International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBAS)

International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBAS Journal) | ISSN (e): 2808-4713
Volumes 6 No. 3 (2026)

ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF EARLY TAX NON-COMPLIANCE RISK DETECTION SYSTEMS IN MULTINATIONAL ENTERPRISES

Ira Nasriani[1]*, Sri Rahayu Indah Azhari[2], Ari Sarwo Indah Safitri[3], Andi Nurhasanah[4], Trisnawaty[5]
[1,2,3,4,5]Faculty of Economics and Business, St. Fatimah Institute of Health and Business, Mamuju, Indonesia
*Corresponding author: iranasrianirachman@gmail.com

Received	: 11 May 2026	Accepted	: 01 June 2026
Revised	: 16 May 2026	Published	: 18 June 2026

Abstract

The development of Artificial Intelligence (AI) has transformed tax administration from conventional monitoring systems into more predictive and data-driven risk-based compliance management. However, the complexity of multinational corporations' activities, including cross-jurisdictional transactions and sophisticated tax planning strategies, has increased the challenges of early detection of tax non-compliance risks. Although previous studies have examined the application of AI in taxation, the existing literature remains fragmented and lacks an integrated understanding of the AI technologies utilized, the factors influencing their effectiveness, and the interrelationships among these factors within tax risk detection systems. This study aims to synthesize the literature on the role of AI in the early detection of tax non-compliance risks among multinational corporations. Using a Systematic Literature Review (SLR) approach based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, 25 articles retrieved from the Scopus and Web of Science databases were analyzed through thematic content analysis. The findings indicate that the dominant AI technologies employed include machine learning, deep learning, natural language processing, predictive analytics, and anomaly detection. Furthermore, the study identifies four key dimensions that determine the effectiveness of AI implementation, namely AI capability, data quality and integration, organizational readiness, and the regulatory and governance environment.

Keywords: Artificial intelligence, Tax Risk Detection, Tax Compliance, Multinational Enterprises.

INTRODUCTION

The development of digital technology has brought fundamental changes across various sectors, including economic systems, government governance, and tax administration (Floridi & Chiriatti, 2020; Olateju et al., 2024). Artificial Intelligence (AI) has emerged as one of the most widely adopted innovations due to its capability to process large-scale data, identify complex patterns, and generate predictions that support decision-making processes. In the taxation context, Martinez (2025) explained that the application of AI has become increasingly relevant as tax authorities seek to enhance the effectiveness of monitoring systems, reduce revenue losses, and establish a more transparent and adaptive tax administration system (Saragih et al., 2023).

In taxation and accounting information system studies, tax compliance constitutes a critical element in ensuring sustainable government revenue and maintaining fiscal fairness (AL-Khalaileh, 2025). However, economic globalization has increased the complexity of multinational enterprises' (MNEs) activities. Cross-border transactions, transfer pricing arrangements, the use of intangible assets, and international tax planning strategies have increased the risk of tax non-compliance, which is difficult to detect through conventional auditing approaches (Anjarwi, 2026). Sample-based audit methods and manual analyses often face limitations in processing massive datasets and identifying hidden risk patterns (Munjeyi & Schutte, 2024). Therefore, technology-driven approaches capable of conducting faster, more accurate, and proactive risk detection are required.

Over the past decade, advancements in big data analytics, cloud computing, and Artificial Intelligence have accelerated the transformation of tax administration toward a data-driven taxation approach (Baghdasaryan et al., 2022). Various AI technologies, such as machine learning, deep learning, natural language processing, and predictive analytics, have been increasingly applied to analyze taxpayer behavior, detect transactional anomalies, classify risk levels, and predict the likelihood of tax non-compliance. This transformation signifies a shift from reactive

monitoring models toward more preventive risk-based tax compliance management systems that emphasize early risk detection (Abrantes & Ferraz, 2016). Previous studies have explored the application of AI in taxation, including tax fraud detection, the prediction of tax avoidance and tax evasion, audit selection, and tax compliance risk assessment (Anjarwi, 2026; Wu et al., 2026). These findings demonstrate that AI possesses superior capabilities compared to traditional approaches in processing large-scale datasets and identifying complex relational patterns. Nevertheless, the implementation of AI within tax systems continues to face several challenges, including data quality and availability, algorithmic transparency, potential bias in decision-making, information security, and the readiness of governance and regulatory frameworks (Pang & Hua, 2024).

