

**Research article**

# Challenges in Using Automated Decision-Making in Public Administration in Indonesia

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**Abstract.**

President Jokowi's program to downsize Echelons III and IV aimed to reduce the range of decision-making in the Government. Jokowi also hopes to use artificial intelligence (AI) systems to support and accelerate the state civil apparatus in carrying out their administrative duties, especially decision-making. AI can be used for speedy decision-making in the form of automated or algorithmically driven decision-making. However, Law number 30 of 2014 concerning Government administration only accommodates Government agencies and officials in making decisions or actions. Moreover, decision-making in public administration should comply with the general principles of good governance, be free from conflicts of interest, and is subject to administrative effort. This paper examined the challenges in automated decision-making in public administration. A normative judicial approach was used. The results showed that AI, especially algorithmically driven decision-making, should be designed to make fair, transparent, and reasonable decisions. The Government should also implement AI in ways that comply with good administration standards. AI application in public administration will require a fundamental change in the Government administration law. Therefore, it is necessary to amend Law number 30 of 2014 to grant limited authority around decisions or actions to be performed by AI.

**Keywords:** artificial intelligence, automated decision-making, public administration, government administration law

## 1. Introduction

The range of decision-making in the Indonesian government can be considered as long and complicated due to bureaucracy. Indonesian agencies and ministries usually consist of four layers or echelons before a disposition reaches the staff and then back to the minister. In his early term speech in 2019, Joko Widodo, or Jokowi in short, President of Indonesia, introduced a downsizing of echelon III and IV in the ministry [1]. This program was based on the spirit to reduce the range of decision-making and therefore produce

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quick decisions. Moreover, Jokowi also encourages the use of an artificial intelligence system that can support and accelerate the work of the government and public officials in carrying out their duties. He specifically mentioned that AI could be used in jobs that are technical in nature, administration, and data processing [1].

AI can be used in accelerating public services organized by the government. The implementation of AI is a form of service transformation that includes e-services, strengthening community supervision, and strengthening the innovation ecosystem. Deputy for Public Services at the Ministry of State Apparatus Empowerment and Bureaucratic Reform (PANRB Ministry) revealed that AI could be applied in several duties in public services. These duties are to the help desk in-service units, analyze service complaints, direct complaints to the intended agency, and even answer complaints [2].

The core process in question is a process that can detect precisely and accurately what the community needs in receiving services. Improving service quality by implementing technology is also directed at overcoming bureaucratic blockages so that the government is more flexible and makes decisions more quickly. The setting of service standards and the business process that follows are the keys to the length of the government bureaucracy [2]. In the form of ADM, AI can be used to achieve these aims. However, there are some issues that need to be encountered before applying ADM in government administration.

## 2. identification of problems and research methodology

### 2.1. Identification of Problems

The issue raised in this paper is the challenges in the use of ADM in public administration. This paper will attempt to explore the readiness of Indonesia in implementing AI, that is, ADM in the field of public administration in Indonesia. Including how to design the AI and what changes are needed in Indonesian law to apply AI or ADM in the Indonesian government, especially in the government administration decision-making process.

### 2.2. Research Methodology

The type of research used is normative judicial. Legal analysis normative using secondary data. The research approach used in writing is statutory. Peter Mahmud Marzuki [3] explains that a legislative process is taken by reviewing all laws and regulations

related to handling the legal issues. The data sources used are primary legal materials, secondary legal materials, and tertiary legal materials. Primary legal materials include Law Number 11 of 2008, Law Number 30 of 2014, and National Strategy for Developing AI 2020. Secondary legal materials include expert opinion and legal opinion obtained from books, journals, newspapers, research results, the internet, and resource persons—tertiary legal materials in the form of Big Indonesian Dictionary and the law dictionary.

