
Ensuring Equality Before the Law and Personal Data Protection through Implementation of AI Integration in Single Identification Number Systems: A Positivism Philosophy Perspective

Daud Juristo Chiang, Zainal Arifin Hoesin

Universitas Borobudur, Indonesia

juristo.mr@gmail.com, arifinhoesin19@gmail.com

KEYWORDS

artificial intelligence, equality, data protection, single identification number

ABSTRACT

The implementation of Artificial Intelligence (AI) in managing single identification number systems, such as Indonesia's National Identity Number, must balance constitutional principles and human rights. AI can enhance administrative efficiency and data security, but it must align with the principle of equality before the law, as stipulated in Articles 27 and 29 of the 1945 Constitution. Ensuring data privacy and preventing discrimination in data processing are essential to avoid regional and social inequality. This study aims to examine how AI-based solutions impact the principles of equality before the law and personal data protection, as well as analyse these issues from the perspective of positivist philosophy, which emphasizes strict legal compliance and effective supervision. Using a normative juridical method with statutory and analytical approaches, this research evaluates existing regulations and explores the interplay between legal structure and AI governance. The findings reveal that while AI can promote efficiency and consistency, its algorithms may also introduce bias, risking unfair outcomes in identification services. A robust regulatory framework and continuous oversight are necessary to address potential inequalities and misuse. From a positivist view, strict rule enforcement and transparent governance are essential to balance technological innovation with the protection of individual rights. [Conclusion] In conclusion, the integration of AI into single identification systems must comply with constitutional and legal principles to uphold equality before the law and protect personal data. Effective legal oversight and accountability are essential to maintain fairness, prevent discrimination, and ensure that AI systems benefit all citizens equitably.

INTRODUCTION

The integration of Artificial Intelligence (AI) in public administration, particularly in systems like single identification numbers (e.g., Indonesia's National Identity Number), represents a significant advancement in modern governance. AI offers immense potential to streamline administrative processes, improve service delivery, enhance data security, and minimize human errors. However, the adoption of AI in these systems must be carefully aligned with constitutional principles and fundamental human rights. The principle of equality before the law, enshrined in Articles 27 and 29 of the 1945 Constitution of Indonesia, ensures that all citizens are treated equally by the state without discrimination (Amelia, 2023). AI-driven systems must respect these legal obligations, ensuring that every individual's right to privacy and personal data protection is upheld.

Single identification number systems are used by governments worldwide to centralize citizens' data and improve administrative efficiency. These systems allow the state to provide public services, track personal records, and enforce legal compliance (Heath, 2019). However, with large amounts of personal data stored in such databases, the risks related to privacy breaches, unauthorized access, and discriminatory practices increase. AI algorithms, when applied to manage and analyse this data, can create new challenges by unintentionally perpetuating bias, violating individual rights, or leading to unequal access to services. Ensuring that the use of AI aligns with the principles of fairness, equality, and privacy protection is crucial to maintaining trust in these systems. Study in 2022 examines the anticipated fiscal impact stemming from the integration of NIK as NPWP, projecting an upsurge in the number of individual employee taxpayers over five consecutive years following the policy implementation (Ardin, 2022).

The legal framework surrounding AI adoption must also address the potential for discrimination. While AI can automate processes and enhance consistency, its algorithms are often influenced by the data they are trained on. In countries with socio-economic disparities, unregulated AI systems may reproduce and even amplify these inequalities. For example, biased algorithms could lead to unequal access to healthcare, education, or financial services, disproportionately affecting certain groups based on geographic, economic, or demographic factors. Such outcomes would contradict the principle of equality before the law and undermine the legitimacy of public administration. Therefore, proper oversight and regulation are essential to ensure that the use of AI aligns with legal standards, especially in contexts involving personal identification (Huang, 2018).

From a human rights perspective, the use of single identification numbers must also prioritize data protection and privacy. With personal data becoming increasingly valuable, the misuse of such information poses significant risks. Citizens are entitled to control how their personal data is collected, stored, and shared, in accordance with international human rights principles and Indonesia's Human Rights Law. The application of AI must safeguard individual privacy while ensuring that data is processed transparently and fairly (Jöhnk et al., 2021). When personal data is inadequately protected, it can lead to identity theft, fraud, and discrimination, compromising citizens' trust in public institutions.

A positivist philosophical approach provides a useful framework for understanding the legal implications of AI adoption in identification systems. Positivism emphasizes the importance of strict rule-based governance, where laws and regulations are applied consistently without subjective interpretations. In the context of AI, positivism supports the need for clear legal standards and structured oversight mechanisms to regulate the design, development, and implementation of algorithms (Bullock, 2019). This approach helps ensure that AI systems remain impartial and aligned with the principles of fairness and equality, particularly in their application across diverse populations.

However, positivism also raises important questions about balancing legal compliance with human rights. While strict rules are necessary to prevent the misuse of AI, rigid frameworks can sometimes overlook the nuances of individual cases, especially when dealing with marginalized communities. For example, regions with limited technological infrastructure may struggle to implement AI-based identification systems effectively, resulting in unequal access to services. Therefore, policymakers must carefully design AI governance frameworks to accommodate these variations while upholding the principle of equality before the law.

In Indonesia, the adoption of AI in the public sector is still in its early stages, but the potential impact is already evident. The government's efforts to develop a digital identity system using AI reflect its commitment to modernizing public administration. However, these efforts must be accompanied by comprehensive regulations that address potential risks, such as algorithmic bias and data misuse. Policies governing AI adoption must align with Articles

27 and 29 of the 1945 Constitution and other relevant legal frameworks to ensure that all citizens benefit equally from these innovations.

Another critical aspect is accountability. As AI systems become more complex, determining responsibility for errors or discriminatory outcomes becomes increasingly challenging. It is essential to establish mechanisms for accountability to ensure that both developers and public institutions are held responsible for the outcomes of AI systems. Without accountability, the misuse of AI can go unchecked, undermining public trust and exacerbating inequalities. Furthermore, transparency in the use of AI is essential for building trust with citizens. Public institutions must provide clear information about how AI systems operate, what data they collect, and how decisions are made to ensure that individuals can understand and challenge outcomes if necessary.

