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The Ethical Dilemma of the Accountant Profession When Robots Hold Auditor's Pen in the Era of Artificial Intelligence

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Abstract

The application of artificial intelligence (AI) in the audit process offers opportunities to improve audit efficiency and quality, but it also raises ethical dilemmas that need attention. This study aims to analyze the use of AI in the audit process, identify emerging ethical dilemmas, evaluate its implications for the five basic principles of the accounting professional code of ethics, and examine its impact on professional judgment and auditor ethical decision-making. This study uses a literature review method by reviewing previous research on the use of AI in auditing, technological ethics, audit quality, and auditor behavior. The literature analyzed includes empirical research and conceptual studies discussing the benefits, risks, and challenges of AI implementation in audit practice. The analysis results show that AI has the potential to help auditors analyze large amounts of data, identify risks, and support transaction audits. However, its implementation also presents challenges such as algorithmic bias, limited transparency, data confidentiality risks, and difficulties understanding the underlying system outputs. The use of AI can also influence professional judgment, either through the tendency to overtrust system recommendations or ignore them due to lack of trust in technology. This condition has implications for integrity, objectivity, professional competence and prudence, confidentiality, and auditors' professional behavior. Therefore, AI implementation needs to be accompanied by human supervision, enhancement of technological and ethical competence, validation of data and system results, transparent documentation, and affirmation of professional responsibility. This study concludes that AI should function as a supporting tool for audits, not as a substitute for professional judgment and auditor ethical responsibility.

Keywords: Artificial Intelligence, Audit, Ethical Dilemmas, Audit Quality, Auditor Professional Considerations.

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INTRODUCTION

The development of digital technology in the last decade has changed the way almost all professions work, and accounting is among the most impacted. Work that once relied on document matching and sampling is now being handled by automated systems. Kokina and Davenport (2017) have touched on this from the beginning. According to them, software algorithms allow data from various sources, including external sources, to be processed and analyzed with great processing power. This means that artificial intelligence (AI) is no longer just a calculation tool, but has entered a field of work that has long been considered to require human consideration.

In the audit world, this change is not just a discourse. Munoko et al. (2020) noted that all Big Four have reported on the use of AI, ranging from risk assessment in audit planning, transaction testing, analytics, to the preparation of audit worksheets. More recent findings are in line with this. Maharani and Dewayanto (2026), through a literature review of articles published from 2020 to 2025, concluded that AI can improve the efficiency of audit procedures through automated data testing and real-time risk detection. In terms of speed and scope of audits, its advantages are indeed hard to deny.

However, those benefits come at a considerable price. Behind efficiency, there is a more fundamental question: who is responsible when audit decisions are influenced by systems whose workings are not fully understood by their users? Maharani and Dewayanto (2026) mention algorithmic bias, lack of system transparency (*black box*), and unclear accountability as ethical risks that need to be anticipated. Sundiman et al. (2026) add a behavioral perspective. According to them, algorithmic ambiguity and excessive reliance on automated tools can threaten professional skepticism and auditor accountability. Munoko et al. (2020) have actually warned similarly, namely that behind the benefits of AI lie unexpected consequences that need to be studied, not just celebrated.

To address this issue, we need to return to the foundations of accountant professional ethics. The accounting professional code of ethics, both international and national versions, is based on five basic principles: integrity, objectivity, professional competence and prudence, confidentiality, and professional conduct. These principles were born long before AI was known, so it is reasonable to retest their implementation. Recognizing this, *the International Ethics Standards Board for Accountants* (IESBA, 2024) revised the Code of Ethics focusing on technology. The revision is designed to apply to the use of any technology, including future technology, and took effect on December 15, 202. The revision also highlights conditions that could pose threats to accountants, such as the feasibility of data input into technology and decisions made when people use it. From an independence perspective, this new regulation also clarifies when firms can or cannot provide technology-

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based non-insurance services to audit clients. In other words, ethical demands on auditors who use AI now have a clearer basis, although their implementation in the field may not be as easy as it sounds.

Indonesia's context has its own challenges. Kamarudin et al. (2022) studied the ethical behavior of auditors in Indonesia using the REST model, involving 121 auditors from large firms, and examined the role of professional skepticism and threats of independence in ethical decision-making. They noted that studies on this issue are still limited. These findings are important because skepticism and independence are the two most likely to erode when auditors begin to rely on machine results. If studies on the ethics of conventional auditors are still few, studies that place AI as a new variable are certainly rarer.

At the global level, the literature on AI ethics in auditing is also still not well-established. Laine et al. (2024) show that this field is still new and fragmented, with diverse and often inconsistent interpretations of core ethical principles, such as fairness, transparency, harmlessness, and autonomy. Lotlikar and Mohs (2021) describe a similar situation in practice: changes in audit processes due to AI testing auditor competence, while also raising governance, regulatory, and ethical challenges. So, the sources of information are actually many, but they are spread across different topics: some discuss efficiency, some discuss technical risks, some discuss regulation.

From the explanation above, there is a fairly clear gap. The benefits of AI in auditing have been widely discussed, as have the risks, but discussions linking the two directly to the basic principles of the accounting professional code of ethics are still limited. Whereas for an accountant, the practical question is simple: when AI participates in audits, which ethical principles are most threatened, and what must be done to ensure professional responsibility remains in human hands? This question is relevant to answer, especially for accounting students who will soon enter the workforce already filled with this technology.

