

## THE INTEGRATIVE CHALLENGES OF ARTIFICIAL INTELLIGENCE ADOPTION ON ACCOUNTING PROFESSION: A LITERATURE REVIEW

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### ABSTRACT

This study examines the integrative challenges of Artificial Intelligence adoption on the accounting profession through a literature review approach. The study is motivated by the rapid integration of AI in accounting practice, which has fundamentally transformed the profession by automating routine tasks and enabling data-driven decision-making, yet the profession faces significant challenges including technology risks, ethical concerns, skills gaps, and organizational adoption constraints that remain inadequately understood. The method used was a qualitative-descriptive literature review by analyzing twenty-five international journal articles indexed in Scopus that were relevant to the research topic. The analysis process was carried out through data extraction, thematic grouping, and narrative synthesis to identify patterns of relationships between variables. The results show that AI integration presents four major challenges: technology risks and automation bias, ethical and regulatory challenges, skills gaps, and organizational adoption constraints. The Deloitte Australia 2025 AI hallucination case demonstrates that generative AI can produce persuasive but inaccurate output without adequate human verification, highlighting automation bias and weak human oversight. Ethical challenges including bias, transparency, privacy, and accountability remain unresolved due to lack of clear standards. Significant skills gaps demand curriculum updates and lifelong learning. Organizational constraints including infrastructure limitations, cultural resistance, and job loss concerns impede AI adoption. These four challenges interact and form integrative relationships influencing accounting profession transformation. The conclusion confirms that an integrative approach provides more comprehensive understanding of challenges faced by the accounting profession in the AI era compared to partial approaches.

**Keywords:** Artificial Intelligence, Accounting Profession, Professional Challenges, Automation Bias, Skills Gap

### INTRODUCTION

The rapid advancement of digital technology has brought significant transformation to various professional fields, including the accounting profession (Bon & Arthana, 2025). Artificial Intelligence (AI) has become one of the most disruptive technological innovations in the history of the accounting profession. The presence of AI not only helps repetitive

processes automatically but also increases precision and effectiveness in accounting practice (Kassar & Jizi, 2025). AI has been used for data entry, administrative work, business communication, quality assurance, and consulting services (Bon & Arthana, 2025). AI is also used in financial auditing, tax compliance, and fraud detection, clarifying the specific accounting domains impacted by AI integration (Strydom & Mohammadali-Haji, 2025). The four largest accounting firms in the world (Deloitte, EY, KPMG, and PwC) have launched their own AI systems capable of tracking environmental changes, automatically recognizing and analyzing data, inputting invoices, and preparing financial reports, thereby improving the efficiency and quality of traditional audit procedures (Kassar & Jizi, 2025).

However, the adoption of AI in the accounting profession does not automatically bring positive impacts without challenges. On the other hand, the emergence of AI raises various concerns, including threats to the sustainability of traditional jobs, the need for new competencies, as well as ethical and data security issues (Strydom & Mohammadali-Haji, 2025). The integration of AI in the accounting profession has resulted in a new era of increased efficiency and automation; however, its rapid adoption has raised substantial ethical difficulties, calling into question the profession's ethical principles (Pabel & Akther, 2025). Based on the Future of Jobs Survey 2023 report, jobs in the fields of Accounting, Bookkeeping, and Payroll Clerks are in the third position as occupations experiencing the greatest decline due to digitalization and automation systems (Bon & Arthana, 2025). This shows that digital transformation has serious implications for the sustainability of the accounting profession in the future.

The urgency of this research is driven by several critical factors. First, the integration of AI in accounting practice is taking place at a very rapid pace, while understanding of its impacts and challenges remains limited (Kassar & Jizi, 2025). Second, cases of AI failures such as the AI hallucination case at Deloitte Australia in 2025 show that the use of AI without adequate human verification can pose significant risks to the quality and integrity of financial reports (Salsabila & Ismaya Hasanudin, 2026). Third, early studies indicate that accountants and auditors have not fully supported the implementation of AI, mainly due to concerns about job loss and trust in the technology (Bon & Arthana, 2025). Fourth, there is still a significant research gap regarding the implications of the latest AI technologies (such as machine learning, deep learning, generative AI, and large language models) on the accounting profession (Jingbo & Zaini, 2026).

