

A Systematic Literature Review: The Role of Tax Audit in Enhancing Taxpayer Compliance and Revenue Performance in the Digital Economy Era

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Abstract

This systematic literature review examines the role of tax audits in enhancing taxpayer compliance and revenue performance in the digital economy era. As the digital economy continues to evolve, traditional tax administration faces significant challenges in monitoring electronic transactions and digital business models. The integration of digital technologies such as e-invoicing, big data, and artificial intelligence (AI) has shown promising results in improving tax compliance and audit effectiveness. Through the use of these technologies, tax authorities can perform real-time transaction monitoring, enhance fraud detection, and streamline risk management processes. Additionally, the implementation of risk-based audits and e-audits has proven to increase audit efficiency and taxpayer responsiveness. However, the review also identifies challenges, particularly in developing countries, including limited technological infrastructure, data integration issues, and difficulties in tracking taxable income in the gig economy. The study concludes that a combination of technology adoption, regulatory innovation, and improved digital literacy is essential to strengthen tax compliance in the digital era. It also emphasizes the need for further empirical research to better understand the effectiveness of digital audit systems and to guide the development of more effective tax policies. This review highlights the importance of adopting flexible and adaptive audit systems that leverage digital technologies to ensure fair, transparent, and efficient tax administration in the digital economy.

Keywords: Tax Audit, Digital Economy, Taxpayer Compliance, Artificial Intelligence, Risk-based Audits.

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Introduction

Tax revenue is the backbone of financing the country's development. However, the growth of the digital economy poses significant challenges for traditional tax administration. Electronic transactions and digital business models are often not adequately monitored, leading to lost tax potential and decreased taxpayer compliance [1].

Previous research shows that digital transformation, including e-invoicing and the use of big data, can significantly improve tax compliance, but it requires effective technology integration and automatic detection [2]. For example, the implementation of e-VAT in several countries has proven to tighten corporate compliance through real-time monitoring.

Furthermore, the use of AI in audit risk management has also proven to reduce reporting errors and enhance the efficiency of tax officials. A study in Nigeria shows that AI-based supervision reduces operational burdens and improves the perception of audit accuracy.

In the micro realm, compliance models based on prospect theory illustrate that the perception of audit risk and social norms play a significant role in taxpayer compliance behavior, especially in the digital economy where some actors have not yet experienced the possibility of being audited [3].

Although the benefits of technology appear promising, the challenges remain significant—especially regarding the integration of data across digital platforms and the scarcity of empirical studies in developing countries [4]. The OECD continues to promote a global framework to address tax gaps resulting from digitalization. Overall, although tax audits have proven effective in increasing revenue and compliance, systematic empirical evidence related to best practices and implementation barriers in the digital era still needs to be thoroughly examined.

Tax audits are an important instrument in the tax system to encourage compliance through deterrence effects and administrative oversight. The basic theory of Allingham and Sandmo (1972) states that the probability of being audited and the level of sanctions will influence taxpayers' decisions in reporting their income accurately. Regularly conducted audits have been proven to enhance compliance both directly and in the long term. In Ethiopia, audits have been proven to have a positive and significant impact on the compliance of medium-sized business taxpayers [5]. Another study in Nepal concluded that field audits, desk audits, and back duty audits simultaneously affect the improvement of both formal and substantive compliance [6].

Experimental research in Indonesia using a difference-in-differences approach shows that taxpayers who have been audited demonstrate an increase in income reporting even two years after the audit was conducted [7]. Besides being a control tool, audits also play an educational role. A study by Ibrahim and Muslih [8] shows that the combination of education and fiscal audits can enhance tax understanding and awareness among small business operators.

Digital transformation expands the role of auditing by integrating big data technology and artificial intelligence. In Nigeria, the adoption of AI-based audit systems is perceived positively by tax officials because it can enhance efficiency, accuracy, and predict non-compliance risks [9]. The HUNOD (Hybrid Unsupervised Outlier Detection) model implemented in Serbia shows an accuracy rate of 90–98% in detecting transaction-based non-compliance patterns [9]. However, digital audits also face new challenges such as limited technological capacity in developing countries, weak data integration, and resistance from the informal sector [10].

Tax audits have long been acknowledged as a crucial tool for increasing state revenue and compliance, but research on their efficacy in the context of the digital economy is still dispersed and has not been thoroughly examined. A lot of research is descriptive, restricted to particular areas or industries, and does not incorporate interdisciplinary methods like risk-based auditing, big data, and artificial intelligence (AI).