Although research on Artificial Intelligence in taxation has developed rapidly, the existing literature remains fragmented across multiple disciplines, including taxation, accounting, information systems, computer science, and public policy (Belahouaoui & Attak, 2024). Most previous studies have focused on the development of specific AI algorithms or particular aspects of tax compliance (Abiola Oyeronke et al., 2023). Meanwhile, systematic reviews integrating AI technologies, investigated variables, and factors determining the successful application of AI in detecting tax non-compliance risks among multinational enterprises remain limited. This condition indicates a knowledge gap regarding the conceptual framework that explains the relationships among AI capabilities, data factors, organizational characteristics, and regulatory environments in improving the effectiveness of tax risk detection systems.

Based on this gap, this study aims to conduct a systematic literature review on the role of Artificial Intelligence in the early detection of tax non-compliance risks among multinational enterprises. To achieve this objective, the study is guided by three research questions: RQ1: What Artificial Intelligence technologies and approaches are utilized in the early detection of tax non-compliance risks among multinational enterprises? RQ2: What are the key variables and factors influencing the effectiveness of Artificial Intelligence implementation in detecting tax non-compliance risks? RQ3: How do Artificial Intelligence capabilities, data quality, organizational factors, and regulatory environments interact in developing an effective early tax non-compliance risk detection system?

To address these research questions, this study employs a Systematic Literature Review (SLR) method using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. A total of 25 articles retrieved from reputable academic databases were selected through identification, screening, and evaluation processes based on predetermined inclusion and exclusion criteria. The selected articles were then analyzed using thematic content analysis to identify research characteristics, AI technologies employed, variable mapping, and patterns of relationships among concepts in the literature.

This study provides both theoretical and practical contributions. Theoretically, it contributes to the advancement of taxation, accounting information systems, and Artificial Intelligence adoption studies by synthesizing fragmented literature. The mapping of AI technologies, key variables, and interrelationships among factors enables the development of a conceptual framework concerning the determinants of AI effectiveness in detecting tax non-compliance risks among multinational enterprises. This framework can serve as a foundation for future empirical research in developing measurement models and testing relationships among variables.

Practically, the findings provide insights for tax authorities, policymakers, and multinational enterprises in developing AI-based tax risk management systems. The identification of factors supporting AI effectiveness can serve as a basis for developing more accurate risk assessment models, optimizing audit selection processes, and implementing more proactive tax compliance monitoring. Furthermore, this study highlights essential aspects such as data quality, algorithmic transparency, information security, and regulatory readiness to ensure effective, responsible, and sustainable AI implementation.

However, this study has several limitations as it only includes articles that met the selection criteria from specific academic databases and within a predetermined time frame. Therefore, the findings reflect the current state of knowledge based on available scientific literature and may not fully capture industry reports, policy documents, or the rapid technological developments in AI occurring beyond academic publications. This article is organized into several sections. The following section explains the research methodology, including article search strategies and the selection process using the PRISMA framework. The subsequent section presents the literature review findings, including article characteristics, AI technologies, variable mapping, and the development of a conceptual framework. The final section provides the conclusions, research implications, study limitations, and recommendations for future research.

LITERATURE REVIEW

Artificial Intelligence and the Transformation of Tax Administration

The rapid advancement of digital technologies has fundamentally transformed the way tax administrations manage compliance, monitor taxpayer behavior, and conduct risk assessments. Traditionally, tax administration relied heavily on reactive audit approaches, where tax irregularities were identified after non-compliance had occurred (Olabanji et al., 2024; Pang & Hua, 2024). However, the increasing complexity of economic activities, especially those involving multinational enterprises (MNEs), has challenged the effectiveness of conventional auditing methods. Cross-border transactions, transfer pricing practices, the utilization of intangible assets, and sophisticated international tax planning strategies create substantial difficulties for tax authorities in identifying potential tax risks through manual assessment (Rahardja et al., 2023).

The emergence of Artificial Intelligence (AI), big data analytics, and advanced computational technologies has accelerated the transition toward data-driven and risk-based tax compliance management (Atayah & Alshater, 2021). AI enables tax authorities to process massive volumes of structured and unstructured data, identify hidden patterns, detect anomalies, and generate predictive insights that support decision-making. Consequently, AI has evolved from merely serving as an automation tool to becoming an intelligent decision support system that enhances the efficiency and accuracy of tax risk detection (Nuryani et al., 2024).