Previous research has identified various challenges in AI adoption in the accounting profession. Strydom and Mohammadali-Haji (2025) highlight the shift in the accountant's role from routine financial tasks to strategic advisory positions that require technological proficiency, critical thinking, and data-driven decision-making. Kassar and Jizi (2025) categorize AI implementation challenges into four groups: ethical, regulatory, social, and technical challenges. Other studies have identified that the lack of standards for AI use in accounting and unclear rules about the use of AI in finance remain major challenges (Pabel & Akther, 2025). Studies have also identified AI knowledge as the strongest determinant of AI adoption, underscoring the importance of expertise in technology acceptance (Bon & Arthana, 2025).

The research gap in this study lies in the limited understanding of how the various challenges facing the accounting profession due to AI adoption interact and influence each other. While individual studies have examined the direct effects of AI on accounting practices or the role of ethics in technology adoption, the integrated framework connecting these elements remains underexplored (Jingbo & Zaini, 2026). Additionally, most previous studies

have focused on developed market contexts, leaving a significant gap in knowledge regarding the dynamics of challenges in emerging economies such as Indonesia.

The novelty of this research lies in several aspects. First, this study provides a systematic review that synthesizes existing literature on AI challenges in the accounting profession into a comprehensive framework. Second, this study identifies the key challenges, interactions, and implications of AI adoption in accounting, offering insights into the mechanisms through which technology transforms professional practices. Third, this study contributes to the limited literature on the integration of AI in accounting in developing countries, providing a foundation for future empirical research. Fourth, this study addresses the gap between theoretical predictions and practical implementations of AI in accounting, synthesizing findings from diverse contexts to identify best practices and emerging challenges.

The purpose of this study is to systematically review the challenges facing the accounting profession in the dynamics of AI advancement. By synthesizing existing literature, this research aims to provide a deeper understanding of how AI technologies reshape accounting practices and influence the sustainability of the profession.

The contribution of this research is multifaceted. From a theoretical perspective, this research contributes to the enrichment of literature on accounting profession transformation by proposing and synthesizing an integrative framework that links technology risks, ethical challenges, skills gaps, and organizational readiness. From a practical perspective, this study provides actionable insights for accounting professionals, accounting firms, regulators, and educational institutions in designing and implementing AI adoption strategies. For the accounting profession, the findings provide guidance on which challenges should be prioritized in adaptation strategies. For regulators, the results offer insights into the importance of developing ethical guidelines and standards for AI use in accounting. For educational institutions, this study provides evidence to support the development of curricula that prepare future accountants with the digital competencies needed in the AI era.

## LITERATURE REVIEW

### Technology Acceptance Model (TAM)

Technology Acceptance Model, developed by Davis (1989), explains that individual acceptance of technology is determined by two main factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which an individual believes that using a particular technology will enhance their job performance, while perceived ease of use refers to the degree to which an individual believes that using the technology will be free of effort. In the context of AI adoption in the accounting profession, TAM provides a relevant framework for understanding why some accountants accept AI technology while others resist it (Kassar & Jizi, 2025). Studies have shown that AI knowledge is the strongest determinant of AI adoption, underscoring the importance of expertise in technology acceptance (Bon & Arthana, 2025). TAM helps explain that even when AI offers significant efficiency benefits, accountants may still resist adoption if they perceive the technology as difficult to use or if they lack confidence in their ability to operate it effectively.