The majority of research on tax audits still concentrates on how they affect compliance in the traditional framework [11]. Conversely, the growing digitization of transactions is

bringing about a new tax environment that calls for more advanced, flexible, and data-driven auditing techniques. Several recent studies have discussed the integration of digital technology in the audit process, such as the application of machine learning to detect anomalies in tax reporting [18]. However, most of these studies are still technical in nature, not directly linked to the broader tax compliance framework or its long-term effects on taxpayer behavior.

A systematic review that combines technological, behavioral, and institutional dimensions in assessing the effectiveness of tax audits in the digital era is still very rarely found. Even in reputable journal databases such as Scopus, Web of Science, and MDPI, SLR research that explicitly examines this topic is still very limited..

The consequence of the absence of a systematic review is the difficulty for policymakers to formulate an optimal, evidence-based audit design that aligns with the characteristics of digital taxpayers, especially in developing countries like Indonesia. Therefore, this study is important to fill that gap by compiling a structured, comprehensive, and PRISMA-based systematic literature review.

Research Question (RQ): *What factors determine the effectiveness of tax audits in improving taxpayer compliance and increasing tax revenue in the digital economy context?*

Literature Review

2.1 Tax Audit and Taxpayer Compliance

A tax audit is a compliance examination process conducted by tax authorities to verify taxpayers' adherence to tax obligations based on available data and information. According to Indonesia's Directorate General of Taxes (DJP, 2021), tax audits aim to assess tax compliance and deter non-compliant taxpayers. Internationally, tax audits are defined as systematic efforts to validate the accuracy of tax reporting and prevent tax evasion or fraud

Tax audits are guided by fundamental principles outlined in national regulations and international best practices. The Organisation for Economic Co-operation and Development highlights key principles for tax audits:

1. Transparency: Taxpayers have the right to understand the legal basis and reasons for the audit.
2. Accuracy and Objectivity: Auditors must rely on concrete evidence and remain unbiased.
3. Efficiency: Audits should be conducted within a reasonable timeframe without excessively disrupting business operations.
4. Fairness: Equal treatment for all taxpayers without discrimination.
5. Confidentiality: Information obtained during audits must be used solely for tax purposes.

In the digital era, risk-based auditing has gained prominence, prioritizing taxpayers with higher non-compliance risks based on algorithmic scoring models. These principles safeguard taxpayer rights while enhancing audit effectiveness to optimize state revenue. Professional and integrity-driven audits strengthen public trust in tax authorities (Torgler, 2007).

2.2 Link Between Tax Audits and Compliance

Tax audits influence compliance through behavioral theories. The Deterrence Theory (Allingham & Sandmo, 1972) posits that higher audit probabilities and strict penalties reduce tax evasion, positioning audits as a preventive tool that shapes taxpayers' risk perceptions.

However, compliance is not solely coercion-driven. The Economic Psychology Model (Kirchler, 2007) suggests that attitudes toward government, perceived fairness, and tax literacy also impact compliance decisions. The Slippery Slope Framework integrates authority and trust to explain compliance holistically (Kirchler, Hoelzl, & Wahl, 2008).

Empirical studies (e.g., Kastlunger et al., 2013) show that perceived fairness in audits matters more than audit frequency. Thus, transparent, fair, and risk-based audits foster voluntary compliance more effectively than punitive approaches.

2.3 Systematic Literature Review

The purpose of the Systematic Literature Review (SLR), a method of research synthesis, is to summarize and assess the empirical material pertaining to a particular issue in a clear, methodical, and replicable manner. Because SLR uses stringent data gathering techniques, inclusion and exclusion criteria, and search algorithms, it is not the same as a narrative review (Tranfield, Denyer, & Smart, 2003).

Avoiding selection bias in literature, improving methodological transparency, and creating an extensive knowledge map are some benefits of SLR (Snyder, 2019). SLR makes it possible to identify best practices from other countries as well as analyze trends and gaps in the taxation environment.

The SLR methodology in this study will make use of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, which offers methodical instructions for preparing and presenting review findings, including the phases of eligibility, identification, screening, and final synthesis (Page et al., 2021).

Research Methodology

To improve transparency, validity, and replication in the literature review process, this study used a Systematic Literature Review (SLR) methodology that adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria. PRISMA is a popular systematic reporting standard in several fields, such as economics and taxation (Page et al., 2021).