Artificial Intelligence Technologies for Early Tax Non-Compliance Risk Detection

Various AI technologies have been applied in taxation to improve the capability of detecting tax non-compliance risks (Samuel-Okon et al., 2024). Machine learning is among the most widely adopted approaches because of its ability to learn historical patterns from tax-related datasets and classify taxpayers according to their risk levels. Algorithms such as Decision Trees, Random Forest, Support Vector Machine (SVM), Gradient Boosting, and Artificial Neural Networks have demonstrated significant potential in identifying suspicious transactions, predicting tax fraud, and detecting tax avoidance behavior (Olateju et al., 2024). Beyond machine learning, deep learning provides more sophisticated analytical capabilities through multi-layer neural network structures that can capture complex and nonlinear relationships within large datasets (Olabanji et al., 2024). This capability is particularly important in the context of multinational enterprises, where tax-related transactions often involve complicated organizational structures and cross-jurisdictional financial activities.

Natural Language Processing (NLP) has also gained increasing attention due to its ability to analyze unstructured textual information, including financial reports, tax documents, contracts, and regulatory documents (Munjeyi & Schutte, 2024). Furthermore, predictive analytics and anomaly detection techniques contribute to the development of early warning systems by identifying unusual patterns and estimating the probability of future non-compliance. These technological developments support the shift from traditional post-event audits toward proactive and continuous tax compliance monitoring.

Determinants of AI Effectiveness in Tax Risk Detection Systems

Although AI provides significant opportunities for improving tax administration, the effectiveness of AI implementation is influenced by several interconnected factors. First, AI capability determines the system's ability to process information, recognize patterns, and produce reliable predictions (Cao et al., 2022). More advanced algorithms and analytical models generally provide greater accuracy in identifying tax risks. Second, data quality and integration play a critical role because AI models depend heavily on the availability of accurate, complete, and integrated datasets (Teyyare & Dirican, 2022). Inconsistent, incomplete, or biased data can reduce the reliability of AI-based predictions and potentially lead to incorrect risk assessments.

Third, organizational readiness influences the successful adoption of AI technologies. This includes digital infrastructure, availability of skilled human resources, organizational commitment, and the ability of tax institutions or corporations to integrate AI into existing compliance management systems (Samuel-Okon et al., 2024). Finally, the regulatory and governance environment represents an essential component of responsible AI implementation. Issues related to algorithmic transparency, data privacy, information security, fairness, and accountability must be addressed to ensure that AI systems operate in an ethical and sustainable manner.

Conceptual Framework of AI-Based Tax Non-Compliance Risk Detection

Based on the existing literature, the effectiveness of AI-based early tax non-compliance risk detection systems can be understood through the interaction among four key dimensions: AI capability, data quality and

integration, organizational readiness, and regulatory and governance environment. These factors collectively influence the ability of AI systems to generate accurate predictions, support targeted audit selection, and improve tax compliance management (Atayah & Alshater, 2021). A strong AI capability without reliable data may lead to inaccurate predictions. Likewise, high-quality data alone will not provide optimal outcomes if organizations lack adequate technological infrastructure and professional competencies (Nguyen, 2024). Moreover, successful implementation requires a regulatory framework that ensures transparency, accountability, and ethical use of AI. Therefore, the effectiveness of AI-based tax risk detection should be viewed as an integrated ecosystem involving technological, organizational, data, and governance dimensions (Baghdasaryan et al., 2022).

METHOD

This study employs a Systematic Literature Review (SLR) approach to systematically identify, evaluate, and synthesize previous research regarding the role of Artificial Intelligence (AI) in the early detection of tax non-compliance risks among multinational enterprises. The SLR approach was selected because it enables researchers to obtain a comprehensive understanding of the development of AI technologies, research variables, and the relationships among factors influencing the effectiveness of AI implementation in tax risk detection systems.

