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Artificial Intelligence-Based State Financial Supervision Transformation to Suppress Corruption in Indonesia

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Abstract

Background: Transformation of state financial supervision based on artificial intelligence in suppressing corruption in Indonesia. State financial supervisory institutions in Indonesia have the main objective as a preventive measure. The authority given by attribution to the BPK and BPKP is routine inspection or supervision. Conflicts of authority arise with (internal supervisory apparatus) in the implementation of the external audit function, especially when conducting inspections that exceed the limits of each institution. **Objective**: This research has an important urgency, namely making a breakthrough in the transformation of state financial supervision by collaborating between the BPK and BPKB with technological advances, namely AI, which aims as an early preventive action in preventing corruption and increasing efficiency and quality to reduce the number of corruption crimes. **Methods:** This study uses a normative juridical research type with a legislative approach, a conceptual approach, and a comparative approach. **Results:** The results of the research are the development of a state financial supervision model that integrates AI capabilities in detecting irregularities in real time, increasing the efficiency and accuracy of the audit process, strengthening coordination between the BPK and BPKP, and supporting the implementation of good governance principles. **Conclusion:** The implementation of this model is expected to strengthen efforts to prevent criminal acts of corruption through a more adaptive, transparent, and technology-based monitoring system, thereby supporting the creation of accountable state financial governance.

Keywords: Artificial Intelligence; State Financial Supervision; Corruption

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INTRODUCTION

Corruption has a devastating impact on everyday life. Inefficient use of resources is a major cause of declining economic growth. Investors, who should be driving development, are often hesitant to invest in an environment rife with corruption. This not only harms the business sector and economic growth but also deepens social inequality. Corruption distorts resource allocation, hinders domestic and foreign investment, and reduces Indonesia's competitiveness in the global market. A corrupt system creates legal and economic uncertainty, which discourages investors. As a result, economic growth is hampered, unemployment rates rise, and economic and social disparities widen (1). According to Indonesia Corruption Watch (ICW), the trend of corruption and the number of perpetrators has continued to increase dramatically over the past five years. Corruption cases in Indonesia rose sharply in 2023, reaching 791 cases. This figure represents a significant increase compared to previous years: 579 cases (2022), 533 cases (2021), 444 cases (2020), and 271 cases (2019). Furthermore, the number of perpetrators of corruption also increased in 2023 (1). To suppress the increase in the number of corruption crimes, supervision is needed in the use of state finances. Supervision plays a role as a controller of budget management activities; this supervisory activity is intended to measure and determine the level of success and failure when the plan is made and implemented. The supervision of state finances can be classified into: 1. Internal supervision, namely institutions within the government/executive structure (in the narrow sense) and the supervision carried out comes from a special supervisory institution, which is formed internally by the government (BPKP) in the broad sense; 2. External supervision, namely the DPR/DPRD, DPD and the Supreme Audit Agency (BPK) (2).

Indonesia's state financial oversight institutions primarily serve as preventative measures. The authority assigned to the Supreme Audit Agency (BPK) and the Financial and Development Supervisory Agency (BPKP) includes routine audits and oversight. Obstacles encountered during the audit process include the BPK's frequent overwhelm due to its inability to audit all work units managing state funds across 35 departments and institutions (3). Lack of human resources in state financial oversight institutions. Conflicts of authority arise with (internal oversight bodies) in the implementation of external audit functions, particularly when conducting audits that exceed the boundaries of each institution (4). The BPK and BPKB institutions focus on audits after the budget has been used, so they cannot directly prevent deviations while the process is ongoing (4).

