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IMPLICATIONS OF DIGITAL POLICING WITH THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN POSITIVE LAW IN INDONESIA

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Abstract

Artificial Intelligence (AI) has become a useful tool for the police in curbing traffic violations and improving road safety. This research aims to examine how AI is applied to positive law in Indonesia. By focusing on positive law, the study provides a focused analysis of AI's impact on existing legal statutes and regulations in Indonesia, potentially examining case studies, legal precedents, or specific AI tools used within the Indonesian legal framework. This geographical and jurisdictional focus offers unique insights into the challenges and opportunities presented by AI within the legal framework, facilitating comparisons with AI in other countries or regions. The findings offer valuable information for policymakers, legal practitioners, and technologists on effectively integrating AI into the legal system. This article specifies that electronic equipment may be utilized to facilitate the prosecution of infractions in the realm of traffic and road transportation, and the resultant data obtained through this equipment can serve as admissible evidence in legal proceedings.

Keywords: Artificial Intelligence; Positive Law; Digital Policing

INTRODUCTION

The sophistication of technology, which seems endless, continually drives humans to discover innovations to assist human life. Technological advancement has spurred the development of Artificial Intelligence, commonly known as AI, which has become one of the most intriguing fields in modern technology (Brynjolfsson et al., 2019; Dwivedi et al., 2021; Makridakis, 2017). Artificial Intelligence refers to the ability of computer systems or machines to perform tasks that typically require human intelligence (Jiang et al., 2022; Korteling et al., 2021; Zhang & Lu, 2021), such as learning, understanding language, recognizing patterns, making decisions, and solving problems.

The rapid development of Artificial Intelligence technology is attributed to advancements in computing, access to big data, and the development of more complex algorithms. Artificial intelligence can be found in various applications, ranging from virtual assistants and chatbots to data analysis, image recognition, and autonomous vehicles. AI has the potential to revolutionize many industries and aspects of human life. For example, in the healthcare sector, Artificial Intelligence is used to analyze medical images and assist in diagnosis. In the financial sector, AI aids in fraud detection and automates business processes. In the transportation sector, Artificial Intelligence plays a role in developing autonomous vehicles and advanced navigation systems, while in the legal sector, it assists police in enforcing traffic violations, commonly known as E-Tilang.

Artificial intelligence or can be shortened to AI, has become a useful tool for the police in curbing traffic violations and improving road safety. Artificial Intelligence can be used in various ways to help law enforcement identify, detect, and take action against traffic violations more efficiently and accurately. Here are some examples of Artificial Intelligence in helping police work when curbing traffic violations:

1) Automatic Number Plate Recognition (ANPR): AI technology can automatically recognize and read vehicle number plates. This helps the police to detect vehicles

that violate traffic rules, such as breaking red lights, speed limits, or not paying tolls. ANPR is also useful for tracking vehicles involved in criminal acts.

2) Traffic Surveillance Camera: Artificial intelligence can be employed within traffic surveillance systems to identify infractions such as disregarding traffic signals, neglecting seat belt usage, or using mobile devices while operating a vehicle. Utilizing AI technology, these systems can analyze live video feeds and promptly alert authorities in the event of any detected violations.
3) Speed Monitoring System: Artificial Intelligence is used to monitor vehicle speed on the highway. This system can detect vehicles that exceed the speed limit and provide warnings or sanctions to drivers who violate them.
4) Traffic Pattern Analysis: AI can analyze traffic patterns to identify areas prone to accidents or violations. This information helps police design more effective law enforcement strategies and focus their efforts on areas that need more attention.
5) Early Warning System: AI can help police detect suspicious or risky driving behavior, such as drivers who may be under the influence of alcohol or drugs. This system can provide early warning to the police to take action before an accident or serious violation occurs.

With the assistance of AI, the police can enhance efficiency and accuracy in traffic law enforcement, which in turn can help reduce violations and improve road safety. Every day, human activities are reflected on the highways. Traffic congestion often increases during peak hours due to various types of transportation taking the same routes. One of the frequent problems on the roads is the high level of traffic violations (Rocha Filho et al., 2020). The rate of vehicle accidents continues to show an increasing trend every year. In 2023, there were 1,303,157 traffic violations nationwide, with 6,055 violations in Semarang. To address this issue, greater awareness from the public, especially road users, is needed (González et al., 2019).

