



# Consumer Protection of Chatbot Use in Banking Services in Indonesia

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Article	Abstract
<p><b>Keywords:</b> Banking Law; Artificial Intelligence; Consumer Protection; Chatbot.</p> <p><b>Article History</b> Received: 17/12/2025 Reviewed: 20/12/2025 Accepted: 29/01/2026 Published: 31/01/2026</p>	<p><i>Indonesia has undergone rapid digital transformation in the banking sector through the use of artificial intelligence (AI), particularly in the form of chatbots and service automation systems. However, this development also raises legal challenges related to personal data protection and consumer safety. This study aims to examine the legal regulations on the use of AI in banking services in Indonesia and analyze the legal protection for consumers who use AI-based services. The research method used is normative legal research with a legislative and conceptual approach, through a review of the Financial Services Authority (OJK) policies, including Financial Services Authority Regulation (POJK) Number 22 of 2023 concerning Consumer and Community Protection in the Financial Services Sector, which regulates obligations of transparency, information system security, cybersecurity, and the responsibility of PUJK in providing fair and safe services for consumers. The results of the study show that Indonesia has a general legal basis for regulating the use of AI in the banking sector, but there are no specific regulations that explicitly regulate algorithmic responsibility, AI model accountability, and consumer protection mechanisms in AI-based automated services. Therefore, specific regulations and strengthened AI governance in banking are needed, prioritizing the principles of transparency, data security, and consumer rights protection to create fair, safe, and reliable banking services.</i></p>



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## INTRODUCTION

The world of modern technology has developed very rapidly. These developments have ultimately brought about major changes in people's lives, making

life easier and more efficient. In addition, the technologies that have developed as tools to assist people's lives are increasingly diverse, ranging from the simplest to the most sophisticated. Artificial intelligence, or AI, is one of the results of this sophistication. AI is a technological system with a mindset similar to that of humans and is designed to help solve problems.<sup>1</sup>

The banking industry has undergone major changes in recent years. One of these is technological advancement, particularly Artificial Intelligence (AI), which can improve operational efficiency, maintain transaction security, and enhance customer experience. AI can also detect fraud more quickly and effectively and help financial institutions make better and faster decisions.

Artificial intelligence (AI) technology has transformed the banking industry worldwide, including in Indonesia. Banks have begun using chatbots and other AI applications to improve services and enhance customer responsiveness. Chatbots are also used to automate routine tasks such as initial verification, providing product information, and handling simple complaints. While posing legal and operational risks, the use of this technology promises improved performance and customer experience.

The banking sector must pay attention to several issues among the many advantages and conveniences offered by technological advances. One of the main issues is banking sector security. With digital transactions and online banking services, data security risks and opportunities for fraud have also increased. Therefore, innovative solutions are needed to maintain the security of consumer transactions and protect personal information.<sup>2</sup>

In response to these changes, financial and data protection authorities in Indonesia have amended their laws. AI governance guidelines in banking were created by the Financial Services Authority (OJK) to encourage the responsible and measured application of AI, particularly in terms of accountability, customer protection, and algorithm risk management. Meanwhile, the Personal Data Protection Law (PDP Law) has become an important legal basis governing the processing of customer data. This is particularly important because chatbots process customer data to provide services. Due to technical and practical challenges in the field, the implementation and effectiveness of these two frameworks are still the subject of research.

AI enhances banking industry security by quickly and accurately analyzing data, detecting suspicious activity, and identifying potential fraud. AI systems can learn consumer transaction behavior patterns and identify changes in habits that indicate potential fraud or money laundering<sup>3</sup>. AI has the ability to increase customer trust in

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<sup>1</sup> Kurniawan, I. (2023). Analisis Terhadap Artificial Intelligence Sebagai Subjek Hukum Pidana. Mutiara: Jurnal Ilmiah Multidisiplin Indonesia, 1(1), 35-44.

