AI Adoption for Productivity Tax Consultant: A Literature Review

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A B S T R A C T

The rapid adoption of Artificial Intelligence (AI) has significantly transformed the professional services sector, particularly in tax consultancy. This literature review aims to demonstrate that AI integration enhances the productivity of tax consultants by streamlining routine tasks and enabling more strategic decision-making. The study synthesizes findings from peer-reviewed articles, case studies, and industry reports published over the past decade, focusing on the implementation of AI technologies such as machine learning, natural language processing, and robotic process automation within tax consulting practices. The analysis reveals that AI tools substantially reduce the time spent on manual data processing, minimize human errors, and increase the speed and accuracy of tax reporting. These improvements allow consultants to allocate more time to value-added services, such as client advisory and tax planning, thereby boosting overall efficiency and service quality. Moreover, AI enables consultants to handle larger volumes of data, offering deeper insights and faster responses to client needs. Despite these advantages, the literature also highlights several challenges, including data privacy concerns, technological resistance, and the need for continuous upskilling. Addressing these issues is critical for maximizing AI's potential in the consulting domain. This review contributes to the growing knowledge of AI's role in the digital transformation of professional services. It offers valuable insights for tax consulting firms seeking to enhance their productivity through AI adoption. It underscores the strategic importance of embracing technology to remain competitive in a rapidly evolving industry.

1. Introduction

Artificial Intelligence (AI) is no longer a futuristic concept; AI is now changing the way professionals work across various industries. In the tax consulting sector, AI offers unique opportunities to redefine how consultants manage data, analyze regulations, and provide services to clients. Traditionally, tax consultants have relied on manual processes to fulfill their advisory and compliance roles. However, as tax regulations become increasingly complex and clients demand faster and more accurate solutions, these traditional methods are becoming increasingly inefficient. This literature review argues that the adoption of AI technology has the potential to significantly improve the productivity of tax consultants. The use of Artificial Intelligence (AI) in the field of tax consulting is gaining increasing attention. Several studies show that the benefits in terms of efficiency, as well as the improvement in service quality, are becoming more accessible to tax consultants' clients. This technology helps tax consultants manage large amounts of data in a short time, verify compliance with ever-changing regulations, and identify fiscal risks that were

previously difficult to detect manually. One of the main contributions of AI in tax consulting is its ability to automate repetitive and time-consuming work processes, such as transaction data entry, tax document classification, and tax liability calculations, which can be directly handled by machine learning-based systems or robotic process automation (RPA), as well as the development of chatbots to provide quick responses, such as the Live Chat Pajak feature on the pajak.go. Additionally, AI enhances transparency and accountability through clear tracking of digital transactions and helps predict and assess risks more accurately [1].

Thus, AI is not merely an operational tool but also a catalyst for transforming the role of tax consultants toward a more strategic direction. Additionally, AI can assist tax consultants in analyzing historical patterns and trends, opening opportunities to facilitate decision-making based on data. The existence of a predictive system based on intelligent algorithms can identify tax reporting discrepancies or opportunities for tax savings more proactively. This will improve the quality of service to clients, thereby strengthening trust and loyalty [1]. However, the adoption of AI in tax consulting also faces some challenges, such as the digital competency gap among tax practitioners. Many tax consultants who have been working for a long time are unable to adapt to the latest technological systems. This is further exacerbated by the lack of training programs on how to operate AI-based software. A study by Moustafa Al Najjar [2] highlights several key challenges of AI, including the lack of training and experience hindering AI adoption, the need for adequate competencies and infrastructure, the limitations of AI and the possibility of errors, and the risk of dependency on technology. Another challenge that often raises concerns is the risk to client privacy and data confidentiality. The implementation of AI, which requires large amounts of data and in-depth analysis, if not done carefully, can lead to potential leaks of sensitive information. This not only threatens reputation but also poses serious legal risks, especially in jurisdictions with strict data protection regulations, such as the General Data Protection Regulation (GDPR) in Europe. Some literature highlights the aspect of technological dependency. In some cases, tax consulting firms collaborate with third-party software providers to implement AI solutions.

This dependency introduces various risks to service continuity and system security. As shown in research conducted by Assidi, S. et al., [3], there are risks to data security and ethical control. If damage or technical errors occur, this could halt the entire business process. There are also challenges in change management and vulnerability to cyberattacks. Despite the various challenges that need to be anticipated, the potential benefits of AI are generally very helpful for the productivity of tax consultants. Time efficiency, improved accuracy, and the ability to provide more responsive services are the main advantages that can drive a tax consulting firm to compete. Therefore, further research on implementation strategies, success factors, and the long-term impact of AI adoption in tax consulting services is crucial to providing more in-depth empirical contributions to the development of literature and professional practice.

1.1 Background

Tax consulting is a highly skilled profession that requires precision, critical thinking, and a grasp of rapidly changing tax codes. Consultants often handle repetitive and time-consuming tasks such as data entry, document classification, and compliance monitoring. AI offers solutions to streamline these functions through tools such as robotic process automation (RPA), natural language processing (NLP), and machine learning (ML). These technologies can automate data processing, identify patterns, and generate insights that enable consultants to shift from operational tasks to strategic decision-making [4,5]. In Indonesia, where tax digitization efforts such as Coretax and e-filing systems are underway, consultants are being pushed towards digital readiness. However, barriers such as lack of AI awareness, inadequate digital infrastructure, and uneven technical literacy persist, especially among smaller firms [6]. Despite these challenges, global and

local evidence suggests that AI can improve productivity through higher reporting accuracy, faster turnaround times, and increased client satisfaction [2,7]. The role of AI in tax consulting services is increasingly relevant in line with government policies that encourage digitalization in tax administration. This can be seen through its application in systems such as e-filing, e-billing, e-invoices, and the Core Tax Administration System (CTAS), which require tax consultants to be able to adapt to increasingly rapid technological developments. One of the main contributions of the use of AI is the ability to carry out data-driven decision making, namely, helping to make decisions based on historical and predictive data analysis. This allows tax consultants to develop more accurate tax planning strategies, identify risks, and provide recommendations tailored to client profiles. The implementation of AI in accounting covers a wide range of applications ranging from the use of Robotic Process Automation (RPA) to automate data input, machine learning to predict cash flow and fraud detection and Natural Language Processing (NLP) in investor sentiment analysis and more interactive reporting [8]. The application of RPA in tax and accounting consulting in Indonesia has begun gradually, especially in large companies or multinational consulting offices. Regarding tax compliance monitoring, machine learning algorithms are beneficial in detecting suspicious transaction patterns and indications of tax evasion. AI can process data in large volumes and high complexity that is difficult to handle manually.

This feature not only increases the accuracy of supervision but also minimizes the risk of errors that often occur if done manually. Research by Muhammad Rizal et al., [9], also noted that AI can strengthen the efficiency and transparency of the tax system, the entire tax administration process can be tracked digitally, big data and blockchain as supporters of transparency that can prevent tax evasion, and Law Number 7 of 2021 concerning Harmonization of Tax Regulations is a strong legal basis. However, the application of AI in tax consulting practices in Indonesia still has several serious obstacles. One of them is the limited technological infrastructure in some regions, and the lack of digital literacy also makes the adoption process slow. Many tax practitioners choose to use manual methods due to a lack of knowledge about the use of AI. Other challenges include client data privacy and the risk of information leakage due to the use of digital systems. However, the use of AI also shows several very significant benefits, such as increased reporting accuracy, time efficiency, and higher client satisfaction.

1.2 Problem Statement

Although the benefits of Artificial Intelligence (AI) in the accounting and tax sector have been widely recognized in the literature, most studies have focused more on the integration of AI at the organizational level or in a purely technological context. Research that discusses the practical impact of AI on the productivity of individual tax consultants is very limited, especially in developing countries such as Indonesia. This research gap is due to the lack of research that specifically examines how AI tools can directly improve the productivity of tax consultants in their daily work, rather than just at the system or organizational level. As a result, many tax consultants have yet to fully utilize the potential of this technology in improving the efficiency and accuracy of their work, which in turn can improve their performance in meeting their clients' tax obligations. Most of the existing literature on AI in tax and accounting focuses on the benefits of technologies such as robotic process automation (RPA) and machine learning at the macro or organizational scale, with little attention paid to how AI affects individual productivity at the tax consultant level. While a large number of large tax consulting firms may have started integrating AI tools to improve the efficiency and accuracy of their operations, individual practitioners in this sector, especially those in small firms or SMEs, still rely heavily on manual methods for most of their tasks. This leads to inefficiencies in their daily work, especially in handling big data and the complexity of ever-growing tax regulations. Previous studies have focused more on the macro benefits of AI

without looking deeper into how AI helps individual tax consultants in improving data-driven decisions, reducing errors, and optimizing time. For example, in a study by Olabanji et al. [10], the application of machine learning in tax administration has been shown to improve the accuracy of tax reporting in various countries, with some case studies showing an increase in accuracy of up to 30% in reports using this technology.

This study shows that AI technology can speed up the process and improve accuracy in managing tax transaction data, but further research on its impact on individual tax consultants is still lacking, especially in Indonesia, where the adoption of AI in tax practice is still limited to large sectors and is less common in individual practices. In addition, the adoption of AI in Indonesia is also limited to large sectors, while small and medium tax consultants still face significant challenges in utilizing this technology. Most MSME tax consultants in Indonesia do not yet have sufficient digital competence to implement AI tools, and also face digital infrastructure barriers that do not support the implementation of AI. Research by Rahayu and Suaidah [6] noted that low digital literacy among Indonesian tax consultants has slowed down the adoption of this technology. As a result, 80% of tax consultants from MSMEs still rely on manual processes in data management and tax compliance, which hinders productivity and efficiency improvements in their daily work. The gap between the potential of AI technology and the limitations of adoption in the tax consulting sector hinders the ability of practitioners and policymakers to evaluate the value proposition of AI in the context of tax consultants' daily work. Without a deeper understanding of the direct impact of AI on individual productivity, policies proposed by the government or regulators may not be effective enough in supporting the implementation of AI in the tax sector.

Furthermore, without a clear empirical analysis of the challenges and benefits of AI at the individual level, it is difficult for tax practitioners to assess to what extent they should adopt this technology and what practical benefits they can gain. This study aims to fill the existing research gap by focusing on the impact of AI on the productivity of individual tax consultants in Indonesia. This research will explore how AI tools, such as machine learning, robotic process automation (RPA), and chatbots, can improve the productivity of individual tax consultants, particularly in terms of data processing, tax analysis, discrepancy detection, and data-driven decision-making. It will also identify key challenges facing the adoption of AI in the sector, including digital competency, technology infrastructure, and data privacy risks, and provide practical recommendations for practitioners and policymakers to address these barriers.

1.3 Objectives and Scope

The primary objective of this research is to explore the impact of Artificial Intelligence (AI) adoption on the productivity of individual tax consultants, particularly in the context of Indonesia. Despite the recognized benefits of AI in the broader accounting and tax sectors, little research has focused on its practical effects on the daily operations of individual tax consultants. This study aims to fill this gap by examining how AI technologies, such as machine learning, robotic process automation (RPA), and predictive analytics, enhance the efficiency, accuracy, and decision-making capabilities of tax consultants.

The specific objectives of this research include:

1. To analyze how AI tools improve the operational efficiency of individual tax consultants by automating routine tasks like data entry, tax calculation, and compliance monitoring.
2. To evaluate the impact of AI on the quality of services provided by tax consultants, particularly in terms of client satisfaction, error reduction, and strategic decision-making.
3. To identify the challenges faced by tax consultants in adopting AI, including digital literacy, infrastructure limitations, and data privacy concerns.
4. To provide recommendations for overcoming these challenges and facilitating the adoption

of AI in the tax consulting profession.

This study focuses on the adoption of AI in the field of tax consultancy, specifically within the context of Indonesia, a country where the adoption of AI is still in the developmental phase. The research will primarily concentrate on individual tax consultants, rather than large firms, as they face unique challenges in implementing AI tools due to limited resources and technological infrastructure.

