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Legal Protection for Consumers Against the Risk of Algorithmic Inaccuracy in Artificial Intelligence Subscription Services

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Abstract

Introduction: *This research is prompted by the increasing use of subscription-based artificial intelligence services in Indonesia, which poses risks of algorithmic inaccuracy for consumers. The existing legal framework, particularly the Consumer Protection act, the Electronic Information and Transactions act, and Government Regulation on the Implementation of Electronic Systems and Transactions, has not adequately regulated the liability of business actors for substantive errors in the outputs of artificial intelligence systems that harm consumers.*

Purposes of the Research: *This research aims to identify normative gaps within the Indonesian consumer protection legal framework concerning algorithmic inaccuracy in AI subscription services, and to formulate legal reform proposals oriented toward substantive consumer protection through the reconstruction of legal liability and regulatory reforms that are adaptive to technological developments.*

Methods of the Research: *This research employs a normative juridical method using both statutory and conceptual approaches.*

Findings of the Research: *The findings indicate the existence of a three-layered normative gap: (1) a substantive gap regarding the standard of accuracy of AI outputs within Consumer Protection act and Government Regulation on the Implementation of Electronic Systems and Transactions; (2) an imbalance of standard clauses in subscription contracts that shift risks onto consumers; and (3) limitations in the institutional capacity of supervisory bodies. As a novel contribution, this research proposes the doctrine of Algorithmic Duty of Care as a standard of liability for business actors that cannot be waived through contractual clauses.*

Keywords: Algorithmic Duty of Care; Algorithmic Inaccuracy; Artificial Intelligence; Consumer Protection; Legal Liability.

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INTRODUCTION

The constitution of a state not only regulates the structure of governance but also serves as the foundation for determining the relationship between the state and its citizens. Article 28D paragraph (1) of the 1945 Constitution of the Republic of Indonesia (hereinafter referred to as the 1945 Constitution) affirms that "every person shall be entitled to recognition, guaranty, protection, and equitable legal certainty as well as equal treatment before the law." This provision indicates that the state bears an obligation to ensure the fulfillment of fundamental rights, including recognition, guarantees, protection, and fair legal certainty.

From a constitutional-democratic perspective, Article 28D paragraph (1) of the 1945 Constitution may be interpreted as encompassing protection for citizens against losses arising from services that fail to meet standards of safety, accuracy, and reliability, which ultimately stem from the absence of fair legal certainty. Accordingly, this constitutional

norm constitutes the foundation for the development of the consumer protection system in Indonesia, as well as a reference point for law-making and legal reform in this field.

As a further elaboration, Law Number 8 of 1999 concerning Consumer Protection (hereinafter referred to as the Consumer Protection Act functions not merely as a legal instrument governing the relationship between business actors and consumers, but also as part of the protection of fundamental rights in the economic sphere. Pursuant to Article 4 of the Consumer Protection act, consumers are granted various rights, including the right to safety and security in the consumption of goods and/or services, the right to accurate, clear, and honest information, and the right to express opinions and complaints.

These provisions reflect an inherent imbalance between business actors and consumers, where business actors generally possess advantages in terms of capital, information, and technology. Therefore, the Consumer Protection act is designed to provide protection to consumers as the relatively weaker party. In the context of economic development, including digital transactions, the principles embodied in the Consumer Protection act remain relevant and must be adapted to address evolving forms of consumer harm.

Technological advancements in the era of the Fourth Industrial Revolution have significantly transformed consumption patterns. Consumers no longer interact solely with physical goods, but also with digital services based on systems and algorithms. Such services are intangible and often lack transparency in their operation. Moreover, legal relationships between business actors and consumers in digital services are typically governed by complex and difficult-to-understand terms of service. This condition presents challenges for the application of consumer protection law, given that most existing regulations, including the Consumer Protection act, remain oriented toward conventional transactions. Accordingly, adjustments to the legal framework are necessary to ensure effective consumer protection within the digital economic ecosystem.

Artificial Intelligence (hereinafter referred to as AI) represents one of the most significant developments in digital technology from a legal perspective. Unlike conventional rule-based electronic systems that operate deterministically, AI systems—particularly those based on Large Language Models (LLMs)—function through machine learning mechanisms that generate probabilistic outputs based on patterns derived from training data. This characteristic renders AI outputs not always predictable, verifiable, or fully explainable, even by their developers. In legal and technological literature, this phenomenon is referred to as algorithmic opacity or the black box problem. The implication is the emergence of difficulties in determining legal liability when AI systems produce inaccurate information that causes harm to consumers.

This issue raises questions regarding the appropriate subject of liability and the applicable standards of responsibility. As noted by Calo, the development of digital technology has generated new forms of harm that cannot be fully explained within conventional legal frameworks, thereby necessitating adjustments in existing concepts of legal liability.[1]

These transformations have given rise to a digital economic ecosystem in which consumers increasingly depend on complex and opaque computational systems.

[1] Ryan Calo, "Digital Market Manipulation," *George Washington Law Review* 82, no. 4 (2014): 995–1051, https://doi.org/10.2139/ssrn.2309703.

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Furthermore, legal relationships between business actors and consumers are typically embodied in lengthy and technical terms of service, which are difficult for consumers to comprehend. This condition exacerbates the imbalance in bargaining power between the parties. Meanwhile, the consumer protection legal framework, including the Consumer Protection act, remains grounded in assumptions of conventional transactions and is therefore not fully capable of accommodating the characteristics of AI-based digital services.