Addressing the challenges facing the State Financial Supervisory Agency requires a transformation of financial oversight to prevent corruption. This transformation can be achieved by leveraging sophisticated technology, namely Artificial Intelligence (AI). This technology essentially enables a level of automation for several activities within the digital ecosystem, saving time and increasing productivity (5). Not only that, AI can also provide models that can be continuously trained to understand various forms of problems and try to answer them (6). Cutting-edge technology, such as AI, offers great potential in detecting and preventing corruption crimes such as money laundering (TPPU). The investigation and inquiry process for TPPU still relies on traditional mechanisms that depend on the role of the PPATK, without utilizing the capabilities of modern digital technology(7). A transformation of state financial oversight is needed, utilizing complex and cutting-edge technologies such as AI, which includes deep learning and neural networks. A study by Tanja Sophie Gesk and Michael Leyer (2022) explains that AI can be utilized in various public services, as highlighted by a study. The study explains that AI can help improve the efficiency and

quality of public services by automating processes and providing support in decision-making (7). In line with the above description, Indonesia can undertake this transformation as a form of collaboration between the BPK and BPKB and technological advances, namely AI, which aims to act as an early preventive measure in preventing criminal acts of corruption and increasing efficiency and quality in order to reduce the number of criminal acts of corruption. Therefore, this study has the following main discussions: 1. What is the role of AI technology in increasing the effectiveness of early detection of potential corruption in state financial management? 2. How can the concept of AI-based state financial supervision transformation be applied in the supervisory system in Indonesia?.

METHODS

Type of Research In the scientific tradition of legal science, the type of legal research is very dependent on the legal concept used,(8) This research, "The Transformation of Artificial Intelligence-Based State Financial Supervision in Suppressing Corruption in Indonesia," focuses on normative legal science. Therefore, the type of research used is doctrinal or normative legal research.

Approaches: Regarding the type of research used, the approaches used are a) Statute approach, conducted to examine the principles and rules of laws and regulations related to the issues to be discussed. b) Case approach, conducted by reviewing and analyzing cases related to state financial corruption. c) Conceptual approach, used to understand state financial oversight through Artificial Intelligence.

Types and Sources of Legal Materials: The object of this research is legal materials related to the concept of decriminalization. The legal materials consist of primary legal materials, including related laws and regulations. Secondary legal materials include legal books, legal journals, scientific writings in the field of criminal law, and studies on decriminalization in this research, such as books, articles, papers, seminar proceedings, and legal research reports related to this research topic. Tertiary legal materials, which provide guidance and explanations to primary and secondary legal materials, include: 1) Legal Dictionary; 2) The Big Indonesian Dictionary.

Processing and Analysis of Legal Materials Analysis of legal materials on the issue of Artificial Intelligence-Based State Financial Supervision Transformation in Suppressing Corruption in Indonesia. Legal materials and literature that have been collected through systematic methods are then analysed by inventorying, systematizing, and interpreting all legal regulations and concepts in accordance with the issues discussed.

RESULTS

The Role of AI Technology in Increasing the Effectiveness of Early Detection of Potential Corruption in State Financial Management

Advances in information technology have driven the transformation of state financial oversight through the digitization of government systems, such as e-government, e-budgeting, e-procurement, and the Regional Government Information System (SIPD). This digitization not only improves administrative efficiency and the quality of public services but also reduces direct interactions that have the potential to give rise to corrupt practices. With the advancement of modern technology, the use of Artificial Intelligence (AI), Big Data, and blockchain further strengthens the function of information systems as a strategic instrument in creating clean, transparent, and accountable governance. Unlike conventional information systems that function primarily as recording and reporting tools, AI can automatically analyze data to detect

irregularities, identify suspicious transaction patterns, and provide early warnings of potential corruption in state financial management.

The application of AI in early corruption detection is carried out through various approaches, including analyzing financial transaction patterns using machine learning algorithms to detect irregular financial activity, social network analysis to identify conflicts of interest and hidden relationships between public officials and the private sector, and predicting corruption risks based on the analysis of various risk indicators in specific sectors or projects. Furthermore, AI can automate the audit process by analyzing all financial transactions, cross-checking databases, detecting anomalies in the procurement of goods and services, such as bid rigging and price markups, and utilizing Natural Language Processing (NLP) technology to analyze financial documents, contracts, asset reports, and electronic communications for indications of irregularities. The use of AI enables the oversight process to be carried out more quickly, comprehensively, and accurately than conventional audit methods that still rely on sampling.