The scope of the study is defined by the following parameters:

1. Geographic Scope: The research will be conducted in Indonesia, a developing country with a growing demand for digital tax solutions, but where the infrastructure and digital literacy required for AI adoption are still emerging. This research will explore both urban and rural settings, reflecting the challenges and opportunities in different geographical areas.
2. Technological Scope: The study will focus on specific AI tools used in the tax consulting profession, including robotic process automation (RPA), machine learning (ML), predictive analytics, and natural language processing (NLP). The research will assess how these tools can be applied to improve tax consultants' productivity, decision-making, and service quality.
3. Professional Scope: The study will focus on individual tax consultants rather than large organizations, as they are more likely to face barriers in adopting AI due to a lack of resources, training, and infrastructure. This will include a diverse range of consultants, including those working in small and medium-sized enterprises (SMEs).
4. Temporal Scope: The research will consider the current state of AI adoption as of 2024, and its potential implications for the future of tax consulting in Indonesia. This will allow an understanding of both the existing challenges and the future prospects of AI in the industry.
5. Data Scope: The study will rely on both qualitative and quantitative data from surveys, interviews with tax consultants, and secondary data sources such as academic journals, government reports, and industry studies. The research will also consider case studies of AI adoption in similar developing countries.

This study will contribute to a better understanding of how AI can transform the tax consulting profession by offering empirical evidence on its effectiveness, adoption barriers, and potential for improving the performance of tax consultants, particularly in a developing country like Indonesia. Additionally, the findings will provide practical recommendations for policymakers and tax consultants on overcoming adoption challenges and maximizing the benefits of AI in this sector.

2. Literature Review

Artificial Intelligence (AI) is increasingly positioned as a critical tool in improving the performance of professional services, including tax consulting. Many studies have explored the role of AI in improving efficiency, reducing human error, and supporting strategic decision-making across accounting-related functions. However, the specific relationship between AI adoption and tax consultant productivity remains under-researched. This section reviews key findings from previous studies to establish the current state of knowledge on AI in tax consulting. It highlights how AI contributes to consultant performance, outlines adoption challenges, and identifies gaps in the literature that informed the methodology of this study. As technology advances, the adoption of Artificial Intelligence (AI)-based technologies has become an essential part of the global taxation landscape. AI is a vital element in improving the efficiency and effectiveness of tax consulting services. Tax consultants play a crucial role as intermediaries between tax authorities and taxpayers.

The application of AI allows them to access data faster, analyze transactions in real-time, and minimize errors in interpreting complex regulations. In addition, AI also helps in automated tax

reporting processes, such as e-invoicing, e-filing, which speed up services to clients and reduce administrative costs. Research by Belahouaoui and Attak [11] confirms that AI is able to strengthen transparency and accountability in the tax system because every transaction process can be tracked digitally. AI also plays an important role in detecting suspicious patterns, such as attempted tax evasion, analyzing taxpayer behavior, and predicting potential fraud with high accuracy through tax algorithms such as random forests or neural networks. These findings are relevant for tax consultants in understanding the dynamics of client compliance in the context of the digital era. According to other research results, AI has a significant positive impact on increasing professional responsibility, digital workplace efficiency, and the development of academic programs and software knowledge [3]. However, there are still several major challenges that need to be overcome, such as technical difficulties, change management, and the need for intensive training. Therefore, the adoption of AI also requires reform of the tax profession education curriculum, including training that focuses on tax technicalities and includes digital compensation. This is in line with the OECD's Tax Administration 3.0 approach, which encourages digital transformation by increasing the capacity of tax human resources. Digital literacy is very important to understand how the big data and machine learning-based tax system works, which is now starting to be implemented in various jurisdictions, including Indonesia. For example, Indonesia initiated the modernization of the tax system through the implementation of a core tax system and the use of natural language processing (NLP) to automatically answer general questions from taxpayers.

This is done so that tax consultants can compete and remain relevant by equipping themselves with the ability to use digital platforms and understand how the technology works for client tax planning. Rahayu & Suaidah [6] highlight the importance of improving digital competence for Indonesian tax consultants because even though tax digitalization is growing, the biggest challenge remains the lack of access to technology and training. Thus, the synergy between AI adoption and increasing digital literacy is one of the strategic imperatives of digital taxation. Tax consultants who master both will be better prepared to help clients achieve efficient and ethical tax compliance while supporting tax authorities in creating a transparent, accountable, and equitable tax system.

2.1 Related Work

Artificial Intelligence (AI) has increasingly been seen as a vital tool in improving the efficiency, accuracy, and strategic decision-making in various professional services, including tax consultancy. While many studies focus on the broad adoption of AI at the organizational level, fewer have explored its application at the level of individual tax consultants, particularly in developing countries like Indonesia. This section reviews key findings from prior research to provide an overview of the AI tools used in tax consultancy, identifies challenges faced during adoption, and highlights gaps in the literature that this study intends to address.

AI Tools in Tax Consultancy

Many studies have examined the potential of AI tools such as machine learning (ML), robotic process automation (RPA), and natural language processing (NLP) in enhancing tax consultancy functions. These tools help automate routine administrative tasks such as data entry, transaction classification, and tax calculations, improving both efficiency and accuracy. For example, Olabanji et al. [10] found that the use of machine learning (ML) algorithms can significantly improve the accuracy of tax filings. By automating the data analysis process, AI reduces human error and leads to faster processing times. Their study showed that ML can increase the accuracy of tax filings by 30%, which is a significant improvement, particularly in high-volume tax environments. This finding aligns with research from Sadovenko et al. [12], which demonstrated that RPA can automate tasks such as data entry and classification, reducing the time spent on administrative

work and allowing tax consultants to focus on higher-level tasks, like tax planning and advisory services. Natural Language Processing (NLP) technology has been used in the context of Islamic finance to automate client interactions through AI-based chatbots. These chatbots can provide real-time automated responses to client queries using natural language processing. As such, this technology reduces the human workload of answering routine administrative queries. Similar applications can be adapted in the field of tax consulting, where AI chatbots will answer routine questions from clients about tax status, provide information about compliance requirements, and inform them about tax deductions. This allows tax consultants to serve clients more quickly, efficiently, and responsively, so they can focus on more strategic value-added services (Khusaini et al., [13]).

Barriers to AI Adoption in Tax Consultancy

Despite the clear benefits of AI tools, the adoption of AI in individual tax consultancy remains limited, particularly in small-to-medium enterprises (SMEs) or individual practices. Several studies have identified key barriers to AI adoption, such as a lack of digital literacy, infrastructure limitations, and costs associated with implementation. Rahayu & Suaidah [6] emphasize that although Indonesia has taken significant steps toward digitalizing tax systems, including the introduction of e-filing and e-billing, individual tax consultants face challenges in adopting AI tools. 60% of tax consultants in Indonesia still rely on manual methods for processing tax data, mainly due to limited access to digital resources and a lack of AI knowledge. This is especially true in smaller firms, where consultants may not have the necessary training to effectively implement AI technologies like machine learning and robotic process automation (RPA). In addition to digital literacy, infrastructure limitations also pose a significant challenge. Al Najjar et al. [2] argue that smaller firms in developing economies often face greater barriers to AI adoption due to limited access to high-speed internet, modern computing devices, and cloud-based platforms. These factors delay the widespread adoption of AI in smaller tax consultancy practices, further widening the gap between larger firms and individual practitioners. Furthermore, privacy and data security concerns remain a critical issue when AI tools are used to process sensitive client data. Fatturroyhan [14] highlights that the integration of AI in tax consultancy increases the risk of data breaches, especially in countries with strict data protection laws. This raises concerns about how AI tools can be used safely and ethically to manage confidential tax data.

Benefits of AI Adoption in Tax Consultancy

Despite the challenges, AI adoption offers significant benefits for tax consultants, particularly in improving efficiency, accuracy, and client satisfaction. RPA and ML are particularly valuable in automating routine tasks that would otherwise require significant time and effort, such as data entry, transaction processing, and tax calculation. As noted by Amrullah et al. [15], these AI tools can reduce the time required for administrative tasks by 20-30%, allowing consultants to allocate more time to strategic planning and consulting activities that provide greater value to clients. Moreover, machine learning can be used to predict future tax liabilities or identify opportunities for tax optimization based on historical data. By analyzing trends and patterns, AI can provide tax consultants with data-driven insights that help them offer more informed advice to clients. According to Sadovenko et al. [12], predictive analytics powered by AI can significantly improve a consultant's ability to offer personalized advice, increasing the quality of service and client trust. With accounting processes becoming more automated and less time consuming, accountants are becoming more engaged with their clients and expanding their consulting services in everyday business operations. Integrating AI into the accountants' work can enhance their capabilities. AI

can assist in data analysis, automation of routine tasks, and providing relevant data for decision-making, leading to increased efficiency and reduced error risk." (Khusaini et al., 2024, p. 44) [13].

2.2 Research Gap

While significant research has been conducted on the adoption of Artificial Intelligence (AI) in accounting and tax consultancy, there remains a substantial gap in understanding the specific impact of AI adoption on the productivity and efficiency of individual tax consultants, particularly in developing countries like Indonesia. While many studies focus on AI implementation at the organizational level or in macro-scale applications, the adoption of AI at the individual level, especially in small-scale tax consultancy practices, has received far less attention. Research by Olabanji et al. [10] and Sadovenko et al. [12] explored machine learning (ML) and robotic process automation (RPA) in large organizations, noting their success in automating repetitive tasks such as data entry, transaction classification, and tax calculations. These studies have primarily focused on the efficiency gains in large firms, but individual tax consultants—especially in smaller firms or independent practices—face different barriers and challenges. Fatturroyhan [14] mentions that the lack of AI tools in smaller firms is mainly due to resource constraints, including limited financial resources, technical support, and digital infrastructure. This gap in the literature is further highlighted by Rahayu & Suaidah [6], who note that despite government-led efforts to digitalize tax systems in Indonesia—such as e-filing and e-billing—the adoption of AI in individual tax practices remains low. In their study, they found that 60% of tax consultants in Indonesia still rely heavily on manual processes for data entry and tax calculations due to insufficient AI awareness and a lack of adequate training.

This gap underscores the need for research that focuses specifically on AI tools for individual practitioners and explores how these tools can be effectively applied in smaller, independent tax consultancy practices. Furthermore, digital literacy remains a significant barrier to AI adoption, especially in smaller firms. Al Najjar et al. [2] highlight that digital literacy plays a critical role in AI adoption—without the necessary knowledge and training, consultants may fail to leverage the potential of AI tools. In Indonesia, digital literacy remains a challenge, particularly in rural areas or smaller firms, where access to training on AI tools is minimal. Rahayu & Suaidah [6] argue that while Indonesia has made strides in digital tax reforms, the lack of trained personnel and technological infrastructure continues to hinder widespread AI adoption in the country. Another important issue that has not been adequately addressed in existing research is the impact of AI on data privacy and security concerns. As AI tools process large volumes of sensitive tax data, concerns about data breaches and non-compliance with data protection regulations (such as GDPR) are critical. Fatturroyhan [14] emphasizes that, especially in developing countries like Indonesia, AI tools must be accompanied by robust data privacy protocols to ensure compliance with both national regulations and international standards. However, data protection issues are often overlooked in the discussion about AI adoption, particularly for small-scale consultants who may not have the resources to invest in secure systems.

Existing studies also do not sufficiently address the specific challenges faced by tax consultants in Indonesia, where the adoption of AI tools is still in the early stages. Indonesia, despite its rapid move toward digital taxation, still faces many challenges related to AI infrastructure and training. Al Najjar et al. [2] explain that infrastructure constraints in developing countries often prevent AI tools from being implemented in smaller firms due to insufficient access to high-speed internet, modern computing devices, and cloud technologies. In the case of Indonesia, the challenges are even more pronounced in rural areas, where access to digital infrastructure remains limited. Furthermore, while AI adoption has been widely studied in the context of large organizations, individual consultants face different issues that require focused research. Studies have largely ignored the unique challenges faced by individual practitioners

working with small and medium clients. These include limited resources, the need for practical, affordable solutions, and access to AI training programs. This research gap highlights the need for more focused studies on how AI adoption can be tailored for individual consultants in small and medium-sized tax consultancy practices.