<sup>2</sup> Geetha, R., & Kumar, V. (2021). Peran Kecerdasan Buatan Untuk Perlindungan Data Nasabah dalam Sektor Perbankan. Jurnal Ilmu Komputer dan Informasi, 10(3), 123-135

<sup>3</sup> Ayunda, R., & Rusdianto, R. (2021). Perlindungan data nasabah terkait pemanfaatan artificial intelligence dalam aktifitas perbankan di Indonesia. Jurnal Komunikasi Hukum (JKH), 7(2), 663-677.

existing financial institutions while reducing the possibility of fraud and other financial crimes. Chatbots and AI have transformed Indonesian banking. Many large banks and digital banking companies have started using chatbots to answer customer questions, automate simple transactions, and improve services. Recent empirical studies show that chatbots are becoming more popular in the Indonesian banking sector. This has an impact on customer experience and satisfaction, especially when it comes to security and usability.

## **METHOD**

The research we studied falls under the category of normative or doctrinal legal research. This approach emphasizes an in-depth study of applicable legal norms, legal principles, and the views of relevant legal experts. Normative legal research is conducted through the exploration of library materials or secondary data, which includes legislation, court decisions, and legal literature relevant to the topic under discussion. In this study, the normative method is applied to examine the legal basis, personal data protection mechanisms, and aspects of legal liability for the implementation of artificial intelligence (AI) in the Indonesian banking sector<sup>4</sup>.

The collection of legal materials uses the library research method, which involves reviewing legislation, legal textbooks, scientific journals, research results, and academic articles related to the legal issues of applying artificial intelligence in banking services. Primary Legal Materials, which include the legislation mentioned above. Secondary Legal Materials, which are materials that provide interpretations of primary materials, such as legal writings, journal articles, research reports, and opinions of legal experts relevant to the research theme.

## **RESULTS AND DISCUSSION**

### **Legal Regulations on the Use of Artificial Intelligence (AI) / Chatbots in Banking Services in Indonesia**

The use of AI technology, particularly chatbots, in banking services presents quite complex regulatory challenges in Indonesia. Several important points can be raised. In Indonesia, there is a regulatory framework that is generally relevant to AI/chatbots in banking, although there are no specific regulations that govern banking chatbots in detail. Related frameworks include regulations on personal data protection<sup>5</sup>, regulations from the Financial Services Authority (OJK) governing digital technology governance in the financial sector, as well as general guidelines for AI governance in banking. However, research shows that there is a regulatory gap between technological developments and legal regulations in the field. For example, the article “Bridging regulation and reality: comparative study of Artificial Intelligence regulation in the

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<sup>4</sup> Menurut Soerjono Soekanto dan Sri Mamudji (2001:13),

<sup>5</sup> Undang-Undang Nomor 27 Tahun 2022 tentang Perlindungan Data Pribadi

financial sectors” concludes that “the current legal framework in Indonesia shows a gap between regulation and real-world conditions” in the adoption of AI in the financial sector<sup>6</sup>. In the Indonesian context, the use of artificial intelligence (AI) technology, including chatbots in the banking sector, must be viewed within the framework of existing regulations, even though they do not specifically regulate AI. Some relevant regulations include: Law No. 19 of 2016 concerning Amendments to Law No. 11 of 2008 concerning Electronic Information and Transactions (“ITE Law”), as well as Government Regulation No. 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (“PSTE PP”) which regulates the implementation of electronic systems, including electronic agents. For example, one study shows that chatbots as a form of “electronic agent” can be categorized as electronic system implementation within the framework of the ITE Law and PP PSTE<sup>7</sup>. Furthermore, regulations that directly govern personal data protection are also an important aspect. Indonesia now has Law No. 27 of 2022 on Personal Data Protection (“PDP Law”) which stipulates the obligations of data controllers and processors to control, process, and protect personal data. For example, when a banking chatbot processes customer data, it falls under the framework of the PDP Law.