Despite its significant potential to increase the effectiveness of state financial oversight and eradicate corruption, AI implementation also faces several challenges, including data quality and availability, privacy protection and data security, transparency of analysis results, and the potential for algorithmic bias that can affect the objectivity of decision-making. Therefore, the successful implementation of AI requires the support of good governance, adequate regulations, and human oversight to ensure that AI analysis results remain accountable and reliable. With this support, AI has the potential to become a strategic instrument in building a more predictive, adaptive, and corruption-preventing state financial oversight system through the integrated use of big data analysis and digital technology.

The concept of AI-based state financial oversight transformation can be implemented in Indonesia's oversight system.

Indonesia has a significant opportunity to implement AI-based state financial oversight transformation because it already has various financial management information systems, such as the Regional Government Information System (SIPD), the State Treasury and Budget System (SPAN), the Electronic Procurement System (SPSE), the LKPP e-Catalog, OM-SPAN, SAKTI, and various oversight dashboards belonging to the Financial and Development Supervisory Agency (BPKP), the Inspectorate, and the Supreme Audit Agency (BPK). Integrating AI with these systems enables continuous monitoring, continuous auditing, and risk-based auditing. AI can analyze government spending patterns, detect transaction anomalies, identify indications of collusion and mark-ups in procurement, compile risk profiles for each ministry, institution, and local government, and provide an early warning system for potential irregularities. This way, oversight is no longer reactive after state losses occur, but rather oriented toward prevention through real-time data analysis.

Despite its enormous potential, the implementation of AI in state financial oversight still requires strengthening legal and governance aspects. Indonesia currently lacks specific regulations governing the use of AI in state financial oversight, although a general basis exists through the State Finance Law, the State Treasury Law, the State Financial Management and Accountability Audit Law, and the Presidential Regulation on Electronic-Based Government Systems (SPBE). Therefore, regulations are needed to govern AI governance in the public sector, standards for AI use in audits and oversight, algorithmic audit mechanisms, data protection, ethical guidelines, and

human oversight to ensure transparent and accountable implementation of AI, providing legal certainty in support of the transformation of state financial oversight.

DISCUSSION

The Role of AI Technology in Increasing the Effectiveness of Early Detection of Potential Corruption in State Financial Management

Corruption in the public sector remains a major problem hampering effective governance, economic development, and public trust in state institutions. Corrupt practices not only cause financial losses to the state but also impact the low quality of public services, weak bureaucratic transparency, and increasing social inequality. In the era of digital transformation, the government has begun to utilize developments in information technology as a strategic instrument to strengthen accountability and oversight of public administration. Information systems play a crucial role in supporting data management, decision-making, and monitoring bureaucratic activities in a more transparent and integrated manner.

The development of information systems in the public sector has encouraged the implementation of various digital services such as e-government, e-budgeting, e-procurement, and the Regional Government Information System (SIPD). The digitization of these services allows administrative processes to be conducted online, reducing direct interactions that could potentially lead to bribery and extortion (9).

Modern technological developments such as Artificial Intelligence (AI), Big Data, and blockchain are beginning to be utilized to strengthen digital oversight systems in the public sector. This technology enables automated fraud detection through analysis of suspicious transaction patterns. Hasan, Safitri, and Sari (2026) state that digital technology plays a crucial role in increasing the transparency of public services while simultaneously reducing the potential for corruption. Thus, information systems are no longer viewed solely as administrative tools but have evolved into strategic instruments for building clean, transparent, and accountable governance.

The function of information systems previously focused primarily on improving organizational efficiency, service quality, and decision-making effectiveness. Management information systems can enhance organizational transparency and accountability through more systematic and accessible data management. Meanwhile, management information systems have a significant contribution to supporting the implementation of e-government in government agencies. Expanding the functions of information systems and technology not only focuses on improving organizational efficiency, service quality, and decision-making effectiveness but also on strengthening digital oversight systems in the public sector by utilizing AI detection systems. AI-based corruption detection and prevention systems utilize machine learning and data analysis capabilities to identify potential corrupt behavior and prevent it before it occurs, such as:

1. Financial Transaction Pattern Analysis. AI can be used to analyze suspicious financial transaction patterns, which may indicate corrupt activity. According to research conducted by West et al., n.d., machine learning techniques such as neural networks, support vector machines, and decision trees have proven effective in detecting financial fraud. AI systems can be trained to recognize patterns associated with corruption, such as unusual or inconsistent transactions, fragmented payments to avoid reporting thresholds, and transactions involving high-risk parties. An example of such a system implementation is HSBC Bank's use of AI to detect money laundering and other suspicious financial activity. This

system has successfully reduced false positives by 20%, increasing efficiency in detecting illegal activity (10).

