

Original Research Article

Artificial Intelligence in The Perspective of Indonesian Law: Subject or Object of Law?

1 ABSTRACT

The rapid development of artificial intelligence (AI) technology has presented new challenges in the field of law, particularly regarding its status as a legal subject or object in Indonesia. What is the legal position of artificial intelligence (AI) in Indonesia and what legal implications arise regarding its regulation as an object or subject of law in the Indonesian legal system? The purpose of this study is to explore and determine the legal position of AI in Indonesia, as well as analyze the legal implications that may arise from this status. This research uses a qualitative approach with normative legal research methods and comparative analysis. Data was obtained through a literature review that included national laws and regulations, international legal documents, and related academic literature. The results show that in the Indonesian legal system, AI is currently considered more as a legal object, without a personification status that allows recognition as a legal subject. This leads to various consequences, including liability issues in cases of harm caused by AI actions. This study also found that there are gaps in AI-specific regulations, creating room for debate on whether or not legal policy changes are needed to support AI as partial legal subjects or entities with limited liability. In conclusion, AI in Indonesian law is still positioned as a legal object with inadequate regulations to address the complexity of AI use in various sectors. There is a need to develop adaptive legal policies and a clearer regulatory framework to address the ethical challenges and legal responsibilities in this digital era. This research recommends legal reforms that consider a multidisciplinary approach and the precautionary principle to maximize the potential of AI without compromising legal protection for society.

2

3

Keywords: Artificial Intelligence, Legal Subject, Legal Object, Indonesian Law, Legal Responsibility, Regulation, Legal Reform.

4

5

6

7

1. INTRODUCTION

8

9

10

11

12

13

14

15

16

17

The development of artificial intelligence (AI) technology in today's digital era is increasingly rapid and has penetrated various aspects of life, ranging from industry, health, transportation, to law. In Indonesia, the use of AI is starting to be utilized for efficiency and innovation in various sectors, but regulations governing this technology are still inadequate [1]. This background underscores the importance of discussing the legal status of AI, whether it can be recognized as a legal subject with rights and responsibilities, or still be treated as a legal object subject to human control. This condition poses significant challenges in the application of law in Indonesia, especially in terms of legal responsibility and protection of the rights of individuals and society. Artificial intelligence has the ability to make autonomous decisions, which often

18 have a direct impact on humans [2]. For example, the use of AI in autonomous vehicles or
19 medical systems that rely on algorithms for diagnosis and patient care raises the question of
20 who is liable in the event of errors or harm. The lack of clarity regarding the legal status of AI
21 poses a dilemma among legal experts and policymakers: whether AI should be considered a
22 legal subject that can be held liable, or remain merely a legal tool or object for which the human
23 or entity using it bears responsibility.
24

25 To date, Indonesian legislation has not explicitly regulated the legal position of AI, which has
26 created a legal vacuum in responding to various situations involving this technology. When
27 disputes or legal issues involving AI arise, courts often have to rely on the interpretation of
28 laws that were not designed to deal with the complexities of modern technology [3]. This can
29 lead to legal uncertainty that interferes with fairness and effective legal
30 protection.
31

32 To address this challenge, consideration should be given to the development of a progressive
33 legal framework, which could include regulation of AI liability and protection of user rights.
34 Some countries, such as the European Union, have taken the first step by issuing draft
35 regulations governing the safe and ethical use of AI [4]. Indonesia needs to study these
36 approaches to create policies that can accommodate technological advancements without
37 compromising legal and ethical aspects.
38

39 The lack of clarity in the Indonesian legal system on the legal position of AI because the current
40 regulations do not specifically address AI, has resulted in confusion in terms of legal liability
41 in the event of harm caused by AI's actions or decisions [5]. Without clarity on the legal status
42 of AI, there are risks in law enforcement and protection of people's rights. Without a clear legal
43 framework, AI users and developers in Indonesia are faced with uncertainty in determining
44 who is liable for negative impacts or losses caused by AI. This may hinder the development
45 of the technology due to concerns over potential legal disputes that are difficult to resolve. For
46 example, in a situation where AI makes a wrong decision, such as in an autonomous vehicle
47 system that causes an accident, the question arises as to who should bear the responsibility,
48 the vehicle owner, the software developer, the manufacturer, or other related parties [6].
49

50 This lack of clarity also hinders legal regulation to protect users' rights and prevent potential
51 misuse of AI technology. Without adequate regulation, the use of AI may raise ethical issues,
52 such as algorithmic discrimination, data privacy, and misuse of the technology in security. In
53 addition, lack of clarity in the legal framework can slow down technological adaptation and
54 innovation in the private sector due to concerns about unanticipated legal risks.
55

56 Development of a clearer and more adaptive regulatory framework, which considers the
57 recognition of AI as a partial legal subject with limited liability, or at least the formulation of
58 new rules capable of closing legal loopholes related to the use of AI. A survey of the literature
59 shows that in various jurisdictions, such as the European Union, efforts have been made to
60 regulate the use of AI, including considering ethical aspects and responsibilities [4]. Some
61 academics argue that the recognition of AI as a full legal subject is still premature, but
62 recognize that firmer rules are urgently needed to mitigate legal risks.
63

64 In the Indonesian context, this solution requires an in-depth evaluation of the compatibility of
65 existing legal principles with technological developments. Indonesia's legal system, which is
66 currently based on the Civil Code and traditional criminal law, does not have enough flexibility
67 to deal with the complexity of AI technology. Recognizing AI as a partial legal subject can help
68 in dividing the liability between the developer, the owner, and the AI itself within certain
69 boundaries, which will create a clearer framework for law enforcement [7].
70

71

72 As a first step, the proposed regulatory framework should set out the responsibilities of parties
73 involved in the development and use of AI. This could include the obligation of developers to
74 ensure transparent and bias-free algorithms, as well as the responsibility of users in monitoring
75 and controlling AI actions. The regulation could also include flexible liability mechanisms, such
76 as through *joint liability* or tiered liability schemes that ensure legal protection for victims.