Based on this background, this article aims to examine the ethical dilemmas faced by accountants, especially auditors, due to the use of artificial intelligence, referring to the basic principles of professional ethics. The study was conducted through literature review of relevant scientific publications and professional guidelines. Theoretically, this article is expected to enrich discussions on professional ethics in the digital era. Practically, the results are expected to serve as reflection for accountants, audit firms, and policymakers in preparing the use of AI while maintaining professional integrity.

LITERATURE REVIEW

The Ethics of the Accounting Profession Amid the Development of Technology

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Professional ethics can be understood as a set of values and rules of conduct that maintain public trust in a profession. For accountants, the main reference is the IESBA Code of Ethics, which establishes five basic principles: integrity, objectivity, professional competence and prudence, confidentiality, and professional conduct (IESBA, 2024a). When technology enters accountants' workspaces, these principles are not replaced but expanded in application. IESBA (2024b) revised the Code of Ethics to guide the mindset and behavior of professional accountants when using technology, and applies to any technology, including future technology. The revision also highlights the feasibility of input data used in technology as well as decisions people make while using it as a potential threat source. Thus, technology changes accountants' work tools, but ethical responsibility remains inherent in the humans who operate them.

Artificial Intelligence in Audit Practice

Artificial *intelligence* (AI) is essentially a technology that seeks to mimic human cognitive abilities and judgment (Munoko et al., 2020). In audits, Kokina and Davenport (2017) explain that algorithms allow data from various sources, including external sources, to be processed and analyzed with great processing power. Its application is already widespread. According to Munoko et al. (2020), all Big Four reported the use of AI in audit planning, transaction testing, analytics, and drafting working papers. A recent literature review by Maharani and Dewayanto (2026) added that AI increases efficiency through automated data testing but requires auditors to master technological competence and have higher professional skepticism. In other words, the more sophisticated the tools, the greater the demand for auditor assessment quality.

Theoretical Foundation

The Four Component Model Rest. Rest (1986) developed a framework that explains the psychological processes behind moral behavior. According to him, a person who behaves morally must go through four basic processes: moral sensitivity, moral judgment, moral motivation, and moral character. This model is commonly used in accounting ethics research, including by Kamarudin et al. (2022) to test auditors' ethical decisions in Indonesia. In this article, this model is used as a lens. For example, moral sensitivity can weaken if auditors assume the output of the automatic system is always correct, so ethical problems no longer appear.

Unified Theory of Acceptance and Use of Technology (UTAUT). Venkatesh et al. (2003) formulated UTAUT with four main determinants of intent and use of technology, as well as up to four key relationship moderators. These four determinants are performance

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expectations, effort expectations, social influence, and supporting conditions. UTAUT helps explain why AI is accepted or rejected by auditors, which in turn affects how they rely on the technology.

Algorithm aversion. This concept refers to people's tendency to underestimate computer-based advice more than human advice, even though their content is identical. This concept is important because it shows that AI risks are not always overconfidence, but can also be misplaced distrust.

Previous Research

The study on AI ethics in auditing was conceptually initiated by Munoko et al. (2020). By combining two futuristic ethical frameworks, they estimated the ethical implications of using AI in audits based on its features and functions. This study serves as a foundation because it reminds us that the benefits of AI need to be balanced with discussions of unintended consequences.

Empirical evidence comes from different directions. Commerford et al. (2022) experimentally found that auditors who accept conflicting evidence from their firm's AI system propose smaller adjustments to management estimates compared to those from human specialists. This finding is interesting because it shows the possibility of *undertrust*, contrary to common concerns about overdependence.

From the perspective of impact on audit quality, the evidence tends to be positive. Rahman et al. (2024) used data from China from 2011 to 2020 and found a negative relationship between AI use and the likelihood of annual report restatements, which they used as a measure of audit quality. Regarding efficiency, audit report delays decreased when both audit firms and their clients used AI. In Indonesia, Hady and Mudhaffar (2025) surveyed 140 auditors in East Java and concluded that AI adoption positively affects audit quality, with performance expectations acting as mediators. However, both studies focused on quality and efficiency, not on ethical dilemmas.

Research touching on the ethical side is beginning to grow. Kamareldawla (2025) surveyed 103 auditors at international audit firms in Egypt. The results support the assumption that AI can negatively impact professional prudence, competence levels, and auditors' professional judgment, but do not support the assumption that AI undermines their independence, accountability, or career commitment. In Indonesia, Kamarudin et al. (2022) studied 121 auditors from large firms based on the Rest model, looking at the role of professional skepticism and threats of independence in ethical decisions. The study did not include AI as a factor but provided a basis to assess the vulnerability of these two aspects.