In practice, the development of AI technology has led to the rapid emergence of paid subscription service models. Several generative AI platforms offer premium services through recurring payment schemes in exchange for access to features claimed to provide higher quality than free versions. From the perspective of contract law, the relationship between consumers and service providers may be classified as a service subscription agreement, encompassing legal subjects, contractual objects in the form of service access, payment obligations on the part of consumers, and the obligation of providers to deliver services as promised. In this context, claims regarding enhanced service quality—including output accuracy, processing capacity, and reasoning capability—constitute part of the contractual performance. Accordingly, failure to meet such standards, including the generation of factually incorrect outputs that harm consumers, may give rise to breach of contract.

One of the primary risks associated with AI services is algorithmic inaccuracy, namely a condition in which systems produce inaccurate or misleading information or analysis. In technical discourse, this phenomenon is often referred to as AI hallucination, describing the tendency of systems to generate linguistically convincing yet factually unverified content. This risk becomes increasingly significant as consumer reliance on AI outputs in decision-making grows.

According to Wachter and Mittelstadt, AI systems operating on large-scale data processing possess the potential to produce systemic errors that may harm consumers if not accompanied by adequate accountability mechanisms.[2] This aligns with findings from the World Economic Forum (WEF) in The Global Risks Report 2024, which identifies AI-driven misinformation and disinformation as among the most significant short-term global risks.[3] These assessments demonstrate that algorithmic inaccuracy is not merely a technical issue but one with broader social and economic implications.

The risks of algorithmic inaccuracy become particularly critical from a consumer protection perspective when premium AI services are used in contexts directly affecting human safety and physical integrity, especially in healthcare and engineering. In the healthcare sector, the use of paid AI services to obtain information on drug dosages, pharmacological interactions, symptom interpretation, or preliminary medical recommendations carries substantial risks when outputs are inaccurate. Despite being presented systematically and employing credible medical terminology, such information may still contain errors with serious consequences.

Empirical studies indicate that large language models (LLMs), including premium versions, may still produce incorrect medical information under certain conditions. Similar risks arise in engineering contexts, where errors in calculations or specifications generated

[2] Sandra Wachter and Brent Mittelstadt, "A Right to Reasonable Inferences: Re-Thinking Data Protection Law in the Age of Big Data and AI," *Coloumbia Business Law Review* 2019, no. 2 (2019): 494–620, https://doi.org/10.7916/cblr.v2019i2.3424.

[3] World Economic Forum, "The Global Risk Report 2024 19th Edition," *World Economic Forum* (Cologny/Geneva, 2024).

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by AI may lead to structural or system failures. From the perspective of the Consumer Protection act, this situation directly relates to Article 4 letter (a), which guarantees consumers the right to safety and security in the consumption of services. Where services instead pose risks to safety, clarity regarding the applicable form of legal liability becomes essential. These issues are further compounded by structural asymmetries between AI platform developers and consumers. Such asymmetries encompass at least two dimensions. First, information asymmetry, referring to consumers' limited access to information regarding system operations, accuracy levels, and associated risks, which are often protected as trade secrets. Second, technological asymmetry, reflecting consumers' inability to independently verify or test AI systems.

In the Indonesian context, these challenges are intensified by the limitations of the existing regulatory framework compared to jurisdictions that have developed specific AI regulations, such as the European Union through the EU AI Act. As noted by Buiten, the absence of adequate transparency and accountability obligations may create imbalances detrimental to consumers and hinder effective regulatory oversight.[4] These regulatory limitations are evident in the inadequacy of existing legal instruments in addressing algorithmic inaccuracy risks. Laws such as Law Number 11 of 2008 concerning Electronic Information and Transactions, as amended by Law Number 1 of 2024 (hereinafter referred to as the Electronic Information and Transaction Act), and Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, primarily focus on technical aspects of system operation, such as security, reliability, and prevention of unauthorized access.

The approach adopted by the Electronic Information and Transaction Act and Government Regulation on the Implementation of Electronic Systems and Transactions tends to assess compliance based on the technical functioning of systems. As long as systems operate without disruption, obligations are considered fulfilled. However, these instruments do not specifically regulate the substantive quality of system outputs, including the accuracy and correctness of information. Consequently, there is no explicit regulation governing liability for erroneous outputs generated by AI systems. This condition reveals a gap between the risks faced by consumers and the capacity of the existing regulatory framework. Therefore, a legal framework capable of addressing not only technical system aspects but also output quality and accountability is required.

A review of prior studies indicates that legal discourse on AI services, both in Indonesia and globally, remains predominantly focused on personal data protection and privacy issues. In Indonesia, particular attention has been directed toward the implementation of Law Number 27 of 2022 concerning Personal Data Protection (hereinafter referred to as the Personal Data Protection Act, especially regarding informed consent, data subject rights, obligations of data controllers and processors, and cross-border data transfer regulations. Meanwhile, issues relating to accountability for AI outputs, particularly civil liability for consumer losses arising from inaccurate information in subscription services, remain underexplored in legal scholarship. This gap is not only quantitative but also qualitative, as there is no sufficiently developed conceptual framework to position algorithmic inaccuracy within contract law and civil liability regimes.

[4] Miriam C. Buiten, "Towards Intelligent Regulation of Artificial Intelligence," *European Journal of Risk Regulation* 10, no. 1 (2019): 41–59, https://doi.org/10.1017/err.2019.8.