### Diffusion of Innovation Theory

Diffusion of Innovation Theory, developed by Rogers (1995), explains how, why, and at what rate new ideas and technology spread through cultures. This theory identifies five characteristics that influence technology adoption: relative advantage, compatibility, complexity, trialability, and observability. In the context of AI adoption in the accounting

profession, the complexity of AI technology and its compatibility with existing accounting practices significantly influence adoption rates (Strydom & Mohammadali-Haji, 2025). Relative advantage refers to the degree to which AI is perceived as better than the existing system; compatibility refers to the consistency of AI with existing values, past experiences, and needs of potential adopters; complexity refers to the degree to which AI is perceived as difficult to understand and use. The integration of AI in the accounting profession is a classic example of technological diffusion, where early adopters are large accounting firms, while smaller firms may lag behind due to resource constraints and uncertainty about the technology's effectiveness.

### **Ethical Theory and Professional Ethics**

Ethical theory provides a foundation for understanding the ethical challenges arising from AI adoption in the accounting profession. The integration of AI in accounting has resulted in a new era of increased efficiency and automation; however, its rapid adoption has raised substantial ethical difficulties, calling into question the profession's ethical principles (Pabel & Akther, 2025). Key ethical issues identified include bias, transparency, security and privacy, employment issues, accountability, accessibility, discrimination, financial fraud, lack of ethical principles, trust, unethical decision-making, and objectivity (Pabel & Akther, 2025). The accounting profession is built on core ethical principles such as integrity, objectivity, professional competence, confidentiality, and professional behavior. The adoption of AI challenges these principles in several ways. Integrity is challenged when AI produces persuasive but inaccurate output; objectivity is challenged by algorithm bias; professional competence is challenged by the need for new technological skills; confidentiality is challenged by data security risks; and professional behavior is challenged by unclear accountability for AI decisions.

### **Artificial Intelligence in Accounting Practice**

Artificial Intelligence (AI) has fundamentally changed the landscape of accounting practice. AI and Robotic Process Automation (RPA) offer various benefits that can be categorized into four groups: monetary benefits, reporting quality, operational benefits, and customer-related benefits (Kassar & Jizi, 2025). In accounting practice, AI is used for various tasks such as data entry (44%), administrative work (44%), and business communication (43%), while the use of AI for quality assurance (27%) and consulting services (15%) is still relatively lower (Bon & Arthana, 2025). The four largest accounting firms (Deloitte, EY, KPMG, and PwC) have adopted AI systems to help carry out the audit process, including tracking environmental changes, automatic data recognition and analysis, invoice processing, and financial report preparation (Kassar & Jizi, 2025). AI is also used in financial auditing, tax compliance, and fraud detection, clarifying the specific accounting domains impacted by AI integration (Strydom & Mohammadali-Haji, 2025).

### **Technology Risks and Automation Bias**

One of the main challenges in AI adoption is technology risk and automation bias. The Deloitte Australia 2025 case is a concrete example of the risk of implementing AI without adequate verification protocols. A AUD 440,000 report prepared for the Australian government was found to contain fictitious references due to the use of generative AI without adequate human verification (Salsabila & Ismaya Hasanudin, 2026). This finding reveals the risk of automation bias, weak human oversight, and potential violations of the principles of integrity, objectivity, professional competence, and auditor accountability. Bibliometric

studies identify four recurring risk groups: AI output that is persuasive but weak in evidence, pressure on professional judgment including automation bias, security and data confidentiality vulnerabilities, and ethical or reputational bias embedded in training data (Barbu, 2025). Automation bias occurs when professionals place excessive trust in automated systems, leading them to ignore or undervalue contradictory information from non-automated sources or their own judgment. In the accounting context, this risk is particularly concerning because the profession relies heavily on professional skepticism and judgment.

### **Ethical and Regulatory Challenges**

The integration of AI in the accounting profession raises various significant ethical issues. Pabel and Akther (2025) identify dominant ethical issues, including bias, transparency, security and privacy, employment issues, accountability, accessibility, discrimination, financial fraud, lack of ethical principles, trust, unethical decision-making, and objectivity. Regulatory challenges are also a major obstacle, where there are no standards for the use of AI in accounting and rules regarding the use of AI in finance are still unclear (Kassar & Jizi, 2025). The lack of clear standards and regulations creates uncertainty for accounting professionals and firms regarding acceptable AI use, potentially leading to inconsistent practices and increased ethical risks. The need for ethical governance frameworks that can be adopted through collaboration, regulation, and ethical accountability has been emphasized by multiple studies (Pabel & Akther, 2025).