2. Social Network Analysis and Conflicts of Interest. AI can be used to analyze relationships between individuals and organizations to identify potential conflicts of interest that may lead to corruption. AI-powered social network analysis (SNA) techniques can help identify hidden relationships between public officials and private parties, detect patterns of nepotism in procurement or appointments, and uncover complex corruption networks. Deep learning techniques, particularly Graph Neural Networks (GNN), can be used to detect fraud in social networks with a high degree of accuracy (11).
3. Corruption Risk Prediction. AI systems can be used to predict corruption risks in various sectors and institutions. By analyzing various risk factors, AI can help identify areas or projects at high risk of corruption, predict the likelihood of corruption in procurement processes, and assess the integrity of public officials or candidates for sensitive positions. A study by López-Iturriaga & Sanz (2018) showed that machine learning techniques such as random forests can be used to predict corruption at the regional level with a high degree of accuracy (11).
4. Audit and Inspection Automation. AI can improve the efficiency and effectiveness of audit and audit processes by analyzing large volumes of documents to identify anomalies, performing automated cross-checks between multiple data sources, and identifying areas requiring further investigation. According to one of the world's four largest accounting firms (López-Iturriaga & Sanz, 2018), the use of AI in audits can increase audit coverage from a limited sample to 100% of transactions, thereby increasing the likelihood of detecting irregularities (11).
5. Anomaly Detection in Public Procurement. AI systems can be used to detect anomalies in the public procurement process, which is often a corruption-prone area. Some AI applications in this area include identifying suspicious bidding patterns, such as bid rigging, detecting tender specifications that may be geared toward specific providers, and analyzing bid prices to identify unreasonable markups (10).
6. Machine learning analysis can significantly improve corruption risk detection in public procurement. Natural Language Processing for Document Analysis. Natural Language Processing (NLP) technology can be used to analyze documents related to corruption, such as financial statements and asset declarations, contracts and procurement documents, and email communications and other electronic messages. NLP techniques can be used to detect language associated with fraud and corruption in written communications (12).

The implementation of an AI-based corruption detection and prevention system faces several challenges: data quality and availability. AI systems require high-quality and comprehensive data to function effectively; data privacy and security. The use of sensitive data for AI analysis must consider privacy and security aspects; result interpretability. AI analysis results must be explainable and interpretable for informed decision-making; and fourth, algorithm bias. Efforts are needed to avoid bias in AI algorithms that can lead to unfairness in corruption detection and prevention.

AI, which processes big data, can play a role in state financial oversight to prevent corruption. AI has significant potential to increase the effectiveness of corruption eradication through its ability to analyze large-scale data, predict risks, detect irregularities, and assist in investigations. However, successful implementation depends heavily on data quality, algorithm transparency, adequate regulation, and

human involvement in every decision-making process. With good governance, AI can be a strategic tool to strengthen the integrity and accountability of the public sector.

2. The concept of AI-based state financial oversight transformation can be applied to Indonesia's oversight system.

AI-based state financial oversight transformation is the integration of technology (AI) and big data to monitor, analyze, and audit budgets in real time. The use of technology to assist government services, such as public services, has become one of the most widely implemented forms of digitalization in the public sector. This system allows the public to access various administrative services online without having to interact directly with service officers. This digitalization of services has resulted in a reduction in the practice of extortion, bribery, and administrative manipulation, which previously often occurred in manual systems (13).

The use of e-procurement applications has also made a significant contribution to minimizing corrupt practices in government procurement of goods and services. Before the digital system, tender processes were often conducted behind closed doors, opening opportunities for collusion between vendors and manipulation of procurement documents. However, with the implementation of e-procurement, all procurement stages are conducted electronically and automatically documented, increasing the transparency of the tender process. This system allows every procurement process to be monitored in real time and leaves a digital audit trail that is difficult to manipulate (14).