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This observation aligns with Wachter, Mittelstadt, and Russell, who argue that global AI discourse has tended to focus on data privacy and safety, while accountability for the quality and correctness of outputs within contractual relationships has received relatively limited attention.[5] Accordingly, this research seeks to address this gap by positioning algorithmic inaccuracy as an independent legal issue within the framework of civil liability and consumer protection.

The use of subscription-based AI services in Indonesia continues to increase, including among professionals in law, healthcare, finance, education, and journalism. This trend indicates that an increasing number of decisions—both professional and personal—depend on outputs generated by AI systems developed by foreign companies. In such circumstances, limitations in the national legal framework not only constitute a legal issue but also relate to the protection of national economic interests. Dependence on services beyond national jurisdiction may place Indonesian consumers in a vulnerable position, particularly where differing accountability standards apply.

Based on the foregoing background and problem identification, this research formulates two principal questions. First, what is the legal status of algorithmic inaccuracy in AI subscription services within the Indonesian consumer protection framework, particularly under the Consumer Protection act, the Electronic Information and Transaction Act, Government Regulation on the Implementation of Electronic Systems and Transactions, and the Personal Data Protection Act, and whether these instruments are adequate in regulating the attribution and evidentiary standards of civil liability for consumer harm arising from inaccurate AI outputs? Second, what legal reform design is required—whether through revision of existing instruments or the establishment of new regulations—to develop an effective and adaptive accountability framework for AI technologies that ensures legal certainty and consumer protection?

In line with these research questions, this study has two primary objectives. First, to identify and analyze normative gaps within the Indonesian consumer protection legal framework concerning algorithmic inaccuracy, through an examination of the Consumer Protection act, the Electronic Information and Transaction act, Government Regulation on the Implementation of Electronic Systems and Transactions, and the Personal Data Protection Act. Second, to formulate legal reform proposals oriented toward consumer protection by developing a concept of algorithmic accountability aligned with the characteristics of AI systems, including applicable evidentiary mechanisms and adaptive regulatory models.

This research is expected to contribute to both academic and policy dimensions. From a legal scholarship perspective, it enriches consumer protection and technology law by offering a conceptual framework for liability arising from algorithmic inaccuracy, including the notion of epistemic failure as distinct from technical failure. From a policy perspective, it provides recommendations that may serve as a basis for the development of AI governance regulations in Indonesia. Ultimately, this research aims to support the establishment of a more responsive legal system, ensure effective consumer protection, and strengthen Indonesia's position in the governance of AI technologies.

[5] Sandra Wachter, Brent Mittelstadt, and Chris Russell, "Counterfactual Explanations Without Opening the Black Box: Automated Decisions and the GDPR," *Harvard Journal of Law & Technology* 31, no. 2 (2018): 841–87, https://doi.org/10.2139/ssrn.3063289.

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METHODS OF THE RESEARCH

The method employed in this article is normative juridical research (normative legal research), which is a type of research grounded in legal norms prevailing within society that function as guidelines for individual legal conduct. Accordingly, this research examines legal issues concerning the various types of legal research methodologies, along with their respective characteristics and functions in addressing contemporary legal problems, through a library-based approach (literature study) as the primary foundation for analysis.[6]

RESULTS AND DISCUSSION

A. The Ambivalence of Digital Consumer Protection Regulation in Indonesia in Addressing Algorithmic Inaccuracy

Consumer rights to information are not merely procedural in nature but are also closely related to the quality of services received. Article 4 letter (c) of the Consumer Protection Act guarantees the right of consumers to obtain "Consumers' rights are: c. the right to receive accurate, clear, and truthful information regarding the condition and guarantees of goods and/or services" This provision applies not only at the pre-contractual stage but may also be interpreted as a standard governing the quality of services provided.

In the context of Artificial Intelligence (AI)-based services, the information generated by the system constitutes the core component of the service consumed. Therefore, the accuracy and clarity of such output may be regarded as part of the agreed service quality. Accordingly, where the information produced is inaccurate, it may be associated with the fulfillment of the business actor's obligation to provide services in accordance with the agreed standards.

Within the existing regulatory framework, AI systems may be categorized as electronic systems as defined under Article 1 point (1) of Government Regulation on the Implementation of Electronic Systems and Transactions, namely as a set of electronic devices and procedures functioning to process and present electronic information. Consequently, providers of subscription-based AI services are subject to the provisions of Government Regulation on the Implementation of Electronic Systems and Transactions, including the obligation to ensure system reliability as stipulated in Article 4. However, the regulation under Government Regulation on the Implementation of Electronic Systems and Transactions has limitations in addressing the characteristics of AI systems. The reliability standards emphasized therein focus primarily on technical aspects, such as system availability and security, and do not extend to the quality or accuracy of the information generated. This indicates that the existing regulatory framework has not fully accommodated accountability for AI-generated outputs. The first issue within the current regulatory framework lies in the orientation of the Electronic Information and Transactions Act, which emphasizes system security and operational aspects rather than the quality of information produced. The Electronic Information and Transactions Act imposes obligations on electronic system providers to maintain data security and system reliability. Article 15 paragraph (1) of the Electronic Information and Transactions Act provides that electronic system providers are required to "operate electronic systems reliably and securely and be responsible for the proper operation of such systems."