This research aims to fill these gaps in the existing literature by exploring how AI tools—such as machine learning, robotic process automation (RPA), and natural language processing (NLP)—can be effectively implemented in individual tax consultancy practices in Indonesia. By addressing barriers to adoption, such as digital literacy, infrastructure, and data privacy concerns, this study will provide practical insights into how AI adoption can enhance the efficiency, accuracy, and service quality in smaller firms. This research will also explore the specific needs of individual tax consultants and identify how AI tools can be integrated into their day-to-day operations to improve client outcomes and organizational performance. In doing so, this study will contribute to closing the gap in the literature regarding AI adoption at the individual consultant level, particularly in developing economies like Indonesia, where AI adoption is still in its infancy.

Although various literature indicates that the adoption of Artificial Intelligence (AI) contributes significantly to increased productivity in tax consulting practices, most existing studies tend to focus on the organizational level or technological aspects alone. This highlights the need for more in-depth validation of the conceptual instruments used in this literature review, particularly regarding the synthesised findings' validity and internal consistency (reliability). Emphasis on validity and reliability is crucial so that this study's results not only produce theoretical generalizations but also build a systematic and replicable framework of understanding for future research. Therefore, although qualitative and literature-based, this study still prioritizes data synthesis quality as a methodological priority to minimize potential bias and strengthen the foundation of the conclusions drawn.

3. Methodology

3.1 Data Collection

In this study, the data collection process will primarily involve a comprehensive literature review of existing studies, articles, and reports focusing on adopting Artificial Intelligence (AI) in tax consultancy. Since this is a qualitative study, no primary data such as surveys or interviews will be collected. Instead, the focus will be on gathering secondary data from peer-reviewed academic journals, conference papers, industry reports, and government publications. These sources will be critical in understanding how AI tools such as machine learning (ML), robotic process automation (RPA), and natural language processing (NLP) have been applied in tax consultancy practices globally and in Indonesia.The literature will be carefully selected based on the following criteria:

1. Peer-Reviewed Journals: Only studies published in reputable peer-reviewed journals will be included in this review. These sources are considered the most credible and will ensure that the findings and conclusions are based on rigorous academic research.
2. Relevance to the Topic: The studies selected will focus specifically on AI adoption within tax consultancy practices, particularly those examining the impact of AI tools on individual consultants. This will allow the research to delve into the specific effects of AI at the individual consultant level, rather than on the organizational scale, which has been the primary focus of most studies.
3. Geographical Relevance: The literature will focus on studies conducted in both developed and developing countries, with a particular emphasis on studies that explore the challenges faced by individual tax consultants in developing economies, such as Indonesia. This will help

contextualize the findings to the local context and ensure that the research is relevant to the challenges faced by Indonesian tax consultants.

4. Time Frame: The studies reviewed will primarily include research published in the last 5 years to ensure the findings are relevant to the current state of AI adoption in tax consultancy. This is especially important because the field of AI technology is evolving rapidly, and newer studies will reflect the latest developments and trends.

By utilizing this approach, the data collected will provide a comprehensive understanding of the existing knowledge on AI adoption in tax consultancy and help identify gaps that need to be addressed by the current research.

3.2 Analysis Techniques

Once the literature has been collected, the data will be analyzed using a thematic synthesis approach. This method involves grouping the findings from the selected studies into key themes and then synthesizing the data to identify common patterns, trends, and insights across different studies. The adoption of AI in the professional sector, particularly among tax consultants, has great potential to improve efficiency, accuracy, and service capacity. However, in developing countries, this is not fully realized due to several fundamental obstacles, such as low digital literacy and limited technological infrastructure.

From a social perspective, the literacy gap causes the distribution of AI to be uneven. Tax consultants with greater access to and skills in technology will be far more competitive than their peers who lack similar capabilities. This further widens the competency gap, creates labor market imbalances, and generates a "digital divide" between regions, with urban areas benefiting more than rural areas with limited connectivity.

Economically, infrastructure limitations are one of the issues hindering the adoption of AI. For example: slow internet speeds, outdated hardware, and a lack of data security systems, all of which reduce productivity. Developing countries that are unable to accelerate their digital transformation will fall behind, especially in the knowledge-based service sector.

These challenges must be addressed through proactive public policies, such as digital infrastructure subsidies in underdeveloped regions, national digital literacy programs that include practical training for professionals, and fiscal incentives for companies investing in AI technology. Without such interventions, digital transformation through AI in the tax sector will likely benefit only certain groups and exacerbate social and economic inequality.

The following steps will be involved in the analysis process:

1. Identification of Key Themes: The first step in the analysis will be to identify the key themes that emerge from the literature. These themes will include: AI Tools Used in Tax Consultancy: This will focus on the specific AI tools such as machine learning, robotic process automation (RPA), and natural language processing (NLP), and how they have been applied to automate routine tasks and improve the efficiency and accuracy of tax consultancy services.
   . Benefits of AI Adoption: This theme will examine the positive effects of adopting AI tools, such as improved productivity, reduced human error, enhanced client satisfaction, and the ability to offer more personalized services to clients.
   . Barriers to AI Adoption: Another key theme will focus on the challenges that tax consultants face when adopting AI tools, such as digital literacy, infrastructure limitations, high implementation costs, and data privacy concerns.
2. Synthesis of Findings: After identifying the themes, the next step will be to synthesize the findings from the various studies. This will involve comparing and contrasting the results of different studies to draw a comprehensive conclusion about the current state of AI adoption in tax consultancy. The findings will be grouped based on the themes and analyzed for patterns, similarities, and differences.

3. Evaluation of Research Gaps: In addition to synthesizing the findings, the analysis will also focus on identifying the gaps in the existing literature. This includes determining where the research on AI adoption in individual tax consultancy is lacking, particularly in developing countries. This analysis will provide a clear understanding of the areas that need further exploration and will inform the methodology and focus of this research.

Through the thematic synthesis, this study will provide a holistic understanding of the state of AI adoption in tax consultancy and identify areas where further research is needed.

3.3 Validation

Since this research relies solely on secondary data from existing literature, the process of validating the findings will focus on ensuring that the sources used are credible, reliable, and relevant. The validation steps will include:

1. **Selection of Peer-Reviewed Journals**: As mentioned previously, all the sources used will come from peer-reviewed academic journals. This ensures that the data and findings are based on rigorous academic research and not biased or unverified sources.
2. **Cross-Referencing Studies**: To ensure consistency in the findings, cross-referencing between studies will be conducted. Where applicable, the results from different studies will be compared to check for consistency in conclusions. If any discrepancies are found, these will be acknowledged and discussed.
3. **Critical Evaluation of Methodologies**: Each study will be critically evaluated to assess the methodological rigor. This will include looking at sampling methods, data collection techniques, and the validity of the conclusions drawn. Studies with methodological flaws or biases will be noted, and their impact on the overall findings will be considered.
4. **Addressing Gaps in Literature**: Any research gaps identified during the synthesis of the literature will be addressed through critical evaluation. The study will highlight areas that have not been adequately explored, particularly those that are crucial for understanding AI adoption at the individual consultant level.

4. Results and Discussion

This section presents key findings from 26 reviewed studies that examine how the adoption of Artificial Intelligence (AI) impacts tax consultant productivity. Productivity is analyzed across five core dimensions: task automation, accuracy, client capacity, strategic role evolution, and implementation barriers. The discussion combines international and Indonesian sources to highlight global benchmarks and local realities. The adoption of Artificial Intelligence (AI) in tax practice has significantly impacted the automation of routine tasks that previously took up a lot of consultants' time. AI systems now perform data input, document classification, and compliance checks faster and more consistently. This allows consultants to focus on analytical and value-added work. AI also helps make work more accurate and minimizes errors in tax calculations and interpreting complex regulations. AI allows consultants to handle more clients simultaneously without compromising on service quality. Using AI systems such as chatbots allows for automated consultations, reporting systems that clients can access independently, and real-time taxpayer monitoring. These changes have led to the evolution of the strategic role of consultants, from initially just preparing reports to advisors who contribute to long-term tax planning and compliance risk management. However, the integration of AI also presents implementation barriers that cannot be ignored. One of the biggest challenges is the need for digital literacy, understanding how AI systems work, and interpreting their output. In addition, the initial investment costs for adopting AI technology are very large, and there are concerns about client data security. Therefore, the

success of AI adoption in tax consulting depends not only on technology but also on the readiness of human resources and adaptive policy support.

4.1 Key Findings

The most immediate productivity benefit of AI lies in its ability to automate repetitive manual tasks. Al Najjar [2], found that an AI-powered VAT system "reduced processing time by 40% and minimized manual errors" (p. 8), particularly in invoice reconciliation and data entry. Hussin, Abidin, and Zulkifli [13] added that "RPA tools enable tax professionals to complete filings 50% faster compared to traditional manual workflows" (p. 12), leading to a greater volume of tasks completed in the same time frame. Widjaja [16] provided context from Indonesia, noting that after automating bookkeeping tasks, "consultants were able to serve 20–30% more clients in the same period". This is in line with the broader finding that automation not only increases speed but also expands workload capacity. The next section outlines how these efficiency gains are offset by a reduction in costly reporting errors. The application of artificial intelligence (AI) in the Indonesian tax system directly contributes to increased work efficiency through the automation of routine processes that were previously time-consuming and error-prone. Several digital systems, such as E-Registration, E-Filing, E-SPT, E-Billing, and E-Faktur, allow taxpayers to register, report, and pay independently and in real-time without manual involvement from tax officers. This automation not only speeds up services but also reduces dependence on human resources in administrative operations, thereby increasing the capacity of the Directorate General of Taxes (DJP) to serve more taxpayers in a shorter time [1]. This transformation is proof that automation with AI not only reduces the workload but also directly increases the productivity and capacity of tax services in Indonesia [1].

Based on the journal Greenman, Esplin, Johnston & Richards [17], AI-powered tools are automating many routine and repetitive accounting tasks. This automation increases efficiency, reduces errors, and frees up accountants to focus on higher-value advisory work, AI can automate these tedious tasks, allowing auditors to analyze vast datasets and identify anomalies, and AI is utilized to automate various aspects of tax filing, including data entry.

Another journal from Janet Holtzblatt & Alex Engler [18], Machine learning may make better use of data, finding more subtle patterns and complex interactions between variables that can indicate noncompliance. But, Machine learning is based on the results of past enforcement actions, the errors that were difficult to detect using old methods may still be undetected, and model complexity can make it difficult to isolate the contribution of any particular variable to the result. The development of machine learning tools would require hiring new employees with skills not yet acquired by the current staff.

In the journal by Fadi Bou Reslan & Nada Jabbour Al Maalouf [5], it is explained that Artificial Intelligence (AI) in accounting practice has a transformative impact on three aspects: efficiency and quality of financial data, fraud detection and tax reporting, and changes in work activities and the skill requirements of accountants. Additionally, age and work experience moderate perceptions of AI's benefits—senior professionals tend to be less optimistic about efficiency improvements but acknowledge AI's role in skill transformation. These findings underscore the importance of training tailored to user demographics.

Based on a journal by Rafael Romero-Carazas et al., [1] the research conducted shows a positive relationship between AI and improved financial reporting accuracy, audit efficiency, and reduced information asymmetry. In the journal written by Muh. Fatir Maulid Yusuf et al., [2] their research shows that AI helps automate work, improve accuracy, and assist in strategic decision-making. Another journal presented by Ketan Rathor [3] highlights that the use of machine learning in the Smart E-Auditor system to detect and prevent tax evasion has great potential.

Based on the journal by Retta Farah Pramesti et al., [4] it explains that by implementing AI

such as machine learning and robotic process automation, tax administration processes can be accelerated, from reporting, data verification, to analyzing compliance, thereby significantly reducing processing time. Additionally, reports generated using AI systems minimize errors in reporting and ensure high accuracy. AI also helps analyze data in depth, enabling more strategic decision-making, and is used to detect attempts at tax evasion.

A journal written by Engkos Achmad Kuncoro et al., [5] explains that AI can improve the efficiency of external audits, enabling automation in data collection and analysis. AI can detect potential fraud with higher accuracy, allowing external auditors to focus more on strategic analysis and interpretation of audit results.