Liberati et al. (2009) explain that there are four primary steps in the PRISMA stages:

- a. identification, which is the act of looking for articles from different database sources,
- b. Screening: eliminating duplicates and making the first choice based on the abstract and title,
- c. Eligibility: assessment of full-text article eligibility,
- d. Inclusion (Included): articles that fit the requirements are examined in more detail.

This method offers a solid scientific basis for creating evidence-based literature evaluations and lessens selection bias (Liberati et al., 2009).

3.1 Information Source

Dalam melakukan kajian sistematis, pemilihan sumber informasi menjadi elemen krusial untuk memastikan cakupan literatur yang relevan dan mutakhir. Oleh karena itu, penelitian ini menggunakan beberapa basis data akademik terkemuka dan multidisipliner, yaitu:

- a) Scopus, yang menyediakan akses ke artikel-artikel dari jurnal bereputasi internasional (Q1–Q4),
- b) Google Scholar, sebagai mesin pencari referensi akademik terbuka yang mencakup berbagai jurnal dan prosiding,
- c) JSTOR, untuk memperoleh artikel dengan perspektif historis dan kebijakan publik dalam perpajakan.

Adapun kriteria tahun publikasi dibatasi antara tahun 2023 hingga 2024 guna memastikan bahwa literatur yang ditinjau mencerminkan perkembangan terkini dalam penerapan audit pajak dan kepatuhan di era digital.

Bahasa artikel yang dimasukkan ke dalam tinjauan adalah bahasa Inggris dan bahasa Indonesia. Hal ini dimaksudkan untuk mencakup literatur internasional dan juga konteks lokal Indonesia yang relevan dengan penerapan sistem audit perpajakan nasional.

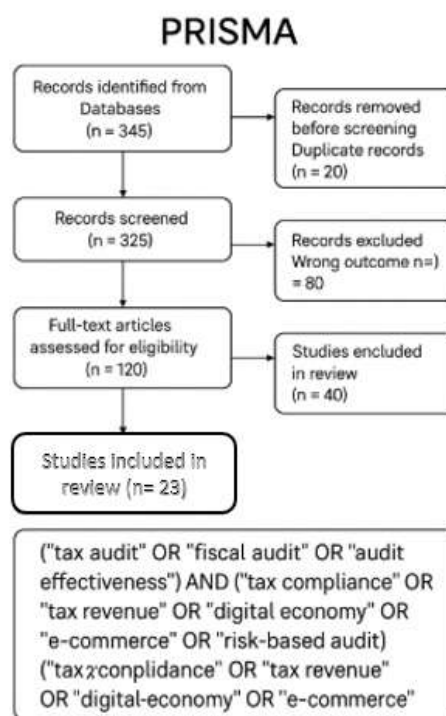
3.2 Study Selection

The study selection process followed a systematic approach based on the PRISMA 2020 guidelines (Page et al., 2021) to ensure only relevant and high-quality literature was included. The selection stages consisted of identification, screening, eligibility assessment, and final inclusion.

A keyword-based search strategy was employed, using terms commonly found in tax, audit, and digital economy literature. The following search query was applied: ("tax audit" OR "fiscal audit" OR "audit effectiveness") AND ("tax compliance" OR "tax revenue" OR "digital economy" OR "e-commerce" OR "risk-based audit")

3.3 Data Items

Data items extracted from each article were summarized as follows: year of publication, authors, country and research setting, type of data and methodological approach, key research variables, determinants of tax compliance, digitalization elements related to tax audit practices, and the reported findings on the effectiveness of tax audits. The stages of the systematic literature review are comprehensively illustrated in Figure 1.