[6] Kornelius Benuf, Siti Mahmudah, and Ery Agus Priyono, "Metodologi Penelitian Hukum Sebagai Instrumen Mengurangi Permasalahan Hukum Kontemporer," *Refleksi Hukum: Jurnal Ilmu Hukum* 3, no. 2 (2019): 145–60, https://doi.org/10.14710/gk.2020.7504.

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The phrase "proper operation of electronic systems" in Article 15 paragraph (1) refers primarily to technical functionality, namely systems that operate without disruption. This provision does not explicitly encompass standards of truthfulness or accuracy of the information generated. As a result, the Electronic Information and Transactions Act does not provide an adequate basis for assessing liability when AI systems function properly from a technical standpoint but produce inaccurate outputs that harm consumers. The difficulty in regulating algorithmic inaccuracy becomes more apparent when compared to consumer protection mechanisms for physical products. Within the product liability regime, the concept of product defects is relatively well-defined, including manufacturing defects, design defects, and informational defects. These parameters can be assessed through physical examination, technical standards, or the adequacy of information provided to consumers.

By contrast, AI services produce intangible outputs that are not always consistent. Inaccuracy in AI outputs is contextual, as the correctness of a response depends on the context of the query posed. Furthermore, AI systems based on large language models are probabilistic in nature, meaning they may generate different outputs for similar queries. This condition complicates the direct application of the concept of service defects as recognized under the Consumer Protection Act. Therefore, a conceptual adjustment is required in understanding service quality and failure in the context of AI. Without such reconstruction, existing liability mechanisms risk becoming ineffective in providing legal protection to consumers of AI services.

The issue of unclear quality standards is closely related to Article 7 letter (d) of the Consumer Protection Act, which obliges business actors to ensure the quality of goods and/or services in accordance with applicable standards. This provision presupposes the existence of measurable standards that can serve as a benchmark for assessing quality. In practice, such standards are typically available in specific sectors. Manufacturing products, for example, refer to standards established by the National Standardization Agency (NSA) through the Indonesian National Standard (SNI), while the financial services sector is governed by standards set by the Financial Services Authority. However, in the context of AI-based services, no national standards currently exist that operationally regulate output quality, including acceptable levels of accuracy.

The absence of such standards carries legal implications. Business actors are difficult to assess as violating their obligations under Article 7 letter (d) of the Consumer Protection Act due to the lack of applicable benchmarks. On the other hand, consumers face challenges in proving that the services received do not meet a certain standard. Consequently, the obligation to guarantee quality cannot yet be effectively applied in the context of AI services. As noted by Shidarta, the effectiveness of the Consumer Protection Act in certain sectors depends on the existence of external technical standards; in sectors lacking such standards, the application of consumer protection norms becomes limited.[7]

Beyond normative gaps, there are institutional constraints in supervising AI services. The National Consumer Protection Agency and the Ministry of Communication and Informatics currently lack the instruments, methodologies, and technical capacity to systematically audit the accuracy of AI system outputs. Such audits require access to model architecture, training data, and internal evaluation methods, which are typically protected as trade

[7] Shidarta, *Hukum Perlindungan Konsumen Indonesia*, Revisi (Jakarta: Grasindo, 2004).

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secrets by developers. This condition limits the effective exercise of supervisory authority over global AI platforms. As a result, oversight remains largely reactive, relying on consumer complaints rather than comprehensive system audits. This finding aligns with Rosadi, who highlights regulatory limitations in accessing technical aspects of digital platforms as a major obstacle to effective supervision.[8] In addition, evidentiary challenges constitute a significant barrier for consumers seeking compensation. The Consumer Protection Act adopts a reversed burden of proof principle, as stipulated in Article 22 and Article 28, requiring business actors to prove that losses are not attributable to their fault.

However, the application of this principle in the context of AI services encounters several obstacles. First, consumers must demonstrate that the output generated is inaccurate and causally linked to the harm suffered, which is difficult given the persuasive nature of AI outputs. Second, business actors may argue that the system has operated as intended, thereby negating fault in a technical sense. Third, proving how the system should have produced a different output requires access to internal technical information that is unavailable to consumers. These conditions create an imbalance in evidentiary processes, which in practice weakens the effectiveness of consumer protection, despite its normative recognition under the Consumer Protection Act.

All the issues outlined above demonstrate the existence of a normative gap within the current legal framework. This gap arises from the inability of existing regulations to adequately respond to the probabilistic and autonomous nature of AI technologies. Theoretically, this reflects the ex post character of law, which is often developed in response to existing problems rather than anticipating technological developments not yet known at the time of formulation.

The Consumer Protection Act was designed in the context of conventional transactions, while the Electronic Information and Transactions Act focused on electronic transactions and cyber issues at the time of its enactment. The emergence of AI technologies, particularly those based on large language models, has exceeded the foundational assumptions underlying these instruments. As a result, a gap emerges between the law in the books (*das sollen*) and the law in practice (das sein). Although consumers are formally protected under the Consumer Protection Act and Electronic Information and Transactions Act, in practice there is no effective legal mechanism to hold providers accountable for losses caused by inaccurate AI outputs. This situation reflects a normative gap, namely the absence of legal norms capable of effectively fulfilling their protective function in the face of technological advancement. If left unaddressed, such conditions may erode public trust in the legal system.[9]

From a regulatory perspective, supervision of foreign electronic system providers remains constrained by jurisdictional limitations and the lack of effective requirements regarding physical presence and data governance. This condition limits the ability of national authorities to enforce consumer protection against global platforms. Jurisdictional limitations over foreign digital entities constitute a structural challenge that requires cross-border approaches and international cooperation.[10]

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[8] Sinta Dewi Rosadi and Garry Gumelar Pratama, "Perlindungan Privasi Dan Data Pribadi Dalam Era Ekonomi Digital Di Indonesia," *Veritas et Justitia* 4, no. 1 (2018): 88–110, https://doi.org/10.25123/vej.2916.