77

78 In addition, this research assesses the legal implications that may arise from the uncertainty
79 of AI regulation, including potential conflicts of law in liability determination and consumer
80 protection. Such implications may include situations where harm occurs as a result of AI
81 actions, raising questions about who should be liable users, developers, or other legal entities.
82 The analysis also explores how legal uncertainty may impact technological innovation, where
83 concerns over unclear legal risks may hinder the development of the technology sector in
84 Indonesia.

85

86 There is an urgent need for a legal framework that can keep pace with technological advances,
87 striking a balance between innovation and legal protection. Given that AI has great potential
88 to affect various sectors, comprehensive and responsive regulations are essential to ensure
89 that AI is used responsibly and safely, and can support sustainable economic development.

90

91 Therefore, it is necessary to examine the legal position of AI in the Indonesian legal system
92 and the legal implications that may arise from its status as an object or subject of law. With
93 the contribution of this research, it is expected to provide new insights for policy makers and
94 academics in developing adaptive regulatory strategies. This research is also expected to
95 be an important reference for the government and related parties in drafting regulations that
96 can accommodate the development of AI without ignoring the principles of fairness,
97 transparency, and protection of individual rights.

98

99

LITERATURE REVIEW

100 Several studies on the legal position of Artificial Intelligence (AI) in Indonesia have raised the
101 debate on whether AI should be treated as a legal subject or object. In an article published by
102 Ravizki and Yudhantaka's [4], article contributes to the discourse on AI's legal standing by
103 arguing that AI can be considered a legal subject, akin to humans or legal entities, with
104 comparable rights and obligations. Their position highlights the possibility of recognizing AI's
105 actions within a framework where rights and duties could be formally assigned to it.
106 However, they also contend that the creator or user should retain liability for AI's actions,
107 acknowledging the current technological limitations and the ethical issues related to granting
108 AI full autonomy. This perspective introduces an innovative angle but raises several
109 concerns, such as whether assigning legal personhood to AI aligns with established legal
110 principles that associate rights and responsibilities with human intent and consciousness.
111 Furthermore, the authors' approach lacks an in-depth exploration of how such a paradigm
112 shift could be practically implemented within Indonesia's legal framework, given that it would
113 demand significant restructuring of existing laws. While the study's strength lies in expanding
114 the theoretical debate on AI's legal standing, its main limitation is the absence of a
115 discussion on the practical and social implications of granting legal personhood to AI.

116

117 On the other hand, Fatimah Nada and her colleagues [9] contribute another valuable
118 perspective by emphasizing the need for clearer regulations concerning AI's legal status in
119 Indonesia. They advocate for treating AI as a legal entity with specific rights and
120 responsibilities, recognizing, however, that ambiguity persists regarding liability whether it
121 should lie with the AI creator, user, or AI itself. This article reflects the practical challenges
122 surrounding AI regulation, as it considers the complexities of assigning liability in cases
123 where AI's actions lead to harm. The authors' analysis is pragmatic, addressing regulatory

124 gaps and calling attention to the lack of legal clarity in Indonesia. Yet, despite its relevance,
125 the article does not propose a concrete framework to resolve these liability ambiguities nor
126 does it address how to establish accountability across AI's diverse applications. The study
127 could be strengthened by providing insights into potential regulatory models, perhaps
128 through a comparative analysis of other jurisdictions tackling similar challenges, thereby
129 offering a clearer pathway for policymakers in Indonesia.

130

131 **International Perspectives on AI Regulation**

132

133 While Indonesia grapples with defining AI's legal status, other countries have made significant
134 strides in developing regulatory frameworks. The European Union, for example, has proposed a
135 comprehensive AI Act, aiming to regulate AI based on its potential risk. This regulation
136 categorizes AI systems according to the level of risk they present, with stricter requirements for
137 high-risk AI applications. This approach serves as a model for balancing innovation with risk
138 management, ensuring that AI's deployment does not outpace the development of necessary
139 safeguards.

140 In contrast, China's approach to AI regulation is more centralized, with the government taking a
141 more active role in both the development and control of AI technologies. China's AI regulations
142 focus on ensuring that AI technologies adhere to social values, national security, and stability,
143 and the government has issued a series of ethical guidelines aimed at ensuring AI does not
144 undermine societal norms. However, critics have raised concerns that these regulations may be
145 overly restrictive, potentially stifling innovation and giving the state too much control over AI
146 research and development.

147 The United States, meanwhile, has taken a more laissez-faire approach, relying on sector-
148 specific regulations rather than a comprehensive national framework. However, several state-
149 level initiatives and private sector-driven efforts have sought to address AI's ethical implications
150 and legal responsibilities. The U.S. approach emphasizes self-regulation by companies,
151 supplemented by voluntary standards and ethical guidelines. The lack of a unified federal law
152 on AI, however, has created a patchwork of regulations that may hinder the consistent and
153 effective management of AI technologies across the country.

154 The comparison of these international models offers valuable insights for Indonesia as it works
155 to navigate the complexities of AI regulation. Each country's approach presents different
156 strengths and weaknesses, highlighting the importance of balancing innovation with the ethical
157 and social responsibilities of AI development. For Indonesia, adopting a hybrid approach that
158 combines elements of these international frameworks, while considering local legal and social
159 contexts, may provide a path toward more effective AI regulation.

160 Although there are differences of opinion on the legal status of AI, most experts agree that
161 Indonesia needs to develop more comprehensive regulations to address the legal challenges
162 arising from the development of this technology. However, from the literature review above,
163 the main weakness is that the research is limited to contractual and legal liability issues and
164 lacks practical discussion on the implementation of regulations that can accommodate the
165 rapid advancement of AI technology. While this research delves deeper into a broader
166 understanding of the social and ethical implications if AI is treated as a legal subject or object
167 in the Indonesian legal system.