In the specific sector of finance/banking, the Financial Services Authority (OJK) has issued a statement that banks must implement IT governance and risk management that covers the use of AI. For example, the OJK stated that the potential misuse of AI, such as algorithmic bias and deepfakes, must be anticipated in bank governance<sup>8</sup>. In addition, in April 2025, OJK launched the “Indonesian Banking Artificial Intelligence Governance” guidelines, which aim to ensure that AI is developed and implemented responsibly in the banking sector<sup>9</sup>. Despite the above regulatory framework, the literature shows that there are a number of significant gaps. First, regulations that specifically regulate AI, such as the legal responsibility of algorithm developers, algorithm audits, and AI transparency standards, do not yet exist in Indonesia. For example, one article states that current regulations are still “general” in nature and do not yet cover aspects of ethics, consumer protection, and AI-specific accountability<sup>10</sup>.

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<sup>6</sup> Pratama, A., Hapsari, D. R., & Wulandari, L. (2025). Bridging regulation and reality: comparative study of Artificial Intelligence regulation in the financial sectors. *Legality: Jurnal Ilmiah Hukum* 33.2 , 307-333.

<sup>7</sup> Fachrizal, F. M. (2025). *Perlindungan Hukum Atas Keamanan Data Pribadi Pengguna Facebook Marketplace Sebagai Social Commerce*. Diss. Universitas Islam Indonesia.

<sup>8</sup> Herlinawati, M., Kurmala, A., & Adji, R. (2024). OJK asks banks to pursue IT risk governance, management. Retrieved OKTOBER 23, 2025,

<sup>9</sup> Keuangan, O. J. (2025). *Siaran Pers: OJK Dorong Penggunaan Kecerdasan Artifisial di Sektor Perbankan Secara Bertanggung Jawab, Peluncuran Tata Kelola Kecerdasan Artifisial Perbankan Indonesia*. Retrieved APRIL 29, 2025,

<sup>10</sup> Firza, A. D., Samudera, K., Saphira, A., & Hidayat, M. S. (2023). *Legal Arrangement of Artificial Intelligence In Indonesia: Challenges and Opportunities*. *Jurnal Peradaban Hukum* 1.2.

Second, in the financial sector, studies show that the data governance framework supporting AI implementation is not yet optimal: there is still a lack of specification, enforcement, and adaptability, and collaboration between stakeholders remains weak<sup>11</sup>. Third, in a comparative journal between Indonesia and Singapore, it was found that the implementation of regulations often lags behind the speed of technology adoption in the banking/fintech industry. This poses the risk that practices in the field are not fully based on legal certainty<sup>12</sup>.

Given the above regulatory conditions, there are several important legal implications:

- 1) Banks that use chatbots are required to comply with regulations on personal data protection and electronic systems (PDP Law, ITE Law, PSTE Government Regulation).
- 2) Banks must implement IT and AI risk management in accordance with OJK guidelines, including algorithm bias mitigation, system reliability, and customer data security.
- 3) As there are no specific AI regulations yet, there is a risk of legal uncertainty, especially in the event of system errors, customer losses, or fraud involving AI. Who is responsible: the bank, the developer, or the AI vendor? A study highlights a gap in determining liability in crimes involving AI in banking.

Thus, the legal framework for the use of AI/chatbots in banking services in Indonesia already has a relevant regulatory basis, but there are significant gaps in terms of AI regulation specifications, consumer protection, accountability, and enforcement. Banks that operate chatbots must be cautious and actively enforce internal governance in accordance with existing regulations.

### **Legal protection for consumers in the use of AI-based banking services**

Industrial developments, particularly in the field of artificial intelligence (AI) in the banking sector, also have a negative impact on banking activities. AI systems are not yet fully perfected and are still vulnerable to hacking by parties with expertise in data breaches. In Indonesia, cases of data leaks involving customers and prospective customers often occur as a result of such hacking. The data obtained by hackers has the potential to be misused for activities that violate laws and regulations<sup>13</sup>. Taking, disclosing, or disseminating customer or prospective customer data without the

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<sup>11</sup> Damaris, R., Rosadi, S. D., & Bratadana, I. D. (2025). Data Governance For Artificial Intelligence Implementation In The Financial Sector: An Indonesian Perspective. *Journal of Central Banking Law and Institutions* 4.3, 445-472.

<sup>12</sup> Pratama, A., Hapsari, D. R., & Wulandari, L. (2025). Bridging regulation and reality: comparative study of Artificial Intelligence regulation in the financial sectors. *Legality: Jurnal Ilmiah Hukum* 33.2, 307-333.