[9] Hikmahanto Juwana, "Penegakan Hukum Dalam Kajian Law and Development: Problem Dan Fundamen Bagi Solusi Di Indonesia," *Indonesian Journal of International Law* 3, no. 2 (2006): 212–41, https://doi.org/10.17304/ijil.vol3.2.398.

[10] Josua Sitompul, *Cyberspace, Cybercrimes, Cyberlaw: Tinjauan Aspek Hukum Pidana* (Jakarta: Tatanusa, 2012).

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The author further observes that consumer protection issues in addressing algorithmic inaccuracy may be mapped into three main aspects. First, a substantive gap, namely the absence of explicit norms regulating standards of accuracy for AI outputs and the legal consequences of failing to meet such standards. Second, institutional limitations, referring to the insufficient technical capacity and authority of supervisory bodies to proactively audit AI systems, resulting in enforcement that relies heavily on complaint mechanisms. Third, structural asymmetry between AI platform developers, consumers, and national authorities in terms of technological control and access to information, which undermines the effectiveness of existing legal protection mechanisms.

These three aspects demonstrate that the Consumer Protection Act, the Electronic Information and Transactions Act, and the Government Regulation on the Implementation of Electronic Systems and Transactions have not yet functioned in an integrated manner to address the risks of algorithmic inaccuracy. Therefore, a comprehensive legal reform approach is required—one that not only introduces new provisions but also strengthens coherence among existing legal instruments. The direction of such reform will be discussed in the subsequent section.

B. Asymmetry in Legal Relationships within Subscription Contracts

In the development of contract law, agreements between parties were initially formed through negotiation processes that allowed each party to express interests, propose terms, and reach a mutual understanding known as a meeting of minds (toestemming). This model reflects the principle of freedom of contract (vrijheid van contract) as one of the fundamental doctrines of the law of obligations. The evolution of the digital economy has transformed this pattern. Subscription-based AI services such as ChatGPT Plus, Gemini Advanced, and Claude Pro do not provide room for negotiation for consumers. All contractual clauses are unilaterally determined by business actors in documents such as Terms of Service (ToS) or End User License Agreements (EULA), leaving consumers with only the option to accept or decline the service.

This model is known as an adhesion contract or standard form contract, which in the Indonesian legal system is regulated under Article 18 of the Consumer Protection Act. This shift demonstrates an imbalance in bargaining power between business actors and consumers, as the former determines the substance of contractual clauses while the latter has no opportunity to influence the content of the agreement. Standard contracts in digital transactions thus place consumers in a structurally disadvantaged position due to the absence of meaningful negotiation.[11] To further examine this imbalance, it is necessary to analyze the substance of clauses contained in Terms of Use (ToS). OpenAI's ToS states that services are provided "as is" and "as available" without warranties, including with respect to accuracy, completeness, reliability, or fitness for a particular purpose. The limitation of liability clause further restricts the company's liability to the amount paid by the consumer in the preceding twelve months or one hundred United States dollars, whichever is greater, for all claims arising from service use. Google LLC, in its Gemini Advanced ToS, includes clauses limiting liability for indirect, incidental, and consequential damages. Anthropic, in its usage policy, states that users are responsible for their use of outputs and should not rely on them as the sole basis for important decisions.

[11] Celina Tri Siwi Kristiyanti, *Hukum Perlindungan Konsumen*, Keenam (Jakarta: Sinar Grafika, 2017).

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When examined in light of Article 18 paragraph (1) letter (a) of the Consumer Protection Act, such clauses indicate an attempt to transfer liability from business actors, which is legally deemed null and void. However, the application of this provision to foreign business actors faces jurisdictional challenges, thereby creating practical difficulties in enforcing cross-border AI subscription contracts.

The imbalance in AI subscription contracts is also evident in the regulation of consumer obligations and the absence of equivalent reciprocal guarantees from business actors. In a balanced contractual relationship, the performance of one party should be matched by a counter-performance of the other, a concept known in doctrine as balanced reciprocity (evenwichtige wederkerigheid). In AI subscription contracts, consumers bear clear obligations, namely to pay periodic fees in accordance with applicable terms. Failure to fulfill this obligation results in termination of service access.

Conversely, the obligations of business actors are formulated in a limited manner, namely to provide access to AI systems without guarantees regarding the accuracy, relevance, or suitability of outputs for user needs. This condition reflects an unequal distribution of obligations, where consumers bear definite obligations while business actors are subject only to best efforts obligations without clear benchmarks of performance.

From the perspective of the principle of pacta sunt servanda, contracts remain binding upon the parties in accordance with agreed clauses, including disclaimers regarding accuracy. However, as argued by Hernoko, the principle of proportionality in modern business contracts requires a reasonable balance between rights and obligations, such that clauses transferring all risks to consumers cannot be justified solely on the basis of freedom of contract.[12]

The issue of algorithmic inaccuracy in AI services is not merely conceptual but has also emerged in judicial practice. One frequently cited case is Mata v. Avianca, Inc., decided by Judge P. Kevin Castel on June 22, 2023, at the United States District Court for the Southern District of New York (Case No. 22-cv-1461). In this case, the plaintiff's attorney used ChatGPT to identify legal precedents and included them in court filings. Upon examination, the court found that several cited cases did not exist and were fabricated legal references (hallucinated citations). In its reasoning, the court emphasized that attorneys retain a professional responsibility to verify all legal sources used. The court subsequently imposed financial sanctions on the attorneys involved.