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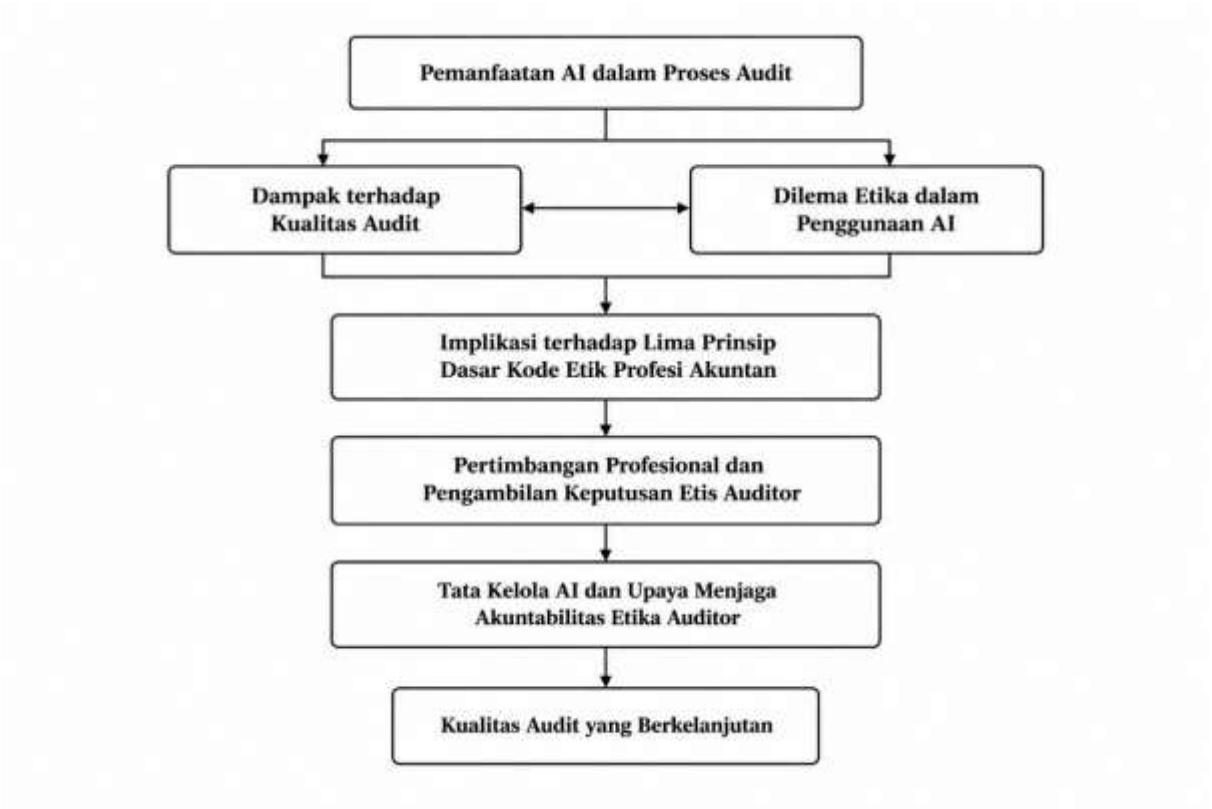
Lotlikar and Mohs (2021) also noted that changes caused by AI test auditor competence and raise governance, regulatory, and ethical challenges.

At the synthesis level, Laine et al. (2024) show that ethics-based AI audits are still fragmented, with diverse and often inconsistent interpretations of principles such as fairness, transparency, harmlessness, and autonomy. Maharani and Dewayanto (2026) summarized literature from 2020 to 2025 and found risks such as algorithmic bias, lack of system transparency, and unclear accountability.

Position of This Article

From the above review, it appears that studies on AI in auditing largely focus on adoption, efficiency, and audit quality, while ethical studies are still scattered and not many directly link them directly to the basic principles of the accounting profession code of ethics. This article fills this space by mapping the ethical dilemmas of auditors due to AI using the basic principles of the code of ethics, the Rest Model, and the aversion algorithm concept as analytical tools.

Figure 1. Conceptual Framework



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RESEARCH METHOD

This study uses a qualitative approach with a literature *review method* to examine ethical dilemmas arising from the use of artificial intelligence (AI) in the audit process. Literature study is a research method that allows researchers to collect, evaluate, and synthesize previous research results to gain a more comprehensive understanding of a topic (Snyder, 2019). This method was chosen because it focuses on analyzing and synthesizing previous research results, theoretical concepts, and relevant professional guidelines to understand the implications of AI use for the application of the basic principles of the accounting professional code of ethics. The data used are secondary data sourced from scientific journal articles on the application of AI in auditing, accountant professional ethics, auditor professional considerations, and risks of technology use, as well as official documents *from the International Ethics Standards Board for Accountants* (IESBA), especially the International Code of Ethics for Professional Accountants and revisions related to technology use (IESBA, 2024)

Data collection was carried out through documentation studies by identifying, reviewing, and recording relevant information from each source. The information collected includes research objectives, research methods, characteristics of data or participants if available, main findings, and their implications for auditor professional ethics. The literature used includes empirical research, conceptual articles, and literature reviews. These differences in source types are considered during the analysis process so that empirically data-based findings can be distinguished from theoretical arguments and the synthesis results of previous research. In presenting review results, transparency regarding sources and the literature selection process are important aspects, especially when the research applies systematic review procedures (Page et al., 2021).

