

# Innovative solutions for tackling tax evasion and fraud: Harnessing blockchain technology and artificial intelligence for transparency

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International Journal of Frontline Research in Multidisciplinary Studies, 2023, 02(01), 010–018

Publication history: Received on 19 November 2023; revised on 22 December 2023; accepted on 25 December 2023

Article DOI: <https://doi.org/10.56355/ijfrms.2023.2.1.0035>

## Abstract

Tax evasion and fraud are significant global challenges that undermine public finances, erode trust in tax systems, and exacerbate socioeconomic inequalities. Traditional methods for addressing these issues often fall short due to their inefficiencies and susceptibility to manipulation. This paper explores the transformative potential of blockchain technology and artificial intelligence (AI) in combating tax evasion and enhancing transparency in tax administration. Blockchain's core features, such as decentralization, immutability, and real-time transaction tracking, offer innovative solutions for secure tax record management and fraud prevention. Similarly, AI's capabilities in data analysis, pattern detection, and audit automation present new opportunities to identify and mitigate fraudulent activities. The paper also examines the challenges and ethical considerations associated with implementing these technologies, such as infrastructure demands, data privacy, and algorithmic bias. Recommendations are provided for policymakers, including modernizing tax infrastructure, fostering public-private partnerships, and promoting international cooperation. By leveraging blockchain and AI responsibly, tax authorities can revolutionize tax governance, enhance compliance, and rebuild public trust in taxation systems.

**Keywords:** Tax evasion; Tax fraud; Blockchain technology; Artificial intelligence; Transparency in taxation; Tax system innovation

## 1 Introduction

### 1.1 Overview of Tax Evasion and Fraud as Global Challenges

Tax evasion and fraud remain pervasive global issues with significant economic, social, and political ramifications. According to estimates from the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD), tax evasion costs governments trillions of dollars annually, undermining public finances and widening inequality (Unger, Rossel, & Ferwerda, 2021). Individuals and corporations employ various schemes, such as falsified financial statements, offshore accounts, and underreporting income, to avoid their tax obligations. This erodes public trust in tax systems and impairs the delivery of essential services, particularly in developing countries, where fiscal resources are often already constrained (Bourton, 2021).

Fraudulent practices in tax administration further complicate efforts to ensure compliance. Corruption among tax officials, opaque financial transactions, and the growing sophistication of evasion schemes challenge the effectiveness of traditional enforcement mechanisms. In an era of increasing digitalization and globalization, combating tax evasion

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and fraud requires innovative approaches that go beyond conventional audit techniques and punitive measures (Arewa & Davenport, 2022).

Transparency is widely regarded as a cornerstone of efficient tax administration and governance. A transparent tax system fosters trust between taxpayers and governments by ensuring that all entities are treated equitably and that revenues are used responsibly. Transparency also strengthens accountability, reducing the likelihood of corruption and mismanagement in tax collection and allocation (Okanga, 2020).

However, achieving transparency in tax systems is a complex endeavor. Many jurisdictions lack the technological infrastructure to track financial transactions effectively across borders. Additionally, resistance from stakeholders benefiting from opaque practices can impede reform (Fjord & Schmidt, 2023). The need for real-time monitoring, robust data management, and enhanced collaboration among tax authorities has never been more critical. Transparency ensures fairness and strengthens the social contract between governments and citizens, fostering voluntary compliance and reducing reliance on costly enforcement measures (Dimitropoulou, Govind, & Turcan, 2018).

### **1.2 Introduction to Blockchain Technology and Artificial Intelligence (AI) as Innovative Tools**

Blockchain technology and artificial intelligence (AI) have emerged as transformative tools with the potential to revolutionize tax administration. Blockchain, a decentralized and immutable digital ledger, provides unparalleled transparency and security in recording financial transactions. Its ability to create tamper-proof records ensures that all transactions are traceable and verifiable, significantly reducing opportunities for tax fraud. By enabling automated tax collection and compliance verification, blockchain technology can streamline administrative processes, reduce operational costs, and enhance trust in tax systems (Darwish, 2023).