<sup>13</sup> Ayunda, R., & Rusdianto, R. (2021). Perlindungan data nasabah terkait pemanfaatan artificial intelligence dalam aktifitas perbankan di Indonesia. *Jurnal Komunikasi Hukum (JKH)*, 7(2), 663-677.

consent of the person concerned is an illegal act and constitutes data theft<sup>14</sup>. For victims, such data leaks are very risky, as their personal information can be misused to carry out transactions or illegal activities in the victim's name. Agreements made unilaterally by companies with stronger negotiating positions and no customer input on the terms of the agreement exacerbate this problem<sup>15</sup>. Companies have a responsibility to protect consumers, due to the existence of contractual agreements between companies and customers, which require companies to bear legal responsibility for default. The principle of “contractual relationship” emphasizes that legal responsibility arises when a contractual relationship has been established. According to paragraph (1) of Article 18 of the Criminal Procedure Code, standard provisions must be included to ensure that customers and companies are treated equally and in accordance with the concept of freedom of contract.

The main principle of consumer rights protection in Indonesia is Law No. 8 of 1999 concerning Consumer Protection, which outlines six essential basic rights. These rights include: the right to comfort, safety, and protection in using products and services; the right to choose products or services according to their needs; the right to accurate, clear, and precise information about product terms and conditions; the right to have their complaints and opinions heard; the right to proper advocacy and dispute resolution; and the right to compensation for losses suffered. Customers are particularly affected by these basic rights in relation to the use of artificial intelligence in the banking industry.

Consumers have the right to clear information about how AI is used in the services they use, including how decisions are made and data is processed. Therefore, they have the right to determine for themselves what information can be shared, with whom, and to what extent. This is one of the main principles of personal data protection. Information related to a person's personal data that is included in that person's personal data is the object of protection in this case. Therefore, the protection of personal information is very important because it relates to a person's right to privacy. A person's right to privacy is a manifestation of human rights that cannot be revoked<sup>16</sup>. Article 28G paragraph (1) of the 1945 Constitution, which reads: “Every person shall have the right to protection of his/her personal self, family, honor, dignity, and property under his/her control, as well as the right to feel secure and protected from the threat of fear to do or not to do something that is a fundamental right.”

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<sup>14</sup> Nasution, M. I. (2015). Pola pertanggungjawaban pidana bank kaitannya dengan tindak pidana perbankan. *ADLIYA: Jurnal Hukum dan Kemanusiaan*, 9(2), 317–338.

<sup>15</sup> Pangindoman, A.A. (2021). Penyelesaian Hukum Pidana Teknologi Finansial sebagai Upaya Perlindungan Konsumen Pengguna Pinjaman Online. *LexLata*, 3(2).

<sup>16</sup> Disemadi, H. S. (2021). Urgensi regulasi khusus dan pemanfaatan artificial intelligence dalam mewujudkan perlindungan data pribadi di Indonesia. *Jurnal Wawasan Yuridika*, 5(2), 177–199.

## CONCLUSION

Chatbots and AI have transformed Indonesia's banking industry. This technology speeds up transactions, improves security, and increases service efficiency. However, these changes have given rise to new problems, particularly regarding personal data security, the risk of data misuse, and legal uncertainty in cases of system failure or customer losses. For banking technology governance, Indonesia has the ITE Law, PP PSTE, and Personal Data Protection Law (PDP Law). However, the applicable laws do not comprehensively and specifically regulate the use of AI in the banking sector. This absence causes legal uncertainty in practice, particularly regarding algorithm transparency, accountability, AI auditing, and consumer protection. From a consumer protection perspective, the basic rights protected by the UUPK, PDP Law, and constitutional privacy principles provide a strong foundation for protection. However, there are several technical issues that hinder its implementation. These include uncertainty about how AI systems use data and how consumers cannot control their personal data. Therefore, Indonesian banking is on the verge of technological advancement in the use of AI. However, in order to utilize it without compromising security and customer rights, it is necessary to strengthen regulations, governance, and more flexible legal protection mechanisms.

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