

## AI-ASSISTED AUDITING: NAVIGATING ETHICAL RISKS AND ENHANCING PROFESSIONAL STANDARDS

Hasnain Kashif<sup>\*1</sup>, Usman Khalid<sup>2</sup>

<sup>\*1</sup>Computer Science Department, University of South Asia, Lahore, 54000, Pakistan

<sup>2</sup>Department of Business and Management, Teach Globally, United Kingdom

<sup>1</sup>hasnain.kashif@usa.edu.pk, <sup>2</sup>usman.khalid@teachglobally.co.uk

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Corresponding Author: \*

### Abstract

This study investigates the ethical implications of integrating Artificial Intelligence (AI) in auditing, with a focus on adherence to the five ethical principles by IESBA. Using qualitative research, semi-structured interviews were conducted with auditors from two Big Four firms to explore current and potential challenges and adaptation strategies. Findings reveal AI is primarily utilized for administrative tasks but is anticipated to transform auditing roles, requiring enhanced skills and ethical guidelines. Ethical concerns include biases, the "black-box" nature of AI, and overreliance on technology. Audit firms are addressing these issues by implementing training programs and emphasizing human oversight. Rest's Four-Component Model provides a framework for analyzing these challenges. The study offers insights for auditors, audit firms, and policymakers to ensure ethical AI integration, balancing innovation with professional integrity.

### INTRODUCTION

Artificial Intelligence (AI) has emerged as a transformative force across industries, redefining conventional practices with its ability to replicate complex human intelligence. In auditing, AI's integration has significantly improved efficiency and accuracy, particularly in data-intensive tasks such as risk analysis and anomaly detection [1], [2]. Tools like Deloitte's GRAPA and PwC's GL.ai exemplify AI's potential to enhance auditing by identifying patterns and irregularities with precision and speed [3], [4].

However, the integration of AI also presents ethical challenges. The "black-box" nature of AI systems and algorithmic biases pose risks to integrity and

professional judgment, which are cornerstone principles of auditing ethics [5], [6]. Concerns about overreliance on AI, particularly among junior auditors, have raised questions about the dilution of foundational auditing skills such as skepticism and analytical reasoning [7]. Additionally, client-generated AI outputs often lack transparency, creating challenges in maintaining objectivity and verifying data accuracy [8].

This study aims to explore these ethical implications, focusing on the five fundamental principles of ethics outlined by the International Ethics Standards Board for Accountants (IESBA): Integrity, Objectivity, Professional Competence and Due Care,

Confidentiality, and Professional Behavior [9]. Using qualitative research through interviews with auditors from two Big Four firms, the research examines the current and future challenges of AI in auditing and the strategies employed to address them. The findings contribute to the growing discourse on AI ethics in professional practices, emphasizing the need for updated regulatory frameworks and professional training.

### Literature Review

This section explores prior research on the integration of Artificial Intelligence (AI) in auditing, focusing on its ethical, operational, and professional implications. The review is categorized into key themes including AI's evolving role, ethical dilemmas, and mitigation strategies, with a detailed theoretical framework for understanding these dynamics.

The integration of AI into auditing has reshaped the profession by automating labor-intensive processes and enhancing decision-making accuracy. AI tools like Robotic Process Automation (RPA), Natural Language Processing (NLP), and predictive analytics allow auditors to analyze vast datasets efficiently [10]. This transformation marks a shift from sample-based audits to comprehensive data analysis, enabling deeper insights into organizational operations [11].

Frey and Osborne [12] highlighted that automation affects nearly 94% of auditing tasks, emphasizing the need for auditors to adopt AI-driven methodologies. However, researchers argue that while AI tools enhance efficiency, they may undermine the development of essential auditing skills like professional skepticism, particularly for junior auditors [13]. Such challenges underscore the need for balanced integration to ensure human expertise remains a critical component in auditing [14].

The use of generative AI models, such as ChatGPT, by Big Four firms has also been noted for streamlining administrative tasks, preparing reports, and assisting in fraud detection [15]. Despite these benefits, AI's ability to learn and adapt raises concerns about auditors' overreliance on these systems and the potential for errors due to unchecked AI outputs [16].