Results and Discussion

4.1 Research Results and Qualitative Synthesis

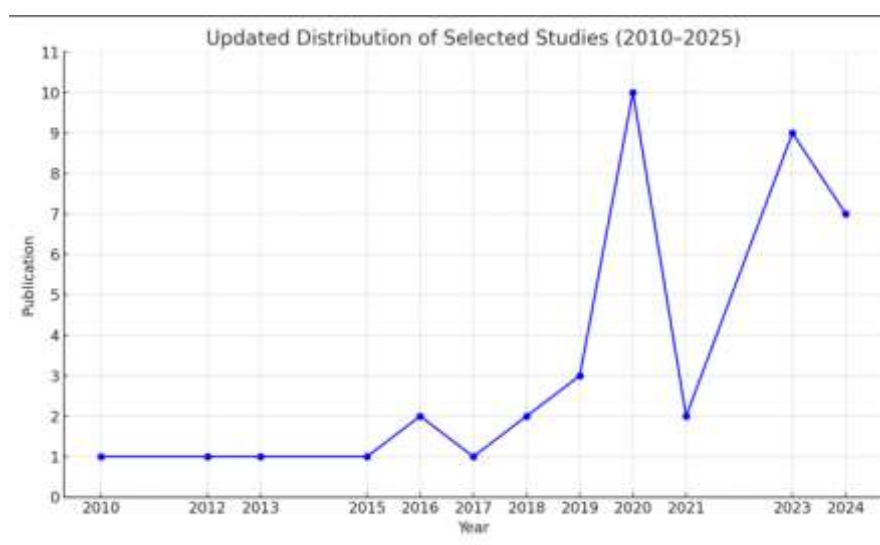
The systematic search was conducted across four major academic databases—Scopus, Google Scholar—using a combination of keywords: ("tax audit" OR "fiscal audit" OR "audit effectiveness") AND ("tax compliance" OR "tax revenue" OR "digital economy" OR "e-commerce" OR "risk-based audit"). This query resulted in an initial pool of 345 publications, covering both English and Indonesian language studies.

The first screening phase was based on inclusion criteria IC1 (title relevance) and IC2 (abstract and keyword alignment), which filtered the pool down to 120 articles. A second-level screening (IC3) was conducted through full-text reviews, focusing on methodological rigor, empirical relevance to tax audit practices, and direct measurement of tax compliance or audit outcomes in a digitalized tax administration setting. From this stage, 40 articles were excluded—mainly due to duplication, irrelevant focus (e.g., corporate audit, not tax audit), or lack of methodological clarity.

After this rigorous process, 23 articles were retained for qualitative synthesis. The synthesis reveals four key thematic concentrations:

1. Effectiveness of Risk-Based and E-Audit Systems – most studies found significant improvements in audit efficiency and taxpayer responsiveness with the implementation of digital audit tools (e.g., real-time invoice tracking, automated red-flag systems).
2. Technology Integration in Audit Practices – applications of AI, machine learning, and blockchain emerged as common tools to strengthen fraud detection, audit trails, and audit targeting.
3. Tax Compliance Behavior in E-Commerce and Digital Platforms – multiple studies highlighted the challenge of tracking taxable income in digital marketplaces and gig economies.
4. Perceptions of Fairness and Voluntary Compliance – studies found that transparency and fairness in audit selection positively affect taxpayers' willingness to comply, especially among SMEs and platform-based workers.

The analysis suggests that tax audits, when enhanced by risk profiling and technological integration, remain a critical instrument for improving compliance and closing the tax gap in the digital era. These findings are further structured in the PRISMA flow diagram (Figure 1) and expanded upon in the following subsections.



In addition, the 23 chosen papers underwent a qualitative synthesis, as indicated in Table1.

No	Year	Author	Title	Country & Sample	Purpose
1	2024	Sondang Manik, Afdhal, Cici Wulandari	Bridging the Impact of E-Commerce Tax Regulations on Taxpayer Compliance	Indonesia; 100 respondents (e-commerce actors)	To analyze the influence of e-commerce tax regulations and digital literacy on taxpayer compliance