### 3. Discussion

The discussion in this paper will be divided into five parts. The first part will address the definition of AI and ADM. The following section will mention examples and potentials of the use of AI in Indonesia. Thirdly, we will examine Indonesian Law regarding AI or ADM. In the fourth part, we will discuss Government Administration Law. And finally, we will mention AI system design and how AI can participate in the government's administrative decision-making.

#### 3.1. What are AI and ADM

H.A. Simon (1987) defines AI in research, application, and instruction related to computer programming to do something intelligent in the view of humans. Furthermore, Rich and Knight (1991) define AI as a study of making computers do things that humans can do better today. According to the BBC, simply put, AI is a “machine” capable of doing various things that are seen as requiring intelligence when humans do it. These things include understanding human language naturally, recognizing faces in photos, driving a vehicle, or guessing what book we might like based on the books we have read before [4].

AI was created to be smart and intelligent to do tasks exactly and better as humans do while imitating the functions of the human brain in terms of reasoning, thinking, knowledge, language understanding, decision-making, and problem-solving [5].

According to the Big Indonesian Dictionary Online, the definition of AI is a computer program that imitates human intelligence, such as making decisions, providing a basis for reasoning, and other human characteristics [6].

### 3.2. Examples and potentials of the use of AI in Indonesia

The use of AI in Indonesia started to blossom in recent years. According to a survey about International Data Corporation held in 2018, almost 25% of companies in Indonesia adopt AI into their operations, making Indonesia have the highest rates in AI integration in Southeast Asia [7]. Also, in 2018, hukumonline launched a chatbot called Legal Intelligent Assistant (LIA) to ease interaction with society regarding marriage and divorce law and inheritance law [8]. Below are the potentials of the use of AI explored by scholars.

1. AI can be used in contract drafting using legal tech. Legal tech can be used in drafting, reviewing, and analyze contracts (smart contracts) (Christian Veith in Kurniawijaya, 2021) [9]. With the help of AI, interpreting legal documents such as contracts becomes much more efficacious [10].
2. Scholars also discuss the possibility of using AI in the legal drafting of local laws and regulations [11].
3. AI can also be used in overseeing how the laws are implemented. The House of Representatives (Dewan Perwakilan Rakyat/DPR), for example, is currently implementing a system to supervise the implementation of statutes using technology tools [10].
4. Scholars also explore the use of AI in the formation of laws. Wicipto, the former Director-General of Legislation at the Ministry of Law and Human Rights, stated that AI instruments could be one solution to create legislation accommodating to all parties [10]. It is hoped that the use of AI integrated with the expert system can assist the legal drafting team formed by the institution in creating laws and regulations. However, decision-making in the construction of statutes is still left to humans – those given the authority to form laws.
5. From the side of government administration, AI can be applied as document processing such as speech recognition and text or script [2].
6. AI technology can play a role in preventing the spread of Covid 19. AI is believed to be able to identify and follow virus movements quickly and periodically. One type of privacy is personal data. Personal data, in this case, is needed to carry out evaluations, requiring patient information, including accessing patient health data. Personal data is regulated in Article 28G paragraph (1) of the 1945 Constitution, Article 17 of the Convention on Civil and Political Rights (ratified by the Government

of Indonesia through Law No. 12 of 2005), and Article 12 of the Universal Declaration of Human Rights. Confidentiality of patient medical records is also regulated in Minister of Health Regulation No. 169/Menkes/Per/III/2008 concerning Medical Records, which requires all health service providers to maintain patient's medical records [12].

### 3.3. Indonesian's Law Regarding AI or ADM

Indonesian National Strategy concerning AI stated that there are four Indonesia's challenges in implementing AI. These challenges are the readiness of regulations that regulate the ethical use and responsible use of AI, the preparedness of a skilled workforce developing and using AI, the readiness of computing infrastructure and data supporting AI modeling, and the readiness of the public and the public sector in adopting innovations of AI. There is no regulatory instrument yet to set ethics and development policy and the use of AI responsible in Indonesia [13].