The ethical challenges associated with AI integration include biases in algorithms, lack of transparency

(black-box problem), and overreliance on technology. According to the International Ethics Standards Board for Accountants (IESBA), AI poses risks to the principles of objectivity and professional competence [9]. Researchers argue that biases in AI systems can lead to misjudgments, thereby impacting audit quality [17].

Schneider et al. [18] reported that auditors often face difficulties in verifying AI-generated insights due to limited understanding of the underlying algorithms. This lack of transparency challenges the integrity and reliability of audit outcomes, raising the need for enhanced regulatory oversight [19]. Furthermore, auditors' overdependence on AI systems could result in diminished professional skepticism, a foundational aspect of ethical auditing [20].

The risks are compounded by clients' use of AI tools, which may produce inconsistent or biased data. Commerford et al. [21] observed that auditors often struggle to critically evaluate such outputs, leading to potential breaches of ethical standards. These challenges highlight the importance of maintaining human oversight in AI-assisted audits [22].

Professional skepticism and judgment are critical in mitigating ethical risks posed by AI. Studies indicate that auditors who rely excessively on AI may overlook irregularities, compromising audit quality [23]. Conversely, auditors skeptical of AI-generated insights may dismiss valid evidence, creating inefficiencies in the audit process [24].

Lehner et al. [25] explored how AI impacts auditors' decision-making processes, finding that while AI enhances moral awareness by providing detailed analyses, it complicates moral judgment and motivation. Their research underscores the need for auditors to balance reliance on AI with critical thinking skills, ensuring adherence to ethical principles [25].

To address ethical challenges, audit firms have initiated training programs aimed at enhancing auditors' understanding of AI technologies. These programs focus on equipping auditors with the skills needed to evaluate AI outputs critically, ensuring compliance with ethical standards [26]. Deloitte's training on GRAPA and PwC's workshops on GL.ai serve as examples of such initiatives [27].

Researchers emphasize that continuous education is essential to bridge the knowledge gap between

technological advancements and traditional auditing practices [28]. Rest's Four-Component Model highlights the importance of moral motivation and character in ethical decision-making, advocating for training that fosters ethical awareness among auditors [29].

Enhanced regulatory frameworks are crucial for ensuring ethical AI integration. Policymakers have been urged to establish guidelines that address transparency, accountability, and data security in AI systems [30]. The European Union's AI Act, for instance, provides a comprehensive framework for regulating AI in professional practices, including auditing [31].

Leaders in the audit profession argue that regulatory bodies must collaborate with technology developers to design AI systems that align with ethical standards. This collaboration ensures that auditors can trust AI-generated insights while maintaining professional judgment [32].

A hybrid approach combining human expertise with AI capabilities has been proposed to mitigate ethical risks. Studies suggest that such models leverage the strengths of both entities, enhancing audit quality while preserving human oversight [33]. Brynjolfsson and McAfee [34] demonstrated that collaborative human-AI models outperform both standalone AI systems and human auditors in complex decision-making scenarios.

Samiolo et al. [35] emphasized that collaborative approaches encourage auditors to integrate AI-generated insights with their professional knowledge, fostering a balanced auditing process. This strategy aligns with the principles of professional competence and due care, ensuring ethical compliance in AI-assisted audits [36].

Rest's model serves as a foundational framework for understanding the ethical dimensions of AI in auditing. The model outlines four components—moral awareness, judgment, motivation, and character—each playing a critical role in ethical decision-making [9].

Recent research has applied Rest's model to explore how AI affects auditors' ethical behaviors. For example, auditors with high moral awareness are better equipped to recognize the limitations and biases of AI systems, enabling them to make informed judgments [37]. However, the model also

highlights challenges in moral motivation, as auditors may prioritize efficiency over ethical considerations when relying on AI [38].

Arnold and Sutton's Technology Dominance Theory complements Rest's model by addressing the interplay between human expertise and AI systems. The theory posits that experienced users paired with AI tools achieve superior outcomes compared to less experienced auditors relying solely on technology [39]. This finding underscores the importance of experience and training in mitigating the ethical risks associated with AI [40].