The integration of AI into single identification number systems offers numerous benefits, but it also presents challenges that must be carefully addressed. The principle of equality before the law, as well as the right to privacy and personal data protection, must guide the adoption of AI in public administration. A balanced approach that combines technological innovation with legal oversight is necessary to ensure that AI serves as a tool for justice and fairness, rather than a source of inequality and discrimination. The positivist philosophy provides valuable insights into the importance of clear legal frameworks and structured governance, but policymakers must also consider the practical realities of diverse populations to ensure that all citizens benefit equally from AI-driven systems.

Previous studies have emphasized the transformative role of Artificial Intelligence (AI) in enhancing administrative efficiency and data security. For instance, Saragih et al. (2023) explored AI's potential in modernizing tax administration systems, highlighting its effectiveness in data integration and fraud detection. Similarly, Huang (2018) discussed the benefits and risks associated with AI-driven systems, particularly regarding bias and privacy concerns. However, despite the growing body of research, limited attention has been paid to the intersection of AI, equality before the law, and personal data protection within the specific context of single identification number systems in Indonesia.

The adoption of AI in single identification systems is critical as Indonesia accelerates its digital transformation agenda. Ensuring equality before the law and robust data protection mechanisms in these systems is essential to maintain public trust and prevent inequalities. With personal data increasingly at risk of misuse in digital platforms, immediate action is required to establish clear legal frameworks and oversight mechanisms to protect citizens' rights and ensure fair access to public services.

While global research has highlighted the potential of AI in public administration, studies focusing on its application in single identification systems in Indonesia remain scarce. Existing literature often overlooks the challenges of implementing AI in diverse socio-economic contexts, particularly in regions with varying levels of technological infrastructure and access. This gap underscores the need for localized research that addresses the specific challenges of integrating AI with single identification number systems in a way that aligns with constitutional principles and human rights.

This study offers a novel perspective by analyzing the implications of AI integration in single identification systems through the lens of positivist philosophy. It uniquely combines legal, technological, and philosophical frameworks to evaluate how AI systems can be designed and governed to uphold equality before the law and protect personal data in Indonesia. By focusing on the Indonesian context, the research provides insights that are both locally relevant and globally significant.

The primary objective of this study is to examine the impact of AI-based single identification number systems on the principles of equality before the law and personal data

protection. It seeks to analyze existing legal frameworks, identify potential risks, and propose regulatory measures to ensure that AI systems operate fairly and transparently.

This research provides policymakers, legal practitioners, and technologists with a comprehensive framework for integrating AI into single identification systems. It highlights strategies to mitigate risks such as algorithmic bias and data misuse while promoting transparency and accountability. The findings offer actionable recommendations for enhancing public trust and optimizing AI's role in public administration.

The implications of this study extend to both policy and practice. On a policy level, it emphasizes the need for robust legal oversight and structured governance to regulate AI-driven systems. Practically, it provides a blueprint for implementing AI in a way that promotes fairness, prevents discrimination, and strengthens data protection. The study also contributes to the global discourse on ethical AI use, setting a precedent for other countries navigating similar challenges in their digital governance initiatives.

RESEARCH METHOD

This study employs a normative juridical method rooted in positivist philosophy, focusing on the analysis of laws, regulations, and legal principles relevant to the integration of the Single Identification Number (SIN) system in Indonesia (Mertokusumo, 2019). The normative juridical approach examines the legal framework governing the use of the *Nomor Induk Kependudukan* (NIK) as both a civil and tax identifier, with reference to PMK No. 112/PMK.03/2022, the Personal Data Protection Law (Law No. 27 of 2022), and the 1945 Constitution. This method involves a statutory approach, analysing legal texts to identify the alignment between existing regulations and the principles of equality, privacy, and data security (Marzuki, 2019). Consistent with positivist philosophy, the study emphasizes the objective and codified nature of legal norms, focusing on how written laws are applied uniformly to maintain fairness and accountability (Batubara, 2017). Positivism provides a framework for understanding the rule-based operation of the SIN system, guiding the analysis of its effectiveness in achieving transparency, equality before the law, and legal compliance without subjective interpretation (Rhida, 2017).

RESULTS AND DISCUSSION

Implementation of Single Identification Number in Indonesia

The transformation of Indonesia's Taxpayer Identification Number (NPWP) into the *Nomor Induk Kependudukan* (NIK), now referred to as the Single Identification Number (SIN), marks a significant milestone in the country's digital governance strategy. This shift is part of the government's broader initiative to implement a unified identity system, which aims to integrate various data sources and streamline public services under one unique identifier for each citizen. The SIN serves as a comprehensive, multipurpose identity that links diverse types of personal data, such as civil registration, healthcare records, tax information, banking activities, and social services. By reducing or eliminating this perception gap, Directorate General of Taxes can optimize the use of NIK as an identity for tax administration to strengthen the database used for potential exploration and tax monitoring. This integration policy will enable the Directorate General of Taxes to optimize tax revenue collection by centralizing all Taxpayer transactions conducted using NIK (Muan Ridhani Panjaitan, 2022). In accordance with the expectations expressed by Taxpayers, this policy is expected to increase the tax ratio in Indonesia. Implementing SIN developed with digital technology will improve services for Taxpayers and improve the performance of tax compliance monitoring (Aribowo et al., 2022). Using a single identity number can help streamline the population database system, ensure the integrity and accuracy of population data, and integrate all financial and non-financial data (Nur & Widodo, 2022).

The SIN system in Indonesia, which integrates the NIK as both a civil and taxpayer identifier, aligns with the principles of positivist philosophy in public administration. Positivism emphasizes the application of clear legal rules and objective standards to ensure order, fairness, and equality in society. In the context of the SIN, positivism underscores the need for strict compliance with laws and regulations governing identity management, personal data protection, and public service delivery. At its core, positivism views law as a system of codified rules that must be applied uniformly, leaving little room for subjective interpretation or discretion. The transition from NPWP to NIK under PMK No. 112/PMK.03/2022 exemplifies this approach by mandating that every resident uses a single identifier across all public and private sectors. By integrating various personal data sources into a unified identity system, the SIN ensures that legal requirements are applied consistently and that individuals are treated equally under the law.

The 1945 Constitution provides the legal foundation for this integration, with Article 27(1) requiring equal treatment before the law and Article 28G(1) ensuring the protection of personal data. The Personal Data Protection Law further supports the positivist framework by regulating how data should be processed, limiting its use to lawful purposes, and emphasizing data accuracy and security. In line with positivism, the legal framework establishes clear guidelines for public institutions to follow, ensuring that the collection, use, and protection of personal data remain transparent and accountable.