Data were analyzed using qualitative content analysis followed by thematic synthesis. Thematic analysis can be used to identify, organize, and interpret patterns of meaning arising from the data set (Braun & Clarke, 2006). The analysis process was carried out by grouping information into the theme of AI application in auditing, its benefits and risks, potential ethical dilemmas, and its implications for auditors' professional judgments. Findings from various sources were then compared to identify similarities, differences, and tendencies in discussions regarding the relationship between AI use and professional ethics. The results of the analysis were then interpreted based on five basic principles of the accounting professional code of ethics, namely integrity, objectivity, professional competence and prudence, confidentiality, and professional behavior (IESBA, 2024a). The Four-Component Rest model is used to help understand the ethical decision-making process (Rest, 1986), while *the Unified Theory of Acceptance and Use of Technology* (UTAUT) is used

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to provide perspectives on the acceptance and use of technology (Venkatesh et al., 2003). The concept of *algorithm aversion* is also used to understand the tendency of individuals to reject or rely less on algorithmic recommendations than human recommendations under certain conditions (Dietvorst et al., 2015).

To maintain the reliability of the analysis, interpretation is carried out by considering the context, method, and types of evidence used in each source. Differences in findings are not directly treated as contradictions but analyzed by considering the respective research contexts. Through this process, the study attempts to synthesize how AI use can create ethical dilemmas for auditors and how the basic principles of the professional code of ethics can be applied to understand these issues. Because secondary data is used without field data collection, the research results are limited to findings and arguments available in the literature reviewed.

DISCUSSION

The Utilization of AI in the Audit Process and Its Impact on Audit Quality

The use of artificial intelligence (AI) in the audit process opens opportunities to improve audit efficiency and expand auditors' ability to process information. AI can be used to analyze large transactions, identify anomalies, assist in risk assessment, detect indications of fraud, and support the preparation of audit documentation. Kokina and Davenport (2017) explain that the development of automation allows a number of audit tasks that were previously done manually to be transferred to technology-based systems. In line with this, Munoko et al. (2020) identified the use of AI for selecting transactions to be tested, analytics, risk assessment, transaction testing, and preparing audit worksheets. In data from a separate research project discussed by Munoko et al., 12 out of 14 respondents reported using AI to select transactions that need to be tested, 10 for analytics, nine for risk assessment, six for transaction testing, and five for preparing working papers. These figures reflect the variety of AI usage reported by respondents, not the percentage of AI's influence on audit quality.

The benefits of AI on audit quality are supported by empirical research by Fedyk et al. (2022). The study used more than 310,000 employment history profiles from 36 of the largest public accounting firms in the United States during the period 2010 to 2019, as well as interviews with 17 audit partners from eight companies. The results show that a one-standard deviation increase in the share of the workforce with AI expertise over the previous three years is related to a relative decrease of 5.0% in the likelihood of financial statement *restatements*. A relative decrease was also found in the likelihood *of material restatement* at 1.4% and accrual-related restatement and revenue recognition at 1.9%. In this study,

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restatement was used as one of the audit quality indicators. Thus, the results support the relationship between AI investment by audit firms and improvements in several audit quality indicators, although these figures cannot be interpreted as a five percentage point decrease in the probability of *restatement*.

Besides quality, Fedyk et al. (2022) found indications of increased operational efficiency. Audit costs were associated with a relative decrease of 0.9% the following year, 1.5% in the following two years, and 2.1% in the following three years after the AI investment increased. However, this efficiency was also accompanied by changes in labor needs. The number of accounting employees reportedly decreased by 3.6% after three years and 7.1% after four years. A stronger impact was found in junior employees, with a decrease in workforce size of 5.7% after three years and 11.8% after four years. These findings indicate that the benefits of AI are not only related to the audit process but also have the potential to change the work structure within audit firms. Nevertheless, the research results come from large auditing firms in the United States, so its application to Public Accounting Firms (KAP) in Indonesia needs to consider differences in company scale, resources, and technology adoption rates.

Evidence from Indonesia also shows a positive relationship between AI adoption and audit quality. Hady and Mudhaffar (2025) studied 140 auditors at Public Accounting Firms in East Java using a quantitative approach and *Structural Equation Modeling Partial Least Squares* (SEM-PLS) analysis. The model results show a path coefficient of 0.339 for the relationship between AI adoption and audit quality, and 0.651 for the relationship *between performance expectancy* and audit quality. Meanwhile, the coefficient of the relationship between AI adoption and *performance expectancy* was recorded at 0.888. The study also reported an audit quality value (R^2) of 0.931. This value indicates the proportion of audit quality variation that can be explained by the variables in the model, not an improvement in audit quality, which is 93.1%. These findings indicate that auditors' perceptions of the benefits of AI for job performance are an important aspect in technology implementation. However, because the research uses questionnaire data and statistical models, the results need to be understood according to the research design and do not automatically prove that every use of AI will result in higher audit quality.

Similar results were also discussed by Rahman et al. (2024), who studied AI adoption by audit firms and their clients in China. The study linked AI use to audit quality and efficiency, including indicators of financial report representation and reporting delays. In general, their findings support the potential benefits of AI for audit processes, especially when the technology is used to strengthen audit processes and information processing. In comparison, Fedyk et al. (2022) provided empirical evidence of AI investment in large

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auditing firms in the United States, Hady and Mudhaffar (2025) provided evidence from auditor perceptions in Indonesia, while Rahman et al. (2024) examined the context of AI adoption by audit firms and clients in China. These differences in context and methods are important because research results cannot be generalized across all audit environments.