The implementation of e-budgeting also has a positive impact on the transparency of government financial management. This system allows the budget preparation, use, and oversight to be carried out digitally and in an integrated manner, simplifying the audit and oversight process for the use of public funds. Through the e-budgeting system, every budget change can be tracked automatically, thereby minimizing the opportunity for financial data manipulation or budget misuse by certain parties (14).

Developments in modern technologies such as Artificial Intelligence (AI), Big Data, and blockchain further strengthen the effectiveness of information systems in preventing corruption. AI and Big Data technology enable automated data analysis to detect suspicious or unusual transaction patterns. This system can identify indications of financial irregularities more quickly than conventional audit methods that still rely on manual inspections. Data integration across government agencies also allows for a more comprehensive oversight process because data from various institutions can be connected in a single digital monitoring system. Meanwhile, blockchain technology provides additional security in data management because every recorded transaction is permanent and difficult to manipulate. This technology can create a transparent and secure digital recording system, minimizing the risk of illegal data deletion or alteration.

The use of AI in the public oversight sector globally has been implemented in several countries, such as the DOZORRO system in Ukraine and Rosie in Brazil. The concept of the DOZORRO system in Ukraine is procurement risk analysis, collusion detection, and tender assessment. This application conducts public oversight by utilizing AI and data analysis to oversee the entire government procurement process. Unlike Rosie in Brazil, Rosie's AI oversight focuses on parliamentarians' spending on state funds (15).

Indonesia has the potential to transform state financial oversight using AI. The potential integration of AI with various state financial management information systems in Indonesia is a strategic step in realizing a more effective, efficient, and risk-based transformation of state financial oversight (16).

Currently, the government has various information systems in place, such as the Regional Government Information System (SIPD), the State Treasury and Budget System (SPAN), the Electronic Procurement System (SPSE), the LKPP e-Catalog, OM-SPAN, SAKTI, and various oversight dashboards operated by the Financial and Development Supervisory Agency (BPKP), the Inspectorate, and the Supreme Audit Agency (BPK). Currently, these systems primarily serve as a medium for recording, managing, and reporting financial data. By integrating AI, all data generated by these systems can be automatically analyzed to generate predictive information, detect irregularities early, and support data-driven decision-making (17).

The integration of AI with SIPD and SPAN enables the creation of a financial oversight system capable of continuous monitoring of budget planning, implementation, and accountability. AI can analyze regional government and ministry/institution spending patterns based on historical data, compare budget realization with performance targets, and identify transactions that deviate from normal patterns (anomaly detection). Furthermore, machine learning algorithms can build predictive models for budget irregularity risks by considering various indicators, such as spending spikes at the end of the fiscal year, deviations between planning and realization, and unusual budget changes. This allows auditors and the Government Internal Supervisory Apparatus (APIP) to focus oversight on work units with the highest risk levels (18).

In the procurement of goods and services sector, AI integration with SPSE and the LKPP e-Catalog has the potential to increase transparency and prevent corrupt practices from the early stages of the procurement process (19). AI can analyze millions of tender data to detect indications of collusion, companies that consistently win tenders at certain agencies, prices exceeding market prices (mark-ups), tenders with an unreasonable number of participants, and affiliated relationships between providers through network analysis (20), Furthermore, AI can compare the prices of goods and services in the e-Catalog with transaction prices conducted by work units, thereby automatically identifying price irregularities. This approach will transform the oversight process from a reactive to a preventative one by providing early warnings of potential procurement irregularities (21).

The integration of AI with OM-SPAN, SAKTI, and various oversight dashboards from the Financial and Development Supervisory Agency (BPKP), the Inspectorate, and the Supreme Audit Agency (BPK) will strengthen the concept of continuous auditing and risk-based auditing (22). AI can combine data from various government financial information systems into a single analytical ecosystem, generating real-time risk profiles for each ministry, agency, and local government. This information can be visualized in an interactive dashboard displaying risk indicators, deviation trends, levels of regulatory compliance, and audit priority recommendations. This way, auditors will no longer rely on manual sampling but can utilize AI analysis results to identify the riskiest audit objects requiring further attention (23).