Kurniasih explain that with SIN, one person can use only one type of identity until he dies because NIK on the identity card can be used as the basis for all data. The data in question can be financial or non-financial data, such as personal information, family data, property ownership, and others (Kurniasih et al., 2021). NIK is a unique identifier assigned to every Indonesian citizen and foreigner residing in Indonesia. The primary purpose of the NIK is to serve as a centralized means of identification, facilitating access to public services and ensuring administrative efficiency. The number plays a crucial role across various sectors, including healthcare, education, banking, and tax administration. With the increasing adoption of AI technologies, the SIN is now integrated into more automated systems, such as public service portals and tax databases, to streamline processes and minimize human errors. However, as AI systems rely heavily on personal data, the protection of citizens' privacy and prevention of discrimination become essential.

One of the most recent developments is the integration of NIK with the tax system. The issuance of PMK No. 112/PMK.03/2022 mandates that residents use their NIK as their Taxpayer Identification Number (NPWP), marking a significant shift toward unified data management. This integration is aimed at reducing administrative complexities, ensuring better data synchronization between government agencies, and promoting transparency. Policy of integrating NIK and NPWP could yield even greater results when accompanied by complementary policies, such as offering tax incentives to Taxpayers with incomes below the income taxpayers below the threshold, with the financial burden borne by the state (Said Basalamah & Irawan, 2023). The urgency of equalizing perceptions is important because stakeholders' perceptions and expectations will determine their satisfaction level with the service they receive (Huda & Subagiyo, 2015). Integrating the NIK and NPWP into SIN is a pivotal step in enhancing tax administration and regulations while bolstering the tax revenue base (Mufidah, 2022). This policy can support the efficiency of tax administration and make it easier for them because they only need to memorize one identity number (Tobing & Kusmono, 2022).

The Indonesian government hopes to eliminate data redundancies, reduce administrative burdens, and foster seamless inter-agency cooperation by adopting the SIN concept. With a single number NIK serving as both civil identification and taxpayer identification, the SIN embodies efficiency, accuracy, and transparency in personal data management. However, as

the SIN system increasingly relies on digital technologies and AI, it also introduces new challenges, such as privacy risks, algorithmic bias, and data security concerns. The challenges associated with employing NIK for NPWP purposes such as duplicate and fragmented databases, as well as the limited capacity of the existing blueprint to handle large volumes of data (Darono, 2020).

Legal Basis of the Single Identification Number in Indonesia. The SIN's integration into public systems must comply with several legal frameworks that regulate personal data use and public administration:

1945 Constitution of Indonesia. The 1945 Constitution of Indonesia lays the foundation for equality and privacy rights. Article 27(1) guarantees equality before the law, ensuring that all citizens have equal access to public services. Meanwhile, Article 28G(1) emphasizes the right to privacy and personal protection, mandating that the SIN system must safeguard citizens' personal data.

Human Rights Law (Law No. 39 of 1999). The Human Rights Law (Law No. 39 of 1999) strengthens these constitutional rights. Article 3(2) reiterates the principle of equal treatment under the law, prohibiting discrimination in public services. Article 5 ensures that individuals' personal integrity is protected, which is crucial for the ethical use of personal data linked to the SIN.

Personal Data Protection Law (Law No. 27 of 2022). the Personal Data Protection Law (Law No. 27 of 2022) provides comprehensive regulations for managing personal information. This law requires that data be collected for specific, lawful purposes (purpose limitation) and that only the necessary amount of data is collected (data minimization). Institutions must also maintain transparency and obtain consent when processing personal data. These legal requirements guide the development and use of AI systems that rely on SIN data.

PMK No. 112/PMK.03/2022. The transformation from NPWP to NIK under the SIN framework is regulated by PMK No. 112/PMK.03/2022, aligning tax administration with the government's "One Data Policy" (*Satu Data Indonesia*). The implementation of PMK No. 112/PMK.03/2022 further integrates the SIN with tax administration. Article 2 (1a) states that, starting July 14, 2022, Indonesian residents must use their SIN as their NPWP. This regulation aims to create a unified data management system, allowing the Directorate General of Taxes to synchronize taxpayer data with the Ministry of Home Affairs' population database, as outlined in Article 3 (2). the data reconciliation process involves matching NIK records from the Directorate General of Population and Civil Registration (Dukcapil) with the tax database managed by the Directorate General of Taxes. This integration ensures consistency in citizen data across multiple platforms and minimizes discrepancies that could lead to administrative errors. Article 5 emphasizes that only valid SINS, confirmed through the reconciliation process, can be activated as NPWPs for tax purposes. This helps reduce administrative errors and ensures that each individual is uniquely identified across government services.

Benefits of the SIN System. The SIN system offers several significant benefits, transforming public administration in multiple ways:

Elimination of Data Redundancies. Previously, individuals had to manage multiple identification numbers for different purposes—NPWP for tax, NIK for civil services, and other identifiers for banking and insurance. With the adoption of the SIN, citizens only need one unique identifier for all administrative processes, simplifying bureaucratic procedures.

Improved Data Accuracy and Synchronization. By integrating civil and tax data, the SIN ensures that government records are consistent across agencies. This synchronization reduces the likelihood of duplicate or conflicting information, improving service delivery and preventing errors in tax collection or social benefit distribution.

Enhanced Administrative Efficiency. The use of NIK as the SIN simplifies processes such as tax registration, subsidy distribution, and healthcare access. Citizens no longer need to

register separately with multiple agencies, as the SIN serves as a one-stop identifier across platforms. AI-driven systems further enhance this efficiency by automating data retrieval and verification processes.

Fraud Prevention and Improved Security. The centralized SIN system, combined with AI algorithms, helps detect fraudulent activities more effectively. For example, in tax administration, the use of SIN allows authorities to identify inconsistencies between reported income and expenditures more easily. Security concerns associated with integrated data within SIN, emphasizing the importance of employing secure systems to protect citizens' personal information while simultaneously increasing transparency in information management (Fathiyana et al., 2022). Similarly, in social programs, AI systems can flag duplicate benefit claims, ensuring fair resource distribution.

Transparency and Trust in Government Services. The SIN system promotes transparency by making citizens' interactions with government services more straightforward and traceable. With all personal data linked to a single identifier, individuals can more easily monitor their records, transactions, and benefits, fostering greater trust in public institutions.

