible. However, further study is needed to ensure its implementation complies with applicable regulations.

As of yet, this Gen AI technology lacks a distinct and well-defined legal framework. However, the ITE Law (Law Number 11 of 2008 about Electronic Information and Transactions as revised by Law Number 19 of 2016 and the second revision by Law Number 1 of 2024) is currently cited in the legal approach pertaining to electronic systems while discussing the adoption of Gen AI (AI branch). As "a collection of electronic equipment and procedures that act to prepare, gather, process, analyze, store, display, announce, send, and/or disseminate electronic information," artificial intelligence (AI) and its variants fall under the category of electronic systems. (Vide Article 1 of Law of the Republic of Indonesia No. 19 of 2016 concerning ITE)."

However, according to a number of specialists cited in various sources, Gen AI might be thought as an Electronic Agent in accordance with Article 1 paragraph (8) of the ITE Law, declaring that "Electronic Agent is a device of an Electronic System created to carry out an action on certain Electronic Information automatically organized by a Person." In order to build AI as an Electronic Agent, the term "automatic" in the concept of "Electronic Agent" is then utilized as a bridge. If using this construction, in fact the regulations governing "Electronic Agents" can also apply to AI. Paying attention to Article 21 of the ITE Law, the regulation of Electronic Agents refers to the implementation of electronic transactions. In the ITE Law, the organizer of an electronic agent is basically an organizer of an electronic system, because an electronic agent is a form of an electronic system organizer, which means, all rights and obligations of the electronic

³⁷ Ferinda K Fachri, "Looking at the Possibility of AI Replacing Judges in the Future, Is It Possible?", *hukumonline.com* (26 Oktober 2023), <https://www.hukumonline.com/berita/a/melihat-possibilitas-ai-menggantikan-hakim-di-masa-depan--apa-mungkin-lt653a431cbb9f0/> accessed 13 Juli 2025.

system organizer apply *mutatis mutandis* to the organizer of the electronic agent.³⁸

The ITE Law comprehensively regulates the duties of electronic agents, including the duty to protect user privacy, control user personal data, and preserve data confidentiality. It also establishes the boundaries of the duties and responsibilities of electronic agent organizers, including the provision of features enabling users to modify data that is still in the transaction process. According to the notion of legal certainty, the ITE Law's regulation of Gen AI is insufficiently complete, given that the incorporation of Gen AI technology into the legal sphere ought to be done without any ambiguous language.

According to Arkka Dhiratara (Ceo of Hukum Online) in the Policy Test event Think Intergenerational Bridging The Solution of Today and Tomorrow quoted in hukumonline.com stated that: "To regulate AI, a standard is needed, as in the international world. So the main step for regulators to draft AI regulations is to create a standard to manage the AI system itself. Then the next stage is the importance of the existence of a oversightbody that could possibly be commanded by the Ministry of Communication and Informatics. (now the Ministry of Communication and Digital)." ³⁹ To emphasize this statement, the governance of components related to AI must have legal certainty regarding the available and well-organized arrangements, including licensing, funding/financing, data protection, and legal accountability.

Furthermore, Gen Artificial Intelligence (AI) often generates decisions through complex and opaque algorithms. This lack of clarity makes it difficult for the public, oversightof officials, and policymakers who don't understand how these systems work, to trust them. Furthermore, the public's inherent perception that the judicial oversight process will be handled by humans adds to the skepticism surrounding the oversight process generated by Gen Artificial Intelligence (AI).

³⁸ Zahrashafa P. Mahardika,, dan Angga Priancha, "Current Legal Regulations for Artificial Intelligence", law.ui.ac.id (30 April 2024), <https://law.ui.ac.id/pengaturan-hukum-artifical-intelligence-indonesia-saat-ini-oleh-zahrashafa-pm-angga-priancha/> accessed 19 Maret 2025

³⁹ Fitri Novia Heriani, "Standardization is Needed to Regulate AI in Indonesia", hukumonline.com (18 Juni 2023), <https://www.hukumonline.com/berita/a/perlu-standardisasi-untuk-meregulasi-ai-di-indonesia-lt648ebdde37432/> accessed 19 Maret 2025.