This case illustrates that algorithmic inaccuracy may have tangible consequences in legal practice. Although liability in this instance was attributed to the user rather than the AI service provider, it highlights the absence of mechanisms directly linking business actors' liability to harm arising from system outputs. Furthermore, it reflects a discrepancy between the marketed function of AI services as tools supporting professional activities and the contractual clauses that limit provider liability for generated outputs. In addition to contractual clauses, Indonesian consumers harmed by algorithmic inaccuracy also face obstacles in dispute resolution. Most ToS documents of global AI platforms include choice of law clauses designating the law of California or other United States jurisdictions as applicable law, as well as choice of forum clauses referring disputes to courts or arbitration bodies in the United States. These clauses significantly limit Indonesian consumers' access to remedies, as the cost and complexity of litigating abroad are disproportionate to the

[12] Agus Yudha Hernoko, *Hukum Perjanjian: Asas Proposionalitas Dalam Kontrak Komersial*, Keempat (Jakarta: Kencana, 2014).

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typical value of losses incurred. From the perspective of private international law, the principle of party autonomy indeed recognizes the freedom to choose applicable law. However, such freedom is limited by the applicability of mandatory rules (dwingend recht). As a legal instrument containing consumer protection norms, the Consumer Protection Act should remain applicable to Indonesian consumers, notwithstanding the existence of foreign choice of law clauses.

The issue arises at the level of implementation, as there is no consistent judicial practice affirming that foreign choice of law clauses may be set aside when they conflict with the Consumer Protection Act. This condition reflects a normative gap in the enforcement of cross-border digital consumer disputes. The absence of effective dispute resolution mechanisms in international digital transactions renders consumer rights recognized under the Consumer Protection Act difficult to realize in practice, particularly where business actors operate outside Indonesian jurisdiction. In a broader sense, this condition relates to access to justice, where consumers with limited resources lack adequate means to assert their rights. The problem is further exacerbated by the frequent inclusion of choice of law and choice of forum clauses in digital service agreements, designating foreign law and dispute resolution mechanisms abroad. This highlights unresolved jurisdictional challenges not fully addressed by the Consumer Protection Act, while the Indonesian Civil Code also does not provide specific protective mechanisms for such situations.[13]

The author observes that AI subscription service contracts, as reflected in the ToS of major platforms, do not yet meet the standards of consumer protection under Indonesian positive law. The issue lies not in the formal existence of contracts but in the substantive content of clauses that consistently transfer the risks of algorithmic inaccuracy to consumers. While the principle of pacta sunt servanda binds parties to their agreements, its application is limited by Article 18 of the Consumer Protection Act, which renders null and void standard clauses that transfer liability from business actors. In this context, disclaimer clauses regarding accuracy and limitation of liability provisions in AI service ToS correspond to the characteristics of prohibited clauses. The fact that business actors are located abroad and include foreign choice of law clauses does not automatically negate the applicability of the Consumer Protection Act to Indonesian consumers. However, in practice, the absence of effective enforcement mechanisms demonstrates the existence of a normative gap at the level of implementation.

C. Reconstruction of Legal Liability and Regulatory Reform for Consumer Protection in the Use of Artificial Intelligence Services

The analysis of the existing positive legal framework, as elaborated in the previous subsection, demonstrates that the primary issue does not lie in the absence of comprehensive consumer protection regulations, but rather in the lack of adequate interpretation of existing legal provisions to encompass the practices of subscription-based AI services. In this regard, the author contends that the starting point for reconstruction may be found in Article 19 of the Consumer Protection Act, which stipulates the obligation of business actors to provide compensation for losses suffered by consumers as a result of the use of goods and/or services offered in the market.

[13] Diego Fernando Seran, Andika Wijaya, and Satriya Nugraha, "Klausula Baku Dalam Perjanjian Layanan Digital: Analisis Perbandingan Prinsip Hukum Perdata Dan UU Perlindungan Konsumen," *Innovative: Journal Of Social Science Research* 5, no. 2 (2025): 3654–76, https://doi.org/10.31004/innovative.v5i2.18721.

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Grammatically, the phrase losses suffered by consumers as a result of consuming services in this provision does not limit such losses to physical damage but may be interpreted to include financial, professional, and reputational harm arising from the use of services that fail to meet appropriate standards. In this context, the author observes that algorithmic inaccuracy results in harm not because the system fails to function, but because the output produced is inaccurate and subsequently relied upon by consumers in decision-making.

Such conditions may be qualified as a digital service defect, namely a failure in performance relating to the substantive quality of the service rather than its technical operation. In this regard, the author argues that expanding the interpretation of Article 19 of the Consumer Protection Act does not require legislative amendment, but may instead be achieved through an extensive interpretation consistent with the purpose of the Consumer Protection Act as a consumer protection instrument.