Scholars agree that for now, there are no provisions related to AI in Indonesian laws and regulations. The Indonesian legal system itself has not explicitly [10], specifically and especially [4] regulated this matter. According to Edmon Makarim, there are not many legal rules in the form of laws and regulations governing the use and impact of this technological development. The legislators have not fully discussed the draft law (RUU) on the protection of personal data. Other regulations related to information technology may need to be validated, such as the Cyber Security Bill. "For the time being, if there is no such regulation, make the best use of Law Number 11 of 2008 concerning Electronic Information Technology (ITE Law) as amended by Law Number 19 of 2016 and the Minister of Communication and Informatics Regulation No. 20 of 2016 concerning Personal Data Protection in Electronic Systems," [14].

The use of ITE Law in AI regulation also gives rise to different interpretations. Jaya and Goh define AI as Electronic Information [14]. Electronic information is one or a group of electronic data, including but not limited to text, sound, pictures, maps, designs, photographs, electronic data interchange (EDI), electronic mail, telegram, telex, telecopy or like, letters, signs, numbers, Access Codes, symbols, or treated perforations that have meaning or can be understood by people who can understand it.

In contrast, Agung Pramono mentioned that AI could be categorized as an electronic system, a series of electronic devices and procedures that prepare, collect, process, analyze, store, display, announce, transmit, or disseminate electronic information [6].

Other writers mention that the characteristics of AI in the automation of information processing can be equated as an “Electronic Agent” [16]. An electronic agent is a device from an electronic system created by an Electronic System Operator (PSE) to take action against certain electronic information automatically. In its implementation, the PSE obligation also applies to the operator of the electronic agent [17]. The electronic agent in question can be visual, audio, electronic data, and other forms (Article 36 paragraph (4)) [17]. All of these three interpretations still cannot explain satisfactorily regarding AI.

Not only in Indonesia, but the world is also still struggling in defining and regulating AI. According to a study conducted by Konrad Adenauer on six national strategies from the US, China, UK, France, Finland, and South Korea, several weaknesses of the national strategy of these countries, including the definition of AI, which is still vague and inconsistent [13].

When searching from all over the world, the country that already has rules and applies decision-making by ADM in public administration is Sweden and Mexico. In Sweden's new Administration Act enacted in mid-2018, three entities can make administrative decisions: civil servant by himself, civil servant jointly, or automated procedure [18]. In Mexico, carrying out simple administrative decision-making has used AI technology [19].

### **3.4. Government Administration Law and AI**

There are several dimensions of the problem in the government administration law to address AI or ADM. These dimensions include AI as a legal subject, authority, validity of decisions, general principles of good governance, discretion, conflict of interest, and administrative effort and sanction. Each dimension is discussed below.

#### **3.4.1. Legal Subject**

The decision-making in the government is regulated in Law Number 30 of 2014 concerning Government Administration. The third consideration of the law stated that “considering that to realize good governance, especially for government officials, the law on government administration becomes the legal basis needed to underlie decisions or actions of government officials to meet the legal needs of the community in the administration of government” [20].

However, the subjects regulated in Law 30/2014 only consist of government agencies or officials. It is stated in Article 1 paragraph 1 that Government Administration is governance in decision making or action by government agencies or officials.

AI is not a legal subject. Legal subjects (*rechtspersoon*) are legal persons and entities. AI is not placed in the position of legal subjects, which can also take legal actions. Theoretically, legal subjects who can take legal steps and legal subjects contained in positive Indonesian law are “humans (*natuurlijke person*)” dan “legal entities (*rechts person*)” [16].

Similarly, it is stated in the National Strategy that AI cannot be said to be a legal subject who has rights and obligations because AI is a product of human technology. Protection of law against legal subjects (humans and legal bodies) is determined by how active the role of government and community is in implementing these applications [13].

Talking about legal liability means talking about the capacity of legal subjects to be responsible. Explicitly, although it can take actions that are considered legal actions, AI cannot be defined as a legal subject. For this reason, an alternative is needed by still connecting the actions of AI and legal subjects who become owners of AI [4].