Table 1. Literature Search Strategy

Component	Description
Database	Scopus and Web of Science
Publication period	2015–2026
Language	English
Research focus	Artificial Intelligence applications for the early detection of tax non-compliance risks among multinational enterprises
Search keywords	Artificial Intelligence, Machine Learning, Deep Learning, Natural Language Processing, Predictive Analytics, Tax Compliance, Tax Non-compliance, Tax Risk, Tax Fraud, Tax Evasion, Tax Avoidance, Multinational Enterprise, Multinational Corporation, and Corporate Tax
Search string	Artificial Intelligence, Machine Learning, Deep Learning, Natural Language Processing, Predictive Analytics, Tax Compliance, Tax Non-compliance, Tax Risk, Tax Fraud, Tax Evasion, Tax Avoidance, Multinational Enterprise, Multinational Corporation, and Corporate Tax

The literature review process was conducted by adopting the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, which consists of four main stages: identification, screening, eligibility, and inclusion. These stages ensure that the article selection process is conducted in a transparent, systematic, and replicable manner. The literature search was conducted using reputable academic databases, namely Scopus and Web of Science, as both databases provide extensive international publication coverage in the fields of taxation, accounting, information systems, and Artificial Intelligence technologies. The search process utilized a combination of keywords representing three major aspects of the study: Artificial Intelligence, tax non-compliance, and multinational enterprises.

Table 2. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles	Books, conference proceedings, theses, dissertations, and industry reports
Language	English-language articles	Articles written in other languages
Publication period	Studies published between 2015 and 2026	Studies published before 2015
Research topic	Studies discussing AI applications in taxation, including tax risk detection, tax compliance, tax fraud, tax avoidance, and tax evasion	AI studies unrelated to taxation issues
Research context	Multinational enterprises, corporations, tax authorities, and tax administration systems	Studies not related to tax risk management or tax compliance
Accessibility	Articles with accessible abstracts and full texts	AI studies unrelated to taxation issues

The literature search incorporated keywords related to AI technologies, including Artificial Intelligence, Machine Learning, Deep Learning, and Predictive Analytics, combined with taxation-related concepts such as Tax Compliance, Tax Non-compliance, Tax Risk, Tax Fraud, Tax Evasion, and Tax Avoidance. In addition, the search focused on the context of multinational enterprises and corporate taxation by employing keywords such as Multinational Enterprise, Multinational Corporation, and Corporate Tax. The literature search was limited to English-language journal articles published between 2015 and 2026. This period was selected to capture the development of modern AI technologies, which have experienced rapid advancements and have increasingly been implemented in tax compliance analysis, tax risk identification, and the detection of tax avoidance and tax fraud practices over the past decade.

To ensure that the selected articles aligned with the research objectives, a screening process was conducted based on predefined inclusion and exclusion criteria covering several important aspects. The included studies were English-language scientific journal articles published between 2015 and 2026. Additionally, the articles had to discuss the application of Artificial Intelligence in taxation, particularly related to tax risk detection, tax compliance improvement, fraud identification, or tax avoidance practices, focusing on corporations, organizations, or tax administration systems. The articles were also required to provide sufficient information, including access to abstracts and full texts. Conversely, documents such as books, conference proceedings, theses, and industry reports were excluded from the selection process. Articles published outside the specified time frame, written in languages other than English, discussing Artificial Intelligence without relevance to taxation issues, or lacking sufficient information were also excluded from this review.

Table 3. Data Extraction Framework

Criteria	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles	Books, conference proceedings, theses, dissertations, and industry reports
Language	English-language articles	Articles written in other languages
Publication period	Studies published between 2015 and 2026	Studies published before 2015
Research topic	Studies discussing AI applications in taxation, including tax risk detection, tax compliance, tax fraud, tax avoidance, and tax evasion	AI studies unrelated to taxation issues
Research context	Multinational enterprises, corporations, tax authorities, and tax administration systems	Studies not related to tax risk management or tax compliance
Accessibility	Articles with accessible abstracts and full texts	AI studies unrelated to taxation issues

Following the initial search process, all retrieved articles were examined to remove duplicate records. Subsequently, title and abstract screening was conducted to assess their relevance to the research topic. Articles that met the preliminary criteria were then comprehensively analyzed through full-text review, resulting in 25 articles

that fulfilled all selection criteria. Data analysis was performed using a thematic content analysis approach to identify the main themes emerging from the selected studies. Each article was extracted based on several categories, including bibliographic information, research objectives, research methods, types of AI technologies employed, analyzed variables or factors, key findings, and research implications. The analysis process consisted of three stages. The first stage was open coding, which involved identifying significant concepts and variables appearing in each article. The second stage was categorization, which involved grouping variables with similar characteristics into broader themes, such as AI capability, data quality, organizational factors, and regulatory environment. The third stage was conceptual synthesis, which involved establishing relationships among themes to develop a conceptual framework regarding the factors determining the effectiveness of AI in the early detection of tax non-compliance risks.