In essence, the literature shows that AI has the potential to expand the scope of audits, accelerate analysis, and support risk identification. However, these technical benefits do not by themselves guarantee the quality of professional decisions. Systems can produce more and faster information, but auditors still need to assess the relevance, adequacy, and reliability of the results. Therefore, the success of AI implementation needs to be seen not only from operational efficiency but also from auditors' ability to maintain professional skepticism, conduct critical evaluations, and be responsible for the audit conclusions produced.

Ethical Dilemmas in the Use of AI in Audit Processes

Behind its benefits, the use of AI in audits raises ethical dilemmas related to algorithmic bias, limited transparency, professional responsibility, data confidentiality, and auditors' dependence on automated systems. Munoko et al. (2020) emphasize that these issues need to be understood as a potential consequence arising from the characteristics of technology and how technology is applied in the audit process. Their article is conceptual, so findings regarding ethical risks are not intended as empirical percentages of ethical violation incidents. Nevertheless, the framework helps explain that systems capable of processing large amounts of data can still produce problematic recommendations if the data, design, or usage processes are inadequate.

The first dilemma relates to algorithmic bias and the quality of input data. Murikah et al. (2024), through a systematic review of the literature on AI bias and ethics in auditing, identified five main sources of bias. Data shortages or problems were found in 42% of the reviewed studies, followed by demographic homogeneity at 24%, cognitive bias at 14%, inappropriate comparison use at 11%, and false correlation at 9%. These percentages indicate the proportion of studies addressing each source of bias, not the percentage of auditors experiencing bias or the extent of audit errors. These findings show that AI output is influenced by the quality and representation of data as well as the assumptions used in system development. In the context of audits, incomplete or unrepresentative data can cause the system to fail to identify unusual transactions or even mark transactions that are actually reasonable as risky. As a result, auditors are at risk of making inappropriate decisions if system results are accepted without further examination.

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The second dilemma relates to transparency and the nature of *the black box*. Certain AI systems can produce recommendations without providing an easy-to-understand explanation of how those conclusions are reached. Mittelstadt et al. (2016) explain that algorithmic decisions can cause problems when the underlying evidence is difficult to examine, conclusions are incorrect, or the decision-making process is difficult to trace. In audit work, these limitations become problematic because auditors must be able to explain the basis of assessment and evidence supporting their professional conclusions. When auditors do not understand the reasoning behind AI outputs, their ability to evaluate the fairness of results, identify errors, and hold decisions accountable can be disrupted. Therefore, technical accuracy alone is insufficient if the system's results cannot be adequately evaluated by auditors.

This transparency issue is closely related to the third dilemma, which is accountability when AI produces incorrect outputs. Munoko et al. (2020) highlight the possibility of liability gaps when decisions involve both automated and human systems simultaneously. Risks arise if audit firms rely on systems developed by others, while auditors do not understand the limitations or conditions that affect the results. However, the use of AI does not eliminate the professional responsibility of auditors. The revision of the Code of Ethics by the *International Ethics Standards Board for Accountants* (IESBA, 2023) emphasizes the importance of professional consideration, technological competence, and critical evaluation when accountants use technology. Thus, responsibility should not be completely shifted to the system or its developers. Audit firms need to ensure clear supervision, validation, documentation, and division of responsibilities in the use of AI.

The fourth dilemma concerns the protection of client data confidentiality and security. The audit process involves financial and operational information that cannot always be accessed by parties outside professional relationships. The use of AI may require that data be processed, stored, or transferred through certain technological devices and services. IESBA (2023) emphasizes that the obligation to maintain confidentiality remains in place when information is used through technology. Therefore, auditors need to consider how data is collected, who can access it, how data is stored, and whether its use complies with applicable authorities and regulations. Confidentiality risks are not solely related to data leaks but also to the use of information for other purposes without appropriate authorization. Kamareldawla's (2025) findings also highlight the relevance of this issue. In a survey of 103 auditors in Egypt, respondents highlighted the security and confidentiality of client data as part of the ethical challenge of AI implementation.

The fifth dilemma is the possibility of reduced auditor critical judgment due to dependence on automated systems. Kamareldawla (2025) reported that the strongest

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ethical concern relates to the disruption of professional prudence when auditors struggle to understand the reasons behind AI outputs, with an average score of 3.92. The study also found that the potential negative impact on professional competence and judgment remains a concern. In this context, the issue is not solely the use of technology, but the possibility that auditors accept system recommendations without assessing the underlying evidence. IESBA (2023) discusses the risk of *automation bias*, which is the tendency to trust automated outputs more often despite reasons or evidence that should raise doubt. If this happens, auditors may ignore information not identified by the system or fail to conduct additional checks when AI results conflict with other evidence.

Nevertheless, overreliance is not the only behavioral risk. Auditors may also be overly skeptical of AI recommendations. Commerford et al. (2022), through experiments with 170 senior auditors, found that the average proposed audit adjustment was 23% lower when evidence contradicting management estimates came from firm AI compared to when the same evidence came from human specialists. Under conditions where management estimates used more objective input, proposed adjustments under AI conditions were recorded as 43% lower than in human specialist conditions. This figure represents a relative difference compared to proposed adjustments in experimental scenarios, not a 23% or 43% decrease in audit quality. These findings indicate that auditors do not always overly accept AI recommendations; under certain conditions, they may actually reduce the weight of AI-derived evidence and become more accepting of management estimates.

