



Artificial Intelligence in the Banking Sector in Indonesia and Its Challenges from a Legal Perspective

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Abstract

*This research aims to find out what challenges exist in implementing Artificial Intelligence in the banking sector and find answers to how the Law answers these challenges. **Methods:** This type of research is normative legal research. Secondary data is used as primary data. Data analysis uses qualitative data analysis techniques. The conclusion-drawing technique used is deductive. **Result:** The research results show that Artificial Intelligence is only one instrument in bank activities. Artificial Intelligence in various forms of implementation in banking institutions demands the Bank's responsibility to ensure that its use does not harm the public as customers.*

Keywords: Artificial Intelligence (AI), challenge, law, Normative Legal Research (NLR), secondary data

1. INTRODUCTION

In 1950, a British scientist, Alan Turing, published a journal entitled “Computing Machinery and Intelligence,” which asked whether machines could use reasoning to solve problems and make decisions. It was one of the beginnings of the emergence of artificial Intelligence, which began to develop rapidly in the 1990s (Kompas, 2024). In the last 20 years, many large companies have used AI to support their companies. Amazon and eBay are examples of companies that have grown and developed because AI is also developing in travel companies. Historically, using AI began with discovering the payment method using PayPal. In 2004, banks could integrate payment methods using PayPal in their services to customers. Regulations from the government and intense competition between financial institutions and other institutions require financial institutions to allocate several costs to compete in economic activities. Losing customers is a situation that is difficult to recover from quickly. Opportunities for using AI in financial services institutions' businesses are increasing to support company profits. The point is that Artificial Intelligence has been used in all aspects of life, including the financial services sector, in recent years. Financial services institutions, such as banks, also use AI as an instrument for providing banking services to the public. The use of AI is transforming banking services. Banking services will be faster, wiser, and more effective. Banks utilize AI to expand the quality and quantity of their operations, provide a more personalized customer experience, and detect potential fraud that will harm the Bank and its customers. AI can also carry out process automation by optimizing and streamlining various tasks, compliance checks, and

workflows in banking, such as document processing, data entry, and reporting. AI can use optical character recognition, natural language understanding, and computer vision to scan, extract, and validate information from documents, such as ID cards, invoices, and contracts. AI can use robotic processes and cognitive automation to perform repetitive and rule-based tasks, such as data entry, compliance checks, natural language generation, and reporting. The problem is that using AI results in negative impacts such as data security and accuracy and a need for more ability to explain things. This problem can damage the Bank's reputation, which affects public trust in banking institutions. This research aims to find out what challenges exist in the implementation of Artificial Intelligence in the banking sector and find answers to how the Law can answer these challenges. There is previous research in Law that examines legal developments in AI in Indonesia, namely conducted by Reza Farishy (2023), Firza, A. D. C., Samudera, et al. (2023), Camila Amalia et al. (2022), Sinta Dewi Rosadi, et al. (2022). Artificial intelligence research in banking in other countries has also been written by, among others, Fares OH (2022), Choithani (2022), and Hasan MM (2022). The difference between this research and the previous research results is that this research needs to focus on the challenges Indonesian regulations face in developing artificial Intelligence in banking in Indonesia. This research is an internal group research schema. **This research** is urgent to find out what challenges exist in implementing artificial intelligence in the banking sector and find answers.

2. LITERATURE REVIEW

The literature review in the paper “Artificial Intelligence in the Banking Sector in Indonesia and Its Challenges from a Legal Perspective” highlights challenges in legal regulation, particularly regarding criminal liability and copyright, which could be relevant to AI applications in various sectors, including banking. Artificial Intelligence in the banking sector in Indonesia or its legal challenges. It focuses on AI's implementation in legal services across Indonesia, particularly in judiciary systems. It accomplishes as following details.

2.1 Providing Context: The review summarizes existing research on AI in the banking sector, highlighting the specific gap in knowledge related to the legal implications of AI in Indonesia's banking industry. This context underscores the need for the current study.