This analysis was directed toward answering the three predefined research questions. RQ1 was addressed through mapping the types of AI technologies and approaches used in the literature. RQ2 was answered by identifying the key variables and factors influencing the successful implementation of AI in tax risk detection. Meanwhile, RQ3 was analyzed through the synthesis of relationships among factors to develop a conceptual framework explaining the mechanism by which AI supports effective early tax non-compliance risk detection systems among multinational enterprises. To enhance the transparency and reliability of the study, the article selection process followed the PRISMA protocol and predetermined selection criteria. Furthermore, data extraction was conducted using a consistent literature matrix format, enabling systematic comparisons across studies. This approach helped minimize interpretative bias and ensured that the resulting synthesis was based on relevant empirical evidence.

RESULTS AND DISCUSSION

Based on the literature selection process using the PRISMA framework, this study identified 25 articles that met the inclusion criteria and were subsequently analyzed. The mapping results indicate that research on the application of Artificial Intelligence (AI) in taxation has increased significantly over the past decade. This growth is closely associated with the global digital transformation of tax administration, which has shifted from conventional approaches based on post-violation examinations (reactive audit approaches) toward risk-based compliance management emphasizing the early identification of potential non-compliance (Abrantes & Ferraz, 2016; Munjeyi & Schutte, 2024).

This paradigm shift has been driven by the increasing complexity of digital economic activities and cross-border transactions, particularly among multinational enterprises (MNEs) that possess complex organizational structures, intercompany transactions, and tax strategies involving multiple jurisdictions (Olabanji et al., 2024). Such conditions limit the effectiveness of conventional audit methods in analyzing massive volumes of data and identifying hidden patterns of non-compliance. Consequently, AI has emerged as a solution to enhance risk analysis capabilities through automated data processing, predictive modeling, and pattern recognition (Abiola Oyeronke et al., 2023).

This development aligns with the broader transformation of tax administration worldwide. The Organisation for Economic Co-operation and Development (OECD) has reported that AI technologies are increasingly utilized by tax authorities to support fraud detection, tax compliance risk assessment, taxpayer segmentation based on risk levels, and the enhancement of audit effectiveness (Atayah & Alshater, 2021). OECD findings indicate that detecting tax avoidance and fraud represents the most dominant application of AI in tax administration, followed by risk assessment processes and decision support for tax officers.

The analysis of the 25 selected articles also demonstrates that AI research in taxation is inherently multidisciplinary and has evolved across several key fields, including taxation, accounting, information systems, computer science, and public policy. Early studies primarily focused on improving algorithm performance for classifying high-risk taxpayers and detecting indications of tax fraud. However, more recent studies have expanded their focus by considering AI governance, data quality, information security, and the ethical implications of algorithmic decision-making in taxation.

These findings reveal a shift in research orientation from a purely technical perspective toward a more holistic approach. The effectiveness of AI in detecting tax non-compliance risks is no longer determined solely by the accuracy of algorithms but also by the quality of the data used to train the models, organizational readiness to integrate technology, and the existence of regulatory frameworks that ensure transparency and accountability in AI implementation. Recent studies on AI in tax administration further emphasize that successful AI implementation requires a balance between technological innovation and the principles of responsible AI governance (Samuel-Okon et al., 2024; Teyyare & Dirican, 2022).

The analysis of the reviewed articles indicates several major categories of AI technologies employed in early tax non-compliance risk detection systems, including machine learning, deep learning, natural language processing (NLP), predictive analytics, and anomaly detection. Among these technologies, machine learning represents the most dominant approach due to its ability to learn historical patterns from tax-related data and generate predictions regarding the likelihood of non-compliance (Zheng et al., 2024).