In the author's view, a teleological interpretative approach is particularly relevant to ensure that the provisions of the Consumer Protection Act remain applicable to evolving forms of digital services. Such an approach is methodologically necessary, as the Consumer Protection Act was designed as an adaptive instrument capable of addressing new forms of consumer harm.[14] The reinterpretation of Article 19 of the Consumer Protection Act requires a more operational doctrinal foundation to enable its practical application, particularly in relation to evidentiary standards and the determination of liability. In this regard, the author proposes the doctrine of Algorithmic Duty of Care as a relevant conceptual framework to be adapted within the Indonesian legal system. Conceptually, this doctrine imposes a legal obligation on business actors commercializing AI systems to undertake reasonable and proportionate measures to ensure that outputs meet a minimum standard of accuracy that can be justified, in accordance with reasonably foreseeable contexts of use.

The author notes that this doctrine is rooted in the concept of duty of care within the common law tradition, particularly in the law of negligence, but has been adapted to the characteristics of AI systems, which are non-deterministic, partially opaque, and probabilistic in nature. The key element of this doctrine lies in the assertion that the obligation to maintain a reasonable level of accuracy cannot be waived through contractual clauses.

This argument is supported by two approaches. First, from the perspective of contract law, clauses that limit liability for failure to fulfill the principal performance of a contract—namely, the accuracy of outputs in paid information services—contradict the very essence of contractual obligations and therefore cannot be justified as valid limitations of liability. Second, from a consumer protection perspective, Article 18 paragraph (1) letter (a) of the Consumer Protection Act, which prohibits the transfer of liability by business actors, constitutes a mandatory rule (dwingend recht) that cannot be derogated by agreement. In practical terms, the application of the Algorithmic Duty of Care requires business actors to conduct periodic accuracy testing, provide accessible mechanisms for reporting and correcting inaccurate outputs, disclose adequate information regarding system limitations, and maintain documentation of accuracy levels that may serve as evidence in dispute resolution. This approach underscores that in technology-based digital services, the standard of care expected of business actors must increase proportionally with the risks involved and cannot be confined to mere administrative compliance.

[14] Janus Sidabalok, *Hukum Perlindungan Konsumen Di Indonesia*, Ketiga (Bandung: PT. Citra Aditya Bakti, 2014).

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The next step concerns strengthening the regulation of standard clauses in AI subscription service contracts. While Article 18 of the Consumer Protection Act prohibits clauses that transfer liability, there remains a normative gap in its application to AI-based digital services. This gap is evident in the absence of clear definitions of clause types that substantively shift risk to consumers. In this context, the author argues that the phrase transfer of liability in Article 18 paragraph (1) letter (a) of the Consumer Protection Act should be clarified through implementing regulations to explicitly include accuracy disclaimers, as is clauses, and limitation of liability clauses that cap compensation at subscription fees. These clauses, in essence, serve the same function: transferring the risk of algorithmic inaccuracy from business actors to consumers. Furthermore, Article 18 of the Consumer Protection Act should be supplemented with provisions declaring null and void any clause that substantively reduces consumers' rights to obtain accurate information in paid services. The distinction between paid and free services carries important legal implications, as paid services involve a clear contractual exchange between payment and service quality, thereby justifying a higher standard of liability.

The author proposes that any clause in paid AI service contracts that eliminates the obligation of business actors to provide outputs meeting minimum accuracy standards should be deemed non-binding on consumers and cannot be invoked to reject claims for compensation. Strengthening the regulation of standard clauses is a prerequisite for maintaining contractual balance and must be interpreted adaptively in response to evolving business practices.[15] The reconstruction of legal liability, which is inherently responsive (ex post), must be complemented by preventive instruments to establish a comprehensive framework encompassing both prevention and remedy. In this regard, it is necessary to consider strengthening regulatory provisions in the revision of the Government Regulation on the Implementation of Electronic Systems and Transactions by introducing an obligation for Electronic System Providers offering AI-based services in Indonesia to conduct periodic algorithmic accuracy audits as part of operational requirements. Such audit obligations should include at least the following elements: (i) the obligation to document and publish average system accuracy levels based on testing within relevant domains of use; (ii) the provision of accessible reporting mechanisms for inaccurate outputs, accompanied by clear response timelines; (iii) the obligation to inform consumers of domains where significant inaccuracies may occur; and (iv) the obligation to maintain records of accuracy evaluations accessible to supervisory authorities for oversight and dispute resolution purposes.

This proposal aligns with national policy directions. The Indonesian National Strategy for Artificial Intelligence 2020–2045 emphasizes the importance of safety standards and accountability in the development and utilization of AI systems, indicating that the need for accuracy regulation has been recognized at the policy level, albeit not yet fully translated into binding legal provisions.[16] In the Indonesian context, a regulatory gap exists because domestic consumers use AI services that are subject to stricter standards in other jurisdictions but do not receive equivalent protection when accessing such services domestically. This condition highlights the need for regulatory reform to address gaps in standards of accuracy and accountability. Comparative legal approaches may serve as a legitimate method for developing technology regulation, provided they are adapted to

[15] Ahmad Miru, *Prinsip-Prinsip Perlindungan Hukum Bagi Konsumen Di Indonesia* (Jakarta: Rajawali Pers, 2011).

[16] Kelompok Kerja Penyusun and Strategi Nasional untuk Kecerdasan Artifisial, "Strategi Nasional Kecerdasan Artifisial Indonesia 2020-2045," *Badan Pengkajian Dan Penerapan Teknologi (BPPT)* (Jakarta, 2020), https://ai-innovation.id/server/static/ebook/stranas-ka.pdf.