Traffic violations are actions that deviate from traffic rules or orders, the consequences of which can cause accidents for other road users, as well as losses such as loss of life and injuries. These violations include various forms, such as running red lights, driving over the speed limit, not wearing a helmet or seat belt, and driving under the influence of alcohol or drugs. This action not only poses a risk to violators but also to the safety of other road users.(Akgunduz & Kazerooni, 2018) Evidence of a violation, abbreviated as "ticket", is a fine imposed by the police on motorists who violate traffic rules. It is explained in Law Number 8 of 1981 concerning Criminal Procedure Law and Law Number 22 of 2009 concerning Road Traffic and Transportation. A ticket is a form of sanction given to drivers who violate traffic regulations, such as breaking speed limits, not obeying red lights, or not using safety equipment such as helmets or seat belts.

The legislation governing the implementation of traffic regulations is associated with ETLE (Electronic Traffic Law Enforcement), specifically outlined in Law Number 22 of 2000 concerning road traffic and transportation, particularly Article 272. This article specifies that electronic equipment may be utilized to facilitate the prosecution of infractions in the realm of traffic and road transport, and the data obtained through this equipment can serve as admissible evidence in legal proceedings. ETLE represents the digitalization of the ticketing procedure through the application of technology aimed at enhancing the efficiency and efficacy of the entire process involved in prosecuting traffic violations. The enforcement of laws via ETLE entails the deployment of surveillance cameras or Closed-Circuit Television (CCTV), while the issuance of electronic tickets as a means of enforcement is conducted by field officers (Martinez-Ruiz et al., 2019).

This research aims to examine how Artificial Intelligence is applied to positive law in Indonesia. By concentrating on positive law, the study provides a focused analysis of AI's

impact on existing legal statutes and regulations in Indonesia, potentially examining case studies, legal precedents, or specific AI tools used within the Indonesian legal context. This geographical and jurisdictional focus offers unique insights into the challenges and opportunities presented by AI within the Indonesian legal framework, facilitating comparisons with AI's impact on law in other countries or regions. Bridging the fields of technology and law, the research contributes to both legal scholarship and the practical understanding of AI's applications, offering valuable information for policymakers, legal practitioners, and technologists on effectively integrating AI into the legal system. Additionally, the findings could inform policy development and regulatory frameworks regarding AI's use in law, ensuring that such applications adhere to legal principles, ethical standards, and societal needs in Indonesia.

RESEARCH METHOD

The research data for this study primarily consist of secondary sources, including legal literature and existing legal documents. The specific object of analysis is Law Number 22 of 2009 concerning road traffic and transportation. By examining these sources, the study aims to gather relevant information and insights into the application of AI within the context of this legislation.

The data collection technique involves a thorough literature review and examination of secondary data sources, particularly existing laws and legal texts. The normative legal analysis technique is employed to interpret and analyze the specific legislation or written laws related to the concept of law enforcement and AI. This approach enables a detailed understanding of how the legislation addresses AI-related issues and how it impacts the enforcement of laws in the realm of road traffic and transportation in Indonesia.

RESULT AND DISCUSSION

Artificial Intelligence (AI) in the Legal System in Indonesia

Artificial Intelligence, or what is usually referred to as artificial intelligence, can be interpreted as follows: "Artificial" means something that is not natural or not real, while "Intelligence" refers to intelligence or the ability to think. So, overall, Artificial Intelligence refers to artificially created intelligence, usually in the context of systems or machines designed to imitate or simulate human thinking abilities (Putri, 2017). The purpose of creating AI is to help human activities and work, where AI is designed to imitate the way humans think. AI can receive data and then process it to make decisions that can be used to complete a task or job. With this capability, AI becomes a very useful tool in various fields, because it can carry out analysis and make decisions in a way that is similar to human thinking patterns (Kusumawati, 2018).

AI can be described as a tool designed to aid tasks by mimicking human thinking and reasoning abilities and following human instructions. It surpasses human capabilities in terms of speed and accuracy, allowing it to perform tasks more efficiently than humans. It is obvious in AI's ability to execute tasks with greater speed and precision, often surpassing human accuracy in program execution.

Types of AI can be categorized based on the level of intelligence and abilities they possess. In general, AI can be divided into three main categories: Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI), and Artificial Super Intelligence (ASI). The following is an explanation of each type of AI (Ashshidqi, 2019):

1) Artificial Narrow Intelligence (ANI), also known as Weak AI, is a type of AI designed to perform specific tasks with limited intelligence. The AI is highly focused on a single task or domain, such as speech recognition, image analysis, or

product recommendations. Examples of ANI include virtual assistants like Siri or Alexa, as well as facial recognition systems and autonomous vehicles.