Various machine learning algorithms, such as Random Forest, Support Vector Machine (SVM), Decision Tree, Gradient Boosting, and Artificial Neural Networks, are utilized to classify taxpayer risk levels, identify unusual transactions, and predict the potential occurrence of tax avoidance and tax fraud (Meng et al., 2022). The strength of these approaches lies in their ability to analyze complex non-linear relationships among variables that are difficult to identify using conventional statistical methods.

These findings support the advancement of modern tax administration concepts that integrate data analytics and AI as components of risk-based monitoring systems. AI is no longer merely utilized as an automation tool but has evolved into a decision support system that assists tax authorities in risk ranking, audit prioritization, and the more effective allocation of audit resources (Abiola Oyeronke et al., 2023). In addition to machine learning, several studies demonstrate the application of deep learning to process highly complex data and identify sophisticated patterns of relationships (Belahouaoui & Attak, 2024). Neural network-based models have the capability to learn complex data structures, thereby potentially improving the accuracy of detecting increasingly sophisticated non-compliance schemes, particularly in cross-border transactions conducted by multinational enterprises.

Natural Language Processing (NLP) technology has also received increasing attention in taxation research due to its capability to analyze unstructured information, including financial reports, tax documents, contracts, and other textual data (Ravisankar et al., 2011). The integration of NLP with machine learning techniques enables systems to detect risk indicators that may not be identified solely through numerical data analysis. Furthermore, anomaly detection and predictive analytics have become essential components of early warning systems (Martinez, 2025). These technologies operate by identifying transaction patterns that deviate from normal behavior, enabling tax authorities to intervene at an earlier stage before non-compliance risks develop into more serious violations. In this context, AI supports the transformation of tax administration from a post-event examination activity into a predictive and continuous compliance monitoring system.

Based on the literature synthesis, it can be concluded that AI technologies in tax non-compliance risk detection have evolved from being merely predictive tools into comprehensive analytical ecosystems that integrate computational capabilities, big data processing, and adaptive learning mechanisms. Nevertheless, these technological advancements must be supported by high-quality data, organizational readiness, and robust governance mechanisms to ensure the transparent, responsible, and effective implementation of AI.

CONCLUSION

This study aims to systematically examine the role of Artificial Intelligence (AI) in the early detection of tax non-compliance risks among multinational enterprises through a Systematic Literature Review (SLR) approach using the PRISMA framework on 20 selected scientific articles. The literature synthesis reveals that the advancement of AI has driven a paradigm shift in tax administration from a conventional reactive audit approach toward a more predictive, proactive, and data-driven risk-based compliance management system.

The findings addressing the first research question (RQ1) indicate that the most widely applied AI technologies for detecting tax non-compliance risks include machine learning, deep learning, natural language processing (NLP), predictive analytics, and anomaly detection. Among these technologies, machine learning emerges as the most dominant approach due to its ability to perform risk classification, identify abnormal transaction patterns, and generate predictions regarding the likelihood of tax avoidance and tax fraud.

To address the second research question (RQ2), this study identifies four major groups of factors that determine the effectiveness of AI implementation in early tax non-compliance risk detection systems: AI capability, data quality and integration, organizational readiness, and the regulatory and governance environment. These findings emphasize that successful AI implementation depends not only on the sophistication of algorithms but also on the availability of high-quality data, adequate digital infrastructure, human resource competencies, and regulatory frameworks that ensure transparency and accountability in the use of AI.

The answer to the third research question (RQ3) demonstrates that the interaction among AI capability, data quality, organizational factors, and the regulatory environment forms an ecosystem that determines the effectiveness of early tax non-compliance risk detection systems. Based on the synthesis of previous studies, this article proposes a conceptual framework that positions these four factors as the primary determinants in enhancing the ability of AI

systems to generate more accurate risk predictions, support more targeted audit selection, and improve the effectiveness of tax compliance management among multinational enterprises.

Theoretically, this study contributes to the development of literature in taxation, accounting information systems, and Artificial Intelligence by integrating previously fragmented findings. The mapping of AI technologies, key variables, and relationships among variables provides a more comprehensive conceptual understanding of the mechanisms through which AI supports early tax non-compliance risk detection systems. The resulting conceptual framework may also serve as a foundation for future empirical research to examine the relationships among AI capability, data quality, organizational readiness, regulatory environment, and the effectiveness of tax risk detection systems.