On the other hand, AI offers powerful capabilities in data analysis and fraud detection. Machine learning algorithms can identify patterns of evasion and predict fraudulent behavior by analyzing large volumes of financial data. AI-powered systems can automate repetitive tasks, such as processing tax returns freeing resources for more strategic initiatives. Moreover, AI's ability to integrate data from multiple sources allows tax authorities to uncover hidden assets and income streams, making evasion schemes harder to execute (Tyagi, Aswathy, & Abraham, 2020).

Blockchain and AI provide complementary solutions that address the multifaceted challenges of tax evasion and fraud. While blockchain enhances transparency and data integrity, AI adds an intelligent layer of analysis and decision-making, creating a robust ecosystem for tax administration in the digital age (Agarwal, Agarwal, Agarwal, & Agarwal, 2021).

### **1.3 Objectives and Scope of the Paper**

This paper aims to explore the potential of blockchain technology and artificial intelligence as innovative solutions for tackling tax evasion and fraud. It provides a theoretical overview of the current challenges in tax systems and analyzes how these emerging technologies can address critical gaps in transparency and enforcement. The discussion focuses on the applications of blockchain in creating tamper-proof records and improving tax compliance and the role of AI in fraud detection and automated decision-making.

The scope of the paper is conceptual, emphasizing the theoretical frameworks and practical implications of integrating blockchain and AI into tax administration. Finally, the paper outlines recommendations for policymakers and stakeholders on leveraging blockchain and AI to create transparent, efficient, and equitable tax systems. By addressing the intersection of technology and governance, this paper contributes to the ongoing discourse on how digital innovation can strengthen public institutions and promote economic justice. In an increasingly interconnected world, adopting cutting-edge technologies is not merely an option but a necessity for building resilient and accountable tax systems capable of meeting the challenges of the 21st century.

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## **2 Current Challenges in Tackling Tax Evasion and Fraud**

### **2.1 Description of Existing Gaps in Tax Systems**

Tax systems worldwide are plagued by significant gaps that allow tax evasion and fraud to persist on a large scale. One of the primary challenges is the lack of comprehensive oversight mechanisms, especially in jurisdictions with limited technological capabilities. Many governments rely on outdated methods to track and collect taxes, which are inadequate for monitoring increasingly complex financial transactions. For instance, cross-border trade and investments, often facilitated by multinational corporations, frequently exploit loopholes in tax laws to shift profits to low-tax jurisdictions (Kudrle, 2021).

Another critical gap is the lack of standardized data-sharing mechanisms among tax authorities. In an era of globalization, financial activities often span multiple countries, making it difficult to trace taxable assets and income. The absence of synchronized international frameworks exacerbates this problem, as tax evaders exploit discrepancies in reporting requirements and enforcement strategies. Furthermore, the rise of digital assets, such as cryptocurrencies, has introduced new challenges, as these technologies enable anonymous transactions that are difficult to regulate (Alm, Beebe, Kirsch, Marian, & Soled, 2019).

In many cases, political and administrative inefficiencies hinder the implementation of robust tax collection systems. Corruption within tax authorities, inadequate training of personnel, and insufficient resources to conduct thorough audits create an environment where evasion and fraud can thrive. These systemic weaknesses undermine the credibility of tax systems, making compliance less attractive to honest taxpayers while emboldening those seeking to exploit gaps (I. C. Okeke, Agu, Ejike, Ewim, & Komolafe, 2022).

## **2.2 Analysis of Traditional Methods and Their Limitations**

While essential in maintaining baseline compliance, traditional methods of addressing tax evasion and fraud often fall short in tackling modern challenges. Most tax authorities rely on audits, penalties, and voluntary disclosure schemes to ensure compliance. However, these approaches are labor-intensive, time-consuming, and reactive rather than proactive (Brun et al., 2022).