2) Artificial General Intelligence (AGI), also known as Strong AI, is a type of AI that possesses intellectual abilities comparable to humans. AGI can understand, learn, and apply knowledge across various domains, as well as tackle complex tasks. Although AGI is still in development, its goal is to create an AI system capable of performing many tasks with human-like thinking abilities.
3) Artificial superintelligence (ASI) is a form of AI designed to surpass human capabilities in all aspects of intelligence, including creativity, problem-solving, and decision-making. ASI remains a theoretical concept and is not yet practical, but many AI scientists and futurists discuss the potential and risks of ASI in the long term.

The regulatory framework concerning AI technology is gaining increasing significance amidst the swift progress of AI in Indonesia. Law Number 19 of 2016, amending Law Number 11 of 2008 regarding Electronic Information and Transactions, represents a governmental initiative aimed at addressing this technological evolution. While Law Number 19 of 2016 furnishes a legal foundation concerning the utilization of technology and information systems, it lacks a specific delineation of AI. The absence of a precise definition of AI within Law Number 19 of 2016 has elicited diverse perspectives across various sectors regarding the interpretation and alignment of AI with the stipulations in the legislation. This underscores the imperative for refining and adapting extant legal frameworks to effectively accommodate the nuanced development of AI technology.

The expectation of Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions is to address various technological and information system issues in Indonesia and to achieve legal certainty in this regard. However, to ensure that legal regulations can effectively govern the use and development of AI technology, a review and refinement of existing regulations are necessary in line with the ongoing technological advancements.

In Indonesian positive law, particularly in the Electronic Information and Transactions Law, artificial intelligence (AI) is classified as an electronic system and electronic agent. The definition of AI shares many similarities with the definition of electronic systems in the Electronic Information and Transactions Law, as AI can collect, process, analyze, display, and transmit electronic information. This aligns with the explanation in Article 1 paragraph (5) of Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions. The classification of AI as an electronic agent also has similar grounds, with AI characteristics resembling the definition of electronic agents as electronic system devices designed to act automatically based on human commands. This definition corresponds to Article 1 Number 8 of Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions, which describes electronic agents as entities capable of taking actions on electronic systems automatically, following human instructions.

Based on the laws applicable in Indonesia, AI is essentially not a legal subject but only a legal object. This means that AI is a technology operated by humans in its application. In the context of positive law, AI is operated by electronic system providers, as explained in Government Regulation Number 71 of 2019 concerning the Operation of Electronic Systems and Transactions (GR 71/2019). Electronic system providers in this case are responsible as legal subjects for the operation of electronic systems they conduct, except in force majeure situations. Electronic system providers are responsible for all activities related to the operation and use of AI in the electronic systems they manage.

AI cannot be equated with legal entities to become legal subjects, as legal entities have clear purposes and involve human interaction. Meanwhile, AI cannot stand independently; it is controlled and programmed by humans. If AI or computers make decisions like humans, the perfection of these decisions cannot be guaranteed without human supremacy in the decision-making process because computers or AI are still vulnerable to system errors, and without human supervision, AI decisions can lead to undesired outcomes or not be legal subjects with legal responsibilities like legal entities.

Implications of Digital Policing with the Application of Artificial Intelligence in Positive Law in Indonesia

Law enforcement can be influenced by various factors such as legal aspects, infrastructure, society, and culture. Legal aspects encompass rules that regulate various issues. In the context of information technology, the Electronic Information and Transactions Law is one regulation that governs electronic transactions and matters related to the cyber world. Law enforcement factors include the police, prosecutors, and judges who must have integrity and the ability to handle legal cases, including those related to the cyber or internet realm. Societal factors refer to the community's need for regulation and law enforcement for actions occurring in the virtual world. Cultural factors reflect how societal culture can influence the law in force.

The application of Artificial Intelligence in the police force, namely Electronic Traffic Law Enforcement or ETLE, is an electronic ticketing system as an effective law enforcement mechanism in the field of traffic. Traffic violations are actions by individuals that breach traffic regulations, which can result in accidents for other road users, either in terms of loss of life or injury. Evidence of these violations, often referred to as tickets, is fines imposed by the police on violators based on Law Number 8 of 1981 concerning Criminal Procedure Law and Law Number 22 of 2009 concerning Road Traffic (Lagarde, 2007).