2.2 Highlighting AI's Potential: It discusses the various applications of AI in the banking sector, emphasizing its potential to improve efficiency, accuracy, and customer experience. This highlights the importance of understanding the legal framework for AI in the banking sector.

2.3 Identifying Legal Challenges: The review identifies specific legal challenges, such as data privacy, cybersecurity, and liability issues, that arise from the implementation of AI in banking. This understanding of the legal challenges is crucial for addressing them.

2.4 Analyzing International Legal Frameworks: The review analyzes international legal frameworks and best practices related to AI in finance. This comparative analysis helps to identify potential solutions and best practices for Indonesia.

2.5 Informing Methodology: The review guides the research methodology by providing insights into previous research approaches. It helps in designing the research framework and selecting appropriate data collection methods, such as legal analysis and interviews with industry experts.

In essence, the literature review serves as a comprehensive overview of existing knowledge and identifies gaps that the current study aims to address. It is essential for establishing the research's relevance, contextualizing AI's role in the banking sector, identifying legal challenges, and supporting the chosen methodology.

3. RESEARCH METHODS

This type of research is normative legal research. Data consists of primary data and secondary data. Primary data is data sourced from parties directly related to the legal issues being determined. Secondary data consists of primary legal materials and secondary legal materials. Primary legal materials are legal materials that originate from statutory regulations. The hierarchy of statutory regulations is the basis for determining the legal source of a legal event. Secondary legal materials consist of legal sources, such as books, expert opinions, data from sources, international and national journals, Indonesian dictionaries, banking dictionaries, and English dictionaries. These materials are used as a basis for thinking in the form of legal principles, theories, concepts, and doctrines, which can help analyse and get answers to legal problems. Normative Legal Research focuses on Secondary data used as primary data. Data analysis uses qualitative data analysis techniques. The conclusion-drawing technique used is deductive.

4 RESEARCH RESULT AND DISCUSSION

4.1 State Interference in Banking Activities

Weber's view of perception (Weber, 1978) is that human behaviour is based on the experience, perception, understanding, and interpretation of stimuli, objects, or situations. The behaviour of these people is rational social behaviour, that is, achieving a goal or goals using the most appropriate means. This concept was later developed by Talcott Parsons, who said that jobs are not jobs. Behaviour is a mechanical reaction or response to a stimulus, while action is an active and creative mental process. Parsons' behavioural theory stipulates that what matters is not individual behaviour but the social norms and values that guide and control behaviour. Commitment to values and moral values will develop certain forms of social action. Parsons believed that the behaviour of an individual or group is influenced by three systems: the social system, the cultural system, and the individual's personality system. We can relate individually to social systems through their power and function. In every social system, individuals occupy a specific position or power and act according to the norms and rules created by the system. A person's personality determines a person's behaviour. Social structures are the product of people (actors) and are objective and unique from each actor's perspective.

One of the systems that govern human behaviour is the legal system. These laws are designed to provide legal certainty and benefits. The goal of Law is to achieve the greatest

happiness in society. Jeremy Bentham, a thinker of utilitarianism, believed that even if something is good, he does not measure the results of his actions. Jeremy Bentham. (Lorenzo Cello, 2020). According to Bentham, utility is a principle that approves or disapproves of actions that increase or decrease the happiness of the group involved in the action. Accepting or rejecting an action is determined by whether the results of that action are favourable or not (Niesen, P., 2019). This Law is intended to benefit most people.