Thus, the ethical dilemma of using AI in audits is determined not only by system capabilities but also by data quality, process clarity, information management, and how auditors use technological outcomes. Laine et al. (2024), through a systematic review of AI audit literature, found that fairness, transparency, hazard prevention, and accountability are among the principles widely discussed in AI ethics research. These findings reinforce the importance of governance that is not only oriented towards technical performance. The use of AI needs to be accompanied by validation of results, data protection, decision documentation, technological competence, and adequate human supervision. Ultimately, AI can function as a supporting tool for the audit process, but professional considerations and responsibility for audit conclusions must still be maintained by auditors.

Implications of AI Use on the Five Basic Principles of the Accountant Professional Code of Ethics

The use of artificial intelligence (AI) in the audit process not only brings technical changes to audit execution but also affects the application of the basic principles of the accounting professional code of ethics. Although AI can help auditors process large amounts

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of data and identify risky transaction patterns, its use can still raise issues related to integrity, objectivity, professional competence and prudence, confidentiality, and professional behavior. Munoko et al. (2020) explain that AI ethical risks in audits can include algorithmic bias, limitations in transparency, privacy threats, unclear responsibilities, and the possibility of reduced professional skepticism. Therefore, the benefits of technology need to be analyzed alongside the ethical obligations that remain attached to auditors. The revision of technology in the International Code of Ethics for Professional Accountants published *by the International Ethics Standards Board for Accountants* (IESBA, 2023) also clarifies the application of the professional ethics framework in situations where accountants use technology.

The first principle, integrity, requires auditors to be honest and not allow misleading information to affect their work results. In AI use, this principle is relevant when the system produces inaccurate, incomplete, or unsupported recommendations by sufficient evidence. Auditors should not accept system results as truth just because the technology can process data quickly or produce convincing outputs. Munoko et al. (2020) emphasize the importance of verification and validation in AI implementation to anticipate unwanted consequences. Thus, integrity requires auditors to ensure that the information used in audit assessments can be accounted for. If errors or limitations are found in AI outputs, auditors need to consider them openly and not hide information that could influence audit conclusions.

The second principle, objectivity, relates to the auditor's obligation to maintain professional judgment so as not to be influenced by bias, conflicts of interest, or undue pressure. AI systems can help reduce some subjective work, but this does not mean the output is always bias-free. Murikah et al. (2024) identified issues of data quality, representation imbalance, cognitive bias, inaccurate comparisons, and pseudocorrelations as sources of bias discussed in AI-based audit literature. The authors also provide examples of data imbalance when 99.5% of transactions are normal transactions, while only 0.5% are anomalies. In such situations, the system potentially more easily recognizes majority patterns and misses anomalous transactions that are actually important for audits. This example comes from a study reviewed by Murikah et al., not a new experiment conducted by them. However, that example shows why auditors need to evaluate data quality and system characteristics before using the results as the basis for assessment. Objectivity is thus not only maintained through the use of tools considered neutral, but also through critical evaluation of how those tools generate recommendations.

The third principle, competence and professional prudence, requires auditors to have adequate knowledge and skills and act carefully in accordance with professional standards. In the context of AI, competence is not only related to the ability to operate software but also

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to understanding functions, limitations, data quality, and possible system errors. Kamareldawla (2025), through a survey of 103 auditors in Egypt, found that the strongest ethical concern relates to the disruption of professional due diligence when auditors have difficulty understanding the reasons behind AI outputs. This statement obtained an average score of 3.92. The study also noted concerns about competence and professional considerations. These findings reflect auditor perceptions, not evidence that all AI users experience declining competence. Nevertheless, the results show the need for adequate training and supervision. Auditors must be able to determine when AI outputs can be used, when additional checks are needed, and when system results are not suitable as a basis for conclusions.

The fourth principle, confidentiality, relates to the obligation to protect information obtained through professional relationships. The use of AI can involve processing financial data, operational information, or client documents through internal devices or third-party services. This situation raises questions about data storage, access to other parties, use of data for different purposes, and protection against unauthorized disclosure. IESBA (2023) emphasizes the relevance of professional ethical obligations when technology is used in accountant work. Kamareldawla (2025) also found that the security and confidentiality of client data are one of auditors' concerns regarding the implementation of AI. Therefore, auditors and audit firms need to ensure that the use of technology complies with applicable regulations, information access is limited according to authority, and data processing is carried out with adequate protection. The speed and efficiency of AI cannot be used as an excuse to ignore the confidentiality of client information.

The fifth principle, professional conduct, requires auditors to comply with applicable regulations and avoid actions that could discredit the profession. AI implementation needs to be managed so that the use of technology remains aligned with audit standards, ethical provisions, and the public interest. Laine et al. (2024), through a systematic review of AI audit literature, found that fairness, transparency, harm prevention, and accountability are themes widely discussed in AI ethics literature. Of the 93 studies specifically analyzed on AI audit ethics, transparency was discussed in 54 studies, harm prevention in 41 studies, and liability in 39 studies. These figures indicate the number of studies discussing each principle, not the percentage of audit firms violating ethics. These findings indicate that responsible AI implementation requires clear governance, documentation, and division of responsibilities. Auditors still need to be accountable for the use of technology in their work, while audit firms need to provide procedures to evaluate systems and address errors.