From a practical perspective, the findings provide implications for tax authorities, policymakers, and multinational enterprises in designing effective and responsible AI implementation strategies. Tax authorities may use these findings as a basis for developing AI-based risk assessment systems and improving the effectiveness of audit target selection. Meanwhile, multinational enterprises can enhance their internal tax risk management systems through the use of analytical technologies supported by robust data governance. In addition, policymakers should consider algorithmic transparency, data security, and ethical AI principles to ensure that digital transformation in taxation can be implemented in a sustainable manner.

Nevertheless, this study has several limitations. The review only includes 20 articles retrieved from specific databases based on predetermined selection criteria, and therefore may not fully represent the entire development of AI research in the field of taxation. Furthermore, because this study is literature-based, the relationships among variables remain conceptual and have not yet been empirically validated.

Therefore, future research is recommended to expand database coverage, include a larger number of articles, and consider relevant literature from industry reports and international organizations. Empirical studies are also needed to test the proposed conceptual model, for example by examining the effects of AI capability, data quality, organizational readiness, and the regulatory environment on the effectiveness of tax non-compliance risk detection systems using quantitative approaches such as Structural Equation Modeling (SEM) or firm-level data analysis.

This study confirms that Artificial Intelligence has substantial potential to transform tax administration systems toward more intelligent, predictive, and risk-based approaches. However, the success of this transformation requires the integration of technological capabilities, data quality, organizational readiness, and supportive regulatory governance to ensure that AI can be implemented effectively, transparently, and sustainably in detecting tax non-compliance risks among multinational enterprises.

REFERENCES

Abiola Oyeronke, A., Ifeanyi Chukwunonso Okeke, & Olajumoke Bolatito Ajanin. (2023). Innovative solutions for tackling tax evasion and fraud: Harnessing blockchain technology and artificial intelligence for transparency. *International Journal of Frontline Research in Multidisciplinary Studies*, *2*(1), 010–018. https://doi.org/10.56355/ijfrms.2023.2.1.0035

Abrantes, P. C., & Ferraz, F. (2016). Big Data Applied to Tax Evasion Detection: A Systematic Review. *2016 International Conference on Computational Science and Computational Intelligence (CSCI)*, 435–440. https://doi.org/10.1109/CSCI.2016.0089

Al-Khalaileh, G. A. S. (2025). Artificial Intelligence In Tax Administration And Corporate Tax Compliance: Evidence From Jordan. *Lex Localis - Journal of Local Self-Government*, *23*(S4), 3382–3405. https://doi.org/10.52152/801093

Anjarwi, A. W. (2026). The digital transformation of tax audits: how AI, big data, blockchain, and advanced analytics are reshaping tax evasion detection. *Journal of Business Analytics*, 1–12. https://doi.org/10.1080/2573234X.2026.2644363

Atayah, O. F., & Alshater, M. M. (2021). Audit and tax in the context of emerging technologies: A retrospective analysis, current trends, and future opportunities. *The International Journal of Digital Accounting Research*, 95–128. https://doi.org/10.4192/1577-8517-v21_4

Baghdasaryan, V., Davtyan, H., Sarikyan, A., & Navasardyan, Z. (2022). Improving Tax Audit Efficiency Using Machine Learning: The Role of Taxpayer's Network Data in Fraud Detection. *Applied Artificial Intelligence*,

36(1). https://doi.org/10.1080/08839514.2021.2012002

Belahouaoui, R., & Attak, E. H. (2024). Digital taxation, artificial intelligence and Tax Administration 3.0: improving tax compliance behavior – a systematic literature review using textometry (2016–2023). *Accounting Research Journal*, *37*(2), 172–191. https://doi.org/10.1108/ARJ-12-2023-0372

Cao, Q., Wang, H., & Cao, L. (2022). "Business Tax to Value-added Tax" and Enterprise Innovation Output: Evidence from Listed Companies in China. *Emerging Markets Finance and Trade*, *58*(2), 301–310. https://doi.org/10.1080/1540496X.2021.1939671

Floridi, L., & Chiriatti, M. (2020). GPT-3: Its Nature, Scope, Limits, and Consequences. *Minds and Machines*, *30*(4), 681–694. https://doi.org/10.1007/s11023-020-09548-1