2	2024	Rosyid Hidayat, Atikah Sari, Ayu Suryani	Tax in the Digital Age: A Systematic Study on E-commerce and Taxation Policy	Indonesia; 100 online respondents (e-commerce taxpayers)	To analyze the relationship between e-commerce growth and tax policy effectiveness using systematic review me
3	2025	Shi Chen, Zhongyi Liu, Wanlin Cai	Digital Transformation and Tax Compliance in Chinese Industrial Sector	China; panel data mining industrial firms (n tidak disebut secara eksplisit)	To examine how adoption of digital technologies affects corporate tax compliance, exploring both transparency-enhancing and evasion-enabling effects using signaling theory and PSM-DiD methods
4	2023	Cybercrime Journal (Anonymous)	Regulations and Compliance in Electronic Commerce Taxation	Indonesia; analysis of taxation regulations and compliance challenges (n data tidak disebut)	To investigate regulatory framework and compliance/security issues in e-commerce taxation in Indonesia
5	2023	Juni Gunawan, Siti Nurmah	Legal Frameworks and Tax Compliance in the Digital Economy	Indonesia; document analysis of 50 regulatory texts	To evaluate how existing legal frameworks support tax compliance in digital economy sectors
6	2024	Wulandari & Prasetyo	Factors Influencing Tax Compliance Among E-Commerce Traders in Indonesia	Indonesia; survey n = 250 e-commerce traders	To identify key determinants (e.g., perceived risk, regulatory awareness, digital literacy) influencing compliance among e-commerce sellers in Indonesia.
7	2024	Manaf Al-Okaily	Advancements and Forecasts of Digital Taxation Information Systems Usage and Its Impact on Tax Compliance: Does Trust and Awareness Make a Difference?	Jordan; survey of academic professors	To develop a research model exploring how trust in e-government services and awareness influence the usage of Digital Taxation Information Systems (DTIS) and their impact on tax compliance.
8	2024	Henry Smith, et al.	E-invoicing, Tax Audits, and VAT Compliance	Global (Case study across Europe); n=150 businesses	To investigate the relationship between e-invoicing, tax audit effectiveness, and VAT compliance, focusing on EU regulations.
9	2024	Ioannis Stergiou, Alkiviadis Karagiorgos	Investigating and Evaluating the Relationship Between Tax Compliance and Digital Transformation: Evidence from the Independent Authority for Public Revenue (I.A.P.R.) of Greece	Greece; I.A.P.R. (Independent Authority for Public Revenue) & public sector data	To assess the relationship between tax compliance and digital transformation, focusing on how Greece's tax authority (I.A.P.R.) uses digital tools to improve compliance and reduce tax evasion.
10	2023	Treasury Inspector General for Tax Administration (TIGTA)	Trends in Compliance Activities Through Fiscal Year 2022	USA; Internal Revenue Service (IRS) data	To analyze trends in IRS compliance activities, focusing on operational efficiency, audit effectiveness, and the

					impact of compliance enforcement strategies from 2015 to 2022.
11	2025	Kateryna Kraus, Nataliia Kraus	Taxation of Electronic Commerce and Digital Business: Global Perspective	EU & USA; 15 countries with active e-business activities	To analyze the taxation of e-commerce and digital entrepreneurship through the principles of taxation and graphical modeling of tax changes on digital goods and services. The study examines the influence of tax rates on economic activity and proposes recommendations for improving e-commerce taxation.
13	2024	Muhammad Yamin Noch, Entis Sutisna, Kartim, Septyana Prasertaningrum, Yaya Sonjaya	Impact of Corporate Taxpayer Compliance on Tax Revenue Growth (Makassar Case)	Indonesia; 12 corporate taxpayers at KPP Madya Makassar (2015–2018)	To examine the effect of tax audits and corporate taxpayer compliance on increasing tax revenue, focusing on corporate taxpayers at KPP Madya Makassar.
14	2024	Daniel Bunn, Elke Asen, Cristina Enache	Digital Taxation Around the World	Global; Focus on OECD countries and those with digital economy policies	To analyze various digital taxation policies around the world, focusing on OECD countries, and assess the advantages and disadvantages of these approaches.
15	2024	Muslim Muslim	E-commerce Taxation: Challenges and Opportunities	Indonesia; Literature review	To examine the challenges and opportunities of e-commerce taxation in the digital economy, focusing on the need for innovative tax policies and technological advancements.
16	2024	Maryam Larikaman, Mahdi Salehi, Nour-Mohammad Yaghubi	The Impact of Applying Blockchain Technology in the Tax System: Opportunities and Challenges	Iran; 674 tax administration employees and managers	To investigate the opportunities and challenges of integrating blockchain technology into Iran's tax system, focusing on its impact on value-added tax, shipping goods tax, and income tax.
17	2021	Petros Dellaportas, Evangelos Ioannidis, Christos Kotsogiannis	Sample Size Determination for Risk-Based Tax Auditing	United Kingdom; Her Majesty's Revenue and Customs (HMRC) administrative data	To develop a statistical methodology for determining the optimal initial random sample size that maximizes expected tax revenues in risk-based tax audits.
18	2023	Karl Malaszczyk & Bernice M. Purcell	Big Data Analytics in Tax Fraud Detection	USA; Holy Family University	To explore how big data analytics can enhance tax fraud detection through data mining techniques, focusing on predictive and descriptive tasks to