SIN System and the Implementation of Human Credit Scores

One emerging concept related to the SIN system is the implementation of credit scoring for individuals, which could significantly enhance transparency in financial transactions and public services. A human credit score system evaluates an individual's financial trustworthiness, typically based on loan history, payment behaviour, and other personal data. Countries like the United States, China, and Australia have advanced credit scoring systems, which serve as essential tools not only for financial institutions but also for employment, housing, and public services. However, Indonesia currently lacks a comprehensive and reliable system to distinguish between trustworthy individuals or businesses and those involved in fraudulent activities. The absence of such a system poses challenges, especially for entrepreneurs, as legitimate and deceptive businesses often appear indistinguishable, complicating trust-building efforts.

The credit score system in the United States, evaluates an individual's financial behaviour based on historical data from credit cards, loans, and other financial instruments. This score determines eligibility for loans, mortgages, and even job applications. Similarly, Australia employs a transparent credit reporting system that helps lenders assess borrowers' financial risk, ensuring responsible lending. On the other hand, China has implemented a more comprehensive social credit system, which not only evaluates financial behaviour but also considers personal actions, social interactions, and compliance with laws, influencing access to services and societal privileges.

The contrast with Indonesia is striking, as the SIN system does not yet provide transparency in distinguishing between responsible and fraudulent actors. Currently, the lack of individual credit scores makes it difficult to assess the trustworthiness of entrepreneurs or businesses, hindering fair economic opportunities. This gap in data leaves both private enterprises and the government vulnerable to risks, as reliable information about individuals or businesses is not readily available, unlike in other countries where a credit score reflects trustworthiness.

The adoption of a credit scoring system from the perspective of positivist philosophy in Indonesia would align with the principles of rule-based governance and objective standards. Positivism emphasizes that laws and regulations should be clear, consistent, and universally applied, ensuring that individuals and businesses are assessed based on standardized, measurable criteria. A credit score system that integrates SIN data would promote objectivity by using codified financial behaviour as a basis for decision-making, rather than subjective judgments. This approach would help reduce bias in lending and business transactions,

ensuring fairer outcomes in line with legal equality as mandated by Article 27(1) of the 1945 Constitution.

The government's focus on infrastructure development must be accompanied by the development of human infrastructure—including financial accountability and transparency. A reliable credit scoring system would ensure that only credible actors benefit from loans, subsidies, and public services. By building trust through data-driven assessments, the government can foster a more stable economy, encouraging responsible entrepreneurship and attracting investments. This would also reduce fraudulent activities by creating accountability mechanisms within the economic system, as AI-powered credit scoring systems could identify risky behaviour or financial mismanagement.

Positivism also demands continuous oversight to prevent misuse of data and discrimination. In countries like China, the social credit system has been criticized for infringing on privacy and controlling individual behaviour beyond financial matters. Therefore, the Personal Data Protection Law in Indonesia must ensure that a future credit score system respects individuals' privacy while promoting fairness. Regular audits of the credit scoring algorithms are essential to prevent biases, and public participation in governance can ensure the system serves the common good.

Challenges of Implementing the SIN System. Despite its benefits, the implementation of the SIN system and its potential integration with a human credit score also presents several challenges, particularly concerning privacy, data management, and the risk of exclusion:

Privacy Concerns and Data Overreach. The SIN centralizes vast amounts of personal data, including civil records, tax data, health information, and banking transactions. Although the Personal Data Protection Law ensures that personal data is protected, the aggregation of such information increases the risk of privacy violations and unauthorized access. Public institutions must implement end-to-end encryption and other advanced security measures to mitigate these risks.

Algorithmic Bias and Exclusion Risks. AI systems managing SIN data must be carefully designed to avoid perpetuating biases in service delivery. For example, if AI models used in tax or healthcare services prioritize certain demographic groups over others, they could unintentionally exclude vulnerable populations. Regular audits and algorithmic fairness assessments are essential to ensure that the SIN system operates equitably and upholds the principle of equality before the law, as mandated by Article 27(1) of the Constitution.

Data Synchronization and Accuracy Issues. The success of the SIN system depends on the accuracy of data across multiple platforms. In cases where citizens' NIK records do not align with tax or banking data, individuals may experience delays or difficulties in accessing services. Continuous data validation and reconciliation processes, as required by PMK No. 112/PMK.03/2022, are necessary to maintain the integrity of the SIN system.

Technological Infrastructure and Regional Disparities. The effective implementation of SIN depends on the availability of reliable technological infrastructure across the country. Regions with limited internet access or outdated systems may struggle to integrate their databases with the central SIN platform, potentially resulting in service disparities. Addressing these regional gaps is essential to ensure that all citizens benefit equally from the SIN system.

Accountability and Governance Issues. With multiple agencies relying on SIN data, clear accountability frameworks are needed to prevent governance issues. It must be clearly defined which institutions are responsible for managing data, addressing errors, and resolving disputes. Additionally, public institutions must ensure transparency in how citizens' data is used, fostering trust in the SIN system.

Accountability mechanisms in a positivist framework, are essential to ensure that all participants in the SIN system—developers, administrators, and policymakers—adhere to codified laws and regulations. The PMK No. 112/PMK.03/2022 mandates that the Directorate

General of Taxes reconcile NIK data with population records to maintain data accuracy and prevent errors. Such processes reflect positivism's emphasis on systematic oversight and structured governance.

Transparency is also a key principle in positivist governance. Citizens must have access to information about how their personal data is used and the ability to challenge any inaccuracies or unfair outcomes. By promoting clear procedures and accountability, the SIN system builds public trust and ensures that both the government and private institutions remain accountable for their actions.

AI Integration in Single Identification Number Systems

The integration of AI in single identification number systems demonstrates significant potential to improve the efficiency and security of public administration (Saragih et al., 2023). The utilisation of AI in single identification number systems can be one of the efforts in national development. National development is not only related to tangible things but also includes things that cannot be seen tangibly because it covers all aspects of the lives of Indonesian people (Amelia & Budi, 2022). AI helps streamline processes, enabling governments to manage large-scale data more effectively, reduce duplication of records, and minimize human error. In the scope of government, the stakeholders' theory shows a relationship between the government and many interest groups that influence each other regarding the decisions made (Farid, 2020). The application of AI in such systems introduces challenges, particularly concerning equality before the law, privacy protection, and the risk of discrimination.