168

169 **2. METHODOLOGY**

170

171 This research uses a qualitative approach with normative legal research methods and
172 comparative analysis [8]. This methodology was chosen to obtain a comprehensive picture of
173 the legal position of artificial intelligence (AI) in the Indonesian legal system. The following are
174 details of the methodology used in this research:

175

176 1. Normative approach: This research focuses on analyzing legal documents, including
177 relevant Indonesian laws and regulations, such as Law No. 19/2016 on Electronic
178 Information and Transactions (UU ITE), as well as other regulations related to technology
179 and data protection. The research will also include a review of international legal
180 documents and AI policies in countries that already have relevant regulations, such as
181 the European Union with its Artificial Intelligence Act.

182 2. Secondary Data Analysis: This research utilizes secondary data obtained from various
183 sources, including academic journals, books, research reports, and relevant legal articles.
184 This literature was used to understand the legal position and perspective on AI in various
185 jurisdictions and its implications for the legal system in Indonesia.

186 3. Qualitative Analysis: All data obtained will be analyzed qualitatively using descriptive-
187 analytical methods to develop logical legal arguments that support the development of an
188 AI regulatory framework. This analysis will integrate normative findings and interview
189 perspectives to formulate relevant and applicable policy recommendations for Indonesia.

190

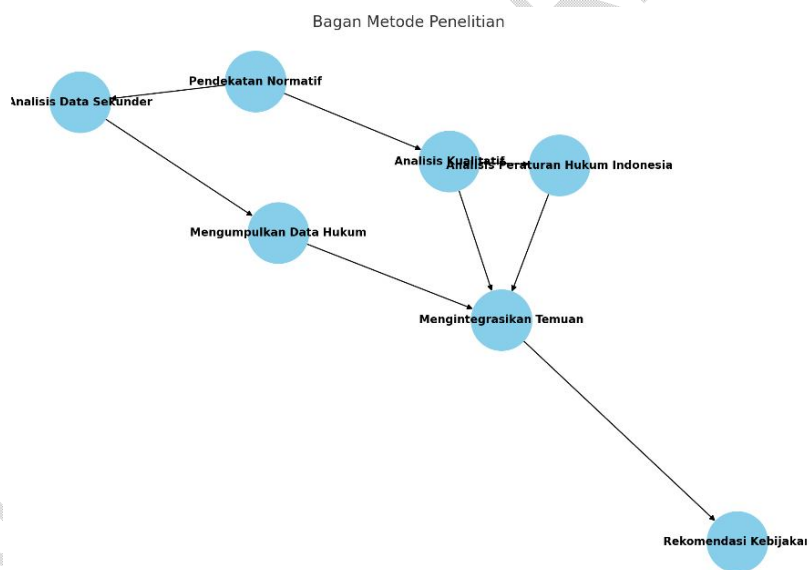
191 Research Procedures:

192

193 1. Collect primary and secondary legal data.

194 2. Analyze the existing legal regulations in Indonesia.

195 3. Integrate findings from multiple sources to develop recommendations.



196

197

198

Fig 1. Research procedure

199 The following chart illustrates the research methodology used in this study. This chart shows
200 the interconnected flow of the Normative Approach, Secondary Data Analysis, and Qualitative
201 Analysis, starting from legal data collection, analysis of Indonesian legal regulations, to
202 integration of findings to produce Policy Recommendations that are adaptive and responsive
203 to the legal position of AI in Indonesia.

204 3. RESULTS AND DISCUSSION

205 3.1. Artificial Intelligence (AI) and its Characteristics

206 AI has rapidly evolved to be capable of performing complex tasks such as autonomous

207 decision-making, big data analysis, and human-robot interaction. The learning and adaptability
208 characteristics of AI have led to a debate on its status in law: whether AI should be recognized
209 as a legal subject with certain rights and responsibilities, or remain as a legal object controlled
210 entirely by humans [10].

211
212 One of the most prominent characteristics of AI is its ability to learn independently from the
213 data it is fed, either in the form of supervised learning, unsupervised learning, or reinforcement
214 learning [11]. This capability allows AI to continuously improve its performance as it gains
215 more data and experience. For example, in facial recognition systems, AI can gradually learn
216 new patterns to improve its identification accuracy.

217 AI is also capable of making autonomous decisions without direct human intervention. This is
218 seen in applications such as autonomous cars, where AI systems can evaluate traffic
219 conditions, plan routes, and make decisions within seconds to avoid hazards [12]. In the
220 financial sector, AI is used to run algorithmic trading that can execute transactions quickly
221 based on real-time data analysis [13]. This autonomous decision-making poses a legal
222 dilemma as AI may make decisions that have negative consequences, raising the question of
223 who should be liable for such actions.

224 Human interaction with AI in the form of social robots or digital assistants, such as chatbots
225 and virtual assistants (e.g. Siri, Alexa), shows that AI has reached a complex level of
226 interaction. These AIs can understand and respond to voice commands, recognize
227 emotions,
228 and provide personalized recommendations. At an advanced level, AI with natural language
229 processing (NLP) capabilities can carry on human-like conversations, enhancing the user
230 experience of interacting with technology [14]. In healthcare, AI is being used to assist in
231 patient diagnosis and treatment through medical robots and data analytics platforms [15].

232
233 The autonomous nature of AI raises fundamental questions from a legal perspective: should
234 these entities be treated as legal subjects with responsibilities and rights, or remain as legal
235 objects subject to human control? If AI can make decisions and act independently, then who
236 is liable when those decisions cause harm? Is it the developer, owner, or user of the AI who
237 should bear the legal consequences? These uncertainties trigger the need for a review of
238 the traditional concept of legal subject that includes only humans and legal entities.

239
240 Modern AI is often based on highly complex algorithms that are difficult for ordinary humans
241 to understand, known as black boxes [16]. This complexity
242 raises issues of transparency and accountability. How can courts or regulators evaluate AI
243 actions if there is no clarity on how the decision was made? This lack of clarity poses
244 challenges in proving AI intent or responsibility in a legal context.

245
246 AI's characteristic of being able to learn and act without human control also carries ethical
247 and social implications. There is a risk that AI may develop biases from imperfect data,
248 resulting in discriminatory decisions. For example, in employee recruitment, AI algorithms
249 trained with biased historical data may reinforce gender or racial inequalities. This raises the
250 question of how AI can be controlled to act in accordance with fair legal and social norms.