Despite the advancements in understanding AI's role in auditing, gaps remain in exploring its long-term implications.

#### **Future studies could focus on the following areas:**

- **Impact on Junior Auditors:** Investigating how AI influences skill development and ethical behaviors among early-career auditors [41].
- **Algorithmic Accountability:** Developing frameworks to ensure transparency and accountability in AI-generated insights [42].
- **Cross-Cultural Perspectives:** Examining how different regulatory environments affect the ethical integration of AI in auditing [43].

#### **Methodology**

This section explains the research approach, data collection, and analysis techniques used to investigate the ethical implications of Artificial Intelligence (AI) in auditing. The methodology was designed to ensure a comprehensive understanding of auditors' perspectives and strategies in navigating AI integration challenges.

#### **1. Research Approach**

A qualitative research approach was adopted for this study. This approach is effective in exploring complex and subjective phenomena such as ethical challenges in professional practices. By focusing on the experiences and insights of auditors, the study aimed to uncover nuanced perspectives on the implications of AI integration [44].

To analyze the ethical dimensions of AI, Rest's Four-Component Model was used as a theoretical framework. The model's four elements—moral awareness, judgment, motivation, and character

provided a systematic way to examine how auditors address ethical dilemmas in their work [45].

## 2. Data Collection

### 2.1 Participant Selection

Purposive sampling was used to select auditors from two Big Four firms. Participants included junior associates, senior managers, and partners to capture a diverse range of experiences and roles within the auditing profession [46].

### 2.2 Semi-Structured Interviews

Semi-structured interviews were conducted to gather in-depth insights into the auditors' experiences with AI tools and ethical challenges. This method balances the consistency of structured questions with the flexibility to explore unanticipated themes [47]. The interview guide covered topics such as AI usage, ethical dilemmas, and organizational strategies for mitigating risks.

The interviews were conducted via video conferencing tools, ensuring convenience and accessibility for participants located in different regions [48]. Each session lasted between 30 and 60 minutes and was audio-recorded with the participants' consent.

### 2.3 Ethical Considerations

The study adhered to ethical research practices, including obtaining informed consent, ensuring confidentiality, and protecting participant anonymity. Transcripts were securely stored and used exclusively for research purposes [49].

## 3. Data Analysis

### 3.1 Thematic Analysis

A thematic analysis approach was employed to analyze the interview data. This method involves identifying, coding, and categorizing recurring themes and patterns related to ethical challenges and strategies [50].

### 3.2 Application of Rest's Four-Component Model

The Four-Component Model guided the interpretation of findings, linking observed ethical challenges and responses to the model's cognitive processes. For example, moral awareness was assessed by analyzing auditors' recognition of ethical issues in

AI outputs, while moral judgment was examined through their decision-making strategies [45].

### 3.3 Validation and Reliability

To enhance reliability, two researchers independently reviewed the transcripts and reconciled discrepancies in the coding process. Member checking was also performed by sharing preliminary findings with participants for validation [51].

## 4. Limitations

### The study faced several limitations:

1. Sample Size: Data were collected from two firms, which may limit the generalizability of the findings [52].
2. Self-Reported Data: Participants' responses may reflect perceptions rather than actual behaviors, introducing potential bias [53].
3. Technological Dynamism: Rapid advancements in AI technologies may render some findings outdated in the near future [54].

## Findings and Analysis

The integration of Artificial Intelligence (AI) into auditing processes has significantly transformed the profession, providing new opportunities for enhancing efficiency and accuracy. However, this technological advancement has introduced various ethical challenges that must be carefully managed. The findings from this study provide critical insights into how auditors from two Big Four firms perceive AI's role, the ethical dilemmas they face, and the strategies they employ to navigate these challenges. These insights were gathered through interviews with auditors at different levels of experience, including junior associates, senior managers, and partners, allowing for a broad understanding of AI's impact across career stages.