Despite its enormous potential, the successful integration of AI into all state financial information systems requires adequate governance support. The government needs to ensure interoperability between systems, standardize data quality, strengthen cybersecurity, protect personal data, and develop auditor competencies in data analysis and artificial intelligence. In addition, regulations are needed to govern AI governance in the public sector so that the use of algorithms remains transparent, accountable, and under human oversight (24). With adequate technological, institutional, and regulatory support, the integration of AI with SIPD, SPAN, SPSE, LKPP e-Catalog, OM-SPAN, SAKTI, as well as the BPKP, Inspectorate, and BPK supervisory dashboards has the

potential to become the main foundation for the transformation of state financial supervision towards a system that is more adaptive, predictive, and oriented towards preventing irregularities (23).

The following is a comparison of concepts regarding the transformation of state financial oversight using AI across several countries, along with the potential for implementation in Indonesia.

Table 1. The Concept of Transforming State Financial Supervision Using AI

Internasional	AI Function	Potential for Implementation in Indonesia
DOZORRO (Ukraina)	Procurement risk analysis, collusion detection and tender assessment	Integration with SPSE and LKPP e-Catalog to detect risky tenders, price mark-ups, affiliated companies, and non-competitive procurement
Rosie (Brasil)	Automatic analysis of official expenses and detection of unreasonable claims	Used by the BPK, BPKP, or Inspectorate to monitor official travel, operational spending, and financial accountability of ministries/institutions and regional governments.
AI Deforestation Monitoring	Satellite image analysis and detection of illegal activities	Supporting supervision of forestry sector budget usage, monitoring of mining and plantation permits, and monitoring of state revenue from natural resources through integration of spatial and financial data.

Looking at the concept of transformation of state financial supervision above, this concept requires legality to be implemented and carried out. In Indonesian legal regulations, there are no regulations specifically regarding the use of AI in state financial supervision. In general, regulations regarding state financial supervision are regulated as follows: The 1945 Constitution of the Republic of Indonesia, which mandates that audits of state financial management and accountability be carried out by the Supreme Audit Agency (BPK) (9). Law Number 17 of 2003 concerning State Finance, which emphasizes that state financial management must be carried out in an orderly, efficient, economical, effective, transparent, and accountable manner (25). Law Number 1 of 2004 concerning State Treasury, which encourages the implementation of a state financial information system as a basis for financial management and supervision. Law Number 15 of 2004 concerning Audits of State Financial Management and Accountability, which provides flexibility to the BPK in using audit methods and techniques in accordance with the State Financial Audit

Standards (SPKN). Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System (SPBE), which encourages digital transformation in government administration (26).

Legal regulations regarding the use of AI in overseeing state finances must be legally binding. Regarding legality, the following must be regulated regarding AI: the forms of legal action AI can perform, the limitations of AI's liability, and the sanctions that can be imposed on AI. After finalizing the above legal concepts, the government can create specific regulations regarding AI governance in the public sector, standards for AI use in auditing and overseeing state finances, algorithmic audit mechanisms, and ethical guidelines for the use of AI by oversight agencies.

CONCLUSIONS

The use of Artificial Intelligence (AI) in state financial oversight has enormous potential to increase the effectiveness of early detection of potential corruption. Through its ability to analyze big data, identify unusual transaction patterns, predict the risk of irregularities, automate audit processes, and detect anomalies in government procurement of goods and services, AI can shift the oversight paradigm from a reactive to a preventive and risk-based one. Thus, AI serves not only as an administrative support tool but also as a strategic instrument in strengthening transparency, accountability, and integrity in state financial management.

Indonesia has a significant opportunity to implement an AI-based transformation of state financial oversight because it already has various financial management information systems, such as the Regional Government Information System (SIPD), the State Treasury and Budget System (SPAN), the Electronic Procurement System (SPSE), the LKPP e-Catalog, OM-SPAN, SAKTI, and various oversight dashboards managed by the Supreme Audit Agency (BPK), the Financial and Development Supervisory Agency (BPKP), and the Inspectorate. The integration of AI with these systems enables the implementation of continuous monitoring, continuous auditing, and risk-based auditing, which can generate real-time risk analysis, detect indications of irregularities early, and assist auditors in determining audit priorities more effectively and efficiently. The experiences of several countries, such as Ukraine through the DOZORRO system and Brazil through the ROSIE system, demonstrate that the application of AI in public financial oversight can improve the quality of oversight and strengthen corruption prevention efforts.