Audits, a cornerstone of traditional tax enforcement, are typically limited in scope due to resource constraints. Tax authorities can only examine a fraction of tax returns submitted, leaving a vast majority unverified. This selective approach creates opportunities for evaders to escape detection. Additionally, audits often focus on uncovering past irregularities rather than preventing future offenses, making them an incomplete solution to systemic fraud (De Widt & Oats, 2022).

Penalties for tax evasion, while necessary, are not always effective deterrents. Many high-net-worth individuals and corporations view penalties as a manageable risk, particularly when weighed against the financial benefits of evasion. Legal loopholes and lengthy litigation processes further dilute the effectiveness of punitive measures. Voluntary disclosure programs, which encourage taxpayers to report undisclosed income in exchange for reduced penalties, have also proven to be of limited use. These schemes are temporary and rely heavily on the willingness of evaders to self-report, leaving the underlying structural issues unaddressed (Awasthi & Engelschalk, 2018).

Manual record-keeping systems and limited use of technology in tax administration compound these challenges. Traditional methods often fail to analyze large volumes of financial data effectively, leading to missed opportunities for fraud detection. As financial systems become increasingly digitized, reliance on outdated tools leaves tax authorities ill-equipped to combat sophisticated evasion strategies, such as offshore tax shelters and digital currency transactions (Moore, 2020).

## **2.3 Impact of Tax Evasion and Fraud on Economies**

The economic consequences of tax evasion and fraud are profound, affecting both developed and developing nations. One of the most immediate impacts is the loss of government revenue. Estimates suggest that tax evasion deprives governments of billions, if not trillions, of dollars annually. These losses constrain public budgets, reducing the funds available for critical investments in infrastructure, healthcare, education, and social welfare programs. In developing nations, where tax revenues are often already low, the impact can be devastating, exacerbating poverty and inequality (Siddiqui, 2019).

Tax evasion and fraud also distort market competition. Businesses that evade taxes gain an unfair advantage over compliant firms, undermining the principles of fair competition. This creates a race to the bottom, where even law-abiding companies may feel compelled to engage in questionable practices to remain competitive. Such distortions harm the overall business environment, discouraging foreign and domestic investment (Payne & Raiborn, 2018).

Moreover, tax evasion weakens public trust in governments and institutions. When citizens perceive that wealthy individuals and corporations are evading their tax obligations, it erodes confidence in the tax system's fairness. This disillusionment can lead to widespread non-compliance, creating a vicious cycle where reduced tax revenues further impair the government's ability to enforce compliance. Public dissatisfaction with unequal tax enforcement can also contribute to social unrest and political instability (Amahalu, Okoye, Obi, & Iliemena, 2019).

On a global scale, tax evasion contributes to economic inequality by concentrating wealth in the hands of a few while depriving governments of resources to address societal challenges. Illicit financial flows facilitated by tax evasion often find their way into tax havens, undermining efforts to promote global economic stability and fairness. The lack of transparency in tax systems also facilitates other forms of illicit activities, such as money laundering and corruption, further compounding the economic and social costs (I. Okeke, Agu, Ejike, Ewim, & Komolafe, 2023).

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### **3 Role of Blockchain Technology in Enhancing Tax Transparency**

#### **3.1 Key Features of Blockchain: Decentralization, Immutability, and Transparency**

At its core, Blockchain technology is a decentralized digital ledger system that records transactions securely, transparently, and immutable. Its unique attributes make it a revolutionary tool for enhancing tax transparency and combating fraud. Decentralization is one of the key pillars of blockchain. Unlike traditional systems where data is stored on a centralized server, blockchain distributes data across a network of nodes. Each participant in the network has access to a synchronized copy of the ledger, ensuring that no single entity has undue control over the information. This decentralized nature reduces the risk of corruption or manipulation by insiders, a common issue in traditional tax systems (Zarrin, Wen Phang, Babu Saheer, & Zarrin, 2021).

Immutability is another critical feature of blockchain. Once a transaction is recorded on the blockchain, it cannot be altered or deleted. This creates a tamper-proof system where all entries are permanent and verifiable. For tax authorities, this immutability is particularly valuable in ensuring that tax records remain accurate and resistant to fraud.