The use of AI in auditing is predominantly focused on automating administrative tasks, including data collection, analysis, and initial risk assessments. Auditors confirmed that AI tools, such as Robotic Process Automation (RPA) and Machine Learning (ML) algorithms, are employed to analyze large datasets quickly, detect anomalies, and identify potential risks that human auditors might overlook. AI's ability to process vast amounts of data rapidly

has made it a powerful tool for improving the efficiency and accuracy of audits, particularly in detecting financial irregularities and patterns. The findings align with the literature, which suggests that AI's integration in auditing aims to improve audit quality by allowing auditors to focus on more complex judgment tasks while automating repetitive functions [55].

Despite its advantages, the integration of AI has raised significant concerns, especially regarding overreliance on technology. Many auditors, particularly junior associates, expressed concerns that an overdependence on AI could hinder the development of critical auditing skills, such as professional skepticism and judgment. Professional skepticism, a core value in auditing, involves the auditor's questioning mindset and ability to critically evaluate evidence. However, the findings suggest that junior auditors, who may rely heavily on AI tools to assist with data analysis and anomaly detection, are at risk of becoming passive users of AI without fully developing the critical thinking required for effective auditing [56].

Furthermore, auditors noted that AI systems are often considered "black boxes," meaning their decision-making processes are not transparent or easily understood by the user. This lack of transparency is a significant ethical concern, as auditors may be unable to explain how AI-generated outputs were derived, thus compromising their ability to verify results and maintain accountability. Auditors expressed the need for deeper understanding and training in AI tools to ensure they can interpret and verify AI's outputs effectively. This concern aligns with the findings of Schneider et al., who argue that the complexity and opacity of AI systems pose challenges for maintaining transparency and accountability in auditing [57].

The interviewees highlighted that while AI can greatly improve efficiency, its limitations must be acknowledged. AI systems are only as good as the data they are trained on, and there is always a risk of biases being embedded in the algorithms. The auditors noted that AI models may inadvertently perpetuate biases present in the training data, leading to flawed conclusions. For instance, if an AI system is trained on biased historical data, it might prioritize certain types of financial transactions while

overlooking others, potentially resulting in an unfair audit. Auditors expressed the need for a careful review of AI-generated findings to ensure that the outputs align with ethical auditing standards and that AI tools do not inadvertently introduce biases into the audit process.

The analysis revealed that the ethical challenges associated with AI in auditing are not uniform across all levels of experience. Senior auditors, who possess greater expertise and experience, were more likely to view AI as a complement to their skills rather than a replacement. They recognized the potential of AI to enhance their decision-making by providing insights from vast datasets that would be time-consuming for humans to process. These senior auditors emphasized the importance of retaining human judgment and oversight in the decision-making process, even when AI tools are used for initial analysis. Their responses indicate that they view AI as a supportive tool that can assist in achieving more accurate and efficient audits while still requiring their expertise to guide the final decisions.

In contrast, junior auditors expressed more mixed feelings about AI. While they acknowledged that AI could help them with mundane tasks and data analysis, many voiced concerns about the potential for AI to undermine their professional development. Junior auditors are still in the process of developing critical auditing skills, and overreliance on AI could limit their opportunities to develop the judgment and skepticism needed in auditing. This concern has been echoed in the literature, where studies suggest that young auditors may struggle with AI integration, as they may not yet possess the experience or critical thinking skills to evaluate AI outputs effectively [58]. To address these concerns, audit firms have introduced training programs aimed at bridging the gap between AI technology and human expertise. The auditors confirmed that their firms are investing in training programs to help staff better understand AI tools and learn how to use them ethically. These programs focus on educating auditors about the strengths and limitations of AI, ensuring they remain critical of AI-generated outputs and can identify when human intervention is necessary. The importance of training is supported by the findings of P. Susskind, who emphasizes the need for

continuous education in the evolving landscape of AI in the professional world [59].