### **Skills Gap and Educational Implications**

One of the most consistent findings in the literature is the significant skills gap among accountants in terms of technological competence and AI understanding (Strydom & Mohammadali-Haji, 2025). This has serious implications for accounting education. A systematic study of AI perceptions in accounting education shows that research is concentrated on "challenges, risks, and ethical concerns" (59.09%), "adoption and acceptance of AI" (54.55%), and "perceived benefits" (45.45%) (Jingbo & Zaini, 2026). The skills gap has been identified as a critical barrier to AI adoption in the accounting profession. The demand for digital competencies has increased significantly, while many accountants lack sufficient training in data analysis, programming, and AI tools. AI knowledge is the strongest determinant of AI adoption, underscoring the importance of expertise in technology acceptance (Bon & Arthana, 2025).

### **Shift in the Accountant's Role**

The integration of AI in the accounting profession has driven a shift in the accountant's role from executor of routine tasks to strategic advisor who requires technological proficiency, critical thinking, and data-driven decision-making (Strydom & Mohammadali-Haji, 2025). This shift reflects a broader transformation in the accounting profession, where the added value of accountants no longer lies in the ability to perform technical tasks that can be automated, but in the ability to provide strategic insights and in-depth analysis. Research shows that AI significantly increases the efficiency of routine tasks such as recording, internal audit, and data analysis. However, this technology also demands adaptation in the form of increased digital skills, understanding of technology ethics, and a shift in the accountant's role from technical executor to strategic advisor (Bon & Arthana, 2025). The new role of accountants requires technological proficiency, critical thinking, and data-driven decision-making.

### Organizational Adoption Constraints

Not all organizations are ready in terms of infrastructure and culture to integrate AI into their accounting practices (Bon & Arthana, 2025). Early studies generally show that accountants and auditors do not fully support this implementation, mainly due to concerns about job loss and trust in the technology (Kassar & Jizi, 2025). Organizational constraints include limitations in technology infrastructure, cultural resistance to change, high implementation costs, and the need for ongoing training and support. The concern about job loss is particularly significant, as the automation of routine accounting tasks raises fears about the future of the profession. However, studies suggest that AI will transform rather than eliminate the accounting profession, with automation handling routine tasks and accountants focusing on strategic advisory roles (Strydom & Mohammadali-Haji, 2025).

## RESEARCH METHODS

### Research Design

This study adopts a qualitative-descriptive literature review approach to comprehensively analyze the challenges facing the accounting profession in the dynamics of Artificial Intelligence advancement. The literature review approach was chosen because it allows researchers to synthesize findings from various relevant sources to obtain a comprehensive understanding of the research topic (Sugiyono, 2011). This approach is also appropriate for conceptual studies that aim to develop theoretical frameworks and identify research gaps by analyzing and synthesizing existing literature (Creswell, 2010).

### Scope and Object of Research

The scope of this research is focused on the challenges facing the accounting profession in the dynamics of Artificial Intelligence advancement. The research object encompasses theoretical frameworks, empirical findings, and methodological approaches from published studies in the fields of accounting, information systems, and management.

1. Thematic Scope: The thematic scope of this study covers five main areas: (1) Artificial Intelligence in accounting practice; (2) Technology risks and automation bias; (3) Ethical and regulatory challenges; (4) Skills gap and educational implications; and (5) Organizational adoption constraints.
2. Temporal Scope: The study covers publications from 2019 to 2026 to capture the evolution of research on AI in the accounting profession.
3. Source Scope: The literature sources include peer-reviewed journal articles from accredited international journals (Scopus-indexed Q1, Q2, and Q3), conference proceedings, books, and research reports.

