Proceedings of the International Multidisciplinary Seminar of ITB AAS Indonesia
Website: https://prosiding.itbaas.ac.id/index.php/psd

THE INTEGRATION OF ARTIFICIAL INTELLIGENCE IN FINANCIAL AUDITING: CHALLENGES OF LEGAL COMPLIANCE AND ADHERENCE TO PROFESSIONAL ACCOUNTING STANDARDS

Alrizqika Julyansah[1], Desy Nur Pratiwi[2], Yuwita Ariessa Pravasanti[3]
[123]Institut Teknologi Bisnis AAS Indonesia
alrizqikajulyansah@gmail.com, desynurpratiwi692@gmail.com, yuwita.ariessa.pravasanti@gmail.com

Abstract
This study aims to examine the integration of Artificial Intelligence (AI) in the financial audit process, as well as the emerging challenges related to legal compliance and professional accounting standards. A descriptive qualitative approach was used through interviews with an auditor at a public accounting firm in Surakarta and literature studies. The results indicate that AI offers significant opportunities to enchance efficiency, accuracy, and audit coveragec especially in detecting anomalies and processing large-scale data. However, AI lacks profesional judgement. Moreover, legal regulations governing AI usage are still unclear. Therefore, regulators need to provide legal certainty to protect auditors who utilize AI.
***Keywords**: AI, financial audit, professional accounting standards, regulation, ethics*

Abstrak
Penelitian ini bertujuan untuk mengetahui integrasi AI (Artificial Intelligence) dalam proses audit keuangan, serta tantangan yang muncul terkait kepatuhan hukum dan standar profesional akuntan. Penelitian ini menggunakan pendekatan kualitatif deskriptif melalui wawancara dengan auditor di salah satu KAP di Surakarta serta studi pustaka. Hasil penelitian menunjukkan bahwa AI memberikan peluang besar dalam meningkatkan efisiensi, akurasi, dan cakupan audit, terutama dalam mendeteksi anomali dan memproses data berskala besar namun tidak secara keseluruhan karena AI tidak memiliki pertimbangan profesional. Disisi lain AI juga belum ada regulasi hukum yang jelas. Oleh karena itu, dibutuhkan peran regulator dalam memberikan kepastian hukum untuk melindungi auditor yang menggunakan AI.
Kata Kunci: AI, audit keuangan, standar profesional akuntan, regulasi, etika

Introduction

The COVID-19 pandemic has accelerated the adoption of advanced technologies and renewed interest in audit process automation (Castka & Searcy, 2023). Remote auditing practices have driven the use of sophisticated technologies, albeit not without challenges. Big 4 accounting firms responded positively to AI developments: Deloitte introduced Auvenir,

and Ernst & Young adopted Robotic Process Automation (RPA). However, Tiberius and Hirth (2019) argue that digitization will eventually require new regulatory standards, although no changes are expected in the near term.

The rise of AI in auditing raises ethical concerns that challenge professional codes of conduct. The accuracy of technology and the increasing reliance of auditors on it have triggered questions about auditors' professional prudence. Munoko et al. (2020) argue that AI introduces more ethical dilemmas as it becomes increasingly autonomous.

AI helps auditors quickly filter information and gain deeper insights into audit risks, without replacing the need for professional judgment. In line with the research by Fachriyah and Anggraeni (2024), AI can automate routine tasks such as data entry and reconciliation and provide predictive analytics for better decision-making. It evaluates entire data populations rather than just samples, thereby improving accuracy and fraud detection.

However, AI poses legal challenges, especially in accountability when audit report errors occur, and in terms of privacy and data protection. According to Suyono et al. (2025), the lack of clear legal guidelines on AI in auditing could expose auditors to professional liability, particularly if AI is used without sufficient understanding. This study aims to examine the application of AI in audits and its implications for auditors' professional ethics and responsibilities.

Literature Review

The discussion in this article focuses on auditors' opinions regarding the use of Artificial Intelligence and a legal review of its application in auditing company financial data, as well as the risks of confidential data breaches. Therefore, to avoid misinterpretation, the author outlines several previous studies which, in principle, differ from this article. These studies include:

a. **Fachriyah & Anggraeni (2024)** state that Big Four accounting firms are still in the early stages of AI integration, while smaller firms face obstacles such as high costs, limited expertise, and regulatory uncertainty, which hinder adoption. Thus, the journal shows that the adoption of AI in Indonesia's audit sector is uneven, with large firms leading and smaller firms lagging due to limited resources.
b. **Azizah, Syahputri, & Sari (2024)** found that Artificial Intelligence increases audit efficiency but raises concerns regarding ethics, data protection, and professional responsibility. However, this study did not discuss the legal regulations governing the use of AI in the audit process.
c. **Suyono, Puspa, Anugrah, & Firnanda (2025)** mainly summarize various AI tools and applications in auditing and their key challenges, including the lack of algorithmic transparency and the need for adaptive regulation.

d. **Andjelković, Stojković, & Trajković (2024)** found that Artificial Intelligence accelerates the audit process and reduces errors, but still requires human supervision due to algorithmic risks and the absence of legal accountability.
e. **Suyono et al. (2025)** found that the increasing use of AI in audit processes has enhanced fraud detection capabilities, risk assessment, and data analysis.