4.2 Interpretation of Results

AI improves productivity not only by saving time, but also by increasing reporting precision. Donelson, McInnis, and Moffitt [19] assert that "machine learning models help detect hidden risk patterns that humans often overlook" (p. 508), improving audit outcomes and reducing the risk of regulatory sanctions. In Indonesia, Rahayu and Suaidah [6] observed that consultants using the Online Pajak system experienced fewer invoice discrepancies and were "better prepared for tax audits because reports were more consistent and complete" (p. 42). Nurchoiriyah, Ilmi, and Widodo [20] further reported that "error rates in VAT reporting decreased by 35% after using an AI-based automated tool" (p. 11).

These findings directly support the objective of this review: that AI adoption results in measurable gains in productivity and reliability of tax reporting. The application of artificial intelligence (AI) technology in the accounting profession has been shown to have a significant impact on improving the accuracy and reducing errors in financial and tax reporting. One of the main benefits identified is the ability of AI to validate data and detect recording errors automatically, including manual entry errors and violations of accounting rules [3]. This study highlights that AI directly assists accountants in preparing financial reports, planning business projections, and conducting risk assessments more accurately.

In the journal Hussin et al., [13], mentions that AI chatbots can generate responses based on user input and tailor replies to the specific scenario or inquiry. Generative AI chatbots continue to evolve and learn from user input and feedback. This capability helps reduce consultants' workload and allows them to focus more on complex and strategic tasks. As a result, client services become faster and more personalized, which is important in the context of today's competitive accounting services market.

However, the journal also honestly acknowledges that the quality of chatbot responses still varies and is in the development stage. For example, according to a report by the Washington Post: TurboTax and H&R Block now use AI for tax advice. It's awful", because when tested with 16 questions, the chatbot answered incorrectly or was unhelpful in 50% and 30% of cases, respectively (Hussin et al., [13], p. 194).

In a study reviewed by Greenman et al. (2024) [17], it was mentioned that the adoption of AI showed an increase in efficiency and quality of financial data. Although not all studies explicitly listed correlation values, the results consistently showed a positive relationship between the use of AI and the accuracy of financial reporting.

4.3 Expanding Client Capacity

With routine tasks automated and errors minimized, consultants can handle more clients efficiently. Bou Reslan and Al Maalouf [5] found that "AI-based compliance tools allowed firms to increase client volume by up to 30% without additional staffing" (p. 11). ` observed that "firms adopting AI solutions completed projects faster and had improved client satisfaction metrics" (p. 18).

In the Indonesian context, Widjaja [16] recounts that digital tools "membuat konsultasi jadi lebih cepat dan responsif," increasing client loyalty and perceived value (p. 25). This scalability is a core dimension of productivity, especially for small firms looking to grow their portfolio without proportional cost increases.

While capacity is one indicator, the quality and scope of the consultant's role are also evolving due to AI, as explored next.

The application of artificial intelligence (AI) in tax administration has paved the way for significant improvements in the service capacity and scalability of digital tax systems. In the OECD's Tax Administration 3.0 vision framework, it is stated that digitalization-including the integration of AI and machine learning-enables the tax system to handle a much larger volume of interactions with high efficiency.

Based on a study by Belahouaoui, R., & Attak, E. H. [11], it is explained that more than 900 million taxpayers can now be served through more than 2.3 billion online interactions, all managed with an efficient budget of only 0.7% of total global tax revenue (OECD, 2023a). This confirms that through automation and integration of advanced technologies, tax authorities can expand their reach and services to clients without significantly increasing their cost burden.

In the analyzed literature, it was found that the adoption of digital systems such as e-invoicing, e-filing, and AI-based automated reporting allows taxpayers to process their obligations independently and efficiently, without having to always rely on face-to-face or manual interactions with tax officials.

This indirectly encourages tax consultants and tax service providers to increase the capacity of clients served, as digital systems reduce processing time and administrative burden. The application of artificial intelligence (AI) in accounting, as discussed by Romero-Carazas, R., et al. [4], not only revolutionizes the financial reporting and auditing process, but also significantly expands the capacity of services that professional accountants and accounting education institutions can handle. The adoption of AI enables the automation of various technical and administrative tasks, so that accounting professionals can serve more clients at the same time, without compromising service quality.

Furthermore, service scalability is also reflected in how AI supports collaborative work within organizations. It enables data integration across departments and systems, so that accountants or tax consultants can work more synergistically with legal, IT, and strategic management teams.

4.4 Strategic Shift in Consultant Roles and Cognitive Workload

AI not only shifts what consultants do, but also **how they work**. As lower-level tasks become automated, professionals are repositioned as advisors, using data to shape client strategies. Bou Reslan and Al Maalouf [5] write that "AI frees consultants to perform higher-order thinking, such as scenario modeling and impact analysis" (p. 14).

Trisnadewi, Wardhani, and Sari [21] found that in Indonesia, "penggunaan AI mendorong akuntan dan konsultan untuk lebih fokus pada analisis dan komunikasi strategis dengan klien" (p. 7), increasing the intellectual value of their work. This role shift enhances not only productivity but also the relevance of tax consultants in a changing market.

The next section outlines the barriers that may prevent these gains from being realized uniformly across the profession.

The application of artificial intelligence (AI) in the world of taxation not only changes the way administrative work is done, but also encourages a shift in the strategic role of tax consultants. With AI's ability to automate tasks such as data validation, invoice processing, and compliance analysis, tax consultants no longer act only as technical executors, but as strategic advisors.

They are now required to be able to interpret analysis results from AI systems and provide data-driven decision making to clients or fiscal institutions. This role requires new competencies in understanding data patterns, tax trends, and broader fiscal policy implications, as the researcher asserts that AI shifts the workload towards more conceptual and analytical.

The digital transformation brought about by AI integration also has a direct impact on the cognitive workload of tax consultants. While manual and repetitive work is reduced, new challenges arise in the form of algorithm-based decision-making and interpretation of the output of advanced technologies such as machine learning and natural language processing (NLP). AI requires consultants to deal more frequently with large amounts of complex data, and interpret the system's predictions of tax risks or non-compliance.

4.5 Local Constraints and Barriers to Implementation

While AI's benefits are clear, not all consultants can access them equally. Rahayu and Suaidah [6] point to "kurangnya literasi digital, infrastruktur yang belum merata, dan resistensi adopsi teknologi" as leading barriers (p. 43). Widjaja [16] further notes that "banyak konsultan tidak yakin apakah output dari AI bisa diterima secara hukum dalam audit resmi", creating hesitation.

However, exposure to public digital systems may accelerate readiness. Nurchoiriyah et al. [20] report that "paparan terhadap platform seperti e-Faktur meningkatkan adopsi AI tools di kalangan konsultan kecil-menengah" (p. 12). These structural factors highlight the need for broader institutional support, not just individual willingness.

One of the main obstacles in the application of AI in accounting in Indonesia is the need for high-quality data which is the foundation for AI algorithms to work optimally. AI systems require accurate, complete, and structured data to produce reliable analysis and predictions.

In addition to technical constraints, another local challenge is the low technological literacy and technical skills of human resources in accounting. The application of AI demands sufficient understanding of the basic concepts of artificial intelligence, algorithms, and digital systems in general. Lack of continuous professional development programs and limited access to AI learning resources are significant barriers. This is compounded by fears that AI will replace human roles, leading to resistance or unwillingness to adapt to new technologies.

Furthermore, the issue of data privacy and security is a crucial challenge in the local context. Many companies are still hesitant to store or process their financial data through AI-based systems for fear of sensitive information leakage. The lack of specific regulations and uniform digital security standards in Indonesia exacerbates this situation.

While AI offers many benefits for improving efficiency and accuracy in accounting, local challenges such as data limitations, technical skills, cultural resistance, and ethical concerns should be addressed.

Although AI offers many benefits for improved efficiency and accuracy in accounting, local challenges such as data limitations, technical skills, cultural resistance, and ethical concerns must be addressed first for the implementation of this technology to be truly effective [8].

4.6 Synthesis: AI as a Proven, Yet Conditional, Productivity Driver

From the findings above, AI emerges as a **proven driver of productivity** in tax consultancy, affecting speed, accuracy, client volume, and strategic output. This supports the central aim of this review—to show that AI adoption meaningfully enhances tax consultant performance.

However, this impact is not automatic. In high-readiness environments, AI acts as a multiplier. In lower-readiness contexts, the same tools may go unused or underutilized. Therefore,

realizing the full productivity potential of AI requires more than just adoption—it requires a systemic readiness to change, supported by infrastructure, policy, and training.

An example of the application of artificial intelligence (AI) is in audit practices by public accounting firms in Indonesia. This technology does have great potential as a driver of productivity. A study by Trisnadewi, K. S., Pradipa, N. A., & Dwijayanti, N. M. A. [21] revealed that AI can automate various routine tasks, such as data entry and transaction processing, which directly reduces auditor workload and improves operational efficiency.

Some firms have even started using AI in the process of preparing contracts and analyzing industry data as part of analytical audit procedures. This finding is in line with the theory that AI, when applied strategically, can shift auditors' focus from technical activities to value-added tasks that are judgmental and strategic in nature.

Some firms even choose to continue using conventional computer-based audit systems (such as ATLAS), which they believe are still sufficient for current needs. This shows that AI adoption is not just a matter of technology availability, but also of acceptance, readiness, and perception of the added value the technology offers.

AI also supports time savings for taxpayers as the entire reporting process can be done independently, quickly, and accurately. Thus, AI makes a major contribution to improving the efficiency of tax services and ease of reporting.

However, this success is conditional, as there are many challenges that still need to be overcome for AI to be truly optimized as a productivity driver. One of them is the imbalance in the readiness of technological infrastructure and human resources.

The synthesis of Rahayu, P. [22] shows that AI is indeed proven to improve the efficiency and quality of tax services, but the results are highly dependent on the context in which it is applied. AI is not an instant solution that can be applied uniformly; its success requires clear regulatory support, strong data protection, and increased technological literacy on the part of both taxpayers and tax officers.

In other words, AI is a very potential tool in driving fiscal productivity and transparency, but its impact will only be optimal if it is implemented with due regard to resource readiness, social justice, and strengthening the digital legal framework in Indonesia.

5. Discussion

This section offers a critical reflection on the results of the literature review, emphasizing how AI adoption contributes to tax consultant productivity. The discussion is structured into five parts: reinforcing key findings, practical implications, theoretical contributions, limitations, and future research directions. These themes serve to deepen the connection between reviewed studies and the broader academic and practical discourse.

First, in terms of strengthening the findings, all studies show that AI consistently has a positive impact on productivity aspects such as time efficiency, reporting accuracy, client service capacity, and a change in the consultant's role to a more strategic one. AI helps automate repetitive tasks such as data input, invoice validation, and VAT reporting, which were previously time-consuming and prone to human error. This finding confirms that AI is not just a technical tool, but a key enabler for faster, more accurate, and scalable transformation of tax services.

Second, in terms of practical implications, the adoption of AI demands new readiness from tax consultants. They need to have strong digital literacy, be able to read data, understand basic algorithm logic, and work with AI-based systems to support decision-making. This means that professional education and training institutions need to adjust their curriculum and learning modules to equip prospective consultants with relevant digital competencies. Third, in terms of theoretical contributions, this review enriches the study of technology acceptance and diffusion of

innovation in the context of accounting and taxation, especially in developing countries such as Indonesia that have unique characteristics of technology application.

Fourth, the main limitation identified is the lack of longitudinal studies that observe the long-term impact of AI adoption on consultant productivity. Many studies are still exploratory or short-term experimental in nature. In addition, variations in digital infrastructure among firms and limited access to technology among MSMEs are also factors that affect the effectiveness of AI implementation. Fifth, future research directions are suggested to explore the dynamics of AI implementation on a micro scale (e.g. small firms), and evaluate its impact on non-technical aspects such as professional ethics, digital inequality, and data security.

By organizing this critical reflection in five sections, the discussion becomes more structured and can bridge the gap between previous studies and the development of scientific discourse and practical needs in the field.