251 252 **3.2. The Subject vs. Object of Law Debate**

253
254 Efforts to prepare a legal umbrella for AI are very important even though AI has not yet reached
255 the level of AGI (*Artificial General Intelligence*), which is AI that has the ability to think,
256 understand, and solve problems like humans. Currently, AI is still at the *narrow AI* level, which
257 means it is designed for specific and limited tasks, such as facial recognition, data analysis,

258 or natural language processing. However, with the rapid development of technology, the
259 possibility of AGI or even *superintelligence* is becoming more and more real in the future.
260 Some of the reasons that reinforce the importance of preparing AI regulations early are as
261 follows:

262 263 **a. Ethical and Legal Risk Mitigation**

264 The increasing autonomy of AI brings new risks in decision-making that are sometimes difficult
265 for humans to control. This raises a variety of ethical and legal repercussions that need to be
266 anticipated, especially in terms of algorithmic bias, data privacy and human rights protection.
267 [17]. Without clear and strict regulation, AI may operate without adequate moral guidance,
268 potentially creating injustice or unwittingly violating individual rights.

269
270 Therefore, a comprehensive legal umbrella is needed to ensure that AI develops in a corridor
271 that is in accordance with the ethical and fairness principles recognized by society. This legal
272 framework should not only serve as a controlling rule, but also as an ethical guide for AI
273 developers and users, so that the use of this technology can be done responsibly and
274 transparently. With proper regulation, AI can provide maximum benefits to society while
275 minimizing the risks that may arise from its increasing autonomy.

276 277 **b. Responsibility and Accountability Arrangements**

278
279 The development of appropriate regulations will strengthen the legal basis for enforcing
280 liability in the context of artificial intelligence, especially in Indonesia [18]. This includes
281 not only technical aspects related to security and privacy, but also ethical principles that
282 need to be accommodated in the use of AI. Without a clear legal framework, the potential for
283 misuse or violation of the law by AI, either directly or indirectly, will be difficult to manage.

284
285 Regulations that cover the responsibilities of developers and users, as well as entities that
286 utilize AI for commercial or public purposes, can create legal certainty and protect the public
287 from unintended negative impacts [19]. In addition, these rules can also encourage innovation
288 by providing clear guidelines to the tech industry, so that they can develop AI with legal
289 compliance and social responsibility in mind.

290 291 **c. Anticipating AGI and Superintelligence**

292
293 Although we have not yet reached the level of Artificial General Intelligence (AGI), the intense
294 trend of research and investment suggests that progress toward AGI or even superintelligence
295 may no longer be mere speculation. AGI will possess abilities that far exceed human capacity in
296 various fields, including complex decision-making and mastery of multiple disciplines [20].
297 Without a legal framework established early on, the risks of difficult-to-control negative impacts
298 could become increasingly significant, spanning social and security aspects.

299
300 In this context, **UNESCO's principle of proportionality becomes especially relevant**. This
301 principle emphasizes that the development and use of AI must align with its intended purpose
302 while avoiding unnecessary risks or harm. By applying the principle of proportionality, the
303 development of AGI can be guided to deliver the greatest possible benefits to society without
304 exceeding ethical boundaries or creating unforeseen negative impacts [21]. This principle
305 encourages policymakers and developers to balance AGI's extraordinary potential with strict
306 and prudent regulation, minimizing harmful excesses and safeguarding societal and security
307 interests on a broad scale.

308
309 Proactive regulation will be a preventive measure to steer AI development towards positive
310 and beneficial goals. With adaptive regulations, governments and society can better control

311 the direction of AI development, mitigate potential harms, and ensure that these technologies
312 operate in accordance with society's desired values. These regulations can also serve as a
313 framework for responsible innovation, where every step forward in AI technology remains in
314 line with ethics, safety, and protection of the public interest.

315

316 **d. Increased Public Trust**

317

318 Amidst public concerns about the risks of AI, transparent and accountable regulation will
319 increase public confidence in the technology. This is crucial to support the widespread
320 acceptance of AI, especially if it reaches capabilities that approach or even exceed human
321 intelligence.

322

323 Considering these factors, AI regulations in Indonesia should be developed immediately to
324 cover the diverse characteristics and levels of autonomy of AI. In addition, the regulation
325 should be flexible enough to adapt to the rapid development of the technology. These
326 regulations need to summarize various aspects, including legal responsibilities, rights and
327 obligations of relevant parties, ethical supervision, and the safe use of AI in various fields.

328

329 Article 1367 of the Civil Code which regulates the liability of employers for the acts of their
330 subordinates or servants can be a relevant basis for the legal discourse on AI in Indonesia
331 [22]. This article states that a person, including an employer or owner, is liable for damages
332 caused by the acts of another party under his or her supervision. In this context, the concept
333 of an employer's liability for the acts of his subordinates can be analogously applied to AI,
334 especially since AI acts as a "tool" that performs actions at the command or under the control
335 of its developer, owner, or operator.

336

337 Given that AI operates based on human-created directions or programs, it can be viewed as
338 a "worker" or "servant" in the sense that it acts on behalf of or in furtherance of the interests
339 of the party controlling it. Article 1367(1) and (3) places the employer as the party liable for
340 damages caused by the acts of their employees or subordinates. In this case, the owner or
341 operator of the AI may be considered as the employer who has the responsibility for any impact
342 or loss generated by the AI's actions.

343

344 When AI acts or makes decisions that result in harm, the concept in Article 1367 of the Civil
345 Code can be the basis for establishing liability on the party that controls or owns the AI. [7].
346 Since AIs, like workers, perform actions that can be said to be within the control of the
347 employer (owner or developer), liability will fall on them in the event of losses caused by the
348 AI's decisions or actions.

349

350 This analysis of Article 1367 of the Civil Code shows that the Indonesian legal framework
351 actually has the foundation to regulate liability related to the use of AI. However, to
352 accommodate the unique and dynamic characteristics of AI, more specific and adaptive
353 regulations will be required. These draft regulations may include guidelines regarding the level
354 of AI autonomy, limitation of liability, and the owner's obligation to control and supervise their
355 AI.