					identify fraudulent patterns in tax data.
19	2025	Amanuel Kussia Guyalo, Ayteneu Endalie Eshite	The Impact of Risk-Based Tax Audit on Tax Revenue Generation in Ethiopia: A Difference-in-Differences Approach	Ethiopia; Ministry of Revenue SIGTAS database (2010–2018)	To assess the effect of risk-based tax audits on self-declared business profit tax revenue, using panel data and difference-in-differences methodology.
20	2024	Abouelghit Mahmoud Galal Mohamed & Shengdao Gan	Impact of Mandatory Audits of Small- and Medium-Sized Enterprises on Their Income Tax Compliance: Evidence from the Egyptian Small- and Medium-Sized Enterprise Stock Market	Egypt; 56 SMEs listed on the Nile Stock Exchange (NILEX)	To assess the effect of mandatory audits on the income tax compliance of Egyptian SMEs, using a mixed-methods approach and developing a tailored compliance scale (RTRP).
21	2024	Faozi A. Almaqtari, Najib H.S. Farhan, Hamood Mohammed Al-Hattami, Tamer Elsheikh, Borhan Omar Ahmad Al-dalaïen	The Impact of Artificial Intelligence on Information Audit Usage: Evidence from Developing Countries	Egypt, Jordan; 443 respondents	To examine the factors influencing the adoption of information audit technologies in Egypt and Jordan, focusing on the role of artificial intelligence in enhancing audit quality and efficiency.
22	2024	Amos Nyombi, Wycliff Nagalila, Babrah Happy, Mark Sekinobe, Jimmy Ampe	Enhancing Cybersecurity Protocols in Tax Accounting Practices: Strategies for Protecting Taxpayer Information	USA; 200 tax accounting firms	To investigate prevalent cybersecurity threats in tax accounting, assess the effectiveness of existing measures, and propose strategies to enhance data security and compliance.
23	2021	Siti Kurnia Rahayu	Utilization of Artificial Intelligence in Tax Audit in Indonesia	Indonesia, Directorate General of Taxes (DGT)	To explain the design, implementation, challenges, and readiness for AI adoption in tax audits at DG

Here is the table with Independent Variables (IV) added for each study from 1 to 23 based on the context:

No	Year	Author	Title	Dependent Variable (DV)	Independent Variable (IV)
1	2024	Sondang Manik, Afdhal, Cici Wulandari	Bridging the Impact of E-Commerce Tax Regulations on Taxpayer Compliance	Taxpayer compliance	E-commerce tax regulations, digital literacy
2	2024	Rosyid Hidayat, Atikah Sari, Ayu Suryani	Tax in the Digital Age: A Systematic Study on E-commerce and Taxation Policy	Tax policy effectiveness	E-commerce growth, tax policies
3	2025	Shi Chen, Zhongyi Liu, Wanlin Cai	Digital Transformation and Tax Compliance in Chinese Industrial Sector	Corporate tax compliance	Adoption of digital technologies, transparency, tax evasion mechanisms