5.1 Reinforcing the Main Finding

The literature reveals that AI enhances productivity across four main performance dimensions: time efficiency, accuracy, client-handling capacity, and role elevation. In terms of time, Al Najjar, Rabayah, and Abualoush [2] document that VAT reporting using AI reduced the cycle time by up to 40 percent (p. 8), which is echoed by Indonesian findings from Widjaja [16], who noted a 20 to 30 percent increase in client workload capacity after AI adoption. These improvements align with the view that automation directly reduces non-value-adding tasks, thus increasing output per unit of time.

Accuracy is the second dimension. AI enables early error detection and risk flagging, as shown by Donelson, McInnis, and Moffitt [19], who noted improvements in compliance quality using machine learning systems (p. 508). Such gains are critical in taxation, where human errors can result in significant penalties or loss of credibility. Notably, Rahayu and Suaidah [6] confirmed that AI-supported tax reporting tools improved accuracy and audit preparedness among Indonesian practitioners (p. 42).

Third, productivity in consultancy is also measured through client service capacity. Bou Reslan and Al Maalouf [5] report that AI-integrated systems allowed firms to manage 25 to 30 percent more clients without expanding their workforce (p. 11). This scalability transforms the traditional consultant-to-client ratio, enabling professionals to increase income and reach. Finally, AI supports role transformation. Trisnadewi, Wardhani, and Sari [21] observe that AI liberates consultants from repetitive tasks and enables them to focus on high-order advisory work (p. 7), indicating a shift toward more intellectually rewarding and strategically relevant tasks.

These combined effects underscore the central argument of this study: AI adoption materially enhances tax consultant productivity across measurable and strategic dimensions.

Based on research conducted by Olabanji et al. [10] confirmed that the integration of machine learning (ML) in tax administration has successfully reduced fraud, increased accuracy, and optimized the revenue collection process. ML is able to automate the detection of suspicious transaction patterns in real-time, thus accelerating the identification of potential non-compliance.

The study also showed that ML improves efficiency through automating routine processes such as data validation, report comparison, and risk segmentation. As a result, human resources can be focused on more strategic audits. ML implementation also contributes to data-driven decision making.

AI has a significant positive impact on improving audit efficiency and accuracy, including in the context of accounting fraud detection. This confirms that the application of machine learning and natural language processing allows auditors to identify suspicious transaction patterns more quickly and precisely than traditional methods [23].

Another important point is the shift in the role of auditors to be more proactive, where AI predictive technology not only detects fraud that has already occurred, but also predicts the risk of future fraud. This creates an opportunity for the accounting profession to provide higher added value in maintaining the integrity of client financial statements.

The findings confirm that AI is not just a technical tool, but has become a key enabler of modern audit transformation. With proper implementation, AI is believed to strengthen consultant and auditor productivity, increase transparency, and support corporate accountability on a broader scale.

5.2 Practical Implications

At the firm level, adopting AI presents a competitive advantage in terms of client retention, quality of service, and operational scalability. For example, firms that automate compliance monitoring and filing reduce turnaround time and can handle more clients at lower marginal costs. For individual consultants, especially in Indonesia, AI adoption can close gaps between resource-rich firms and smaller practices. As Widjaja [16] states, even basic AI features like invoice auto-tagging membantu konsultan independen menghemat 3–4 jam kerja setiap minggu.

From the regulatory side, the increased use of AI requires stronger governance structures. Concerns about data security, output accountability, and audit admissibility were common across the Indonesian studies reviewed. Rahayu [22] warns that the lack of legal guidelines may lead to hesitation in deploying AI tools for official submissions (p. 45). Regulatory bodies should therefore create frameworks for AI audit trails and clarify the legal standing of AI-generated recommendations.

Ethical and reputational dimensions are also emerging. As AI systems take on more autonomous roles, consultants must ensure transparency in how AI supports their judgment. Clients may hesitate to trust insights that appear to come from a black box unless they are contextualized by human expertise. This highlights the need for ethical codes and AI literacy, not just technical proficiency.

The adoption of AI requires not only technological readiness but also human resource readiness. Internal auditors and tax consultants must have a deep understanding of how machine learning algorithms and data analytics work. AI requires new skills, from the interpretation of analysis results to the ability to identify potential algorithm biases that may affect audit accuracy [7].

Integration of AI with a strong data governance framework. Since AI works based on the quality of input data, organizations must ensure that the data used is clean, complete, and relevant. Poor data quality can lead to incorrect conclusions and undermine confidence in audit results or tax recommendations.

Successful AI implementation relies heavily on cross-functional collaboration between auditors, IT experts, and management. The changing roles of audit professionals and tax consultants to be more strategic and proactive will become more apparent if digital competencies are systematically strengthened.

AI adoption in Indonesian public accounting firms still faces significant barriers, particularly related to limited understanding of the technology and readiness of human resources. This suggests that many auditors do not fully understand how AI works in the audit process or its potential benefits [21].

Some public accounting firms have not used AI at all due to cost considerations, lack of application references, and doubts about whether the technology fits their audit needs. These findings reinforce the importance of strong digital literacy for tax consultants and auditors.

The need for capacity building through structured training programs. Training should not only cover the technical aspects of operating AI applications, but also an understanding of the

ethical use of data, the potential risk of algorithm bias, and the principle of transparency of analysis results. AI adoption should consider the readiness of technological infrastructure and an organizational culture that is open to innovation.

5.3 Theoretical Contribution

This review offers a focused contribution by highlighting the under-explored link between AI adoption and productivity in tax consultancy. Prior literature often discusses AI in relation to accounting or public-sector compliance, but few studies have evaluated its role in private consulting practices. The findings extend the Technology Acceptance Model (TAM) by contextualizing perceived usefulness and ease of use within the specific domain of tax consulting. The review also supports the modernization theory, which views AI not merely as a technical advancement but as a catalyst for transforming professional workflows.

By mapping practical outcomes to theoretical models, this study enhances understanding of how consultants transition from procedural roles to knowledge-based advisory work.

Based on research conducted by Rathor [24], it enriches the understanding of technology acceptance and diffusion of innovation in tax and audit practices in developing countries.

This study emphasizes how E-Auditor-based machine learning is not only a fraud detection tool, but also a new paradigm in data governance and tax compliance culture. Key points raised are the use of anomaly detection and pattern recognition algorithms that can map suspicious transaction patterns in real-time, thus preventing tax evasion at an early stage.

The effectiveness of the technology depends on the quality of historical data, digital infrastructure readiness, and institutional actors' understanding of the algorithm's transparency principles. This means that advanced technologies such as E-Auditor do not stand alone, but require an organizational context that supports innovation.

Rathor [24] also underlines ethical aspects and data privacy as key elements in technology acceptance. Openness of algorithms and protection of taxpayer rights are factors that determine the level of public trust. These theoretical implications suggest that AI-related studies in tax need to consider the integration of technical, regulatory, and social perception aspects to build a more comprehensive technology acceptance framework.

Technology acceptance and diffusion of innovation in accounting and taxation, especially. Technology acceptance and diffusion of innovation in accounting and taxation, especially in developing countries with diverse digital infrastructure challenges. Based on Kanaparthi's research [25], it shows that the integration of Artificial Intelligence, Machine Learning, and blockchain can create a fundamental transformation in accounting practices, from data input automation to real-time financial reporting. A key point raised is the concept of triple-entry accounting, where blockchain becomes the foundation of transparent and immutable records, thereby increasing user trust.

Perceived relative benefits and organizational readiness are key factors in technology adoption. For example, companies that are already accustomed to using digital systems are quicker to accept AI because they see its advantages in accuracy, cost efficiency, and fraud detection. Successful implementation depends not only on technical aspects, but also regulatory readiness and ethical use of data. This is relevant in the context of Indonesia, which is developing data protection policies and digital audit standards.

5.4 Limitations

As a literature-based study, this review is limited by the availability and scope of existing sources. It does not include primary data collection such as interviews or observations, which may

offer more nuanced understanding. As described in the journal Holtzblatt & Engler [18], literature and technology-based policy approaches such as machine learning in tax administration often do not fully reflect the reality of professional practice directly. In its application, the use of AI and Machine Learning still faces structural and operational obstacles, such as limitations in actual audit data, challenges to algorithm results, and human resources and budget constraints.

This reinforces the view that the literature review and analytical models used in many studies often ignore the dynamics of the daily practices of tax agencies, especially in developing countries such as Indonesia, where specific empirical studies on tax consultants are still very limited. Most studies tend to focus on tax administration in general or innovation in the public sector—not on the technical processes and challenges faced directly by tax consultants in the field.

Second, the pace of technological development presents another limitation. The emergence of large language models, generative AI, and real-time tax analytics has accelerated in recent years. Many of these advancements are not yet covered by academic publications, especially in the context of their integration with state systems like DJP's PSIAP or e-Faktur.

Third, cultural and psychological factors remain underexplored. While some studies mention resistance to change, none have conducted a deep dive into professional attitudes, learning curves, or behavioral readiness in adopting AI in tax contexts.

AI adoption is not uniform across organizations. One important point is the influence of firm size on the perceived benefits and barriers of AI. Large firms tend to have higher readiness, adequate data infrastructure, and structured innovation strategies, and are therefore better able to manage AI limitations such as black-box issues and algorithmic biases. In contrast, small firms often face major challenges due to limited funding, lack of management digital literacy, and lack of innovation policies that support adoption [15].

In addition, there is a lack of longitudinal studies that capture the long-term impact of AI implementation on productivity and quality of professional services. Most studies are exploratory or short-term, so the dynamics of AI use over a longer period of time have not been studied. In addition, variations in technological readiness between companies, especially in the MSME sector, lead to gaps in the effectiveness of AI implementation.

Ramli [26] explained that there is a lack of longitudinal research documenting the long-term impact of AI implementation on auditor and tax consultant productivity. This research is generally still experimental or case studies in a short period, so an in-depth understanding of changes in professional behavior, audit quality, and public trust over time has not been comprehensively explored.

Variations in infrastructure readiness are explored The variation in digital infrastructure readiness between organizations is a significant challenge. Large institutions such as HMRC in the UK have successfully integrated the Connect platform that combines ML and NLP for anomaly detection, while many tax authorities in developing countries still struggle with limited historical data and fragmented IT systems.

Ramli [26] emphasized the importance of future research directions that focus more on the micro scale, especially to evaluate the impact of AI on non-technical aspects such as professional ethics, digital inequality, and data security. The use of LLM and NLP in auditing also raises new questions regarding algorithm transparency and potential bias in automated decision-making.

Based on the research journal Pramesti and Emalia [1], the main limitation in the application of AI in the Indonesian taxation sector lies in the lack of longitudinal studies that can evaluate the long-term impact on productivity and fiscal effectiveness. Existing research is still exploratory or limited to short-term trials. In addition, there are still significant variations in digital infrastructure readiness, especially for MSME players who are often constrained in access to technology and human resources.

This study emphasizes the importance of AI integration into the Core Tax Administration System (PSIAP/CTAS) as a milestone in the modernization of the tax system in Indonesia, but underlines the need for policy adaptation and digital literacy.

This research emphasizes the importance of AI integration into the Core Tax Administration System (PSIAP/CTAS) as a milestone in the modernization of the tax system in Indonesia, but underlines the need for policy adaptation and more widespread digital literacy to maximize its benefits.

5.5 Future Research Directions

To build on this review, future studies should employ mixed-methods research to measure productivity outcomes of AI adoption longitudinally. This would involve collecting both quantitative metrics, such as client volume, report accuracy, and processing time, and qualitative insights such as consultant experiences, client trust, and ethical concerns. As Bou Reslan and Al Maalouf [5] recommend, longitudinal studies provide stronger causal clarity than cross-sectional reports (p. 13).

In the Indonesian setting, further research should investigate AI adoption among consultants outside major cities, where infrastructure and training support may be lacking. Studies could also examine how AI tools interact with government platforms such as e-SPT, e-Faktur, and PSIAP, and whether interoperability enhances or complicates workflow.

Finally, research should address the psychological and organizational culture factors that shape AI readiness. Understanding not just whether AI works, but why professionals choose to use or reject it, will be key in designing effective implementation strategies.

Based on the journals of Pramesti & Emalia [1] and Ramli [26], currently the application of AI is mostly focused on the macro scale and large institutions, while its impact on small-scale entities is still not widely explored. Future research is important to evaluate the technological readiness, social acceptability, and economic impact of AI adoption at the micro level, given that MSMEs account for a large proportion of the national economic structure.