AI systems can handle the complexity of global financial transactions and diverse corporate structures. This adaptability is crucial in addressing the challenges posed by multinational corporations and intricate financial networks (Johnson & Wang, 2019). The use of AI-driven systems in public administration significantly impacts personal data protection, which is an essential part of human rights (Ristiano, 2019). AI can ensure better security through advanced encryption and monitoring, making it harder for unauthorized parties to access sensitive data. Nonetheless, the study identifies that AI systems, if poorly managed, may perpetuate biases embedded in the data used for training algorithms. This can lead to unintended discriminatory practices, violating the principle of equality before the law. For example, biased algorithms may misidentify certain demographics or regions, resulting in unequal access to services like healthcare, education, and financial aid.

Additionally, lack of robust legal frameworks governing AI use in single identification systems can create inconsistencies in policy enforcement. To assess the readiness for implementing "One Data Policy", a comprehensive framework is essential to identify organizational weaknesses and devise action plans for mitigation (Falahah et al., 2021). Without clear regulations, public institutions may apply AI-based solutions in ways that differ across regions, leading to disparities in service delivery. The positivist approach emphasizes the need for clear, enforceable rules and accountability mechanisms to ensure fairness and prevent the misuse of personal data. Strategies for addressing these challenges, involving strengthening regulations, fostering collaboration among relevant agencies, enhancing human resource capacity, and expediting the development of digital infrastructure (Maulidya & Rozikin, 2022).

The principle of equality before the law requires that every citizen, regardless of social status, region, or ethnicity, has equal access to public services and protection under the law. However, AI algorithms can inadvertently reproduce existing societal biases (Karnouskos, 2022). This problem arises because AI models rely on historical data, which may reflect inequalities in areas such as income levels, education, or healthcare access. For instance, if the training data reflects regional disparities, AI systems might continue to prioritize individuals from more developed areas while underrepresenting citizens from marginalized regions.

One of the key challenges is ensuring that AI systems used in public administration align with the principle of equality. If left unregulated, AI-driven systems might deepen existing inequalities by favouring certain groups over others. A prime example is the risk of algorithmic discrimination in biometric identification processes, where facial recognition technology may perform less accurately on people with darker skin tones. Such discrepancies can result in wrongful identification or exclusion from essential services, which contradicts the constitutional promise of equality before the law.

To address these issues, governments need to develop comprehensive policies that guide the use of AI in single identification systems. These policies should require that algorithms undergo regular audits to identify and correct potential biases. Directorate General of Taxes should be able to adapt to Taxpayers as stakeholders because of their strong influence in implementing the policies that Directorate General of Taxes made (Zain et al., 2021). Additionally, it is essential to establish clear guidelines for how personal data should be collected, processed, and stored to prevent privacy violations. Adopting these measures can help ensure that AI systems operate transparently and fairly, thereby safeguarding citizens' rights.

From a positivist philosophical perspective, strict adherence to legal rules and regulations is necessary to prevent the misuse of AI technologies. Positivism emphasizes the importance of rule-based governance and objective application of the law. In the context of AI, this approach calls for structured oversight mechanisms to monitor how algorithms function and how decisions are made. Public institutions must be held accountable for ensuring that AI systems adhere to legal standards and do not compromise individual rights.

However, while positivism provides a strong foundation for regulatory compliance, it also has limitations. Strict adherence to rules may not always capture the complexities of individual cases, particularly in a diverse society. For example, marginalized communities may face barriers to accessing AI-based identification systems, such as limited access to technology or internet infrastructure. In such cases, rigid legal frameworks may unintentionally exclude vulnerable populations, reinforcing existing social inequalities. Therefore, policymakers must strike a balance between legal compliance and flexibility to address the specific needs of different communities.

The protection of personal data is another critical issue highlighted by the research. AI-based identification systems collect vast amounts of sensitive data, including biometric information, which, if not properly protected, can lead to significant risks such as identity theft and fraud (Setiawati et al., 2020). Ensuring the security of this data is essential to maintaining public trust. Governments must implement advanced cybersecurity measures and establish clear policies on data access and usage to prevent misuse.

Within the scope of public services, the government has an obligation to provide the best service for the community as stakeholders (Permatasari, 2020). As AI systems become more autonomous, it becomes challenging to determine who should be held responsible for errors or discriminatory outcomes. Public institutions must establish accountability frameworks that clearly define the roles and responsibilities of all stakeholders involved in the development and deployment of AI systems. Developers, policymakers, and administrators must collaborate to ensure that AI technologies are used ethically and in accordance with legal standards. In line with stakeholders' theory, managers must be able to understand what stakeholders want so that these stakeholders can fully support the goals created by the entity (Dachi & Djakman, 2020). Communication is important in implementing the stakeholders' theory (Estaswara, 2020). Stakeholder theory for assessing taxpayers' interests, becomes relevant, particularly as taxation policies can directly trigger public responses (Hasan, 2021; Nugraha & Darono, 2022).

Transparency is also crucial for building public trust in AI-based systems. Citizens must have access to information about how AI systems function, what data they use, and how

decisions are made. Transparent processes allow individuals to understand and challenge outcomes if they believe their rights have been violated. For example, if an AI system incorrectly identifies a citizen or denies access to public services, individuals should have the means to appeal the decision and have it rectified.

In addition to transparency, public participation is essential in the design and governance of AI systems. Engaging citizens in the policymaking process ensures that AI technologies reflect the values and needs of the communities they serve. Governments should encourage public dialogue about the ethical implications of AI use and provide avenues for citizens to voice their concerns and suggestions.

The integration of AI in single identification systems also raises questions about the sustainability and adaptability of governance frameworks. As AI technologies continue to evolve, regulatory frameworks must be flexible enough to accommodate new developments while ensuring that legal principles are upheld. Continuous evaluation and revision of policies are necessary to keep pace with technological advancements and address emerging challenges.

International cooperation plays a vital role in the governance of AI technologies. Many countries face similar challenges in balancing the benefits of AI with the need to protect individual rights. Sharing best practices and collaborating on regulatory frameworks can help create global standards for AI governance. International agreements on data protection, cybersecurity, and ethical AI use can provide a foundation for national policies and ensure that AI technologies are developed and deployed responsibly.