The rules that apply to humans, then the restrictions also apply to AI. The use of the AI must comply with all applicable laws for its human operators [4].

### 3.4.2. Authority

In taking decisions or actions, the subjects must own a right called authority. Article 1 paragraph (5) Law Number 30 of 2014 defines that authority is a right held by the Agency or Government Officials or other state administrators to take decisions or actions in governance.

Authority is granted in three ways, namely attribution, delegation, and mandate. Attribution is giving authority to the government agency or official by the Constitution of the Republic of Indonesia 1945 or the law. Delegation is the delegation of authority from higher government agencies or officials to the lower government agency or officials with responsibility and accountability shift entirely to the recipient of delegation. While the mandate is the delegation of authority from higher government agencies or officials to lower agencies with responsibilities and accountability that remain with the mandate giver. [20]

Several restrictions for the government officials should also be applied to AI, among other things, the prohibition regarding abuse of authority in determining or making

decisions or actions regulated in article 8 and article 17 and limitation of power held in article 15, which includes:

1. Authority period or grace period;
2. The territory or area where the authority applies; and
3. Scope of field or material authority.

### 3.4.3. Validity of Decisions

Law No. 30 of 2014 does not yet accommodate automated decision-making in government administration. So far, it only regulates electronic decisions, which are decisions created or delivered using or utilizing media electronic. Moreover, in article 38, it is stated that officials or government entities may make decisions in electronic form. Decisions in electronic form must be made or submitted if a decision is not made or not submitted in writing. However, it is limited. Decisions that result in encumbrance state finances must be made in the form of paper [20].

The conditions for the validity of the decision regulated in article 52 include:

1. Determined by the competent authority;
2. Made according to procedures; and
3. Substance per the object of the decision.

AI or ADM cannot meet the conditions for the validity of the decision since AI/ADM is not a competent authority. A change must be made to include AI/ADM to be considered as a competent authority.

### 3.4.4. General principles of Good Governance

General principles of Good Governance (Asas-asas Umum Pemerintahan yang Baik, AUPB) are the principle that is used as a reference for the use of authority for government officials in issuing decisions or actions in governance. According to article 9, Every decision or action is mandatory based on laws and regulations and AUPB. AUPB referred to in this law covers the basics: legal certainty, benefit, impartiality, precision, not abuse authority, openness, public interest, and good service [20].



### 3.4.5. Discretion

Government officials have special privileges, that is, to do discretion. Discretion is a decision or action determined or carried out by the government official to address concrete problems encountered in the maintenance government in terms of laws and regulations that provide choices, no rules, incomplete or unclear, or government stagnation.

Article 22 stated that discretion could only be done by the official authorized government. Any use of government officials' discretion aims to:

1. Expedite the administration of government;
2. Fill legal voids;
3. Provide legal certainty; and
4. Overcome government stagnation in certain circumstances for the benefit and public interest.

Government officials who use discretion are regulated in article 24. They must meet the following conditions:

1. Following the purposes of the discretion;
2. Does not conflict with the provisions of the regulation legislation;
3. Following AUPB;
4. Based on objective reasons;
5. It does not create a conflict of interest; and
6. Done in good faith [20].

Some conditions stated above cannot be accounted to AI or ADM because those are features of humans, such as discretion based on objective reasons and discretion done in good faith. So it is necessary to alter these provisions if AI will be enabled with this special privilege.

### 3.4.6. Conflict of Interest

Conflict of Interest is a condition of a government official with vested interests to benefit oneself or others in the use of authority to affect neutrality and decision quality or actions

made or did. ADM can either prevent this conflict of interest or, conversely, AI can learn this pattern from previous decisions or be programmed to do so.