Transparency, perhaps the most transformative feature of blockchain, enables all participants to view the same set of data in real time. This openness fosters accountability, as any discrepancies or irregularities are immediately visible to all stakeholders. For taxpayers, transparency builds trust in the system, while for authorities, it provides a powerful tool for monitoring compliance and identifying anomalies (Bodkhe et al., 2020).

#### **3.2 Potential Applications in Tax Record Management and Fraud Prevention**

Blockchain's features lend themselves to numerous tax administration applications, particularly record management and fraud prevention. In tax record management, blockchain can create a unified platform for tracking and storing all financial transactions subject to taxation. By integrating blockchain with digital payment systems, tax authorities can automatically capture transaction data at the source, ensuring accurate and timely reporting. This eliminates the reliance on self-reported data, which is often susceptible to underreporting or misrepresentation (Laroiya, Saxena, & Komalavalli, 2020).

Blockchain can also streamline the collection of value-added tax (VAT), a significant source of revenue for many governments. By recording every step of the supply chain on the blockchain, authorities can track the flow of goods and services in real time, ensuring that the correct amount of VAT is collected at each stage. This reduces opportunities for VAT fraud, such as false invoicing or carousel schemes, which exploit weaknesses in traditional tax systems (Kremenova & Gajdos, 2019).

Another promising application is the use of smart contracts to automate tax compliance. Smart contracts are self-executing agreements embedded in blockchain code. In a tax context, these contracts can automatically calculate and deduct taxes from transactions, transferring the funds directly to government accounts. For instance, smart contracts could be used to ensure that gig economy workers and freelancers pay their taxes without requiring manual intervention.

In fraud prevention, blockchain provides unparalleled traceability. Authorities can use blockchain to trace the origin of funds, identify suspicious patterns, and verify the legitimacy of financial transactions. Tax authorities can create advanced fraud detection systems to identify evasion schemes in real time by linking blockchain data with artificial intelligence and machine learning algorithms (Dutta, Choi, Somani, & Butala, 2020). Blockchain also facilitates cross-border cooperation in tackling tax evasion. Through shared blockchain platforms, countries can exchange tax information securely and efficiently, closing gaps exploited by multinational corporations and individuals. This global collaboration is particularly critical in addressing tax havens and illicit financial flows (Viriyasitavat, Da Xu, Bi, & Pungpapong, 2019).

### **3.3 Challenges and Limitations of Implementing Blockchain in Tax Systems**

Despite its potential, implementing blockchain in tax systems is not without challenges and limitations. One significant hurdle is the high cost and complexity of integrating blockchain technology into existing tax infrastructures. Many governments, particularly in developing countries, lack the financial and technical resources required for large-scale blockchain implementation.

Scalability is another concern. Public blockchains, such as Bitcoin and Ethereum, often struggle with processing large volumes of transactions quickly and efficiently. For tax systems handling millions of transactions daily, this limitation could lead to delays and inefficiencies. While private blockchains offer greater scalability, they sacrifice some of the decentralization and transparency that make blockchain appealing (Bhujel & Rahulamathavan, 2022).

Interoperability is a further challenge. Tax authorities must ensure that blockchain systems can integrate seamlessly with other digital platforms, such as payment processors and financial institutions. This requires developing standardized protocols and fostering cooperation among diverse stakeholders, which can be time-consuming and complex.

Data privacy is also a critical consideration. While blockchain's transparency is a strength, it raises concerns about protecting sensitive taxpayer information. Balancing transparency with confidentiality requires robust encryption and access control measures, which can add to the complexity and cost of implementation (Dimitropoulos, 2020).