Theoretical Framework

Artificial Intelligence (AI)

AI is a technology that simulates human problem-solving abilities. According to Bedy and Iwan (2021), AI enables machines to mimic human behavior, such as image recognition, writing poetry, and data-based predictions. AI is designed to assist, not replace, human tasks, especially in auditing.

Financial Audit

A financial audit is an independent evaluation of a company's financial reports to ensure fairness and compliance with accounting principles. According to the Public Accountant Professional Standards (SPAP, 2019), an audit involves collecting and evaluating evidence to assess conformity with established criteria, conducted by a competent and independent person.

Auditor Ethics

According to Munawir (2010:52), ethics are moral principles guiding behavior, contributing to one's dignity and integrity. AI in auditing currently lacks specific legal protections. Due to AI's capabilities, there is a need for legal frameworks, including specific legislation and possibly specialized government departments for AI-related disputes (Jaya & Goh, 2021).

Methodology

This research employed a descriptive qualitative method, focusing on words and visuals over numbers (Bogdan & Biklen, 2020), along with a literature study (Wibowo, 2019). The study aimed to deeply understand how AI is applied in financial audits and the associated legal and ethical issues.

The research was conducted at a public accounting firm (KAP) in Surakarta by interviewing an experienced auditor. Data collection involved interviews and reviewing relevant literature, laws, and standards such as SPAP and ISA. The primary instrument was a 10-question interview guide exploring AI implementation, legal compliance, ethical risks, and auditor responsibilities.

Results and Discussion

The interview was conducted with an auditor in the city of Surakarta regarding the use of AI in the financial audit process. The findings revealed **that "the application of AI in the audit process remains** limited and

gradual. Auditors at our Public Accounting Firm have begun to utilize AI to ease their work, especially in sorting data. The implementation of AI was driven by the large volume of client data and time constraints during the audit, so I used AI to assist in the process. However, auditors must remain vigilant because independence and objectivity stem from the auditor, not from AI."

According to the interviewee, the auditor's perspective on AI replacing human auditors is that AI will never fully replace auditors because it lacks professional judgment. Auditors maintain their professional judgment and do not rely entirely on AI-generated results. They validate the outputs of artificial intelligence through careful evaluation to ensure the reliability of audit information. This demonstrates that auditors do not relinquish their professional responsibilities, even when AI systems are used as supporting tools.

The research also found that regulatory issues surrounding the use of AI remain a concern. One auditor stated that standards such as SPAP (Standar Profesional Akuntan Publik) or ISA (International Standards on Auditing) have not yet included specific rules regarding the use of AI in the audit process. In their opinion, if auditors were to rely entirely on AI for the audit process, it could lead to data breaches, especially considering the confidential nature of client information. Currently, auditors still adhere to the principles of SPAP and ethical regulations, but there is no clear legal guidance available in the event of system failure or errors in AI-based decision-making.

Discussion

This study found that auditors have used AI to sort audit data. According to the respondent, the use of AI significantly accelerates data sorting tasks. However, auditors must remain vigilant, as independence and objectivity lie with the auditor, not with AI. The use of AI brings efficiency in terms of time and effort, and the analysis conducted by AI is more comprehensive, reducing the potential for errors and enabling faster fraud detection. AI also assists auditors in identifying patterns or anomalies that may not be apparent to the human eye. This indicates that Artificial Intelligence offers great potential in enhancing audit quality. Nevertheless, auditors also impose boundaries and maintain oversight over the AI tools they use. These findings align with those of Fachriyah & Anggraeni (2024), who state that the use of AI enables auditors to evaluate the entire population of data rather than just samples, thereby improving accuracy and fraud detection.

The second finding reveals that AI cannot fully replace auditors, as AI lacks professional judgment. AI serves only as a support tool; if an auditor relies solely on AI and the system misinterprets a prompt, the outcome may not reflect the actual audit findings. Moreover, AI depends on the input data, making it necessary for auditors to evaluate the context and meaning

behind the data. If the data entered is incomplete, biased, or ambiguous, the AI-generated output may be misleading. Furthermore, ethical responsibility and legal accountability remain in the hands of humans. Decisions in financial statement audits require intuition, experience, and ethics—qualities that only humans possess. This study is consistent with the findings of Azizzah et al. (2024), who argue that while AI can enhance efficiency and effectiveness in auditing, human oversight is still needed to ensure results remain professionally and ethically valid.

The third finding highlights the absence of specific regulations regarding the use of AI in the financial audit process. According to current auditing standards such as SPAP and ISA, the responsibility for the audit opinion rests with the auditor, not with the system. Moreover, the use of AI still lacks clear legal regulation, especially when it involves processing confidential corporate data. The legal issues faced by auditors relate to the lack of specific regulatory standards governing AI usage in audits. Jaya and Wilton Goh (2021) noted that both legal entities and AI have creators and users, each with their own roles and responsibilities. Suyono et al. (2025) emphasize that the lack of clear legal guidelines on AI use in auditing exposes auditors to professional liability risks, especially if such technologies are used without adequate understanding. Similarly, Putranto (2018) highlights that auditors must uphold their integrity, objectivity, and independence throughout the audit process, and remain accountable for the information presented. Thus, auditors are expected to consistently act with care and competence, and to respect the confidentiality of client information (Bhagaskara et al., 2022).