356

357 Thus, Article 1367 of the Civil Code provides an initial foundation in the legal discussion of AI
358 as a subject of liability. However, to meet the legal needs of the digital era, further development
359 is necessary for the legal framework to accommodate the complexities of modern AI.

360

361 The analogy approach that considers AI as "workers" has interesting implications in legal
362 discourse, especially in relation to the concept of liability and the legal relationship between
363 AI and its owners [23]. Given that AI is designed to assist human work and is capable of

364 performing tasks autonomously, AI appears to have similar characteristics to workers. As AI
365 evolves in everyday life, it acts as a tool that can accelerate, support, or even replace the role
366 of humans in certain jobs.

367

368 If the AI is analogous to a worker, then the owner or user of the AI can be considered the
369 "employer." Under Article 1367 of the Civil Code, liability for AI's negligence or misconduct in
370 the performance of its duties can be imposed on the owner as the employer, who is liable for
371 damages arising from the acts of his subordinates. This means that if the AI makes a mistake
372 or even harms another party, the owner of the AI can be held liable for such actions, in
373 accordance with the principle that employers are responsible for the actions of their servants
374 or subordinates.

375

376 As such, the analogy of AI as a worker provides a useful starting point for understanding the
377 legal relationship between AI and its owners, while highlighting the need for additional
378 regulations specifically designed for AI. These regulations are important to ensure that liability
379 for AI actions remains clearly defined for developers, owners, and other parties involved.

380

381 There are two main perspectives in the discussion on the legal status of AI, namely whether
382 AI is simply a tool that is fully under human control or whether AI has the potential to be
383 recognized as a legal subject with limited liability.

384

385 **3.3. AI as a Legal Tool or Object**

386

387 This view underlies that AI is merely an instrument that is subject to human control and
388 supervision. In this perspective, AI is considered a legal object, where all its actions, including
389 any potential errors or losses caused, are the sole responsibility of the developer, owner, or
390 user of the AI. [6]. This approach is in line with existing legal principles, where objects,
391 including tools or technologies, have no legal capacity or responsibility for their actions.
392 According to this view, AI is not considered to have a will or morality that allows for
393 independent liability, so any errors or losses remain within the domain of responsibility of the
394 humans who created or operate it.

395

396 With this position, legal responsibility falls entirely on the humans who play a role in the AI
397 lifecycle, including developers, owners, and users. Every action of the AI, whether beneficial
398 or potentially harmful, is considered to be the result of the decisions or arrangements of the
399 humans behind it [24]. This concept reflects the traditional view in law that humans are the
400 only legal subjects who can be held accountable for the actions performed by the tools or
401 technologies they control. For example, if an AI performs an action that harms a third party,
402 the user or owner who utilized the AI can be held liable, as they are considered to have control
403 over the tool used.

404

405 While this approach fits within the existing legal structure, it also has limitations. As AI
406 advances to be capable of autonomous decision-making without human intervention, there
407 are situations where AI actions may not be predictable by its developers or users. This
408 limitation poses a dilemma as it is difficult for humans to bear all the responsibility for the
409 actions of AI that they do not fully control. This risk is further increased in AI based on machine
410 learning or deep learning, where AI can learn patterns and make decisions outside of pre-
411 programmed constraints.

412

413 Considering the limitations of this approach, additional, more specific regulations are essential.
414 Existing regulations need to be updated to accommodate the unique characteristics of AI that
415 is able to adapt and evolve beyond human control. For example, regulations could include
416 standards for the development and operation of AI, as well as additional supervisory

417 obligations for users or owners to monitor and limit the autonomous capabilities of AI. In the
418 Indonesian context, such regulations do not yet exist, which calls for a more in-depth
419 discussion on legal liability in relation to AI.

420
421 This approach also triggers ethical and social considerations regarding the limits of human
422 control over increasingly smart technologies. Treating AI as a mere tool may overlook the
423 potential for broader societal impacts, especially in the context of AI's highly complex uses.
424 Without proper regulation, AI has the potential to pose great risks in terms of data security,
425 privacy, and fairness, especially for individuals or groups affected by AI-generated decisions.
426 For example, in the application of AI in the field of justice or law enforcement, too much
427 reliance on AI as a tool without considering ethical values may lead to unintended bias and
428 discrimination.

429
430 Overall, although AI is still considered a legal object under human control, it is important for
431 the legal system to respond to this rapid technological development with more adaptive and
432 contextualized regulations [24]. Restrictions on the legal responsibility of AI as an object may
433 work for now, but over time, a flexible legal framework is urgently needed to maintain a balance
434 between the utilization of technology and the protection of society.

435 436 **3.4. AI as a Legal Subject with Limited Liability**

437
438 On the other hand, advances in AI technology that allow AI to learn, adapt, and even act
439 autonomously, triggered a discourse on the possibility of making AI a legal subject with limited
440 liability [4]. In this perspective, an increasingly intelligent and autonomous AI can have its own
441 form of liability, albeit within certain limits. This is similar to the concept of a company as a
442 legal entity—an entity that is legally recognized even though it is not human. This approach
443 would allow AI to assume some responsibility for the actions it takes independently, especially
444 if those actions go beyond the control of the humans operating or developing it.

445
446 The approach that sees AI as a legal subject with limited liability is based on the fact that AI
447 technology has reached a level of intelligence that allows AI to learn and adapt independently,
448 without human intervention at every step [25]. With its ability to act autonomously, AI can be
449 said to have certain "behaviors" that have a direct impact on the environment or other parties
450 [26]. This gives rise to the idea that AI can be granted limited legal status, similar to legal
451 entities such as companies, where the entity is recognized as a legal subject and can be held
452 liable within certain limits.

453
454 If an AI is given limited legal status, some of the responsibility for its autonomous actions can
455 be placed on the AI entity itself. For example, if an AI acts beyond the developer's prediction
456 or control and causes harm, transferring some of the liability to the AI could provide a new
457 mechanism for handling risk. This can reduce the reliance on full human responsibility,
458 especially when the AI's actions can no longer be predicted or controlled by its owner or
459 developer.