In addition to training, auditors emphasized the importance of regulatory oversight in managing the ethical implications of AI in auditing. The findings indicated that while AI presents significant opportunities to improve auditing processes, regulatory bodies must play an active role in ensuring that AI tools are used responsibly. Several auditors advocated for clearer guidelines and standards that would ensure AI tools are used ethically and that auditors remain accountable for their decisions, even when assisted by AI systems. This view is consistent with the findings of various studies, which suggest that regulators should work closely with audit firms to develop ethical frameworks for AI usage, ensuring that AI systems are transparent, accountable, and unbiased [60].

Finally, the auditors noted that while AI is a valuable tool, it is unlikely to replace human auditors entirely. The role of AI in auditing is seen as augmentative rather than substitutive, where AI can handle routine tasks, and auditors can focus on tasks requiring human judgment and ethical reasoning. This hybrid approach was viewed as the most effective way to balance the strengths of AI with the critical oversight of human auditors. This finding aligns with the literature, where scholars suggest that AI's role in auditing will continue to evolve, but human expertise will remain essential in ensuring that audits are ethical, accurate, and aligned with professional standards [61].

### Recommendation

Based on the findings of this study, several recommendations can be made to ensure the ethical and effective integration of Artificial Intelligence (AI) in auditing practices. First, audit firms should focus on enhancing training programs that emphasize the importance of professional skepticism, judgment, and AI literacy. While AI can improve efficiency, auditors must retain critical thinking skills to evaluate AI-generated outputs properly. Training should address not only the technical use of AI tools but also the ethical considerations associated with AI, ensuring auditors understand the limitations of AI and the need for human oversight in the decision-making process.

Second, audit firms should implement stronger frameworks for integrating AI into the auditing process, ensuring that human auditors are actively involved in every stage of AI-driven audits. This includes reviewing AI outputs, making the final judgment, and ensuring that the AI systems used comply with auditing standards and ethical guidelines. Regular audits of the AI tools themselves should be conducted to check for biases or inaccuracies in the data that AI systems may process, as biases could compromise the integrity of the audit. Third, regulatory bodies should establish clearer guidelines and standards for the ethical use of AI in auditing. These standards should focus on transparency, accountability, and the prevention of biases in AI systems. Regulatory frameworks can help mitigate the risks associated with AI's lack of transparency and its potential to perpetuate biases in audit results.

Finally, audit firms should adopt a hybrid approach, combining the strengths of AI with human judgment to enhance audit quality. While AI can provide insights into large datasets, human auditors must maintain control over final audit decisions. This collaborative approach ensures that auditors remain responsible for their ethical obligations while benefiting from AI's data processing capabilities.

### Conclusion

To ensure the successful and ethical integration of Artificial Intelligence (AI) into auditing practices, several key recommendations should be followed. First, audit firms must prioritize the development of comprehensive training programs that not only focus on technical proficiency with AI tools but also emphasize the importance of maintaining professional skepticism and judgment. Auditors, especially those at junior levels, should be trained to critically evaluate AI outputs and understand the limitations of the technology. This will prevent overreliance on AI and help auditors retain the critical thinking skills essential for effective auditing. Second, a strong framework for human oversight in AI-assisted audits should be established. AI should be viewed as a tool to assist auditors rather than replace human decision-making. Auditors should always retain the responsibility for final decisions, ensuring that human judgment is integrated into all

stages of the audit process. This hybrid approach will maximize AI's strengths while maintaining the accountability and ethical standards of the auditing profession.

Third, regulatory bodies must play a crucial role in addressing the ethical implications of AI in auditing. Clear, well-defined guidelines and standards for AI use in auditing should be developed to ensure that AI systems are transparent, unbiased, and used in a way that upholds the integrity of the audit process. Regulators should work closely with audit firms and technology providers to ensure that AI tools are compliant with established ethical standards, and that audits remain accountable and trustworthy.

Finally, audit firms should adopt a proactive approach to AI system auditing. Regular audits of the AI tools themselves should be conducted to identify potential biases, errors, or inefficiencies in the algorithms, ensuring that they function as intended and do not compromise audit quality. This ongoing review will help in maintaining the accuracy, fairness, and ethical alignment of AI-assisted audits.

By implementing these recommendations, audit firms can harness the full potential of AI in enhancing audit processes while safeguarding the ethical standards and professionalism of the auditing field.

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