However, the successful implementation of AI in state financial oversight systems requires adequate regulatory support, governance, and institutional readiness. Indonesia currently lacks specific regulations regarding the use of AI in state financial oversight. Therefore, regulations governing AI governance, standards for its use in audits, algorithmic audit mechanisms, personal data protection, ethical guidelines, and human oversight are needed to ensure transparency, accountability, and legal certainty. This study recommends that the government develop a legal framework and national strategy regarding the use of AI in state financial oversight so that digital transformation not only improves the efficiency of state financial management but also becomes an effective instrument in preventing corruption and realizing clean, transparent, and accountable governance.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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DECLARATION OF ARTIFICIAL INTELLIGENCE USE
This study used artificial intelligence (AI) tools and methodologies in the following capacities. **Manuscript writing support**: AI-based language models, such as ChatGPT was employed to Language refinement (improving the grammar, sentence structure, and readability of the manuscript), content summarization (assisting in summarizing the findings and conclusions concisely), technical writing assistance (providing suggestions for structuring complex technical descriptions more effectively), and generate scientific content, interpret data, and draw conclusions.

REFERENCES
1. Rinda, Shofiyah M. Dampak Korupsi Bagi Masyarakat Dan Dalam Perspektif Hukum Islam. J Huk Kel Islam El-Qist. 2023;6(1):1–14.
2. Moh. Annand Ananda Saputra, Aryo Dwiarief Susetyo, Rachmat Hidayat. Eksistensi BPK dalam Melakukan Pengawasan Keuangan Negara. Mahkamah J Ris Ilmu Huk. 2025;2(4):96–108.
3. Kaldera NX, Aulia M, Faza HA. Peran Bpk Sebagai Lembaga Pengawas Eksternal Pengelolaan Keuangan Negara. J Fundam Justice. 2020;1(2):13–26.
4. Fajar Pradnyana IM, Parsa IW. Kewenangan BPK dan BPKP dalam Menentukan Kerugian Keuangan Negara pada Perkara Korupsi. J Magister Huk Udayana (Udayana Master Law Journal). 2021;10(2):344.
5. Febriyani E, Syarief E, Seroja TD. Pemanfaatan Artificial Intelligence dalam Deteksi dan Pencegahan Tindak Pidana Pencucian Uang: Potensi dan Tantangan Hukum? J Magister Huk Udayana (Udayana Master Law Journal). 2025;13(4):877.
6. Kusuma DPRW, Yanuari FS, Pratama RIF. Urgensi Integrasi Biaya Pemulihan Lingkungan Dalam Tindak Pidana Lingkungan Hidup Melalui Sanksi Pidana Denda. J Huk Lingkung Indones. 2022;8(2):287–309.
7. Gil de Zúñiga H, Goyanes M DT. A Scholarly Definition of Artificial Intelligence (AI): Advancing AI as a Conceptual Framework in Communication Research. Polit Commun. 2024;41(2):317.
8. Muhammad, Hendri Y, Komarudin P, Hadi H. Metode Penelitian Hukum: Analisis Problematika Hukum Dengan Metode Penelitian Normatif Dan Empiris. Badamai Law J. 2023;8(2):395–6.
9. Juliani H. Analisis Yuridis Kebijakan Keuangan Negara dalam Penanganan Pandemi Covid-19 Melalui Peraturan Pemerintah Pengganti Undang-Undang Nomor 1 Tahun 2020. Adm Law Gov J. 2020;3(2):329–48.
10. Ainurrafiq Dawam, Muhammad Adwim Rifqy El-Hisan. Peran Artificial Intelligence Dalam Mengurangi Perilaku Koruptif. SYAIKHONA J Magister Pendidik Agama Islam. 2024;2(2):40–72.
11. Tyler R, Olaitan S, Gabriel S. Deep Learning Approaches for Detecting Financial Fraud in Banking and Digital Payment Systems. 2023;