460
461 This approach requires a fundamental change in legal definitions, especially in setting the
462 boundaries of the responsibilities and rights that may be granted to AI. If AI is to be positioned
463 as a legal subject with limited liability, regulations need to specify what types of decisions or
464 actions AI can be held accountable for independently [27]. This is complicated because,
465 unlike humans, AI does not have will, consciousness, or moral accountability.

466
467 Such arrangements require careful consideration to avoid ambiguity in application. Any policy
468 must be able to clarify how responsibility will be shared between AI and those involved in its
469 development, and under what circumstances AI can be considered to be "acting"

470 autonomously. This challenge requires a cross-disciplinary approach that combines legal,
471 ethical, and technological perspectives to produce a balanced regulatory framework that is
472 adaptive to the rapid development of AI, without compromising the protection of society.

473

474 This approach also poses implementation challenges, both technical and ethical. On the one
475 hand, AI has no intention or morality, so recognizing AI as a legal subject could be seen as
476 blurring human responsibility. On the other hand, this recognition could provide more
477 protection for users, as AI as a legal subject would assume certain risks that are currently only
478 imposed on its owners or developers. Therefore, the discourse of making AI a legal subject
479 with limited liability needs to be carefully considered, taking into account its potential impact
480 on the prevailing legal system, justice for society, and safety in the application of AI in various
481 sectors of life.

482

483 **3.5. Government Ban on the Use of Artificial Intelligence**

484

485 In the context of Indonesia's evolving stance on artificial intelligence (AI), it is important to
486 address the government's current prohibitions and regulatory framework, which aim to
487 balance technological innovation with safeguarding public interests. As AI technology
488 advances rapidly, the Indonesian government has taken cautious steps to ensure that AI
489 applications do not outpace the development of necessary regulations. This includes
490 prohibiting certain AI uses that could potentially harm public order, national security, or
491 ethical standards.

492 At present, Indonesia has implemented restrictions on AI in areas such as surveillance, data
493 privacy, and military applications. The government is particularly concerned about AI
494 systems being used in ways that may violate privacy rights or contribute to authoritarian
495 practices, such as in widespread facial recognition systems that could infringe on individual
496 freedoms. Additionally, there is increasing scrutiny over the deployment of AI in critical
497 sectors like healthcare, finance, and law enforcement, where biases in AI algorithms could
498 exacerbate inequality or lead to harmful consequences if not properly regulated.

499 Furthermore, there are concerns about the ethical implications of AI applications in
500 Indonesia, especially in terms of job displacement and the impact on the labor market. The
501 government is wary of allowing AI technologies to disrupt social stability, particularly in
502 sectors where human labor is still crucial. As such, certain AI-driven automation processes
503 are either limited or subjected to heavy regulation to ensure that they do not lead to large-
504 scale unemployment or social unrest.

505 In the realm of AI governance, Indonesia has yet to establish a comprehensive national AI
506 policy or legal framework. However, the government has expressed its intention to follow
507 international developments closely, drawing inspiration from models such as the European
508 Union's General Data Protection Regulation (GDPR) and its proposed AI Act, while adapting
509 these ideas to the local context. Given the current prohibitions and regulatory gaps, the
510 government is moving cautiously, weighing the benefits of AI innovation against the risks it
511 poses to society.

512 In summary, while the Indonesian government has not yet fully embraced AI as a regulatory
513 subject or entity, it has imposed various restrictions aimed at protecting public interests, such
514 as limiting the use of AI in sensitive areas and ensuring that ethical concerns are addressed.
515 As the technology continues to advance, the government will likely need to adapt its
516 approach, balancing innovation with robust legal protections for its citizens.

517

518 **4. CONCLUSION**

519

520 The increasingly complex development of artificial intelligence (AI) technology demands legal
521 certainty regarding its status and responsibilities in the Indonesian legal system. Currently, AI
522 is generally treated as a legal object that is fully under human control. Within this
523 framework, the legal responsibility for any AI actions, including any errors or losses it causes,
524 lies with the developer, owner, or user of the AI. This approach is consistent with existing
525 legal principles, but has limitations as the autonomy of AI increases.
526

527 On the other hand, with AI's increasingly advanced ability to act independently, there is a
528 discourse to grant AI limited legal status as a legal subject. This approach allows AI to have
529 its own liability within certain limits, similar to other legal entities such as companies. This
530 recognition could provide a new mechanism to manage risks arising from AI's autonomous
531 decisions, while reducing the associated human liability burden.
532

533 However, the recognition of AI as a legal subject poses great challenges, both in defining the
534 limits of responsibility and in its practical implementation. Therefore, although still in the
535 discussion stage, it is important for the Indonesian legal system to immediately formulate a
536 regulatory framework that is adaptive to the advancement of AI, both as an object and a legal
537 subject with limited liability. This will not only provide better legal certainty, but also ensure fair
538 and appropriate protection for society and support the responsible use of technology.
539

540 **To develop effective AI regulations**, Indonesia can adopt a step-by-step approach to ensure
541 that laws remain relevant with technological advances while considering legal and ethical
542 responsibilities. The first step is to strengthen AI's status as a legal object, where
543 responsibility for AI's actions lies with developers, owners, or users. This aligns with current
544 legal principles, ensuring accountability for risks, errors, or harm caused by AI, along with
545 necessary security and ethical standards.
546

547 As AI technology evolves, regulations should be periodically evaluated and adapted to keep
548 pace with AI's increasing autonomy. Establishing a monitoring body to assess AI
549 developments and ensure human control remains sufficient is crucial to avoid regulatory
550 gaps. When AI reaches higher levels of autonomy, Indonesia could consider introducing
551 limited liability for AI in specific situations, such as in complex decision-making scenarios.
552 This approach would reduce human responsibility for AI's autonomous actions while
553 maintaining necessary oversight.
554