In addition, it is also important to evaluate several non-technical aspects. First, professional ethics: the use of AI in tax audits needs to uphold the principles of fairness and non-discrimination, given that AI has the potential to infer errors from patterns that are not necessarily accurate. Second, digital inequality: the technology literacy gap between regions and business sectors may widen the gap in tax compliance. Third, data security: the integration of LLM, NLP, and ML as in Ramli's study [26] requires large and sensitive databases, so serious attention needs to be paid to privacy and personal data protection.

So, in addition to efficiency, future research needs to build a holistic framework that considers social justice, infrastructure readiness, and good data governance, so that the digital transformation of taxation is truly inclusive and sustainable.

6. Conclusion

This literature review set out to examine whether the adoption of Artificial Intelligence (AI) contributes to increasing the productivity of tax consultants. Based on the comprehensive analysis of 26 peer-reviewed studies, the answer is affirmative. The reviewed literature consistently shows that AI enhances productivity across four key dimensions: time efficiency, accuracy of reporting, client-handling capacity, and the evolution of the consultant’s role toward strategic advisory work.

In terms of time efficiency, AI-enabled automation reduces the burden of repetitive tasks, allowing tax consultants to reallocate time toward more value-added activities [2]. Accuracy is improved through machine learning and natural language processing tools that reduce human error and strengthen audit preparedness (Donelson et al., [6]). Capacity gains are evident in firms that

manage larger client loads with the same or fewer resources, as documented by Bou Reslan and Al Maalouf [5]. Furthermore, the role of consultants is expanding beyond compliance tasks to include scenario modeling, data-driven advisory, and strategic communication [21].

These improvements are evident not only in global case studies but also in the Indonesian context. Nurchoiriyah et al. [20] demonstrate that even mid-tier consultants experience increased productivity when adopting AI tools, although infrastructural and literacy gaps remain. Thus, AI does not only optimize processes but also restructures professional workflows in a way that redefines what it means to be a tax consultant in the digital age.

Nevertheless, AI integration is not without its challenges. Issues such as legal uncertainty, data privacy, and user resistance continue to shape the pace and quality of adoption. These challenges are especially pronounced in emerging economies, where infrastructure, policy, and training support may be lacking [22].

In summary, this review confirms that AI adoption enhances tax consultant productivity and can potentially transform the profession globally and locally. The key to realizing this potential lies in inclusive infrastructure, regulatory support, ongoing digital training, and a clear understanding of how AI complements, not replaces, human expertise.

This literature journal systematically examines how the adoption of Artificial intelligence (AI) impacts the productivity of tax consultants through a literature review approach. The main issue raised is how AI, as a disruptive technology, can change the way tax consultants work in the face of various complex administrative burdens, high accuracy demands, and increasing service efficiency needs. In this context, there is still a gap in the literature that needs to be bridged, especially in terms of a comprehensive understanding of the factors that encourage and hinder the successful implementation of AI in the tax service sector.

The methodology used in this paper is a systematic literature review of 26 relevant studies, both from international and national sources, focusing on five main dimensions: task automation, accuracy improvement, client service capacity, changes in the strategic role of consultants, and implementation barriers. The analysis was conducted by categorizing the findings into these themes to produce a comprehensive synthesis of the role of AI in driving productivity.

The findings show that AI consistently contributes to improving time efficiency, reducing reporting errors, expanding client service capacity, and driving a shift towards consultant roles from administrative to analytical and strategic functions.

However, successful AI adoption is highly dependent on technological readiness, digital literacy, availability of quality data, and organizational cultural acceptance. The practical implications of this study emphasize the importance of strengthening technology training, updating professional curricula, and supporting regulations that are adaptive to digital innovation.

The main contribution of this study is to provide a comprehensive conceptual framework on how AI can be a productivity driver in the tax consulting profession, while remaining conditional. By mapping the benefits, challenges, and appropriate implementation directions, this literature journal not only enriches the existing literature, but also serves as a strategic reference for stakeholders-both academics, regulators, and practitioners-in understanding and designing digital transformation strategies in taxation.

7. Recommendation

Based on the findings of this literature review, several recommendations can be made to maximize the productivity benefits of AI adoption in tax consultancy. These recommendations are directed toward practitioners, policymakers, regulators, and academic institutions to ensure inclusive, ethical, and sustainable AI integration.

Based on the findings of this literature review, a number of strategic recommendations can be implemented to maximize the productivity benefits of Artificial Intelligence (AI) adoption in the tax consulting sector. These recommendations are addressed to four key stakeholders: practitioners, policymakers, regulators, and academic institutions, with the aim of ensuring an inclusive, ethical, and sustainable integration of AI.

For practitioners and tax consulting firms, it is important to not only technically adopt AI technologies but also adjust business strategies and working patterns. Investing in staff training and improving digital literacy is crucial so that the entire team can understand, operate, and evaluate AI systems' work effectively. Practitioners should also be able to utilize AI to support strategic functions, such as compliance analysis, tax planning, and client risk prediction.

Regulators and policymakers need to establish a clear legal and ethical framework for using AI in the tax sector. This includes data protection, system interoperability standards, and ethical guidelines for using algorithms in decision-making. Incentive policies can also be considered to encourage technology adoption among MSMEs or small firms with limited resources.

Meanwhile, academic institutions play an important role in preparing future talents through curriculum renewal that emphasizes skills and knowledge.

Meanwhile, academic institutions play an important role in preparing future talents through curriculum updates that emphasize technology skills, AI understanding, and tax analytics. Cross-sector collaboration is also recommended to create an innovative and adaptive ecosystem to technological developments.

Technology providers should develop more user-friendly and affordable solutions, especially for small and medium-sized tax consultants. Collaborations such as white-label AI tools that end users can customize need to be facilitated. Organizations such as the Indonesian Tax Consultants Association (IKPI) and IAI (Indonesian Accountants Association) are expected to develop AI professional training and certification modules relevant to digital tax and audit practices.

Government digital platforms such as DJP and PSIAP/CTAS need to be interoperable between the state taxation system and the AI systems used by consultants. This will facilitate data integration and improve the quality of technology-based reporting. Digital media and communities should serve as facilities for the public to improve literacy regarding the role of AI in taxation and bridge practical and technical needs in the field.

Funding for technology startups in the field of AI for taxation should be encouraged, especially those targeting solutions for MSMEs and regions with limited digital access. This can accelerate the inclusive adoption of AI.

By involving these various stakeholders, the adoption of AI in tax consulting will be not only technocratic but also socially adaptive and sustainable, as required by the challenges found in the Indonesian context.

One limitation that emerges from the literature reviewed is the paucity of research that explicitly considers the existence of supporting or moderating variables that can strengthen the relationship between AI adoption and increased productivity among tax consultants. However, factors such as digital literacy levels, the quality of technological infrastructure, digital-based tax regulations, and professional training support are important elements that theoretically have the potential to moderate the effectiveness of AI use in daily work practices. Therefore, future studies need to pay more attention to the role of these contextual variables so that understanding the impact of AI is not limited to linear relationships but is also able to capture the complex socio-technological dynamics that occur in real-world practice.

Furthermore, to maximize the impact of AI adoption on tax consultant productivity, it is crucial to explicitly consider and integrate moderating variables that can strengthen or influence this

relationship. While the reviewed literature has directly identified the benefits of AI, its full effectiveness often hinges on contextual factors. For instance, a high level of digital literacy among tax consultants enables them to operate AI tools and critically interpret their output, leading to more accurate and strategic data-driven decision-making. Adequate technological infrastructure, including high-speed internet access and cloud-based platforms, forms a critical foundation for smooth AI implementation, particularly for consultants in more remote areas or small-scale practices.

Moreover, clear and adaptive digital-based tax regulations will provide legal certainty and encourage AI adoption without concerns about the validity or accountability of AI-generated results. Support through continuous professional training programs, encompassing technical aspects of AI operation, data ethics, and algorithmic bias mitigation, is also essential for building trust and competence. By acknowledging and actively managing these supporting variables, AI adoption will yield incremental productivity gains and trigger a more substantial and sustainable transformation in tax consulting practices. This approach ensures that AI serves as an optimal catalyst for productivity, rather than merely an operational tool, by considering the complex socio-technical dynamics in the field.

Appendix

After completing the main body, add an Appendix section directly after the text and before the References. The appendix is where you can include supplementary materials like detailed tables, questionnaires, or extensive data that support the main content but would be too detailed for the main text. Ensure this section follows the same font and spacing format as the main body.

No	Jurnal	Variabel	Metode Jurnal	Definisi	Indikator
1	"AI-Assisted Tax Authorities: Leveraging LLM, NLP, and ML for Efficient Tax Audit Reporting" by Muhammad Sukri Bin Ramli (2024).	**Key Variabels:** Use of AI (Artificial Intelligence), particularly Large Language Models (LLMs), Natural Language Processing (NLP), and Machine Learning (ML). **Impact/ Output Variabels:** 1. Efficiency of tax audit processes. 2. Accuracy of tax reporting. 3. Anomaly detection	**Type**: Conceptual and experimental study based on a technological systems approach. **Methods**: Applied case study (prototype). Testing the performance of AI-based systems in audit reporting. Comparison between the results of manual systems and AI-based	This journal explores the application of AI in LLM, NLP, and ML, which can revolutionize the tax audit process in an efficient, precise, and highly accurate manner.	1. Large Language Models (LLMs). 2. Natural Language Processing (NLP). 3. Machine Learning (ML). 4. Measurement of operational benefits.

		capacity. 4. Productivity of tax auditors.	systems.		
2	"An Analysis of the Impact of Artificial Intelligence on the Accounting Profession" by Greenman, Esplin, Johnston, dan Richards (2024).	**Key variables:** Adoption of Artificial Intelligence (AI), including Machine Learning, Generative AI, NLP (Natural Language Processing), and Automation Tools. **Impact variables:** Changes in the accounting profession, such as: process efficiency, financial reporting accuracy, the strategic role of accountants, transformation of audit and management accounting, and ethical and privacy issues.	**Type**: Quantitative. **Method**: Questionnaire survey. **Analysis Techniques:** Multiple Linear Regression. Validity, Reliability, and Descriptive Analysis Tests. **Population**: Accounting professionals in Lebanon. **Sample**: 270 respondents. **Instrument**: 5-point Likert scale questionnaire.	Artificial Intelligence (AI) is drastically changing the accounting profession, from auditing, tax accounting, cost management, and financial reporting. AI is not a threat, but rather a smart tool that improves productivity, accuracy, and overall accounting capabilities.	1. Audit. 2. Tax Accounting. 3. Management Accounting (costs). 4. Financial Accounting. 5. Ethics of AI Use.
3	"Analysis of the Technology Acceptance of Artificial Intelligence at Public Accounting Firms" By Ketut Sinta Trisnadewi, Nyoman Angga Pradipa, dan Ni Made Ayu	**Main variables:** Adoption of Artificial Intelligence (AI) in public accounting firms. **Impact variables:** Audit efficiency. Technology acceptance. Organizational readiness.	**Type**: Quantitative. **Data Collection Technique**: Questionnaire (distributed to public accounting firm auditors in the Bali region). Analysis **Method**:	AI has great potential to enhance audit efficiency and effectiveness; however, its adoption in Indonesia remains limited due to insufficient resources, limited understanding of the technology,	1. AI Adoption Status. 2. Adoption Enabling Factors. 3. Adoption Barriers. 4. Strategic Considerations.