12. Carla Parra Escartín, Wessel Reijers, Teresa Lynn, Joss Moorkens, Andy Wayand CH. EthicalConsiderationsinNLPSharedTasks. EACL 2017 - Ethics Nat Lang Process Proc 1st ACL Work. 2017;4(7).
13. Hardiansyah R, Jaffisa T. Peran Sistem Informasi Pemerintahan Daerah (SIPD) dalam Meningkatkan Pelayanan Publik yang Efektif dan Transparan. Innov J Soc Sci Res. 2024;4(4):5194–206.
14. Assidiqi NB, Pratama PZ, Naufal A, Informasi S, Pamulang U, Selatan KT. Peran sistem informasi dalam mencegah korupsi disektor publik. 2026;1(1):33–41.
15. Resimić M. Harnessing artificial intelligence (AI) for anti-corruption. Bergen: Transparency International and U4 Anti- Corruption Resource Centre. 2025.
16. Nurwulan D, Maulana FC, Handoyo T, Digital UT. Inovasi tanpa batas potensi ai dalam menciptakan sistem transaksi keuangan digital. J Ilm Ekon dan Manaj [Internet]. 2025;3(6):417–31. Available from: https://www.ejurnal.kampusakademik.co.id/index.php/jiem/article/view/5401%0Ahttps://www.ejurnal.kampusakademik.co.id/index.php/jiem/article/download/5401/4677
17. Elza P. Penggunaan Artificial Intelligence (AI) dalam Perdagangan Saham dan Keuangan. J Komput dan Teknol Inf. 2025;1(1):8–14.
18. Iskandar R, Rhamadhani RF, Utami AP, Fitrisam SA, Akbar M. Peran Kecerdasan Buatan dalam Meningkatkan Efisiensi dan Transparansi Pasar Keuangan. Econ Educ J. 2025;7(1):186–207.
19. Agustianto A, Budi HS, Sudirman L, Nurlaily N, Afdal W. Analisis Risiko Finansial Perbankan Melalui Artificial Intelligence (AI): Politik Hukum dan Potensi Pengembangan Hukum. J Magister Huk Udayana (Udayana Master Law Journal). 2025;14(1):17.
20. Sulistyowati A. Integrasi Fiskal Digital Daerah Strategi Meningkatkan PAD dan Akuntabilitas Keuangan Publik. 2025;9:135–47.
21. Rifka Alkhilyatul Ma'rifat, I Made Suraharta IIJ. Tata Kelola Keuangan Publik Dan Kebijakan Fiskal Dalam Perspektif Administrasi Publik: Sebuah Tinjauan Literatur. 2024;2(1):306–12.
22. Subekan A, Widodo R. Tinjauan Mekanisme dan Praktik Pengelolaan Dana Perhitungan Fihak Ketiga (PFK) Pegawai oleh Bendahara Umum Negara Review of Mechanisms and Practices for Management of Employee Third Party Calculation Funds (PFK) by the State General Treasurer. 2026;2(1):28–62.
23. Elsa Natali, Gilbert Rely PNS. Pengaruh e-audit, teknologi audit berbasis ai, dan big data analytics terhadap deteksi fraud (studi empiris pada badan pemeriksa keuangaN. 2025;2(3):772–82.
24. Galuh Dwi Utamia LA. Artificial Intelligence dan Dampaknya terhadap Kinerja Keuangan : Literature Review. 2026;1(2):166–71.
25. Asri Putri T, Herning Sitabuana T. Pengawasan Pengelolaan Keuangan Negara Terhadap Badan Usaha Milik Negara (Bumn). SIBATIK J J Ilm Bid Sos Ekon Budaya, Teknol dan Pendidik. 2022;1(7):1003–18.
26. Hasanal Mulkam. Pertanggungjawaban Artificial Intellegent Sebagai Subjek Hukum Yang Melakukan Tindak Pidana Korupsi. J Huk Samudra Keadilan. 2021;16(1):218–30.