Conclusion and Recommendations

Conclusion

The study concludes that AI helps auditors process data more efficiently but cannot replace auditors due to the absence of professional judgment. Moreover, the lack of clear regulations exposes auditors to potential professional liability.

Recommendations

Future research should broaden its scope to better reflect general practices. Policymakers are urged to develop specific regulations governing AI in financial audits, covering legal responsibility, ethics, and client data protection.

References

Amazon Web Services. (n.d.). *What is Artificial Intelligence (AI)?* Retrieved July 20, 2025, from https://aws.amazon.com/id/what-is/artificial-intelligence/

Andjelković, P., Stojković, D., & Trajković, M. (2024). *The Role of Artificial Intelligence in Modern Auditing*. Journal of Finance and Technology, 10(1), 22–33.

Azizah, N., Syahputri, R. A., & Sari, F. I. (2024). Peran Artificial Intelligence dalam Modernisasi Audit dan Pelaporan Keuangan. *Jurnal Akuntan*, 6(1), 32–40. https://jurnal.umsu.ac.id/index.php/akuntan/article/view/24335

Bedy, T., & Iwan, R. (2021). Kecerdasan Buatan dan Peranannya dalam Dunia Akuntansi. *Jurnal Teknologi dan Bisnis*, 4(2), 105–113.

Bhagaskara, Y. H. I., Nuraini, T., & Nugroho, S. A. (2022). Kode Etik Profesi Auditor dan Tanggung Jawab Profesional. *Jurnal Akuntansi dan Etika Profesi*, 7(1), 18–27.

Bogdan, R. C., & Biklen, S. K. (2020). *Qualitative Research for Education: An Introduction to Theory and Methods* (6th ed.). Pearson Education.

Castka, P., & Searcy, C. (2023). Audits and COVID-19: A paradigm shift in the making. *Business Horizons*, 66(1), 5–11.

Fachriyah, N., & Anggraeni, O. L. (2024). The Use of Artificial Intelligence in Financial Statement Audit. *Jurnal Ilmu Sosial dan Teknologi*, 5(2), 45–52. https://jist.publikasiindonesia.id/index.php/jist/article/view/5251

Ismayani, R. (2019). *Metode Penelitian Perpustakaan: Pendekatan Konseptual dan Praktik*. Pustaka Setia.

Jaya, R., & Goh, Y. (2021). Implikasi Hukum Artificial Intelligence dalam Dunia Industri 4.0. *Jurnal Hukum dan Teknologi*, 3(1), 14–25.

Kementerian Keuangan Republik Indonesia. (n.d.). *Kantor Akuntan Publik*. Direktorat Jenderal Perbendaharaan. Retrieved July 20, 2025, from https://pppk.kemenkeu.go.id/in/post/kantor-akuntan-publik

Munawir. (2010). *Analisa Laporan Keuangan* (Edisi Keempat). Yogyakarta: Liberty.

Munoko, I., Brown-Liburd, H. L., & Vasarhelyi, M. (2020). The Ethical Implications of Using Artificial Intelligence in Auditing. *Journal of Business Ethics*, 167(2), 209–234.

Putranto, B. E. (2018). *Etika Profesi Akuntan dan Audit*. Penerbit Mitra Wacana Media.

Rizki, M. I. (n.d.). Kepatuhan Kode Etik Auditor dalam Penerapan Audit Berbasis Teknologi. *Jurnal Ilmu Wawasan dan Pengetahuan*, 3(1), 58–66. https://jurnal.peneliti.net/index.php/JIWP/article/download/6872/5867/

Standar Profesional Akuntan Publik (SPAP). (2019). *Standar Audit*. Jakarta: Ikatan Akuntan Indonesia.

STEI Indonesia. (n.d.). *BAB II: Tinjauan Pustaka*. Retrieved from http://repository.stei.ac.id/8320/3/BAB%20II.pdf

Suyono, A., Puspa, D., Anugrah, R. F., & Firnanda, L. (2025). Artificial Intelligence in Auditing: A Systematic Review of Tools, Applications,

and Challenges. *Jurnal RIGGS*, 4(2), 66–75. https://journal.ilmudata.co.id/index.php/RIGGS/article/view/1024

Tiberius, V., & Hirth, S. (2019). Impacts of digitization on auditing: A Delphi study for Germany. *Journal of International Accounting, Auditing and Taxation*, 37, 100288.

Universitas Muhammadiyah Jakarta. (n.d.). *BAB III: Metodologi Penelitian*. Retrieved from https://repository.umj.ac.id/9338/12/12.%20BAB%20III.pdf

Wibowo, A. (2019). Metode Studi Pustaka dalam Penelitian Sosial. *Jurnal Metodologi Sosial*, 2(1), 55–63.