### Data Collection Techniques

Data collection employs a systematic search strategy using electronic databases including Scopus, Google Scholar, ScienceDirect, Emerald Insight, Taylor & Francis Online, SpringerLink, and Web of Science. The search was limited to publications from 2019 to 2026.

1. Search Terms and Keywords: The keywords used include: (1) "artificial intelligence" OR "AI" OR "machine learning" OR "generative AI"; (2) "accounting profession" OR "accountants" OR "auditing"; (3) "challenges" OR "risks" OR "ethical issues"; (4) "automation" OR "digital transformation"; and (5) "skills gap" OR "competencies."
2. Inclusion Criteria: (1) studies that examine AI and the accounting profession; (2) publications in English or Indonesian; (3) peer-reviewed journal articles, conference

proceedings, and books; (4) publication period from 2019 to 2026; and (5) studies with clear theoretical or empirical contributions.

3. Exclusion Criteria: (1) studies not related to accounting or AI; (2) publications without clear contributions; (3) opinion pieces and editorials; and (4) non-academic sources.
4. Data Extraction Process: The process involved: (1) initial screening of titles and abstracts; (2) full-text review; (3) systematic extraction of key information; and (4) categorization based on thematic areas. Based on these criteria, 25 relevant international journal articles were selected and analyzed.

### **Operational Definition of Variables**

The conceptual framework proposes four main challenges in AI adoption in the accounting profession:

1. Technology Risks and Automation Bias: Risks arising from over-reliance on AI output, including AI hallucination, automation bias, weak human oversight, and pressure on professional judgment (Barbu, 2025; Salsabila & Ismaya Hasanudin, 2026).
2. Ethical and Regulatory Challenges: Ethical issues including bias, transparency, security and privacy, accountability, discrimination, and lack of clear standards for AI use in accounting (Pabel & Akther, 2025; Kassar & Jizi, 2025).
3. Skills Gap: The gap between digital competencies required for AI adoption and current capabilities of accounting professionals (Strydom & Mohammadali-Haji, 2025; Jingbo & Zaini, 2026).
4. Organizational Adoption Constraints: Organizational barriers including infrastructure limitations, cultural resistance, high implementation costs, and concerns about job loss (Bon & Arthana, 2025; Kassar & Jizi, 2025).

### **Data Analysis Techniques**

1. Thematic Analysis: Thematic analysis is employed as the primary technique following six phases: (1) familiarization with the data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing the report (Braun & Clarke, 2006).
2. Narrative Synthesis: Narrative synthesis is employed to describe and compare findings across different contexts, research designs, and theoretical frameworks (Popay et al., 2006).
3. Conceptual Framework Development: Based on the synthesis of the literature, a conceptual framework was developed to illustrate the relationships between the four main challenges facing the accounting profession in the AI era.
4. Quality Assessment: The quality of included studies was assessed based on: (1) theoretical quality; (2) methodological quality; (3) empirical quality; (4) relevance; and (5) contribution to theory and practice.
5. Validity and Reliability: To ensure validity and reliability, the following measures were employed: (1) systematic search with transparent strategy; (2) meticulous documentation; (3) triangulation through multiple data sources; (4) peer consultation; and (5) reflexivity.

## RESULTS AND DISCUSSION

### Results

Based on the analysis of 25 relevant international journal articles, four major themes were identified as the main challenges facing the accounting profession in the dynamics of AI advancement.

**Table 1. Summary of AI Challenges in the Accounting Profession**

| Challenge Category                  | Description                                                                | Key Findings                                                                              | Key References                                           |
|-------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Technology Risks & Automation Bias  | Over-reliance on AI output, AI hallucination, automation bias              | Persuasive but weak evidence output, weak human oversight, professional judgment pressure | Barbu (2025); Salsabila & Ismaya Hasanudin (2026)        |
| Ethical & Regulatory Challenges     | Lack of standards, algorithm transparency, data privacy, accountability    | Bias, transparency, security, accountability, discrimination, financial fraud             | Pabel & Akther (2025); Kassar & Jizi (2025)              |
| Skills Gap                          | Lack of technological competence, AI understanding, data analysis skills   | Digital skills gap, limited AI knowledge, need for continuous learning                    | Strydom & Mohammadali-Haji (2025); Jingbo & Zaini (2026) |
| Organizational Adoption Constraints | Infrastructure limitations, cultural resistance, high implementation costs | Job loss concerns, trust in technology, lack of readiness                                 | Bon & Arthana (2025); Kassar & Jizi (2025)               |