It is regulated in article 42 that government officials who have the potential to have a conflict of interest are prohibited from setting or make decisions or actions. Suppose a government official has a conflict of interest. In that case, decisions or actions are determined or carried by the officials' superior or other officials according to the provisions of the regulatory legislation [20].

Conflict of interest occurs when in determining or making decisions or action background:

1. The existence of personal or business interests;
2. Relationships with relatives and family;
3. Relationship with representatives of the parties involved;
4. Relationship with the working party and receive a salary from the parties involved;
5. Connection with the party providing recommendations to the parties involved; or
6. Relationships with other parties who are prohibited by statutory provisions.

In the event of a conflict of interest, the official government concerned must notify his superiors.

Other rules that should change fundamentally are the responsibility of the decision-maker. Government Agency or officials guarantees and is responsible for every decision or action determined or carried out. Decisions or actions determined or done because of the conflict of interest can be canceled. In this case, ADM should guarantee and be responsible for every decision determined by it.

### **3.4.7. Administrative Effort and Sanction**

An administrative effort is the process of completion carried out in the environment government administration; as a result, the issuance of decisions or actions is detrimental.

Community members harmed by decisions or actions can submit administrative efforts to government officials or superiors who determine or make decisions or actions using the provisions stated in article 75. Administrative measures consist of objection and appeal [20].

In the case of AI or ADM as the decision-maker, it should be enabled to resolve objections to decisions or actions taken by it since an authorized government agency

or official resolves complaints to the decision or actions defined or performed submitted by the citizens.

Moreover, government officials who violate the provisions are subject to administrative sanctions. There are three levels of administrative sanction regulated in article 80, namely, light, moderate, and heavy. Administrative sanctions cannot be applied to AI because the forms of sanctions are verbal warnings, written warnings, postponement of promotion, class, or position rights. Other forms of sanctions include payment of forced money or compensation, temporary suspension with or without obtaining office rights, permanent dismissal, and permanent termination.

When AI takes the decision or action, it should be determined who is responsible for that decision or action. It is also should be selected who can receive sanctions. Sanctions for AI or ADM should be formulated in the form of reprogramming and upgrading of AI.

### 3.5. AI System Design

Decisions made by AI must be able to be understood, transparent, and traceable by humans. In other words, the AI system must be identifiable by humans [13].

AI system design should also fulfill safety elements, meaning that the AI developed is testable and suitable for use without threatening the safety and protection of human rights. AI must be known for its development by the government and society to ensure AI is safe to use and can be trusted. In other words, there is transparency from developers related to the development of the AI so that the developer can account for the AI intelligence system itself. AI systems should always be able to access or have a minimum service level agreement [13].

Suksi states that "When ADM is used in the service of public administration, the objective is to produce a decision that involves the exercise of public law in a manner that defines, for an individual or a private legal entity, a particular right, duty or benefit based on material legislation" [18]. He further argues that there is a concern that AI or ADM will expropriate jobs in the government and turn the Rule of Law into a rule of the algorithm. Government administration law should state well which part ADM can do and cannot do in decision-making or action-taking. When even a fundamental change in government administration law is insufficient, legislators should think of new rules that are needed to further allow the use of AI without letting it take over. Furthermore, Suksi recommends that AI developers or programmers should be regulated so they have liability and accountability in the decisions made by AI or ADM.

## 4. conclusion

The research results showed that decision-making by AI in the government administration field is possible. Three things should be noticed: AI design, AI implementation, and current government administration law change. First, AI should be designed and programmed to make fair, transparent, and reasonable decisions. Second, AI implementation by the government should be in specific ways that comply with good administration standards. Third, AI application in public administration will need a fundamental change in the government administration law to enable AI to be subject alongside government agencies or officials. Law Number 30 of 2014 should be amended to grant limited authority to decisions or actions performed by AI.

## 5. Recommendations

Although there are challenges in the use of AI in public administration, the benefits outweigh the challenges. Further research is needed, especially in the technical matter, so that AI could be designed and programmed to comply with good administration standards.

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