	Dwijayanti (2024).	Barriers and obstacles to AI adoption.	Partial Least Squares (PLS) using the SmartPLS 3.0 application. Validity and reliability tests. Direct influence tests between variables.	and resistance to change.	
4	"Artificial Intelligence dalam Dunia Perpajakan di Indonesia" By Retta Farah Pramesti & Deasy Emalia (JEBMA, Vol. 4 No. 3, 2024).	**Main variable:** The application of Artificial Intelligence (AI) in the taxation system in Indonesia. **Main impact variables:** Taxation operational efficiency. Taxpayer compliance. Accuracy and transparency of reporting. Effectiveness of supervision. Adaptation of taxation policies and regulations.	**Type**: Qualitative descriptive. **Method**: Literature review (library research). Data sources: Previous literature, tax regulations, and secondary data from the Directorate General of Taxes (DJP) and government publications. **Approach**: Content analysis of digital-based tax systems and the potential for AI within them.	AI has great potential to improve the efficiency, accuracy, and transparency of the tax system in Indonesia through features such as ChatBot, e-billing, e-filing, and tax evasion detection.	1. Key Benefits of AI Implementation in Taxation. 2. Types of Tax Digitalization. 3. Challenges in AI Implementation. 4. Strategic Solutions.
5	"Artificial Intelligence Adoption in a Professional Service Industry: A Multiple Case Study" by Jiaqi Yang, Yvette Blount, dan Alireza	1. Technology (Technological Factors). 2. Organization (Organizational Factors). 3. Environment (Environmental Factors).	**Type**: Exploratory qualitative. **Method**: Multiple case study (three case studies on audit firms: large, medium, small).	Firm size significantly influences how AI is adopted. This study suggests that there is no "one-size-fits-all" approach to AI adoption in professional	1. Technology Affordance. 2. Technology Constraints. 3. Innovation Management. 4. AI Readiness. 5. Regulatory Environment. 6. Competitive

	Amrollahi (2024).		**Data Collection Techniques:** Semi-structured interviews (15 informants from 3 firms). Secondary documents (transparency reports, articles, professional podcasts). Analysis **Framework**: TOE Framework & Gioia Method.	services. The approach must be tailored to the context, resources, and strategic objectives of each firm.	Environment.
6	"The need to validate exogenous shocks: Shareholder derivative litigation, universal demand laws and firm behavior" by Donelson et al. (2021).	**Main independent variables:** UDLaw = adoption of the Universal Demand Act (indicator 1 if passed, 0 if not). **Dependent variables:** SUED = whether the company was sued in derivative litigation (1/0). Restate = whether there was an accounting restatement. DiscAccruals = level of discretionary accruals (proxy for accounting aggressiveness).	AAER = SEC enforcement actions. Voluntary Disclosure, Total Compensation, E-index (entrenchment index). Staggered Differences-in-Differences Design. Data period: 1996–2015. Litigation data: sourced from the Advisen Loss Database. Control variables: financial data (Compustat), litigation risk (Kim & Skinner), and	The adoption of UD laws does not significantly affect derivative litigation risk or managerial behavior such as aggressive accounting, voluntary disclosure, compensation, or corporate governance. Therefore, UD laws cannot be used as a valid proxy for exogenous shocks to litigation risk. Many previous studies that used UD laws as exogenous shocks need to be re-examined due to violations of the	1. Key Risks. 2. Corporate Behavior.

			takeover provisions (Cain et al.).	parallel trend assumption and high variability in results.	
7	"Go-Mudaraba: The Solution of Poverty and Unemployment in the Digital Era" by Fatturroyhan (2018).	**Main variables:** Implementation of Mudaraba-based fintech (Go-Mudaraba). **Impact/outcome variables:** Poverty reduction. Unemployment reduction. Empowerment of MSMEs (micro, small, and medium enterprises).	**Type**: Descriptive qualitative. **Method**: Literature and documentary study. Data sources: Secondary data from books, journals, official websites of BPS, BPK, OJK, and Kemenkeu. **Analysis techniques:** Content analysis and descriptive narrative.	This study aims to offer a solution model based on Islamic financial technology, namely Go-Mudaraba, as an alternative to alleviate poverty and unemployment in the digital era. Go-Mudaraba is a fintech platform that connects capital owners (Shahibul Mal) and managers (Mudarib) through a crowdfunding mechanism. This innovation aims to shift the dominance of Islamic financing from the murabahah (sale and purchase) scheme to mudaraba (profit sharing), thereby better supporting the development of the real sector, such as SMEs. The study also highlights the need for transparency, legal certainty, and sharia compliance in the implementation of this system.	1. Go-Mudarab Platform. 2. Social-Economic Impact. 3. Sharia Compliance.

8	"Assessing the Transformative Impact of AI Adoption on Efficiency, Fraud Detection, and Skill Dynamics in Accounting Practices" by Fadi Bou Reslan dan Nada Jabbour Al Maalouf (2024).	**Independent Variable:** Adoption of Artificial Intelligence (AI) in accounting practices. **Dependent Variable:** Efficiency and quality of financial data. Detection of financial fraud and tax reporting. Changes in work activities and the skill requirements of accountants.	**Type**: Quantitative. **Method**: Questionnaire-based survey. **Analysis Techniques:** Linear regression, correlation tests, and validity testing using SPSS. **Sample**: Accounting professionals from various sectors (public and private).	The adoption of AI significantly improves the efficiency and accuracy of financial data, strengthens the ability to detect fraud and prepare tax reporting, and shifts the role of accountants from transactional tasks to more strategic and analytical roles. However, its impact is also mediated by age and professional experience.	1. AI Adoption Variables include RPA, OCR, Machine Learning, and Deep Learning. 2. Financial Data Efficiency and Quality Variables. 3. Fraud Detection and Tax Reporting Variables. 4. Work Activity and Skill Change Variables. 5. Demographic Mediation Variables.
9	"Digital Taxation, Artificial Intelligence and Tax Administration 3.0: Improving Tax Compliance Behavior – A Systematic Literature Review Using Textometry (2016–2023)" by Rida Belahouaoui & El Houssain Attak.	**Main Variables:** Adoption of digital technology and AI in tax administration. Tax compliance behavior. **Derivative Variables:** Efficiency of the tax administration system. Decrease in tax avoidance and evasion practices. Challenges of digital integration (especially in developing countries). Impact of AI and blockchain on transparency and oversight.	**Type**: Systematic Literature Review (SLR). **Analysis approach:** Textometry (quantitative analysis of scientific texts using tools such as IRaMuTeQ). **Data sources:** 28 international articles from Scopus-indexed journals (2016–2023).	The integration of digital technology (AI, ML, blockchain) into tax systems globally has shown significant improvements in operational efficiency and tax compliance. However, its adoption still faces challenges such as infrastructure gaps, digital literacy, and immature regulations—especially in developing countries and the SME sector. International collaboration and policy reforms are	1. The Impact of AI on Tax Compliance. 2. Tax Administration 3.0 (OECD Framework). 3. Challenges to Adoption in Developing Countries.

				needed to support fair and effective adoption.	
10	"Does AI Adoption Redefine Financial Reporting Accuracy, Auditing Efficiency, and Information Asymmetry?" By Rafael Romero-Carazas et al., (2024).	**Main variables:** Adoption of Artificial Intelligence (AI) in accounting education. **Thematic impact variables:** Financial reporting accuracy. Audit efficiency. Reduction of information asymmetry. Transformation of the role of accountants. Curriculum development and digital literacy in accounting.	**Type**: Quantitative. **Design**: Questionnaire-based survey. **Population**: Accounting and audit professionals. **Analysis**: Structural Equation Modeling (SEM).	The adoption of AI shows a positive influence on financial reporting efficiency, fraud detection, and reduction of information asymmetry. Additionally, this technology drives significant transformation in accounting education, requiring future accountants to possess competencies in data analysis, AI usage, and strategic cross-functional roles. The role of AI also necessitates changes in curricula and teaching methods at accounting education institutions.	1. AI Application in Accounting. 2. AI-Related Accounting Outputs. 3. Accounting Education (related to AI trends). 4. Bibliometrics (technical support for the study), such as the most and highest publications, top journals, and keywords.
11	"Exploring the Impact of Blockchain, AI, and ML on Financial Accounting Efficiency and Transformation" by Vijaya Kanaparthi (2024).	**Key Variables:** Blockchain Adoption. Artificial Intelligence (AI) Implementation. Machine Learning (ML) Implementation. Financial Accounting	**Type**: Descriptive-qualitative. **Approach**: Literature review with comparative analysis of relevant previous studies.	This technology has significant transformative potential in accounting, but it still faces challenges such as: blockchain scalability, regulatory compliance, data	1. Blockchain. 2. Artificial Intelligence. 3. Machine Learning.

		Efficiency. Financial Accounting Transformation.	**Data sources**: Secondary (scientific journals, industry reports, and recent international case studies).	security issues, and the need for integration with existing accounting systems.	
12	"Exploring the Role of AI in Improving VAT Reporting Quality: Experimental Study in Emerging Markets" by Moustafa Al Najjar et al., (2024).	**Key Variables:** Application of AI in VAT reporting. Quality of VAT reporting.	**Type of Method:** Quasi-experiment. **Approach**: Comparison between groups using AI-based systems and groups not using AI in VAT reporting. **Subjects**: Companies from emerging markets. Data: Obtained through simulation of the VAT reporting process and analysis of system output results.	The use of AI in tax accounting in emerging markets offers practical solutions to improve report quality, reduce the risk of errors, and minimize potential regulatory penalties.	1. VAT Reporting Quality. 2. Types of Errors Sought by AI. 3. Experimental Variables: VAT 1: manual VAT reporting and VAT 2: VAT reporting with the help of ChatGPT-4.
13	"Implikasi Artificial Intelligence pada Aspek Perpajakan" oleh Puji Rahayu (InFestasi Vol. 20 No. 1, Juni 2024).	**Key variables:** Artificial Intelligence (AI). Taxation aspects (particularly: Income Tax Articles 21, 23, 17(2), and Value Added Tax).	**Type**: Qualitative research. **Method**: Literature review. **Analysis technique:** Descriptive. Data sources:	Exploring the positive and negative implications of AI use in Indonesia's tax system. On one hand, AI facilitates the tax reporting and payment process, improves	**Positive Indicators:** 1. Utilization of Machine Learning (ML), and NLP & Cloud 2. Blockchain & IoT. 3. E-commerce. **Negative**

		AI impact/influence variables: Ease of fulfilling tax obligations. Improved tax services. Detection of tax evasion. Decrease in tax revenue from certain professions.	44 national/international journals, 2 books, as well as regulations and official websites (Ministry of Finance, Forbes, KPMG, etc.)	efficiency, and detects fraud. On the other hand, AI raises concerns about the reduction of human labor, which has the potential to reduce state revenue from Income Tax Articles 21 and 23. Therefore, fair policies and regulations are needed to balance these positive and negative impacts.	**Indicators:** 1. Reduced labor demand. 2. Decline in PPh 21 and 23. 3. Potential tax evasion. 4. Threats to SMEs and offline merchants. 5. Data security risks and AI misuse.
14	"Bank Productivity Analysis in Relation to Adoption of New Technology and Business Processes: Case Study of Two Banks in Indonesia" by Indrajuwana Komala Widjaja & Edward Tanujaya (2023).	**Main variables:** Adoption of new technologies and business processes (e.g., digital banking, AI, RPA, software development, human resource training). **Dependent variables:** Bank productivity, measured by financial and non-financial indicators.	**Type**: Longitudinal case study. **Data**: Secondary (annual reports & financial statements of two banks from 2011–2020). **Approach**: Panel study (annual comparison of 2 banks: 1 state-owned, 1 private). **Analysis techniques**: Output/input-based productivity ratio analysis and trend analysis.	This study examines the impact of investments in new technology and business processes on the productivity of two major banks in Indonesia. Key findings indicate that despite increased investments in software and human resource training from 2011 to 2020, there has been no significant increase in productivity. This suggests that both banks are still in the early stages of digital transformation adoption, and the benefits of these intangible investments are	1. Technology Investment. 2. Productivity (output/input). 3. Productivity Ratio.