Regulatory and legal frameworks present additional obstacles. Blockchain operates in a relatively unregulated space, and many jurisdictions lack clear guidelines on its use in public administration. Governments must establish policies to govern blockchain implementation, addressing issues such as data ownership, dispute resolution, and compliance with existing tax laws. Finally, resistance to change can impede blockchain adoption. Accustomed to traditional systems, tax authorities may be hesitant to embrace a technology as disruptive as blockchain. Overcoming this resistance requires significant investment in training and capacity-building to ensure that officials understand and trust the new system (Hacker, Lianos, Dimitropoulos, & Eich, 2019).

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## **4 Leveraging Artificial Intelligence for Fraud Detection and Prevention**

### **4.1 AI Tools for Identifying Suspicious Patterns and Automating Tax Audits**

Artificial Intelligence (AI) has emerged as a powerful tool in the fight against tax evasion and fraud, offering advanced capabilities to identify suspicious patterns and automate tax audits. By leveraging machine learning algorithms, AI systems can analyze vast datasets to detect anomalies and uncover hidden relationships that indicate potential fraudulent activities.

One key application of AI in fraud detection is its ability to recognize patterns in financial transactions. Tax evasion schemes often involve complex maneuvers, such as misreporting income, under-invoicing, or hiding assets in offshore accounts. Traditional systems struggle to identify such irregularities, but AI-powered tools excel at sifting through enormous volumes of data to flag inconsistencies. For example, supervised learning models can be trained on historical tax data to identify known fraudulent behaviors, while unsupervised learning algorithms can uncover new, previously undetected schemes (Ganapathy, 2023).

AI also enhances the effectiveness of tax audits by automating key processes. Manual audits are resource-intensive, time-consuming, and often limited in scope. With AI, tax authorities can prioritize high-risk cases by evaluating taxpayers based on risk scores generated from multiple data points, such as income declarations, expense reports, and transaction histories. Natural Language Processing (NLP), a subset of AI, can analyze unstructured data, such as emails, contracts, and social media, to identify discrepancies or red flags. By automating these tasks, AI increases the efficiency of audits and reduces human error, ensuring a more accurate and consistent application of tax laws (Kemuma Ondeyo, 2023).

Predictive analytics, another AI-driven approach, helps tax authorities anticipate fraudulent behaviors before they occur. By studying historical data and trends, AI systems can predict potential tax evasion hotspots or industries prone to non-compliance. This proactive approach allows governments to allocate resources more effectively, focusing enforcement efforts where they are most needed (Gautam, 2023).

#### **4.2 Integration of AI with Existing Tax Infrastructure**

AI must be seamlessly integrated into existing tax infrastructure to achieve its full potential in combating tax fraud. This involves modernizing legacy systems, creating interoperable platforms, and fostering collaboration among various stakeholders. Most tax administrations currently rely on outdated systems that are ill-equipped to handle the complexity and scale of modern financial transactions. Upgrading these systems to support AI requires significant investment in both hardware and software. Cloud computing can play a crucial role in this transition, providing the necessary scalability and computational power for AI applications. Tax authorities can enable real-time analysis and decision-making by storing and processing data on cloud platforms (Rikhardsson, Kristinn, Bergthorsson, & Batt, 2022).

Integration also requires interoperability between AI tools and other digital systems, such as payment processors, banking platforms, and blockchain networks. For instance, combining AI with blockchain technology can create a synergistic system where the transparency and immutability of blockchain data complement the analytical power of AI. This integration can enhance traceability and accountability, making it even harder for evaders to manipulate financial records (Bello et al., 2023).

Collaboration is essential for successful integration. Tax authorities must work closely with technology providers, financial institutions, and international organizations to standardize data formats, establish secure data-sharing protocols, and ensure compliance with privacy regulations. Public-private partnerships can facilitate this process, leveraging the expertise of private sector innovators to develop tailored AI solutions for tax governance (Fasnacht & Fasnacht, 2018).

Training and capacity-building are equally important. Tax officials need to understand how AI tools work and how to interpret their outputs effectively. Without proper training, there is a risk that AI-generated insights may be misused or ignored, undermining the system's effectiveness. Governments must invest in educational programs and create specialized teams to oversee AI implementation and operation (Chang, Iakovou, & Shi, 2020).