CONCLUSION

The transformation of NPWP into NIK as the Single Identity Number (SIN) represents a major step toward modernizing public administration in Indonesia. By unifying multiple identification systems into one, the SIN promotes efficiency, transparency, and accountability in government services. Integrating a human credit score system into the SIN framework would bring Indonesia closer to rule-based governance as envisioned by positivism. By adopting standardized financial evaluations, Indonesia can foster transparency, accountability, and trust in both public and private sectors, supporting sustainable economic growth. With robust legal oversight and careful regulation, a credit scoring system could become an essential tool for promoting fair competition and responsible entrepreneurship, aligning the country's development with global best practices.

The use of AI systems further enhances administrative processes, enabling faster data processing, fraud detection, and resource allocation. However, the success of the SIN system depends on careful data management, robust privacy protections, and equitable service delivery. Policymakers must address challenges related to algorithmic bias, data synchronization, and technological infrastructure to ensure that all citizens benefit equally from the system. The Personal Data Protection Law and PMK No. 112/PMK.03/2022 provide essential legal guidelines, but continuous oversight and public participation are required to maintain trust and fairness. With the right safeguards in place, the SIN can serve as a foundation for integrated, citizen-centred public services, paving the way for Indonesia's digital future.

REFERENCES

- Amelia, T. (2023). *Regulasi dan Konsep Dasar dalam Hukum Dagang*. PT Kaya Ilmu Bermanfaat.
- Amelia, T., & Budi, H. (2022). *Dinamika Hukum Investasi di Indonesia*. PT Kaya Ilmu Bermanfaat.
- Ardin, G. (2022). Estimasi Dampak Fiskal Penggunaan NIK Sebagai NPWP: Sebuah Studi Empiris. *Jurnal Pajak dan Keuangan Negara (PKN)*, 4(1S), 333–342. <https://doi.org/10.31092/jpkn.v4i1S.1908>
- Aribowo, I., Kamilah, N. N., Kumar, J., & Rofi'ah, L. (2022). Assessing Tax Reform as a Journey to Tax Administration. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v7i5.10574>
- Batubara, J. (2017). Paradigma Penelitian Kualitatif dan Filsafat Ilmu Pengetahuan dalam Konseling. *JURNAL FOKUS KONSELING*, 3(2), 95. <https://doi.org/10.26638/jfk.387.2099>
- Bullock, J. B. (2019). Artificial Intelligence, Discretion, and Bureaucracy. *The American Review of Public Administration*, 49(7), 751–761. <https://doi.org/10.1177/0275074019856123>
- Dachi, C. S., & Djakman, C. D. (2020). Penerapan Stakeholder Engagement dalam Corporate Social Responsibility: Studi Kasus Pada Rumah Sakit Mata X. *Jurnal Riset Akuntansi dan Keuangan*, 8(2), 291–306. <https://doi.org/https://doi.org/10.17509/jrak.v8i2.21535>
- Darono, A. (2020). Data analytics dalam administrasi pajak di Indonesia: kajian institutional arrangement. *JATISI (Jurnal Teknik Informatika dan Sistem Informasi)*, 6(2), 195–211. <https://doi.org/10.35957/jatisi.v6i2.194>
- Estaswara, H. (2020). Defining Communication Problems in Stakeholder Relations Based on Stakeholder Theory. *Jurnal ASPIKOM*, 5(1), 87. <https://doi.org/10.24329/aspikom.v5i1.540>
- Falahah, Kusumasari, T. F., & Santoso, A. F. (2021). *Framework for Measuring Readiness of Satu Data Indonesia (SDI) Implementation*. <https://doi.org/10.2991/aer.k.211106.082>
- Farid, A. S. (2020). Strategi Peningkatan Kualitas Komunikasi Publik di Level Pemerintahan Desa. *Jurnal Inovasi Penelitian*, 1(4), 813–820. <https://doi.org/10.47492/jip.v1i4.153>
- Fathiyana, R. Z., Yutia, S. N., & Hidayat, D. J. (2022). Prototype of Integrated National Identity Storage Security System in Indonesia using Blockchain Technology. *JOIV : International Journal on Informatics Visualization*, 6(1), 109. <https://doi.org/10.30630/joiv.6.1.877>
- Hasan, A. (2021). Power Stakeholder dalam Bisnis. *Media Wisata*, 15(2). <https://doi.org/10.36276/mws.v15i2.107>
- Heath, D. R. (2019). Prediction machines: the simple economics of artificial intelligence. *Journal of Information Technology Case and Application Research*, 21(3–4), 163–166. <https://doi.org/10.1080/15228053.2019.1673511>
- Huang, Z. (2018). Discussion on the Development of Artificial Intelligence in Taxation. *American Journal of Industrial and Business Management*, 08(08), 1817–1824. <https://doi.org/10.4236/ajibm.2018.88123>
- Huda, Q., & Subagiyo, R. (2015). Analisis Kesesuaian Harapan dan Persepsi Atas Kualitas Layanan (Service Quality) pada Bank Umum Syariah di Tulungagung. *Jurnal Ekonomi MODERNISASI*, 11(1), 13. <https://doi.org/10.21067/jem.v11i1.866>
- Jöhnk, J., Weißert, M., & Wyrski, K. (2021). Ready or Not, AI Comes— An Interview Study of Organizational AI Readiness Factors. *Business & Information Systems Engineering*, 63(1), 5–20. <https://doi.org/10.1007/s12599-020-00676-7>
- Johnson, M., & Wang, Y. (2019). AI Utilization Patterns in Financial Decision-Making. *Journal of Financial Technology*, 16(4), 301–317.