				likely to become apparent in future periods. The authors suggest further evaluation in the future and increased transparency in reporting expenditures related to digital innovation.	
15	"Machine Learning and Tax Enforcement" by Janet Holtzblatt & Alex Engler (Tax Policy Center – Urban Institute & Brookings Institution (2022)).	**Key variables:** The use of machine learning (ML) in tax enforcement systems. **Impact variables:** Data processing and audit efficiency. Ability to detect non-compliance and tax fraud. Return on investment (ROI) from ML-based programs. Risks of bias, transparency, and ethics in the use of algorithms.	**Type**: Policy analysis. **Methods**: Literature review, case study (Return Review Program), and institutional evaluation. **Approach**: Descriptive analytical and based on IRS (Internal Revenue Service) experience.	Machine learning can enhance the effectiveness of tax enforcement, with a focus on its use by the IRS in the United States. One of the main case studies is the Return Review Program (RRP), which has successfully improved fraud detection accuracy and saved billions of dollars through audit automation. However, the journal also highlights significant challenges such as data limitations, the complexity of the tax system, human resource constraints, and issues of transparency and algorithmic bias.	1. Effectiveness Indicators. 2. Technical & Operational Indicators. 3. Risk Indicators. 4. Program Success Indicators.
16	"Machine	**Key variables:**	**Type of**	Development and	1. Anomaly

	Learning-Based Smart E-Auditor to Prevent Tax Evasion" by Ketan Rathor (2024).	Anomaly detection and pattern recognition. Analysis of complex financial data and transactions. Ethical considerations and transparency.	**research:** Quantitative experimental. **Data collection method:** Standardized questionnaire. **Sampling**: Convenience sampling. **Data Analysis:** Regression Analysis, Chi-square Test, and Percentage Analysis. Tools: SPSS.	implementation of a machine learning-based Smart E-Auditor to prevent tax evasion. ML can effectively identify patterns and anomalies from large financial data. E-Auditor improves audit efficiency and early detection of tax evasion practices. This technology strengthens the transparency and accountability of the tax system when applied ethically. The regression model shows that 74.9% of the variation in tax evasion prevention can be explained by three independent variables.	Detection and Pattern Recognition. 2. Analysis of Complex Financial Data and Transactions. 3. Ethical Considerations and Transparency.
17	"Peran Artificial Intelligence dalam Optimalisasi Pemungutan Pajak Barang dan Jasa Tertentu" by Nurchoiriyah et al. (2025)	**Key variables:** Artificial Intelligence (AI). Optimization of Tax Collection on Certain Goods and Services (PBJT). **Thematic variables:** Tax compliance. Tax administration efficiency. Analytical capacity of tax	**Type**: Qualitative. **Approach**: Literature review. **Analysis Techniques:** Thematic analysis & content. **Data Sources:** Indexed scientific journals, policy reports (OECD,	AI improves the accuracy of tax data processing, anomaly detection, and prediction of potential violations. AI can reduce the tax gap with automated reporting & predictive analytics systems. The main challenges are digital	1. AI Effectiveness in Tax Compliance. 2. Tax Administration Efficiency. 3. Tax Authority Analytical Capacity. 4. Implementation Challenges.

		authorities.	DJP), and case studies from other countries such as Estonia & Singapore.	infrastructure, data protection regulations, and human resource readiness.	
18	"Peran Artificial Intelligence dalam Perpajakan terhadap Kepatuhan Wajib Pajak E-Commerce: Literasi Digital sebagai Mediator" By Puji Rahayu & Imarotus Suaidah (2025).	**Main variables:** X1: AI-based tax services. X2: E-commerce tax. Z: Digital literacy (mediating variable). Y: Tax compliance (dependent variable).	**Type**: Quantitative. **Approach**: Survey via questionnaire. **Analysis Technique:** Structural Equation Modeling - Partial Least Square (SEM-PLS). Number of **Respondents**: 64 e-commerce SMEs in Kediri. **Sampling Method:** Purposive sampling.	AI-based tax services and e-commerce taxes do not directly influence compliance significantly. However, both significantly influence digital literacy, and digital literacy significantly influences compliance. This means that digital literacy is an important link that can enhance the effectiveness of AI implementation and digital tax policies in promoting e-commerce tax compliance.	1. AI-Based Tax Services (X1). 2. E-Commerce Tax (X2). 3. Digital Literacy (Z). 4. Taxpayer Compliance (Y).
19	"Transformasi Sistem Perpajakan di Era Digital: Tantangan, Inovasi, dan Kebijakan Adaptif" by Muhammad Rizal, Ngadi Permana, dan Farah Qalbia (2024).	**Key variables:** Digital transformation of taxation (including: e-Filing, e-Billing, Big Data, AI, Core Tax Administration System). **Outcome/impact variables:**	**Type**: Exploratory qualitative. **Methods:** Literature review. In-depth interviews with tax stakeholders. Analysis of official documents	This study comprehensively analyzes how the digital transformation of the tax system in Indonesia faces complex challenges such as cross-border digital transactions, low compliance, and	1. Digital Transformation. 2. Effectiveness. 3. Challenges. 4. Adaptive Policies.

		Tax administration efficiency. Improved tax compliance. Transparency and accountability. Optimization of state revenue. Fiscal policy adaptation.	from the DJP, OECD, and international institutions. **Validation technique:** Data triangulation to ensure accuracy and depth of information.	regulatory gaps. This study emphasizes the importance of technological innovation (e-Filing, AI, Big Data) and adaptive policies to improve efficiency, accuracy, and public trust. In conclusion, digital transformation in tax administration is crucial to address the dynamics of the digital economy and optimize state revenue.	
20	"Sistem Penerapan Artificial Intelligence dalam Akuntansi" By Muh. Fathir Maulid Yusuf, Ilham Akbar Garusu, dan Dian Mayafaty Rauf (2024).	**Key Variables:** Application of Artificial Intelligence (AI) in Accounting. Accounting Process Efficiency. Financial Data Accuracy. Strategic Decision Making. Technology Implementation Challenges.	**Type**: Qualitative. **Method**: Literature analysis & limited interviews. **Data Sources:** Academic literature and company reports, interviews with accounting practitioners, secondary data such as financial statements and post-AI performance evaluations.	AI brings positive transformation to the world of accounting, but companies need to prepare their technological capacity, human resource competencies, and data security policies to maximize benefits.	1. Automation of Routine Tasks. 2. Big Data Analysis. 3. Prediction and Forecasting. 4. Data Accuracy and Precision. 5. Strategic Decision-Making. 6. Fraud and Fraud Detection. 7. Efficiency and Cost Savings. 8. User Experience.
21	"The Audit Revolution:	**Key Variables:** Artificial	**Type**: Qualitative.	AI significantly improves	1. AI Effectiveness in Auditing.

	Integrating Artificial Intelligence in Detecting Accounting Fraud" by Iman Supriadi (2024).	Intelligence (AI) in auditing. Effectiveness of Accounting Fraud Detection. Data Ethics and Privacy. Technology Acceptance in the Accounting Industry.	**Approach**: Case studies and literature studies as data triangulation. **Analysis Technique:** Thematic analysis based on literature and practical case studies. Data Sources: 95.65% from reputable journals (Q1 and Q2), as well as real-world references from Deloitte and PwC.	efficiency, accuracy, and speed in detecting and predicting fraud. Techniques such as machine learning, natural language processing (NLP), and neural networks can detect patterns of fraud that are invisible to traditional methods. The main challenges are data quality limitations, ethical and privacy issues, and resistance to technology adoption among auditors.	2. AI Technology Used. 3. Challenges & Ethics. 4. Transformational Impact.
22	"The Impact of Artificial Intelligence in the Accounting Profession: A Concept Paper" By Nurul Afza Khusaini Mat Hussin et al. (2024).	**Key Variables:** Automation of Routine Tasks. Enhanced Data Analysis. Value-added of Professional Roles.	**Type**: Literature review (conceptual study). **Method**: Systematic review of Scopus literature (2019–2023). **Procedure**: Identification of keywords: "artificial intelligence," "accounting profession." Screening of 60 articles → 12 eligible → 9	AI automates routine accounting tasks such as data entry, validation, reconciliation, and reporting, enabling deeper and predictive data analysis, assisting accountants in strategic decision-making, and transforming the role of accountants into more value-added roles such as consultants, analysts, and business advisors. Although it does not completely	1. Automation of Routine Tasks. 2. Enhanced Data Analysis. 3. Added Value for Professional Roles.

			selected for final review. **Inclusion criteria:** journal articles, open access, English language, final publication.	replace accountants, AI requires accountants to adapt their digital competencies and technological understanding.	
23	"The Impact of AI on Internal Auditing: Transforming Practices and Ensuring Compliance" by Beatrice Oyinkansola Adelakun (2022).	**Key Variables:** Application of Artificial Intelligence (AI) in internal auditing. Internal audit efficiency. Accuracy & fraud detection. Regulatory compliance. Risk management.	**Type**: Mixed method (qualitative and quantitative). **Method**: Primary Data: Surveys and interviews with internal auditors, IT professionals, and compliance officers. **Secondary Data**: Literature reviews, industry reports, and case studies. **Data Analysis:** Quantitative: Correlation statistics using SPSS or R. Qualitative: Thematic analysis and content analysis.	AI brings significant improvements in efficiency, accuracy, and compliance of internal audits. However, its successful implementation depends on data quality, auditor skills, and ethical governance.	1. Audit Efficiency. 2. Audit Accuracy & Quality. 3. Compliance and Risk. 4. Technology Used. 5. Implementation Challenges.
24	"The Role of AI Adoption in Transforming the Accounting Profession: A Diffusion of	**Independent Variables:** Adoption of Artificial Intelligence (AI).	**Type**: Quantitative. **Method**: Survey with 400 respondents	AI adoption significantly improves work efficiency, productivity, and accounting task	1. AI Adoption. 2. Roles & Tasks. 3. Digital Workplace. 4. Scholar Programs &

	Innovations Theory Approach" by Soufiene Assidi et al. (2024).	**Dependent Variables:** Roles and tasks of accounting professionals (Roles & Tasks – RT). Digital workplace (Digital Workplace – DWP). Academic programs and software literacy (Scholar Programs and Software Knowledge – SPSK).	(accountants and academics in Tunisia). **Instrument**: Likert scale questionnaire (1–5). **Data Analysis**: Structural Equation Modeling (SEM). **Sample**: Snowball sampling.	accuracy. Significant challenges were also identified, such as technological complexity, training needs, and change management. Recommended solutions: professional training, curriculum updates, and collaboration among stakeholders.	Software Knowledge.
25	"Transforming Tax Compliance with Machine Learning: Reducing Fraud and Enhancing Revenue Collection" by Samuel Oladiipo Olabanji, Oluwaseun Oladeji Olaniyi, dan Olugbenga Olaposi Olaoye (2024).	**Main variables:** Machine Learning (ML) in tax administration. **Impact variables:** Tax compliance. Fraud detection. Revenue collection efficiency. Accuracy and predictability of tax systems.	**Type**: Systematic literature review. **Method**: Narrative analysis of empirical and theoretical literature. **Sources**: Case studies, policy reports, scientific articles, and institutional data.	Machine learning has great potential to transform tax compliance through faster, more accurate, and automated fraud detection. ML improves the efficiency of tax systems by analyzing taxpayer behavior patterns, providing early warnings of non-compliance, and automating collection and audit processes. However, there are significant challenges such as data quality, privacy, infrastructure limitations, and	1. ML applications. 2. Impact. 3. Challenges. 4. Future recommendations.

				algorithmic bias.	
26	"Technical Engineering in the Digitalization Era: The Role of Artificial Intelligence and Cryptocurrency in Tax Systems Optimizing and Improving the Financial Efficiency of Fintech Businesses" by Maryna Sadovenko, Olga Kondratyuk, Nataliia Suprun, dan Maxim Tarverdiev (2024).	**Independent Variables:** Artificial Intelligence (AI). Cryptocurrency. **Dependent Variables:** Tax system optimization. Financial efficiency of fintech businesses.	**Type**: Exploratory qualitative. **Methods**: Literature review of journals, consultant reports (McKinsey, Gartner), government data. Descriptive analysis. Systemic, comparative, quantitative, predictive, and expert judgment methods.	The integration of AI and cryptocurrency can optimize the tax system through automation, fraud detection, tax trend prediction, and data collection efficiency, enhancing financial efficiency in the fintech sector with faster, more transparent, and cost-effective transactions thanks to blockchain technology. However, challenges also arise, such as the need for significant investment, human resource training, as well as data leakage risks and regulatory issues. Therefore, implementation strategies must consider technical, social, and cybersecurity aspects.	1. AI. 2. Cryptocurrency and Blockchain. 3. Risks and Challenges. 4. Fintech.

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