#### **4.3 Ethical and Operational Considerations in AI-Driven Tax Governance**

While AI offers transformative potential for fraud detection and prevention, its deployment raises several ethical and operational concerns that must be addressed to ensure fair and responsible use. One major ethical concern is the potential for bias in AI algorithms. Suppose the training data used to develop AI models reflects historical inequities or systemic biases. The resulting algorithms may disproportionately target certain groups or individuals in that case. For example, small businesses or individuals from underrepresented communities might be flagged more frequently than larger corporations, creating a perception of unfairness. Tax authorities must ensure that AI systems are trained on diverse and representative datasets and regularly audited for bias to mitigate this risk.

Data privacy is another critical issue. AI systems require access to vast amounts of taxpayer information to function effectively, raising concerns about the potential misuse or unauthorized access to sensitive data. Governments must implement robust cybersecurity measures, such as encryption and multi-factor authentication, to protect taxpayer information. Additionally, transparent data governance policies should be established, clearly defining how data is collected, stored, and used.

Operationally, the reliance on AI introduces challenges related to accountability and oversight. AI systems often operate as "black boxes," producing difficult results to interpret or explain. This lack of transparency can make it challenging to hold authorities accountable for decisions based on AI-generated insights. To address this, governments should prioritize the use of explainable AI (XAI) technologies, which provide clear and interpretable outputs. Additionally, human oversight should remain a central component of AI-driven tax systems, ensuring that qualified personnel review and validate critical decisions (Mittelstadt, 2021). The cost of implementing AI is another consideration. Developing, deploying, and maintaining AI systems requires significant financial resources, which may be a barrier for low-income countries. International cooperation and funding mechanisms, such as grants or loans from development agencies, can help bridge this gap, enabling all countries to benefit from AI innovations (Pakarinen & Huisig, 2023).

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## **5 Conclusion and Recommendations**

Tax evasion and fraud remain persistent global challenges that undermine public revenues, erode trust in tax systems, and exacerbate inequality. While effective in some respects, traditional methods of combating these issues often fall short due to their reliance on manual processes, limited scalability, and vulnerability to manipulation. This paper has highlighted how emerging technologies, specifically blockchain and artificial intelligence (AI), offer innovative solutions to enhance transparency, streamline tax administration, and detect fraud more efficiently.

With its defining features of decentralization, immutability, and transparency, Blockchain technology presents a transformative approach to tax governance. Its ability to create tamper-proof records, automate compliance through smart contracts, and facilitate real-time financial transaction tracking can significantly reduce tax fraud opportunities. Similarly, AI's advanced data analytics capabilities can identify suspicious patterns, automate audits, and predict potential non-compliance, making it a critical tool for modern tax authorities. However, the adoption of these technologies is not without challenges, including high costs, ethical concerns, and the need for robust infrastructure and legal frameworks.

- Governments and policymakers must adopt a strategic and inclusive approach to harness the potential of blockchain and AI in tackling tax evasion and fraud. The following recommendations outline key steps for successful implementation:
- Governments should invest in upgrading existing tax systems to support the integration of blockchain and AI technologies. This includes adopting cloud-based solutions, ensuring interoperability with other digital platforms, and creating secure data-sharing protocols.
- Policymakers must establish clear regulatory guidelines to govern the use of blockchain and AI in tax administration. These frameworks should address issues such as data ownership, privacy, and compliance with existing tax laws while promoting international cooperation to combat cross-border tax evasion.
- Collaboration with technology providers and financial institutions is essential for developing customized solutions that meet the unique needs of tax authorities. Public-private partnerships can also help share the financial burden of implementation and ensure access to cutting-edge expertise.
- The successful deployment of blockchain and AI requires a workforce equipped with the necessary skills to manage and operate these technologies. Governments should invest in training programs for tax officials and create specialized teams to oversee the integration process.
- Tax authorities should adopt explainable AI (XAI) technologies to address concerns about bias and accountability and implement regular audits of AI systems. Transparency in data governance and decision-making processes is crucial to maintaining public trust.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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## References