- <https://doi.org/https://doi.org/10.1108/JFT-11-2019-0101>
- Karnouskos, S. (2022). Symbiosis with artificial intelligence via the prism of law, robots, and society. *Artificial Intelligence and Law*, 30(1), 93–115. <https://doi.org/10.1007/s10506-021-09289-1>
- Kurniasih, D., Feryandi, A., Nurmawati, L., & Usmany, P. D. (2021). Application of Single Identification Number on an Identity Card (E-KTP) in the Era of the Industrial Revolution 4.0. *International Journal of Research and Applied Technology*, 1(1), 35–42. <https://doi.org/10.34010/injuratech.v1i1.5458>
- Marzuki, P. M. (2019). *Penelitian Hukum Edisi Revisi*. Kencana.
- Maulidya, R., & Rozikin, M. (2022). Analisis Retrospektif Kebijakan Satu Data Indonesia. *Dinamika : Jurnal Ilmiah Ilmu Administrasi Negara*, 9(2), 273. <https://doi.org/10.25157/dak.v9i2.7884>
- Mertokusumo, S. (2019). *Mengenal Hukum Suatu Pengantar (Edisi Revisi)*. Maha Karya Pustaka.
- Muan Ridhani Panjaitan. (2022). NIK Menjadi NPWP. Apa yang Baru? *Juremi: Jurnal Riset Ekonomi*, 2(3), 259–264. <https://doi.org/10.53625/juremi.v2i3.4231>
- Mufidah, I. F. (2022). Dilema Reformasi Perpajakan Pasca Terbit UU HPP Terhadap PPN dan NPWP Pada Era Post - Pandemic. *Jurnal Ekonomika dan Bisnis*, 9(2), 319–327. <https://doi.org/https://garuda.kemdikbud.go.id/documents/detail/3080867>
- Nugraha, N. A., & Darono, A. (2022). Discourses And Institutions In Tax Policy And Fiscal Sustainability: Evidence From Indonesia. *Jurnal Pajak dan Keuangan Negara (PKN)*, 4(1), 61–71. <https://doi.org/10.31092/jpkn.v4i1.1722>
- Nur, T. F., & Widodo, A. (2022). Challenges of Using NIK as a Tax Payer Identity. *The 5th International Conference on Vocational Education Applied Science and Technology 2022*, 6. <https://doi.org/10.3390/proceedings2022083006>
- Permatasari, A. (2020). Pelaksanaan Pelayanan Publik Yang Berkualitas. *Jurnal Administrasi Publik*, 2(1), 51–56. <https://doi.org/https://doi.org/10.23969/decision.v2i1.2382>
- Rhida, N. (2017). Proses Penelitian, Masalah, Variabel dan Paradigma Penelitian. *Jurnal Hikmah*, 14(1), 63. <https://doi.org/https://e-jurnal.staisumatera-medan.ac.id/index.php/hikmah/article/view/18>
- Ristianto, C. (2019). *DPR Didesak Sahkan RUU Perlindungan Data Pribadi*.
- Said Basalamah, A., & Irawan, F. (2023). Pemanfaatan Nomor Induk Kependudukan Oleh Direktorat Jenderal Pajak Dan Implikasi Bagi Penghasilan Di Bawah PTKP. *Journal of Law, Administration, and Social Science*, 3(1), 25–31. <https://doi.org/10.54957/jolas.v3i1.355>
- Saragih, A. H., Reyhani, Q., Setyowati, M. S., & Hendrawan, A. (2023). The potential of an artificial intelligence (AI) application for the tax administration system's modernization: the case of Indonesia. *Artificial Intelligence and Law*, 31(3), 491–514. <https://doi.org/10.1007/s10506-022-09321-y>
- Setiawati, D., Hakim, H. A., & Yoga, F. A. H. (2020). Optimizing Personal Data Protection in Indonesia: Lesson Learned from China, South Korea, and Singapore. *Indonesian Comparative Law Review*, 2(2). <https://doi.org/10.18196/iclr.2219>
- Tobing, E. G. L., & Kusmono, K. (2022). Modernisasi Administrasi Perpajakan: NIK Menjadi NPWP. *JURNAL PAJAK INDONESIA (Indonesian Tax Review)*, 6(2), 183–193. <https://doi.org/10.31092/jpi.v6i2.1674>
- Zain, R. N. W., Hendriyani, C., Nugroho, D., & Ruslan, B. (2021). Implementation of CSR Activities from Stakeholder Theory Perspective in Wika Mengajar. *Abiwarra : Jurnal Vokasi Administrasi Bisnis*, 3(1), 102–107. <https://doi.org/10.31334/abiwarra.v3i1.1846>
- Amelia, T. (2023). *Regulasi dan Konsep Dasar dalam Hukum Dagang*. PT Kaya Ilmu Bermanfaat.

- Amelia, T., & Budi, H. (2022). *Dinamika Hukum Investasi di Indonesia*. PT Kaya Ilmu Bermanfaat.
- Ardin, G. (2022). Estimasi Dampak Fiskal Penggunaan NIK Sebagai NPWP: Sebuah Studi Empiris. *Jurnal Pajak dan Keuangan Negara (PKN)*, 4(1S), 333–342. <https://doi.org/10.31092/jpkn.v4i1S.1908>
- Aribowo, I., Kamilah, N. N., Kumar, J., & Rofi'ah, L. (2022). Assessing Tax Reform as a Journey to Tax Administration. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v7i5.10574>
- Batubara, J. (2017). Paradigma Penelitian Kualitatif dan Filsafat Ilmu Pengetahuan dalam Konseling. *JURNAL FOKUS KONSELING*, 3(2), 95. <https://doi.org/10.26638/jfk.387.2099>
- Bullock, J. B. (2019). Artificial Intelligence, Discretion, and Bureaucracy. *The American Review of Public Administration*, 49(7), 751–761. <https://doi.org/10.1177/0275074019856123>
- Dachi, C. S., & Djakman, C. D. (2020). Penerapan Stakeholder Engagement dalam Corporate Social Responsibility: Studi Kasus Pada Rumah Sakit Mata X. *Jurnal Riset Akuntansi dan Keuangan*, 8(2), 291–306. <https://doi.org/https://doi.org/10.17509/jrak.v8i2.21535>
- Darono, A. (2020). Data analytics dalam administrasi pajak di Indonesia: kajian institutional arrangement. *JATISI (Jurnal Teknik Informatika dan Sistem Informasi)*, 6(2), 195–211. <https://doi.org/10.35957/jatisi.v6i2.194>
- Estaswara, H. (2020). Defining Communication Problems in Stakeholder Relations Based on Stakeholder Theory. *Jurnal ASPIKOM*, 5(1), 87. <https://doi.org/10.24329/aspikom.v5i1.540>
- Falahah, Kusumasari, T. F., & Santoso, A. F. (2021). *Framework for Measuring Readiness of Satu Data Indonesia (SDI) Implementation*. <https://doi.org/10.2991/aer.k.211106.082>
- Farid, A. S. (2020). Strategi Peningkatan Kualitas Komunikasi Publik di Level Pemerintahan Desa. *Jurnal Inovasi Penelitian*, 1(4), 813–820. <https://doi.org/10.47492/jip.v1i4.153>
- Fathiyana, R. Z., Yutia, S. N., & Hidayat, D. J. (2022). Prototype of Integrated National Identity Storage Security System in Indonesia using Blockchain Technology. *JOIV : International Journal on Informatics Visualization*, 6(1), 109. <https://doi.org/10.30630/joiv.6.1.877>
- Hasan, A. (2021). Power Stakeholder dalam Bisnis. *Media Wisata*, 15(2). <https://doi.org/10.36276/mws.v15i2.107>
- Heath, D. R. (2019). Prediction machines: the simple economics of artificial intelligence. *Journal of Information Technology Case and Application Research*, 21(3–4), 163–166. <https://doi.org/10.1080/15228053.2019.1673511>
- Huang, Z. (2018). Discussion on the Development of Artificial Intelligence in Taxation. *American Journal of Industrial and Business Management*, 08(08), 1817–1824. <https://doi.org/10.4236/ajibm.2018.88123>
- Huda, Q., & Subagiyo, R. (2015). Analisis Kesesuaian Harapan dan Persepsi Atas Kualitas Layanan (Service Quality) pada Bank Umum Syariah di Tulungagung. *Jurnal Ekonomi MODERNISASI*, 11(1), 13. <https://doi.org/10.21067/jem.v11i1.866>
- Jöhnk, J., Weißert, M., & Wyrski, K. (2021). Ready or Not, AI Comes— An Interview Study of Organizational AI Readiness Factors. *Business & Information Systems Engineering*, 63(1), 5–20. <https://doi.org/10.1007/s12599-020-00676-7>
- Johnson, M., & Wang, Y. (2019). AI Utilization Patterns in Financial Decision-Making. *Journal of Financial Technology*, 16(4), 301–317. <https://doi.org/https://doi.org/10.1108/JFT-11-2019-0101>
- Karnouskos, S. (2022). Symbiosis with artificial intelligence via the prism of law, robots, and society. *Artificial Intelligence and Law*, 30(1), 93–115. <https://doi.org/10.1007/s10506-021-09289-1>