Martinez, A. L. (2025). Artificial Intelligence in Tax Administration: Enhancing Compliance, Transparency, and Ethical Governance. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5285760

Meng, S.-Q., Cheng, J.-L., Li, Y.-Y., Yang, X.-Q., Zheng, J.-W., Chang, X.-W., Shi, Y., Chen, Y., Lu, L., Sun, Y., Bao, Y.-P., & Shi, J. (2022). Global prevalence of digital addiction in general population: A systematic review and meta-analysis. *Clinical Psychology Review*, *92*, 102128. https://doi.org/10.1016/j.cpr.2022.102128

Munjeyi, E., & Schutte, D. (2024). Examining the critical success factors influencing the diffusion of AI in tax administration in Botswana. *Cogent Social Sciences*, *10*(1). https://doi.org/10.1080/23311886.2024.2419537

Nguyen, D. T. T. (2024). Improving Individual Business Tax Collection In Ho Chi Minh City Via Technological Solutions. *Journal of Lifestyle and SDGs Review*, *4*(4), e03542. https://doi.org/10.47172/2965-730X.SDGsReview.v4.n04.pe03542

Nuryani, N., Mutiara, A. B., Wiryana, I. M., Purnamasari, D., & Putra, S. N. W. (2024). Artificial Intelligence Model for Detecting Tax Evasion Involving Complex Network Schemes. *Aptisi Transactions on Technopreneurship (ATT)*, *6*(3). https://doi.org/10.34306/att.v6i3.436

Olabanji, S. O., Olaniyi, O. O., & Olagbaju, O. O. (2024). Leveraging Artificial Intelligence (AI) and Blockchain for Enhanced Tax Compliance and Revenue Generation in Public Finance. *Asian Journal of Economics, Business and Accounting*, *24*(11), 577–587. https://doi.org/10.9734/ajeba/2024/v24i111577

Olateju, O. O., Okon, S. U., Olaniyi, O. O., Samuel-Okon, A. D., & Asonze, C. U. (2024). Exploring the Concept of Explainable AI and Developing Information Governance Standards for Enhancing Trust and Transparency in Handling Customer Data. *Journal of Engineering Research and Reports*, *26*(7), 244–268. https://doi.org/10.9734/jerr/2024/v26i71206

Pang, S., & Hua, G. (2024). How does digital tax administration affect R&D manipulation? Evidence from dual machine learning. *Technological Forecasting and Social Change*, *208*, 123691. https://doi.org/10.1016/j.techfore.2024.123691

Rahardja, U., Hapsari, I. D., Putra, P. O. H., & Hidayanto, A. N. (2023). Technological readiness and its impact on mobile payment usage: A case study of go-pay. *Cogent Engineering*, *10*(1). https://doi.org/10.1080/23311916.2023.2171566

Ravisankar, P., Ravi, V., Raghava Rao, G., & Bose, I. (2011). Detection of financial statement fraud and feature selection using data mining techniques. *Decision Support Systems*, *50*(2), 491–500. https://doi.org/10.1016/j.dss.2010.11.006

Samuel-Okon, A. D., Akinola, O. I., Olaniyi, O. O., Olateju, O. O., & Ajayi, S. A. (2024). Assessing the Effectiveness of Network Security Tools in Mitigating the Impact of Deepfakes AI on Public Trust in Media. *Archives of Current Research International*, *24*(6), 355–375. https://doi.org/10.9734/acri/2024/v24i6794

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

Teyyare, E., & Dirican, H. (2022). Adam Smith'in Vergileme İlkeleri Çerçevesinde Vergiye Gönüllü Uyumun Analizi. *International Journal of Public Finance*, *7*(1), 1–26. https://doi.org/10.30927/ijpf.978623

Wu, X., Ying, S. X., You, J., Wu, X., & Wu, H. (2026). The effect of big data-driven tax enforcement on audit pricing: Evidence from China. *The British Accounting Review*, *58*(1), 101531. https://doi.org/10.1016/j.bar.2024.101531

Zheng, Q., Xu, Y., Liu, H., Shi, B., Wang, J., & Dong, B. (2024). A Survey of Tax Risk Detection Using Data Mining Techniques. *Engineering*, *34*, 43–59. https://doi.org/10.1016/j.eng.2023.07.014