Source: Developed for this research (2026)

Table 1 presents the summary of AI challenges in the accounting profession identified from the literature synthesis. The analysis reveals that the challenges can be categorized into four major groups, each with specific characteristics and implications for the accounting profession.

**Technology Risks and Automation Bias:** The Deloitte Australia 2025 case revealed that a AUD 440,000 report prepared for the Australian government contained fictitious references due to the use of generative AI without adequate human verification (Salsabila & Ismaya Hasanudin, 2026). This case demonstrates the risk of automation bias, weak human oversight, and potential violations of the principles of integrity, objectivity, professional competence, and auditor accountability. Bibliometric studies identify four recurring risk groups: AI output that is persuasive but weak in evidence, pressure on professional judgment including automation bias, security and data confidentiality vulnerabilities, and ethical or reputational bias embedded in training data (Barbu, 2025). Automation bias occurs when professionals place excessive trust in automated systems, leading them to ignore or undervalue contradictory information from non-automated sources or their own judgment.

**Ethical and Regulatory Challenges:** The integration of AI in the accounting profession raises various significant ethical issues. Pabel and Akther (2025) identify dominant ethical issues, including bias, transparency, security and privacy, employment issues, accountability,



accessibility, discrimination, financial fraud, lack of ethical principles, trust, unethical decision-making, and objectivity. Regulatory challenges are also a major obstacle, where there are no standards for the use of AI in accounting and rules regarding the use of AI in finance are still unclear (Kassar & Jizi, 2025). The lack of clear standards and regulations creates uncertainty for accounting professionals and firms regarding acceptable AI use, potentially leading to inconsistent practices and increased ethical risks.

**Skills Gap:** One of the most consistent findings in the literature is the significant skills gap among accountants in terms of technological competence and AI understanding (Strydom & Mohammadali-Haji, 2025). This has serious implications for accounting education. A systematic study of AI perceptions in accounting education shows that research is concentrated on "challenges, risks, and ethical concerns" (59.09%), "adoption and acceptance of AI" (54.55%), and "perceived benefits" (45.45%) (Jingbo & Zaini, 2026). The skills gap has been identified as a critical barrier to AI adoption in the accounting profession. The demand for digital competencies has increased significantly, while many accountants lack sufficient training in data analysis, programming, and AI tools.

**Organizational Adoption Constraints:** Not all organizations are ready in terms of infrastructure and culture to integrate AI into their accounting practices (Bon & Arthana, 2025). Early studies generally show that accountants and auditors do not fully support this implementation, mainly due to concerns about job loss and trust in the technology (Kassar & Jizi, 2025). Organizational constraints include limitations in technology infrastructure, cultural resistance to change, high implementation costs, and the need for ongoing training and support. The concern about job loss is particularly significant, as the automation of routine accounting tasks raises fears about the future of the profession.

## Discussion

### Technology Risks and Automation Bias

The findings reveal that technology risks and automation bias represent one of the most significant challenges in AI adoption in the accounting profession. The Deloitte Australia 2025 case demonstrates that generative AI can produce output that appears convincing but contains fictitious references, highlighting the risk of over-reliance on AI without adequate human verification (Salsabila & Ismaya Hasanudin, 2026). This finding aligns with Barbu's (2025) research identifying the risk of "persuasive but weak evidence" generative AI output. An important implication of this finding is that AI cannot replace professional skepticism and human responsibility in accounting practice (Bon & Arthana, 2025). As emphasized by various studies, accountants must still conduct adequate human verification of AI output to ensure the reliability of financial reports. The failure to implement adequate verification protocols can result in significant consequences, as evidenced by the Deloitte Australia case. Automation bias, where professionals place excessive trust in automated systems, is a particular concern in the accounting context because the profession relies heavily on professional skepticism and judgment (Barbu, 2025).