In essence, these five principles are interconnected. Algorithmic bias can threaten objectivity, limited understanding of the system can affect professional competence and

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prudence, while weak data security can threaten confidentiality. If these risks are not managed, integrity and professional behavior can also be affected because auditors potentially use or deliver inadequate results. Thus, a code of ethics should not be treated as a separate rule from the technology adoption process. On the contrary, ethical principles need to be the foundation in selecting, using, supervising, and evaluating AI. Technology can assist audit execution, but it does not replace auditors' obligations to maintain the quality of professional judgment and be accountable for their conclusions.

Professional Considerations and Ethical Decision Making by Auditors

The ethical dilemma in AI use is determined not only by technological characteristics but also by how auditors interpret and use the recommendations generated by the system. AI can provide additional analysis to assist decision-making, but final decisions still require assessments of evidence relevance, risk level, and professional consequences. Therefore, professional considerations become the link between AI's technical capabilities and the application of ethical principles in audit practice. Munoko et al. (2020) warn that AI use can pose risks when auditors rely too much on system outputs without understanding how conclusions are drawn. In such conditions, technology that should support analysis can actually reduce critical examination of audit evidence.

The Four-Component Rest Model can be used as a conceptual framework to understand ethical decision-making. Rest (1986) explains this process through four components: moral *sensitivity*, moral judgment, moral motivation, and moral character or execution. In the use of AI, moral sensitivity relates to the auditor's ability to recognize that system outputs may contain bias, threaten confidentiality, or affect the reasonableness of audit conclusions. Moral assessment relates to the ability to determine whether the use of these outputs aligns with professional principles and obligations. Moral motivation relates to auditors' priorities in maintaining integrity and public interest rather than merely meeting efficiency targets. Meanwhile, moral character is reflected in real actions, such as conducting additional testing, documenting system limitations, or rejecting AI recommendations that are not sufficiently supported by evidence. This framework helps explain that ethical decisions do not stop at knowledge of rules but also include problem recognition and the implementation of appropriate actions.

From the technology acceptance side, *the Unified Theory of Acceptance and Use of Technology* (UTAUT) developed by Venkatesh et al. (2003) provides perspectives on the factors influencing technology acceptance and use. One important concept is *performance expectancy*, which is the belief that technology use can improve work performance. Hady and Mudhaffar (2025), in a study of 140 public accounting firm auditors in East Java, reported a

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path coefficient of 0.888 for the relationship between AI adoption and *performance expectancy* and 0.651 for the relationship between *performance expectancy* and audit quality. These coefficients indicate relationships within the research model, not the percentage improvement in audit performance or quality. The results demonstrate the importance of auditors' perceptions of the benefits of technology in the AI adoption process. However, the belief that AI is beneficial should not be equated with evidence that every system recommendation is correct. Technology acceptance still needs to be balanced with the ability to assess the quality and limitations of the results.

Besides technology acceptance, auditors may experience *algorithm aversion*, which is a tendency to reduce trust in algorithms after seeing them make mistakes. Dietvorst et al. (2015), through five experimental studies with a final sample of about 2,367 participants, found that people who saw algorithms making predictions were less willing to choose algorithms than human forecasters, even when those algorithms performed better. In one study, among participants who rated algorithms more likely to produce perfect predictions than humans, the proportion choosing algorithms was 63% in the group that saw algorithm performance and 55% in the group that did not. These results indicate that the experience of seeing algorithm errors can affect trust. However, this study uses prediction tasks rather than the financial statement audit process, so the results cannot be directly considered a behavioral picture of all auditors.

Evidence closer to the audit context was found by Commerford et al. (2022). In an experiment with 170 senior auditors, researchers compared auditor responses to the same evidence when the source was referred to as an audit firm's AI system or human specialist. In essence, the average proposed audit adjustment was 23% lower when evidence came from AI compared to human specialists. Under conditions where management estimates used more objective input, the average adjustment under AI conditions was 43% lower. Differences in objective conditions were statistically significant, while differences in subjective input conditions were not significant. These findings indicate that auditors do not always rely heavily on AI. Under certain conditions, they may actually give less weight to evidence derived from AI and become more accepting of management estimates. The figures of 23% and 43% indicate relative differences in the amount of adjustments proposed in the experimental scenario, not a significant decrease in audit quality.

Findings by Commerford et al. (2022) show that the use of AI presents two different behavioral risks. The first risk is *automation bias*, which is the tendency to rely too much on automatic recommendations without sufficient evaluation. The second risk is *algorithm aversion*, which is the tendency to reduce trust in the system because it is the source of the algorithm or because it has made mistakes. Both conditions can disrupt professional

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judgment if auditors do not assess evidence based on relevance and quality. Auditors who trust too much may accept incorrect AI outputs, while auditors who are too skeptical of AI may ignore information that is actually useful. Therefore, the use of AI should not be based on automatic acceptance or rejection, but rather on evaluating evidence and the suitability of system results with the audit context.