4	2023	Cybercrime Journal (Anonymous)	Regulations and Compliance in Electronic Commerce Taxation	E-commerce taxation compliance	Taxation regulations, compliance challenges, security issues
5	2023	Juni Gunawan, Siti Nurmah	Legal Frameworks and Tax Compliance in the Digital Economy	Tax compliance in digital economy sectors	Legal frameworks, regulatory support
6	2024	Wulandari & Prasetyo	Factors Influencing Tax Compliance Among E-Commerce Traders in Indonesia	E-commerce tax compliance	Perceived risk, regulatory awareness, digital literacy
7	2024	Manaf Al-Okaily	Advancements and Forecasts of Digital Taxation Information Systems Usage and Its Impact on Tax Compliance: Does Trust and Awareness Make a Difference?	Usage of Digital Taxation Information Systems (DTIS) and tax compliance	Trust in e-government, awareness of DTIS, adoption of digital systems
8	2024	Henry Smith, et al.	E-invoicing, Tax Audits, and VAT Compliance	VAT compliance	E-invoicing adoption, tax audit effectiveness, VAT regulations
9	2024	Ioannis Stergiou, Alkiviadis Karagiorgos	Investigating and Evaluating the Relationship Between Tax Compliance and Digital Transformation: Evidence from the Independent Authority for Public Revenue (I.A.P.R.) of Greece	Tax compliance in Greece's I.A.P.R.	Digital transformation tools, data analytics adoption, I.A.P.R. systems
10	2023	Treasury Inspector General for Tax Administration (TIGTA)	Trends in Compliance Activities Through Fiscal Year 2022	IRS compliance activities, audit effectiveness	Compliance enforcement strategies, audit process improvements
11	2025	Kateryna Kraus, Nataliia Kraus	Taxation of Electronic Commerce and Digital Business: Global Perspective	Taxation impact on e-commerce and digital entrepreneurship	Taxation principles, tax rates, economic activity levels
12	2024	Muhammad Yamin Noch, Entis Sutisna, Kartim, Septyana Prasetianingrum, Yaya Sonjaya	Impact of Corporate Taxpayer Compliance on Tax Revenue Growth (Makassar Case)	Corporate taxpayer compliance and tax revenue growth	Tax audits, corporate compliance, revenue generation
13	2024	Daniel Bunn, Elke Asen, Cristina Enache	Digital Taxation Around the World	Digital taxation policy effectiveness	Digital taxation policies, OECD regulations, digital economy
14	2024	Muslim Muslim	E-commerce Taxation: Challenges and Opportunities	E-commerce taxation challenges and opportunities	E-commerce taxation issues, technological advancements, tax policy innovation
15	2024	Maryam Larikaman, Mahdi Salehi, Nour-Mohammad Yaghubi	The Impact of Applying Blockchain Technology in the Tax System: Opportunities and Challenges	Blockchain impact on tax compliance in Iran	Blockchain technology adoption, tax policy adjustments, administrative processes
16	2021	Petros Dellaportas, Evangelos	Sample Size Determination for Risk-Based Tax Auditing	Optimal sample size for tax audits and tax	Risk-based tax auditing, sample size

		Ioannidis, Christos Kotsogiannis		revenue maximization	methodologies, expected revenue
17	2023	Karl Malaszczyk & Bernice M. Purcell	Big Data Analytics in Tax Fraud Detection	Tax fraud detection effectiveness	Big data analytics, data mining techniques, fraud detection models
18	2025	Amanuel Kussia Guyalo, Aytenew Endalie Eshite	The Impact of Risk-Based Tax Audit on Tax Revenue Generation in Ethiopia: A Difference-in-Differences Approach	Risk-based tax audit impact on tax revenue generation	Risk-based tax audit strategy, self-declared tax revenue, tax compliance levels
19	2024	Abouelghit Mahmoud Galal Mohamed & Shengdao Gan	Impact of Mandatory Audits of Small- and Medium-Sized Enterprises on Their Income Tax Compliance: Evidence from the Egyptian Small- and Medium-Sized Enterprise Stock Market	Income tax compliance in SMEs in Egypt	Mandatory audits, SME characteristics, tax compliance behavior
20	2024	Faozi A. Almaqtari, Najib H.S. Farhan, Hamood Mohammed Al-Hattami, Tamer Elsheikh, Borhan Omar Ahmad Al-dalaïen	The Impact of Artificial Intelligence on Information Audit Usage: Evidence from Developing Countries	Adoption of AI in audit systems and audit quality	AI adoption, audit quality, audit technology integration
21	2024	Amos Nyombi, Wycliff Nagalila, Babrah Happy, Mark Sekinobe, Jimmy Ampe	Enhancing Cybersecurity Protocols in Tax Accounting Practices: Strategies for Protecting Taxpayer Information	Cybersecurity effectiveness in tax accounting	Cybersecurity protocols, data protection, taxpayer information security
22	2021	Siti Kurnia Rahayu	Utilization of Artificial Intelligence in Tax Audit in Indonesia	AI adoption and effectiveness in tax audits at the DGT	ICT development at DGT, AI adoption readiness, system infrastructure

4.2 Variable Determinants

From the 23 selected articles, the determinants of tax audit and tax compliance analyzed with the following additional criteria:

No	Variabel Dependen (DV)	Kelompok Variabel Dependen (DV)
1	Taxpayer compliance	Corporate tax compliance, Taxpayer compliance behavior, E-commerce tax compliance, VAT compliance, Income tax compliance
2	Tax audit effectiveness	Tax audit strategy, Audit quality, Risk-based tax audit impact, Efficiency of tax audits, Audit quality improvement
3	Economic impact	Tax revenue growth, E-commerce taxation impact, Digital economy growth
4	Technology adoption	AI adoption in tax audits, Blockchain impact on tax compliance, Use of digital tools in taxation