Furthermore, the risk of AI hallucination where AI generates plausible but factually incorrect information poses a serious threat to the integrity of financial reporting. The Deloitte Australia case demonstrates that even large, reputable accounting firms are vulnerable to these risks when adequate verification protocols are not in place (Salsabila & Ismaya Hasanudin, 2026). This suggests that the accounting profession needs to develop robust verification frameworks that combine AI efficiency with human oversight. The case also highlights the importance of transparency in AI use, as stakeholders have a right to know when AI has been used in the preparation of financial reports and what verification processes have been applied.

### **Ethical and Regulatory Gaps**

Ethical and regulatory challenges emerge as central issues in AI adoption in the accounting profession. The lack of clear standards for AI use in accounting and unclear rules about AI use in finance are major obstacles (Kassar & Jizi, 2025). Pabel and Akther's (2025) study emphasize the need for an ethical governance framework that can be adopted to minimize ethical risks, through collaboration, regulation, and ethical accountability.

This shows that the accounting profession requires clear and comprehensive ethical guidelines regarding the use of AI. Professional regulators need to accelerate the preparation of technical guidelines so that the use of AI in audits remains ethical, transparent, and accountable (Bon & Arthana, 2025). The proposed ethical framework must include the principles of transparency, accountability, fairness, and privacy. Without clear ethical guidelines, the profession risks inconsistent practices, reduced public trust, and potential regulatory sanctions.

Moreover, the ethical challenges identified in the literature including bias, discrimination, and lack of transparency are particularly concerning in the context of financial reporting, where objectivity and impartiality are fundamental principles (Pabel & Akther, 2025). Algorithmic bias, where AI systems perpetuate or amplify existing biases in training data, can lead to discriminatory outcomes in financial analysis and decision-making. This is especially problematic when AI is used for credit assessment, risk evaluation, or fraud detection. Similarly, the "black box" nature of many AI systems raises concerns about transparency and explainability, as stakeholders may not be able to understand or challenge AI-driven decisions.

### **Skills Gap and Implications for Accounting Education**

One of the most consistent findings in the literature is the significant skills gap among accountants in terms of technological competence and AI understanding (Strydom & Mohammadali-Haji, 2025). This has serious implications for accounting education. A systematic study of AI perceptions in accounting education shows that research is concentrated on "challenges, risks, and ethical concerns" (59.09%), "adoption and acceptance of AI" (54.55%), and "perceived benefits" (45.45%) (Jingbo & Zaini, 2026).

These findings emphasize the need for curriculum updates in accounting education to include digital competencies and AI understanding. Future accountants must be equipped with skills in data analysis, programming, and the use of AI tools (Strydom & Mohammadali-Haji, 2025). Industry-academic collaboration is essential to ensure that accounting graduates have the necessary digital proficiency. Bon and Arthana (2025) emphasize that AI knowledge is the strongest determinant of AI adoption, underscoring the importance of expertise in technology acceptance.

Furthermore, the skills gap is not limited to technical competencies. Accountants also need to develop skills in critical thinking, ethical reasoning, and data interpretation to effectively oversee AI systems and evaluate their outputs (Jingbo & Zaini, 2026). The shift in the accountant's role from technical executor to strategic advisor requires a broader skill set that combines technical proficiency with business acumen and ethical judgment. Educational institutions need to adopt a holistic approach to curriculum development that addresses both technical and non-technical competencies.

### Organizational Adoption Constraints

Organizational constraints represent another significant challenge in AI adoption. Not all organizations are ready in terms of infrastructure and culture to integrate AI into their accounting practices (Bon & Arthana, 2025). Early studies generally show that accountants and auditors do not fully support this implementation, mainly due to concerns about job loss and trust in the technology (Kassar & Jizi, 2025).