- [1] Agarwal, J., Agarwal, M., Agarwal, A., & Agarwal, Y. (2021). Economics of cryptocurrencies: Artificial intelligence, blockchain, and digital currency. In *Information for efficient decision making: big data, blockchain and relevance* (pp. 331-430): World Scientific.
- [2] Alm, J., Beebe, J., Kirsch, M. S., Marian, O., & Soled, J. A. (2019). New technologies and the evolution of tax compliance. *Va. Tax Rev.*, 39, 287.
- [3] Amahalu, N. N., Okoye, P. V., Obi, J. C., & Iliemena, R. O. (2019). Effect of tax leakages on economic development of Nigeria. *Journal of Global Accounting*, 6(1), 104-128.
- [4] Arewa, M., & Davenport, S. (2022). The Tax and Technology Challenge. *Innovations in Tax Compliance: Building Trust, Navigating Politics, and Tailoring Reform*.
- [5] Awasthi, R., & Engelschalk, M. (2018). Taxation and the shadow economy: how the tax system can stimulate and enforce the formalization of business activities. *World Bank Policy Research Working Paper*(8391).
- [6] Bello, O. A., Folorunso, A., Onwuchekwa, J., Ejiofor, O. E., Budale, F. Z., & Egwuonwu, M. N. (2023). Analysing the Impact of Advanced Analytics on Fraud Detection: A Machine Learning Perspective. *European Journal of Computer Science and Information Technology*, 11(6), 103-126.
- [7] Bhujel, S., & Rahulamathavan, Y. (2022). A survey: Security, transparency, and scalability issues of nft's and its marketplaces. *Sensors*, 22(22), 8833.
- [8] Bodkhe, U., Tanwar, S., Parekh, K., Khanpara, P., Tyagi, S., Kumar, N., & Alazab, M. (2020). Blockchain for industry 4.0: A comprehensive review. *Ieee Access*, 8, 79764-79800.