555 It is also vital to establish strict security standards and audit procedures for autonomous AI,
556 ensuring compliance with regulations and preventing violations. If AI's autonomy grows
557 further, recognizing AI as a limited legal subject, similar to a corporation, may be considered.
558 This would require clear boundaries on its legal responsibility, particularly in areas like
559 economic harm. A multidisciplinary approach involving experts in law, ethics, and technology
560 will be essential to assess the implications of AI's evolving legal status. Independent
561 regulatory bodies should oversee compliance with ethical and legal standards.
562

563 Finally, to ensure public understanding, the government should conduct education and
564 awareness campaigns on AI regulations, helping society adapt to the technology while
565 informing developers and users about legal consequences. This step-by-step strategy will
566 allow Indonesia to create adaptive, forward-thinking AI regulations that protect public interest
567 and uphold legal and ethical values.
568

569 **ACKNOWLEDGEMENTS**

570
571 The authors would like to thank all those who have provided technical support and valuable
572 input during this research process.

573

574

COMPETING INTERESTS

575

576

On behalf of all authors, the corresponding author states that there is no conflict of interest.

577

578

AUTHORS' CONTRIBUTIONS

579

580

Author 1 conceived the study, designed the methodology, and led the data analysis and interpretation. They also drafted and revised the manuscript.

581

582

Author 2 contributed to the literature review, data collection, and analysis. They provided substantial revisions to the manuscript and contributed to the final approval.

583

584

585

Both authors have read and approved the final manuscript and agree to be accountable for all aspects of the work.

586

587

588

Disclaimer (Artificial intelligence)

589

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

590

591

592

REFERENCES

593

594

[1] E. S. Priowirjanto, "The Urgency of Regulation Regarding Artificial Intelligence in the Online Business Sector During the Covid-19 Pandemic in Indonesia," *J. Bina Mulia Huk.*, vol. 6, no. 2, pp. 254–272, 2022, doi: 10.23920/jbmh.v6i2.355.

595

596

597

[2] Fitriani, A. Indah, Veranita, and Mubarak, "The Influence of Artificial Intelligence (AI) Technology from Martin Heidegger's Perspective," *J. Ilmu Aqidah*, vol. 10, no. 1, pp. 38–50, 2024, [Online]. Available: <https://journal3.uin-alauddin.ac.id/index.php/aqidah-ta/article/view/50322>

598

599

600

601

[3] R. Darman, "The Role of ChatGPT as Artificial Intelligence in Solving Land Problems with Case Study Methods and Black Box Testing," *Tunas Agrar.*, vol. 7, no. 1, pp. 18–46, 2024, doi: 10.31292/jta.v7i1.256.

602

603

604

[4] E. N. Ravizki and Lintang Yudhantaka, "Artificial Intelligence as a Legal Subject: Conceptual Review and Regulatory Challenges in Indonesia," *Notaire*, vol. 5, no. 3, pp. 351–376, 2022, doi: 10.20473/ntr.v5i3.39063.

605

606

607

[5] Pasa Deda Siregar, "Problem of Legal Umbrella in the Use of Artificial Intelligence," *Hukum Online*, 2024. <https://www.hukumonline.com/berita/a/problem-payung-hukum-dalam-penggunaan-artificial-intelligence-lt66d4b01adeaf2/> (accessed Nov. 07, 2024).

608

609

610

[6] N. M. Y. A. Astiti, "Strict Liability of Artificial Intelligence: Accountability to AI Regulators or AI Given the Burden of Accountability?," *J. Magister Huk. Udayana*, vol. 12, no. 4, pp. 962–980, 2023, doi: 10.24843/JMHU.2023.v12.i0.

611

612

613

[7] S. H. Qurrahman, S. Ayunil, and T. A. Rahim, "The Position and Concept of Accountability of Artificial Intelligence in Indonesian Positive Law," vol. 6, no. 4, pp. 12687–12693, 2024.

614

615

616

[8] K. Khoirunnisa, "Toward a Political-Security Community in Southeast Asia: Progress, Pitfalls, and Prospects," *China Q. Int. Strateg. Stud.*, vol. 9, no. 1, pp. 1–26, 2023, doi: 10.1142/S237740023500136.