As a result, audit firms need to develop procedures that balance the use of technology and human judgment. Auditors need to receive adequate training, understand system limitations, examine evidence underlying recommendations, and document reasons when accepting or rejecting AI outputs. Human oversight is also important when decisions involve complex estimates or when system results differ from other evidence. This step aligns with Munoko et al.'s (2020) emphasis on validation and supervision, as well as the ethical principles of IESBA (2023) regarding the application of technology in professional work.

Thus, ethical decision-making in AI-assisted audits requires more than just the ability to use technological tools. Auditors need to recognize moral issues, objectively evaluate evidence, consider professional obligations, and make accountable decisions. AI can expand the information available to auditors, but it does not automatically determine ethically correct decisions. The quality of decisions still depends on how auditors use technology with critical attitude, adequate competence, and commitment to the fundamental principles of the profession.

AI Governance and Efforts to Maintain Auditor Ethical Accountability

The application of artificial *intelligence* (AI) in the audit process needs to be accompanied by adequate governance so that the benefits of technology do not neglect professional ethical responsibility. Munoko et al. (2020) emphasize that the use of AI in audits can raise issues related to bias, transparency, privacy, and accountability. In line with this, Laine et al. (2024) identified transparency, hazard prevention, and responsibility as important themes in the literature on AI ethics in audits. These findings indicate that the success of AI implementation is not measured solely by data processing speed or audit efficiency, but also needs to consider how technology is used and how the results can be accounted for.

One effort that needs attention is maintaining human oversight of AI outputs. Auditors need to evaluate system recommendations, especially when the results affect risk assessments, accounting estimates, or audit conclusions. AI outputs should be treated as supporting information that still requires professional assessment, not as a substitute for auditor considerations. This approach aligns with Munoko et al.'s (2020) concern about the importance of validation and oversight in AI use. In addition, auditors need to improve

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technological competence and ethical understanding to be able to recognize system limitations, assess the reliability of results, and determine when additional audit procedures are needed. Kamareldawla (2025) shows that difficulty understanding the reasons behind AI outputs is one of auditors' concerns, so improving competence is an important aspect in managing these risks.

AI governance also needs to include evaluating input data and validating system results. Incomplete, unrepresentative, or biased data can affect the quality of the recommendations generated. Therefore, audit firms need to consider data quality and relevance, test system results, and follow up on outputs that are inconsistent with other audit evidence. Process transparency is also important to support decision tracing. Documentation should explain the use of AI in audit procedures, considered outcomes, auditor evaluations, and professional reasons when system recommendations are accepted or rejected. These steps are a practical synthesis of transparency and accountability issues discussed in the literature, not claims that all referenced studies have tested the effectiveness of each step.

Besides technical aspects, audit firms need to clarify the division of responsibilities in AI use, including when systems are developed or provided by third parties. The use of technology does not remove auditors' obligations to work according to the principles of the professional code of ethics. A technology-related revision published *by the International Ethics Standards Board for Accountants* (IESBA, 2023) emphasizes the relevance of applying ethical principles when accountants use technology in their professional work. Therefore, AI management needs to be integrated into internal policies, supervisory procedures, client information protection, and risk evaluation mechanisms.

Based on this synthesis, responsible AI governance needs to combine human supervision, auditor competence, system validation, documentation transparency, and transparency of accountability. These efforts allow AI to be utilized to improve efficiency without compromising integrity, objectivity, professional competence and prudence, confidentiality, and professional conduct. Thus, AI should be positioned as a supporting tool for audit work, while responsibility for the use of professional evidence and conclusions remains with the party conducting and overseeing the audit process.

CONCLUSION

The application of artificial *intelligence* (AI) in the audit process provides opportunities to improve audit efficiency, accelerate data analysis, and help auditors identify risks and transaction irregularities. Research by Fedyk et al. (2022) shows a relationship between increased workforce and AI skills and a relative decrease in the likelihood of

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financial report representation. Meanwhile, Hady and Mudhaffar (2025) found a positive relationship between AI adoption, performance expectations, and audit quality. These findings demonstrate the potential of AI in supporting improved audit quality, although its benefits still depend on the context of implementation and auditors' ability to utilize the technology.

On the other hand, the use of AI presents ethical dilemmas related to algorithmic bias, limited transparency, client data confidentiality, and difficulties in understanding the basis of system outputs. Munoko et al. (2020) highlight ethical issues that can arise when AI is used in audits, while Kamareldawla (2025) points out that difficulty understanding the reasons behind AI output is one of auditors' concerns. Furthermore, research by Commerford et al. (2022) shows that auditors can give different weight to evidence attributed to AI compared to evidence from human experts. This confirms that AI use can affect the professional judgment process and auditor decision-making.

Thus, the implementation of AI needs to be aligned with the five basic principles of accounting professional ethics, namely integrity, objectivity, professional competence and prudence, confidentiality, and professional conduct. Human supervision, enhancement of technological and ethical competence, validation of data and system results, transparency of documentation, and clarity of professional responsibility are steps that can be considered to reduce these risks. However, these recommendations should be understood as practical implications of the literature synthesis, not as steps that have been fully empirically tested by the research discussed.

In conclusion, AI should be positioned as a supporting tool, not a substitute for auditors' professional judgment. The success of its implementation is determined not only by technology's ability to improve efficiency but also by adequate governance and auditor commitment to maintaining audit quality and ethical responsibility.

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