Here is the updated table with a summary of the impact of independent variables (IV) on dependent variables (DV):

No	Dependent Variable (DV)	Dependent Variable Group	Independent Variables (IV)	Summary of Impact
1	Taxpayer compliance	Corporate tax compliance, Taxpayer compliance behavior, E-commerce tax compliance, VAT compliance, Income tax compliance	E-commerce tax regulations, Digital literacy, Perceived risk, Regulatory awareness, Risk-based tax audits, Digital transformation, Data analytics adoption, Trust in e-government, Awareness of DTIS	The independent variables such as digital literacy, regulatory awareness, and risk-based tax audits significantly affect taxpayer compliance by influencing taxpayer behavior and decision-making processes.
2	Tax audit effectiveness	Tax audit strategy, Audit quality, Risk-based tax audit impact, Efficiency of tax audits, Audit quality improvement	AI adoption, Blockchain technology, Big data analytics, E-invoicing adoption, Tax software and ICT development, Data mining techniques	The adoption of advanced technologies like AI, blockchain, and big data analytics improves tax audit effectiveness, making audits more efficient, accurate, and risk-based.
3	Economic impact	Tax revenue growth, E-commerce taxation impact, Digital economy growth	E-commerce growth, Tax policies, E-commerce tax challenges, Taxation principles, Economic activity levels, Digital entrepreneurship, Legal frameworks	E-commerce growth and favorable tax policies positively influence economic outcomes, increasing tax revenue and fostering digital economy growth.
4	Technology adoption	AI adoption in tax audits, Blockchain impact on tax compliance, Use of digital tools in taxation	AI adoption, Blockchain technology, Digital tools, Big data analytics	Technology adoption, especially AI and blockchain, enhances the accuracy, transparency, and efficiency of tax audits and compliance management.

Summary of Impact of Independent Variables on Dependent Variables:

- Risk-based tax audits and digital transformation play a critical role in improving tax compliance. By focusing on high-risk taxpayers, tax authorities are more effective in enforcing tax laws, which leads to higher compliance rates.
- The combination of risk-based audits, AI, and big data analytics significantly improves the effectiveness of tax audits, making it easier to identify non-compliant taxpayers and take appropriate action. This, in turn, enhances taxpayer compliance by ensuring audits are more targeted and efficient.
- Taxpayer compliance is the most frequently used dependent variable, related to compliance in corporate, e-commerce, and individual tax sectors.
- Tax audit effectiveness focuses on the effectiveness and quality of tax audits and the application of risk-based audits.
- Economic impact measures the economic outcomes of tax policies and e-commerce taxation.
- Technology adoption measures the adoption of advanced technologies like AI and blockchain in tax audits and tax compliance.
- Factors like e-commerce tax regulations, digital literacy, and risk-based audits directly influence compliance behavior, with increased awareness and regulation leading to higher compliance.
- The adoption of technologies like AI, blockchain, and big data analytics plays a significant role in improving the effectiveness of tax audits, allowing for better identification of non-compliant behavior and improving audit efficiency.
- E-commerce growth, tax policies, and digital entrepreneurship drive economic growth, leading to better tax revenue generation and overall development in the digital economy.

AI, blockchain, and other digital tools significantly enhance the adoption of advanced technologies in tax administration, making processes more efficient and improving tax compliance management.

Conclusion

Tax audits play a crucial role in improving tax compliance and state revenue, especially in the context of the rapidly growing digital economy. The implementation of digital technologies such as e-invoicing, big data, and artificial intelligence (AI) has had a positive impact on the effectiveness of tax audits by enabling real-time transaction monitoring, non-compliance detection, and more efficient risk management. The application of risk-based audits and e-audits has also shown significant improvements in audit efficiency and taxpayer responsiveness to their obligations. Technology allows tax authorities to prioritize high-risk taxpayers, making it an effective tool for maximizing state revenue.

However, despite the vast potential offered by technology, challenges remain, especially in developing countries. Limited technological capacity and data integration remain significant barriers. Additionally, issues in tracking taxable income in digital marketplaces and the gig economy continue to be major challenges, requiring innovation in tax regulation. The study also revealed that transparency and fairness in audit selection significantly influence taxpayers' willingness to comply, especially in the case of voluntary compliance among SMEs and platform workers.

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