From a macro aspect, the State carrying out its economic activities to achieve the goals of social welfare requires the Law to regulate the behaviour of economic actors in carrying out economic actions. As Eric said, the need for Law in economic activities is urgent, especially in situations of imbalance, stagnant situations, and unstable political conditions (Nina Boeger, 2018, A. Eric. A. Posner and E Glen, 2018). Their opinion shows that the State intervenes in regulations that will regulate certain economic positions so that they can provide benefits to the community at large. Furthermore, Eric A. Posner (2014) also stated that at the level of human rights, if there is a situation where regulations cannot be enforced, their implementation will fail to resolve human rights violations. Intellectual Property Rights are one of the fields that drive the economy at this time, as stated by Heather A. Haveman (2018); economists, sociologists, and legal scholars agree that intellectual property law is significant to markets because legal control over copying motivates creative productions. In essence, life activities, especially economic activities, require legal intervention, which can guide economic actors to ensure that economic activities are always aimed at the interests of many people. According to Jeremy Bentham, the purpose of the Law is for the benefit of the majority.

4.2 Regulations in AI in Indonesian Banking

AI offers banking cost efficiency and prioritizes the risk management process. The use of AI in banking in Indonesia is implemented in the Front Office, Middle Office, and Back Office (Indra Utoyo, 2021). AI in the front office includes chatbots and service features, which can provide a more personalized experience or personal insight. For example, implementing AI in the middle office is an anti-fraud and risk system. The existence of credit underwriting, credit scoring, and intelligent contracts in credit relationships between banks and customers demonstrates the implementation of AI in the Back Office. To date, Indonesia does not have specific regulations related to AI. In 2020, the Indonesian government released the National Strategy for Artificial Intelligence in Indonesia (Stranas KA), which contains AI ethics and policies, AI talent development, and the data ecosystem and AI development infrastructure. However, the AI National Strategy is not a binding legal document but a national policy direction. There are several regulations relating to the use of AI technology in Indonesia, for example, Minister of Communication and Information Regulation Number 3 of 2021, which regulates licensing aspects for business actors who use AI. The ITE Law and its derivative regulations regulate AI using the terminology of electronic agents. There is a Personal Data Protection Law that regulates the use of AI in the processing of personal data.

The Ministry of Communication and Information (Kemenkominfo) has also issued ethical guidelines for using AI for business actors, as stated in the Minister of Communication and Information Circular Letter Number 9 of 2023 concerning the Ethics of Artificial Intelligence. In the banking sector, efforts have also been made by the

Financial Services Authority (OJK) to regulate the use of AI. OJK appointed the Indonesian Financial Technology Association (AFTECH) together with other industry associations, namely AFSI, AFPI, and ALUDI, to prepare and establish a Responsible and Trustworthy Code of Ethics for Artificial Intelligence (AI) in the Financial Technology Industry, which was launched in early December 2023. In the banking sector, OJK has Financial Services Authority Regulation No. 12/POJK/2021 concerning Commercial Banks and Financial Services Authority Regulation Number 21 of 2023 concerning Digital Services by Commercial Banks. OJK also issued implementation provisions from POJK Number 11/POJK.03/2022 concerning the Implementation of Information Technology by Commercial Banks (POJK PTI), namely SEOJK Number 24/SEOJK.03/2023 concerning the Assessment of Digital Maturity Levels for Commercial Banks (SEOJK Digital Maturity Assessment for Bank/SEOJK DMAB). SEOJK DMAB is a guide for determining, assessing, and evaluating the level of bank digitalization.

4.3 Artificial Intelligence in Banking from a Legal Perspective and Its Challenges

The presence of AI in banking is inevitable; in the era of competition with the emergence of various types of financial institutions and the tight competition between banking institutions, the presence of AI in banking poses challenges from a legal and ethical perspective.

The Law is a guideline for behaviour in society. The purpose of the Law is to ensure legal certainty and benefit society. In Indonesia, there are currently no specific regulations regarding Artificial Intelligence. There is a policy by the Indonesian government issued in 2020, namely the Indonesian National Artificial Intelligence Strategy 2024-2025. The document contains ethics, AI policies, AI talent development, data ecosystems, and AI development infrastructure. In Indonesia's hierarchical system of laws and regulations, there is no basis for the National Strategy as a form of binding regulation. Therefore, the National AI Strategy is not a binding legal document but a national policy direction only.