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national contexts. The proposed reconstruction of legal liability and regulatory reform will not be effective without adequate institutional capacity. Sound legal norms must be supported by institutions capable of implementing and enforcing them. In this regard, two institutional agendas require strengthening.

First, the National Consumer Protection Agency should be granted a clearer mandate, along with technical capacity, to develop guidelines for consumer protection in AI services. These guidelines should include minimum accuracy standards that may serve as benchmarks in practice. Such standards are essential for business actors and provide reference points for judges in determining whether inaccuracies exceed acceptable thresholds. Without clear technical parameters, assessments risk inconsistency.

Second, the Ministry of Communication and Digital Affairs should develop technical and operational audit standards for AI-based Electronic System Providers. These standards may be incorporated into the technical provisions of a revised Government Regulation on the Implementation of Electronic Systems and Transactions and should be formulated through a multi-stakeholder process involving academics, consumer organizations, and industry actors to ensure both practical applicability and normative authority. Additionally, from a dispute resolution perspective, the Consumer Dispute Settlement Body should be supported by specialized procedures and access to expert witnesses capable of explaining the technical aspects of AI systems in evidentiary processes. Such support is necessary to reduce knowledge asymmetry between consumers and business actors and to ensure a more balanced adjudication process. Overall, the reconstruction of legal liability and regulatory reform proposed in this study aims to establish a balance between technological development and consumer protection. Such balance does not emerge automatically through market mechanisms but requires targeted regulatory intervention. The doctrine of Algorithmic Duty of Care is intended to establish a reasonable standard of care without hindering innovation, by assigning responsibility to business actors in accordance with their capabilities.

The proposed measures—ranging from reinterpretation of Article 19 of the Consumer Protection Act, strengthening Article 18 regarding limitation of liability clauses, introducing accuracy audit obligations in the revision of Government Regulation on the Implementation of Electronic Systems and Transactions, to institutional strengthening of National Consumer Protection Agency and Consumer Dispute Resolution Agency—form an integrated framework. This framework allocates responsibility proportionately to parties best positioned to prevent harm.

Ultimately, Indonesian consumer protection law already possesses a solid normative foundation, as reflected in Articles 4 and 19 of the Consumer Protection Act. However, these values require further reinforcement through more operational regulatory provisions, adequate institutional support, and consistent interpretation. Legal reform in the digital era demands a shift from law as written rules toward law as an effective instrument of protection in practice.[17]

CONCLUSION

Based on the foregoing analysis and discussion, the following conclusions may be drawn. First, the current consumer protection legal framework in Indonesia, encompassing the

[17] Shidarta, *Hukum Penalaran Dan Penalaran Hukum: Buku 1 Akar Filosofis* (Yogyakarta: Genta Publishing, 2013).

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Consumer Protection Act, the Electronic Information and Transactions Act, and Government Regulation on the Implementation of Electronic Systems and Transactions (Government Regulation on the Implementation of Electronic Systems and Transactions), still exhibits a normative gap in responding to the risks of algorithmic inaccuracy in subscription-based artificial intelligence services. This gap manifests in three dimensions. From a substantive perspective, there is an absence of standards governing the accuracy of outputs as well as specific liability mechanisms. From an institutional perspective, the National Consumer Protection Agency and the Ministry of Communication and Digital Affairs lack adequate technical audit instruments. From a structural perspective, there exists an imbalance between global platform developers and consumers and national authorities, both in terms of technological control and access to information. Second, subscription contracts for artificial intelligence services, as formulated in the Terms of Service of major platforms, tend to shift the risks of algorithmic inaccuracy onto consumers through accuracy disclaimers, as is clauses, and limitation of liability provisions. Substantively, these clauses correspond to the types of clauses prohibited under Article 18 of the Consumer Protection Act. Furthermore, the inclusion of choice of law and choice of forum clauses designating foreign jurisdictions further restricts Indonesian consumers' access to justice. Third, the reconstruction of legal liability may be pursued through an expanded interpretation of Article 19 of the Consumer Protection Act to encompass defects in digital services, strengthened by the application of the doctrine of Algorithmic Duty of Care as an imperative standard of care for business actors that cannot be waived through contractual agreements. Based on these conclusions, the author proposes the following recommendations. First, the legislature should revise the Government Regulation on the Implementation of Electronic Systems and Transactions by incorporating an obligation for periodic algorithmic accuracy audits for all Electronic System Providers offering commercial AI services in Indonesia. This obligation should be accompanied by requirements for documentation and transparency of accuracy levels to both consumers and supervisory authorities. In addition, Article 18 of the Consumer Protection Act should be clarified through implementing regulations to explicitly include accuracy disclaimers and limitation of liability clauses in paid AI service contracts as clauses that are null and void. Second, the National Consumer Protection Agency should be granted a clearer mandate, along with enhanced technical capacity, to develop guidelines on minimum accuracy standards for artificial intelligence services. These guidelines are essential as references in dispute resolution, enabling judges and the Consumer Dispute Settlement Body to rely on clear and measurable parameters in assessing consumer claims. Third, the Ministry of Communication and Digital Affairs should develop technical audit standards for AI-based Electronic System Providers through a consultative process involving multiple stakeholders, including academics, consumer organizations, and industry actors. This step is necessary to ensure that the resulting norms are both technically applicable and legally binding, thereby fostering a balance between the acceleration of technological innovation and the protection of consumers' substantive rights.

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