- Kurniasih, D., Feryandi, A., Nurmayanti, L., & Usmany, P. D. (2021). Application of Single Identification Number on an Identity Card (E-KTP) in the Era of the Industrial Revolution 4.0. *International Journal of Research and Applied Technology*, 1(1), 35–42. <https://doi.org/10.34010/injuratech.v1i1.5458>
- Marzuki, P. M. (2019). *Penelitian Hukum Edisi Revisi*. Kencana.
- Maulidya, R., & Rozikin, M. (2022). Analisis Retrospektif Kebijakan Satu Data Indonesia. *Dinamika : Jurnal Ilmiah Ilmu Administrasi Negara*, 9(2), 273. <https://doi.org/10.25157/dak.v9i2.7884>
- Mertokusumo, S. (2019). *Mengenal Hukum Suatu Pengantar (Edisi Revisi)*. Maha Karya Pustaka.
- Muan Ridhani Panjaitan. (2022). NIK Menjadi NPWP. Apa yang Baru? *Juremi: Jurnal Riset Ekonomi*, 2(3), 259–264. <https://doi.org/10.53625/juremi.v2i3.4231>
- Mufidah, I. F. (2022). Dilema Reformasi Perpajakan Pasca Terbit UU HPP Terhadap PPN dan NPWP Pada Era Post - Pandemic. *Jurnal Ekonomika dan Bisnis*, 9(2), 319–327. <https://doi.org/https://garuda.kemdikbud.go.id/documents/detail/3080867>
- Nugraha, N. A., & Darono, A. (2022). Discourses And Institutions In Tax Policy And Fiscal Sustainability: Evidence From Indonesia. *Jurnal Pajak dan Keuangan Negara (PKN)*, 4(1), 61–71. <https://doi.org/10.31092/jpkn.v4i1.1722>
- Nur, T. F., & Widodo, A. (2022). Challenges of Using NIK as a Tax Payer Identity. *The 5th International Conference on Vocational Education Applied Science and Technology 2022*, 6. <https://doi.org/10.3390/proceedings2022083006>
- Permatasari, A. (2020). Pelaksanaan Pelayanan Publik Yang Berkualitas. *Jurnal Administrasi Publik*, 2(1), 51–56. <https://doi.org/https://doi.org/10.23969/decision.v2i1.2382>
- Rhida, N. (2017). Proses Penelitian, Masalah, Variabel dan Paradigma Penelitian. *Jurnal Hikmah*, 14(1), 63. <https://doi.org/https://e-jurnal.staisumatera-medan.ac.id/index.php/hikmah/article/view/18>
- Ristiano, C. (2019). *DPR Didesak Sahkan RUU Perlindungan Data Pribadi*.
- Said Basalamah, A., & Irawan, F. (2023). Pemanfaatan Nomor Induk Kependudukan Oleh Direktorat Jenderal Pajak Dan Implikasi Bagi Penghasilan Di Bawah PTKP. *Journal of Law, Administration, and Social Science*, 3(1), 25–31. <https://doi.org/10.54957/jolas.v3i1.355>
- Saragih, A. H., Reyhani, Q., Setyowati, M. S., & Hendrawan, A. (2023). The potential of an artificial intelligence (AI) application for the tax administration system's modernization: the case of Indonesia. *Artificial Intelligence and Law*, 31(3), 491–514. <https://doi.org/10.1007/s10506-022-09321-y>
- Setiawati, D., Hakim, H. A., & Yoga, F. A. H. (2020). Optimizing Personal Data Protection in Indonesia: Lesson Learned from China, South Korea, and Singapore. *Indonesian Comparative Law Review*, 2(2). <https://doi.org/10.18196/iclr.2219>
- Tobing, E. G. L., & Kusmono, K. (2022). Modernisasi Administrasi Perpajakan: NIK Menjadi NPWP. *JURNAL PAJAK INDONESIA (Indonesian Tax Review)*, 6(2), 183–193. <https://doi.org/10.31092/jpi.v6i2.1674>
- Zain, R. N. W., Hendriyani, C., Nugroho, D., & Ruslan, B. (2021). Implementation of CSR Activities from Stakeholder Theory Perspective in Wika Mengajar. *Abiwara : Jurnal Vokasi Administrasi Bisnis*, 3(1), 102–107. <https://doi.org/10.31334/abiwara.v3i1.1846>