The foundation of implementing the E-TLE system is the use of CCTV cameras installed at various points on the roads in Surabaya. When drivers violate rules, such as not wearing helmets while riding motorcycles with passengers, the passengers will be given voice warnings to disembark from the motorcycle. It is only a small portion of violations that can be warned. If these warnings are ignored, electronic tickets will be issued. In addition to CCTV, the Surabaya City Government also utilizes the Area Traffic Control System (ATCS), which helps regulate traffic flow through the Central Operations Control (COC) building. In the event of congestion, the ATCS allows for traffic lights to be automatically set to green. As per the provisions outlined in Article 272 of Law Number 22 of 2009 regarding Road Traffic and Transportation, electronic devices are permitted for bolstering enforcement endeavors within the domain of traffic and transportation.

E-Tilang is an effective option to achieve goals in implementing traffic violation fines. One of the advantages of E-Tilang is the Automatic Number Plate Recognition (ANPR) Camera. The ANPR camera can automatically detect motor-vehicle number plates, record, and store evidence of violations. Vehicles captured by the ANPR camera are immediately recorded in the Regional Traffic Management Centre (RTMC) operator's server. The data is then processed by officers. Based on Article 1 paragraph (1) and paragraph (4) of the ITE Law, CCTV recordings are considered valid evidence and, thus can be used as legal evidence. In this context, data processing includes checking the identity of motor vehicles (license plates) in the registration database and motor vehicle identification.

The officers will compile confirmation and verification letters, and then send them to the address listed in the vehicle owner's data. Upon receipt of the confirmation letter by the vehicle owner or violator, they are required to provide a response or clarification through the provided web platform. Subsequently, they are given 7 days to deliver clarification. If there is

no response from the violator, the officers will block their Vehicle Registration Certificate (STNK). Then, the officers will send a traffic ticket to the violator by sending the BRIVA E-Tilang code via the mobile number listed in the confirmation letter. A blue traffic citation will be dispatched to the offender. RTMC officers will then review the citation to ascertain whether the BRIVA payment code has been received. Offenders have the option to settle fines via ATMs and upon payment, can proceed with their usual activities. The suspension of STNK can be initiated upon request of the investigator for those who have failed to remit their fines.

The E-Tilang program aims to provide education to the public to better comply with traffic rules, considering the importance of safety, security, order, and smooth traffic flow. Law enforcement with electronic tickets (E-Tilang) for traffic violations is considered an efficient and effective option to achieve the goal of enforcing tickets against traffic rule violators. However, it cannot yet be said that E-Tilang is fully effective because its implementation in Indonesia is still in the trial phase. The results of this trial will serve as the basis for evaluation and improvement in the provision of E-Tilang services in the future (Leonita et al., 2022).

E-ticketing represents an application of cutting-edge technology, including Artificial Intelligence (AI), in the enforcement of traffic regulations. This technological advancement employs cameras and automated systems to identify traffic infractions, such as running red lights or exceeding speed limits. E-Tilang emerges as a directive from the President, outlined in Telegram Letter Number ST/2264/X/HUM.3.4.5/2022, mandating the cessation of manual ticketing for motor vehicle violations.

The shift away from manual ticketing towards an E-Ticketing system aims to reduce face-to-face interactions between law enforcement officers and traffic offenders, thereby mitigating the potential for corrupt practices. The legal framework for prosecuting road violations using electronic means is outlined in Article 272 of Law Number 22 of 2009. This article permits the utilization of electronic equipment to support the prosecution of traffic and road transportation violations, with the resultant data admissible as evidence in court. Furthermore, Article 23 of Government Regulation (PP) Number 80 of 2012 delineates procedures for addressing traffic and road transport violations, stipulating that enforcement actions are grounded in findings from vehicle inspections, reports, and electronic equipment recordings conducted during road checks.

CONCLUSION

Artificial Intelligence (AI) is a technology that mimics human thinking, aiding in tasks like law enforcement. It has been used in the enforcement of traffic violations, such as E-Tilang, to reduce interactions between police officers and traffic violators. The system eliminates manual ticketing and uses electronic equipment for prosecution, making results admissible as evidence in court. Enforcement is regulated based on vehicle inspections, reports, and recording from electronic equipment. Future research should evaluate the effectiveness of E-Tilang, its impact on police-citizen interactions, public trust, and technical and legal challenges. Comparative analyses with other countries and public perception of AI in law enforcement could provide valuable insights. Integrating E-Tilang with other smart city technologies could offer a more cohesive approach to urban transportation management.

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