Another challenge facing the use of Gen Artificial Intelligence (AI) systems is the unequal distribution of infrastructure in Indonesia.

However, despite the potential and benefits of adopting Artificial Intelligence (AI) in the judicial oversight management process, its dissemination across all work units under the Supreme Court in this country has been hampered. Unequal access to technology and infrastructure remains a glaring digital divide, particularly in remote areas. This is despite the fact that internet penetration in Indonesia is expected to reach 78% by 2023. Unequal infrastructure for this technology presents a significant challenge, as the primary support for Gen Artificial Intelligence (AI) is the internet network. Currently, there are no specific regulations governing the use of Gen Artificial Intelligence (AI) in the judicial oversight management process in Indonesia.

This gap creates significant challenges in the development and widespread adoption of this technology in society. The enactment of Law Number 27 of 2022 concerning Personal Data Protection could provide the initial foundation for protecting data within Gen Artificial Intelligence (AI) systems, although its implementation will take time. The use of Gen Artificial Intelligence (AI) in judicial oversight management also has fundamental limitations, particularly in terms of managing emotions and the cultural context in Indonesia.

Although the implementation of Gen Artificial Intelligence (AI) has several weaknesses and obstacles, this does not mean it lacks strengths and opportunities. Because every technology created by humans is inherently dynamic. This means that it may not be possible to implement it now due to several obstacles. However, one day, with increasingly rapid technological advances, adequate facilities and infrastructure, and qualified human resources, it is not impossible that Gen Artificial Intelligence (AI)-based technology will be implemented comprehensively in government institutions, especially the Supreme Court.

Nevertheless, efforts must be made to implement the Gen Artificial Intelligence (AI) model as part of or as a pilot project for the Supreme Court in conducting oversight management, particularly focusing on the core duties and functions of each judicial institution's apparatus. The implementation of Gen AI has often been hampered by various factors, including limited facilities and infrastructure, inadequate

human resources, unsupportive regional and cultural conditions, inadequate government funding, and uneven development of technology and information across the country.

Furthermore, there are parties who deliberately obstruct the Gen AI project, as its implementation has the potential to create a clean government free from corruption, collusion, and nepotism. They deliberately create various issues or excuses appearing to discredit Gen AI in overseeing the performance of judicial institutions. They do this to avoid detection of their improper behavior in providing services to the public. Because the manual concept of working without IT-based information and communication technology with the Gen AI model is very easy to commit violations in its performance process and tends to be already monitored due to the use of previous oversight models that are corrupt and full of transactional services.

Conclusion

The potential for implementing Generative Artificial Intelligence (AI) in a judicial oversight management system is crucial for increasing the efficiency of oversight actions undertaken by superiors or oversight agencies. Generative Artificial Intelligence (AI) has the ability to analyze and provide recommendations based on clearly and consistently identified patterns in the form of specific algorithms, resulting in a more thorough and accountable judicial oversight process. Gen AI can be a fast and accurate means of identifying indications of abuse of authority in the position or work of an official or employee within the Supreme Court. Gen AI is capable of generating new ideas or content from data analysis results with the same input data to produce the same output through a pre-set programming algorithm approach.

Generative Artificial Intelligence (AI) is embedded in applications used by officials or employees at work. It is pre-programmed with a specific algorithm to ensure the AI has learned the application's workings and processes correctly. This provides a check on the performance of officials or employees in the event of abuse of authority or position.

Efforts to reduce corruption, collusion, and nepotism within the Supreme Court are expected to be maximally implemented through the implementation of Gen AI. This will ensure the integrity of the judicial institution is restored. In the future, this Gen AI model needs to be

developed to become a recommendation for policy makers in implementing the supervision model.

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