617

618

- 619 [9] H. Criminal Law in the Perspective of Democracy and Human Rights, F. Nada, F. Faruq
620 Abqori, D. Ratu Nur FatimahRH, I. Rahadiyan, and B. Agus Riswandi, "National
621 Proceedings of Actual Law on the Idea of Regulating Artificial Intelligence as a Legal
622 Subject in Indonesia," pp. 149–157, [Online]. Available:
623 <https://eduparx.id/blog/insight/artificial-intelligence/4-jenis-artificial-intelligence-atau-ai>
- 624 [10] E. K. Sebayang, M. Mulyadi, and M. Ekaputra, "Potential Utilization of Artificial
625 Intelligence Technology as a Product of Criminal Justice Institutions in Indonesia,"
626 *Locus J. Acad. Lit. Rev.*, vol. 3, no. 4, pp. 317–328, 2024, doi: 10.56128/ljoalr.v3i4.311.
- 627 [11] Joseph Teguh Santoso, *Artificial Intelligence*, vol. 53, no. 9. Semarang: Yayasan Prim
628 Agus Teknik, 2019. [Online]. Available:
629 [https://digilib.stekom.ac.id/assets/document/ebook/feb_As-EPdnoXwYlml-dwUjL-](https://digilib.stekom.ac.id/assets/document/ebook/feb_As-EPdnoXwYlml-dwUjL-KqX7d8-e7JdgDWI9julkA_do9gJ_XzVQA_1692691658.pdf)
630 [KqX7d8-e7JdgDWI9julkA_do9gJ_XzVQA_1692691658.pdf](https://digilib.stekom.ac.id/assets/document/ebook/feb_As-EPdnoXwYlml-dwUjL-KqX7d8-e7JdgDWI9julkA_do9gJ_XzVQA_1692691658.pdf)
- 631 [12] Diana, "Autonomous AI: The Future of Independent Technology," Telkom University
632 Jakarta, 2024. [https://jakarta.telkomuniversity.ac.id/revolusi-ai-otonom-bagaimana-](https://jakarta.telkomuniversity.ac.id/revolusi-ai-otonom-bagaimana-mesin-belajar-mengubah-dunia/)
633 [mesin-belajar-mengubah-dunia/](https://jakarta.telkomuniversity.ac.id/revolusi-ai-otonom-bagaimana-mesin-belajar-mengubah-dunia/) (accessed Nov. 07, 2024).
- 634 [13] Adele Mailangkay, "Artificial Intelligence and Finance," Binus University, 2023.
635 <https://sis.binus.ac.id/2023/09/06/artificial-intelligence-dan-keuangan/> (accessed Nov.
636 07, 2024).
- 637 [14] S. A. Mahira, I. Sukoco, C. S. Barkah, N. Jamil, A. Novel, and J. A. Bisnis, "Artificial
638 Intelligence Technology in Sentiment Analysis: Literature Study on Kata.Ai Company,"
639 *Responsive*, vol. 6, no. 2, pp. 139–148, 2023.
- 640 [15] I. Ernawati, F. I. Komputer, U. Pembangunan, and N. Veteran, "Systematic Literature
641 Review: Analysis Of The Application Of Artificial Intelligence In The Field Of Health,"
642 (*SENAMIKA*, no. April, pp. 168–173, 2024).
- 643 [16] A. R. Pakaya, "Understanding Black Box AI and Why Machines Cannot Always Be
644 Explained," *Kompasiana*, 2024.
645 [https://www.kompasiana.com/alunriansapakaya4288/66a69290c925c427d40fe262/me-](https://www.kompasiana.com/alunriansapakaya4288/66a69290c925c427d40fe262/mehamami-black-box-ai-dan-mengapa-mesin-tidak-selalu-dapat-dijelaskan)
646 [hamami-black-box-ai-dan-mengapa-mesin-tidak-selalu-dapat-dijelaskan](https://www.kompasiana.com/alunriansapakaya4288/66a69290c925c427d40fe262/mehamami-black-box-ai-dan-mengapa-mesin-tidak-selalu-dapat-dijelaskan) (accessed
647 Nov. 07, 2024).
- 648 [17] M. Akbar, F. Syahril, A. Darmawasanya TI, M. Murdiono, and A. Asriyani, "Artificial
649 Intelligence and Human Rights: Legal Studies on Potential Dangers in Indonesia," *J.*
650 *Litigasi Amsir*, vol. 11, no. 3, pp. 359–364, 2024, [Online]. Available:
651 <https://blogs.lse.ac.uk/humanrights/2020/07/16/b>
- 652 [18] Nabila Fitri Amelia, Diva Maura Marcella, Hening Jiwa Semesta, Sabrina Budiarti, and
653 Saskiana Fitra Usman, "Implementation of Artificial Intelligence (AI) in the Formation of
654 Legislation in Indonesia," *Eksekusi J. Ilmu Huk. dan Adm. Negara*, vol. 2, no. 1, pp. 56–
655 70, 2023, doi: 10.55606/eksekusi.v2i1.789.
- 656 [19] M. W. Mufti, M. H. Ikhsan, R. Sani, and M. Fauzan, "The Urgency of Establishing
657 Artificial Intelligence-Based Technology Legislation," *Socius J. Penelit. Ilmu-Ilmu Sos.*,
658 vol. 1, no. June, pp. 137–141, 2024, doi: 10.5281/zenodo.11422903.
- 659 [20] Muhammad Bahrudin, "Mengenal 2 Tipe Artificial Intelligence: AGI dan ANI," *Badan*
660 *Standarisasi Nasional*, 2023.
661 <https://perpustakaan.bsn.go.id/index.php?p=news&id=1771> (accessed Nov. 07, 2024).
- 662 [21] F. Morandín-Ahuerma, "Ten UNESCO Recommendations on the Ethics of Artificial
663 Intelligence," *Norm. Princ. an Ethics Artif. Intell.*, no. 2023, pp. 86–94, 2023.
- 664 [22] S. Ayu Dita and A. Winanti, "Analysis of the Vicar Principleous Liability in Substitute
665 Liability for Unlawful Acts of Bank Employees," *J. Usm Law Rev.*, vol. 6, no. 2, p. 526,

666 2023, doi: 10.26623/julr.v6i2.7037

667 [23] F. Sulistio and A. D. Salsabilla, "Liability for Criminal Acts Committed by Autonomous
668 Artificial Intelligence Agents," *Unes Law Rev.*, vol. 6, no. 2, pp. 5479–5490, 2023.

669 [24] R. Sakinah, M. Kuswinarno, and U. T. Madura, "The Impact Of Artificial Intelligence On
670 Digitalization And Human Resource Performance: Opportunities And Challenges," *J.
671 MEDIA Akad.*, vol. 2, no. 9, pp. 1–14, 2024.

672 [25] T. Raffi, P. Jumantoro, N. N. Rahmansyah, and J. Hayfa, "A Look at the Pros and Cons
673 of Utilizing and Determining the Legal Status of Artificial Intelligence in Indonesian
674 Positive Law," *J. Anal. Res. Stat. Comput.*, vol. 3, no. 1, pp. 51–70, 2024, [Online].
675 Available: <https://www.jarsic.org/main/article/view/28/18>

676 [26] D. G. Keramas Pradnyana, "The Advanced AI, Between Benefits and Threats,
677 Defending Space," *Metta J. Multidisciplinary Science*, vol. 4, pp. 24–37, 2024, [Online].
678 Available:
679 <https://jayapanguspress.penerbit.org/index.php/metta/article/view/2981%0Ahttps://jayapanguspress.penerbit.org/index.php/metta/article/download/2981/1413>
680

681 [27] Y. D. Jaya and M. J. Ahmad, , "Feasibility and Implementation of Artificial Intelligence
682 (AI) as Company Director," *Madani J. Ilm. Multidisiplin*, vol. 1, no. 10, pp. 661–670,
683 2023.

684

UNDER PEER REVIEW