- [9] Bourton, S. (2021). *A critical and comparative analysis of the prevention of tax evasion through the application of law and enforcement policies in the United Kingdom and United States of America*. University of the West of England,
- [10] Brun, J.-P., Gomez, A., Julien, R., Ndubai, J., Owens, J., Rao, S., & Soto, Y. (2022). *Taxing crime: a whole-of-government approach to fighting corruption, money laundering, and tax crimes*: World Bank Publications.
- [11] Chang, Y., Iakovou, E., & Shi, W. (2020). Blockchain in global supply chains and cross border trade: a critical synthesis of the state-of-the-art, challenges and opportunities. *International Journal of Production Research*, 58(7), 2082-2099.
- [12] Darwish, D. (2023). Blockchain and artificial intelligence for business transformation toward sustainability. In *Blockchain and its Applications in Industry 4.0* (pp. 211-255): Springer.
- [13] De Widt, D., & Oats, L. (2022). Imagining cooperative tax regulation: Common origins, divergent paths. *Critical Perspectives on Accounting*, 102446.
- [14] Dimitropoulos, G. (2020). The law of blockchain. *Wash. L. Rev.*, 95, 1117.
- [15] Dimitropoulou, C., Govind, S., & Turcan, L. (2018). Applying modern, disruptive technologies to improve the effectiveness of tax treaty dispute resolution: Part 1. *Intertax*, 46, 856.
- [16] Dutta, P., Choi, T.-M., Somani, S., & Butala, R. (2020). Blockchain technology in supply chain operations: Applications, challenges and research opportunities. *Transportation research part e: Logistics and transportation review*, 142, 102067.
- [17] Fasnacht, D., & Fasnacht, D. (2018). *Open innovation in the financial services*: Springer.
- [18] Fjord, L. B., & Schmidt, P. K. (2023). The digital transformation of tax systems progress, pitfalls, and protection in a Danish context. *Ind. J. Global Legal Stud.*, 30, 227.
- [19] Ganapathy, V. (2023). AI in auditing: A comprehensive review of applications, benefits and challenges. *Shodh Sari-An International Multidisciplinary Journal*, 2(4), 328-343.
- [20] Gautam, A. (2023). The evaluating the impact of artificial intelligence on risk management and fraud detection in the banking sector. *AI, IoT and the Fourth Industrial Revolution Review*, 13(11), 9-18.
- [21] Hacker, P., Lianos, I., Dimitropoulos, G., & Eich, S. (2019). *Regulating blockchain: techno-social and legal challenges*: Oxford University Press.
- [22] Kemuma Ondeyo, R. (2023). *Impact of Artificial Intelligence (AI) on Auditing Intelligence*. Dublin Business School,
- [23] Kremenova, I., & Gajdos, M. (2019). Decentralized networks: The future internet. *Mobile Networks and Applications*, 24(6), 2016-2023.
- [24] Kudrle, R. T. (2021). Moves and countermoves in the digitization challenges to international taxation. *Technology in Society*, 64, 101453.
- [25] Laroiya, C., Saxena, D., & Komalavalli, C. (2020). Applications of blockchain technology. In *Handbook of research on blockchain technology* (pp. 213-243): Elsevier.
- [26] Mittelstadt, B. (2021). Interpretability and transparency in artificial intelligence. *The Oxford Handbook of Digital Ethics* (online edn, Oxford Academic, 10 Nov. 2021), <https://doi.org/10.1093/oxfordhb/9780198857815.013.20>.
- [27] Moore, M. (2020). What is wrong with African tax administration? In: International Centre for Tax and Development Brighton, UK.
- [28] Okanga, O. O. (2020). Trust and efficiency in tax administration: The silent role of policy-based legitimate expectation in Nigeria. *Journal of Tax Administration* (2020-Forthcoming).
- [29] Okeke, I., Agu, E., Ejike, O., Ewim, C., & Komolafe, M. (2023). A policy model for regulating and standardizing financial advisory services in Nigeria's capital markets. *International Journal of Frontline Research and Reviews*, 1(04), 040-056.
- [30] Okeke, I. C., Agu, E. E., Ejike, O. G., Ewim, C. P.-M., & Komolafe, M. O. (2022). A conceptual model for financial advisory standardization: Bridging the financial literacy gap in Nigeria. *International Journal of Frontline Research in Science and Technology*, 1(02), 038-052.



- [31] Pakarinen, P., & Huising, R. (2023). Relational expertise: What machines can't know. *Journal of Management Studies*.
- [32] Payne, D. M., & Raiborn, C. A. (2018). Aggressive tax avoidance: A conundrum for stakeholders, governments, and morality. *Journal of business ethics*, 147, 469-487.
- [33] Rikhardsson, P., Kristinn, T., Bergthorsson, G., & Batt, C. (2022). Artificial intelligence and auditing in small-and medium-sized firms: Expectations and applications. *Ai Magazine*, 43(3), 323-336.
- [34] Siddiqui, K. (2019). Corruption and economic mismanagement in developing countries. *The World Financial Review*, 1(1).
- [35] Tyagi, A. K., Aswathy, S., & Abraham, A. (2020). Integrating blockchain technology and artificial intelligence: Synergies perspectives challenges and research directions. *Journal of Information Assurance and Security*, 15(5), 1554.
- [36] Unger, B., Rossel, L., & Ferwerda, J. (2021). *Combating Fiscal Fraud and Empowering Regulators: Bringing tax money back into the COFFERS*: Oxford University Press.
- [37] Viriyasitavat, W., Da Xu, L., Bi, Z., & Pungpapong, V. (2019). Blockchain and internet of things for modern business process in digital economy—the state of the art. *IEEE transactions on computational social systems*, 6(6), 1420-1432.
- [38] Zarrin, J., Wen Phang, H., Babu Saheer, L., & Zarrin, B. (2021). Blockchain for decentralization of internet: prospects, trends, and challenges. *Cluster Computing*, 24(4), 2841-2866.