Although there are no specific regulations governing AI, in general, there are regulations that can be used as a basis for guidelines for the existence of AI in Indonesia, namely the ITE Law and its implementing regulations that regulate AI with the terminology of electronic agents. Law Number 27 of 2022 concerning Personal Data Protection regulates the use of AI in processing personal data. Several regulations on the use of technology are regulated in several regulations, including the Regulation of the Minister of Communication and Information Technology Number 3 of 2021, which regulates the licensing aspects for business actors who utilize AI. In addition, the Ministry of Communication and Information Technology (Kemenkominfo) has also issued ethical guidelines for using AI for business actors, as stated in the Circular Letter of the Minister of Communication and Information Technology Number 9 of 2023 concerning the Ethics of Artificial Intelligence. There have also been efforts to regulate the use of AI in financial institutions by the Financial Services Authority (OJK). OJK appointed the Indonesian Financial Technology Association (AFTECH) together with other industry associations, namely AFSI, AFPI, and ALUDI, to compile and establish the Code of Ethics Guidelines for Responsible and Trusted Artificial Intelligence (AI) in the Financial Technology Industry, which was launched in early December 2023. Specifically, there are regulations

related to the use of AI in the banking sector, namely in the Financial Services Authority Regulation Number 21 of 2023 concerning Digital Services by Commercial Banks.

The challenges of AI in the regulatory field are related to issues of transparency and accountability and the absence of regulations specifically governing Artificial Intelligence. Creating regulations for the use of AI takes work. Several challenges accompany it. One of them is the issue of transparency and accountability, which is rooted in AI's 'black box' feature. The AI black box refers to AI's internal workings, which its users do not easily predict. This causes the use of AI less transparent and vulnerable to potential losses experienced by customers. The issue that arises from a legal perspective is whether AI is a legal subject. Understanding whether AI is a legal subject becomes important if banking uses AI and harms customers.

Should the Bank be held responsible? A legal subject is anything that can obtain rights and obligations from the Law (Sudikno Mertokusumo, 2010). According to Indonesian laws, artificial Intelligence can be a legal subject. Several opinions exist on whether Artificial Intelligence (AI) can be categorized as a legal subject. One opinion says it is challenging to include artificial Intelligence (AI) in legal subjects. It is because the legal subjects known to the public are individuals and legal entities. AI cannot be personified as humans who have legal capacity. However, another opinion says that AI can be a legal subject. From the pros and cons of whether AI can be a legal subject, AI in Indonesian Law cannot be categorized as a legal subject. A legal subject is a party that can hold rights and obligations, while AI is software, an inanimate object that carries out the commands of the software maker. If there is a situation where the data presented is used by the user casually and causes losses to the user, it will be impossible to charge the AI for losses. The use of AI in various forms has the function of making banking services more efficient and effective.

Nevertheless, in practice, if AI makes a mistake that directly harms the customer, then the party that can become a Legal Subject is the party that ordered the work to be done. From the repressive aspect of legal protection for bank customers if there is a dispute related to the use of technology, especially AI in the banking sector, then the dispute resolution efforts provided starting from the Customer Complaints Unit at the Banking Institution, the Alternative Dispute Resolution Institution for the Financial Services Sector or through Litigation cannot guarantee that they can achieve legal objectives that can provide benefits for most people. The weak bargaining position of Customers is still an obstacle for most customers in Indonesia.

5. CONCLUSION.

In providing suggestions on what efforts can be made from a legal perspective to face the challenges of AI's existence in banking, Law and society cannot be separated. If we study Law, then Law is not only Law written in one form of legislation. Law is not only for legal certainty. The Law must provide benefits to most people, as Jeremy Bentham said. The theory of the legal system written by L. Friedman is used as one of the fundamental theories of efforts that can be made to overcome the challenges of AI in Banking. According to Friedman, three elements in the legal system will support the working of the Law. First legal culture) which refers to the behavior of society. The second element is Legal Substance and Legal Structure.

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