These findings suggest that successful AI adoption requires more than just technological investment. Organizations must also address cultural resistance, provide adequate training and support, and communicate clearly about the benefits and limitations of AI. The concern about job loss is particularly significant, but studies suggest that AI will transform rather than eliminate the accounting profession, with automation handling routine tasks and accountants focusing on strategic advisory roles (Strydom & Mohammadali-Haji, 2025).

Additionally, organizational readiness for AI adoption depends on factors such as leadership commitment, resource availability, and organizational culture (Bon & Arthana, 2025). Organizations with strong digital cultures and supportive leadership are better positioned to successfully implement AI technologies. Conversely, organizations with rigid hierarchies, risk-averse cultures, and limited resources may struggle to adopt AI effectively. This suggests that AI adoption is not merely a technological challenge but also an organizational change management challenge that requires careful planning and stakeholder engagement.

### CONCLUSION

This study examines the challenges facing the accounting profession in the dynamics of Artificial Intelligence advancement through a literature review approach. Based on the synthesis of 25 relevant international journal articles, four major challenges were identified: technology risks and automation bias, ethical and regulatory challenges, skills gaps, and organizational adoption constraints.

The results indicate that technology risks and automation bias represent one of the most significant challenges in AI adoption in the accounting profession. The Deloitte Australia 2025 case demonstrates that generative AI can produce output that appears convincing but contains fictitious references, highlighting the risk of over-reliance on AI without adequate human verification (Salsabila & Ismaya Hasanudin, 2026). This finding emphasizes that AI cannot replace professional skepticism and human responsibility in accounting practice (Bon & Arthana, 2025). Automation bias, where professionals place excessive trust in automated systems, is a particular concern in the accounting context because the profession relies heavily on professional skepticism and judgment (Barbu, 2025).

Ethical and regulatory challenges emerge as central issues in AI adoption in the accounting profession. The lack of clear standards for AI use in accounting and unclear rules about AI use in finance are major obstacles (Kassar & Jizi, 2025). The accounting profession requires clear and comprehensive ethical guidelines regarding the use of AI. Professional regulators need to accelerate the preparation of technical guidelines so that the use of AI in audits remains ethical, transparent, and accountable (Bon & Arthana, 2025). The proposed ethical framework must include the principles of transparency, accountability, fairness, and privacy. The significant skills gap among accountants in terms of technological competence and AI understanding demands curriculum updates in accounting education and commitment to lifelong learning (Strydom & Mohammadali-Haji, 2025; Jingbo & Zaini, 2026). Future accountants must be equipped with skills in data analysis, programming, and the use of AI tools. The shift in the accountant's role from technical executor to strategic advisor reflects a

broader professional transformation, where the added value of accountants lies in the ability to provide strategic insights and in-depth analysis.

Organizational constraints represent another significant challenge in AI adoption. Not all organizations are ready in terms of infrastructure and culture to integrate AI into their accounting practices (Bon & Arthana, 2025). Successful AI adoption requires more than just technological investment; organizations must also address cultural resistance, provide adequate training and support, and communicate clearly about the benefits and limitations of AI.

The theoretical implications of this study extend Technology Acceptance Model (Davis, 1989) and Diffusion of Innovation Theory (Rogers, 1995) to the context of AI adoption in the accounting profession. The finding that AI knowledge is the strongest determinant of AI adoption supports the Technology Acceptance Model's emphasis on perceived usefulness and ease of use (Bon & Arthana, 2025). The identification of organizational adoption constraints aligns with Diffusion of Innovation Theory's recognition that technology adoption is influenced by organizational characteristics and readiness. The ethical challenges identified in this study highlight the need for integrating ethical theory and professional ethics into AI adoption frameworks.

From a practical perspective, this study provides actionable insights for accounting professionals, accounting firms, regulators, and educational institutions in designing and implementing AI adoption strategies. For accounting firms, it is necessary to implement mandatory verification protocols, layered reviews, documentation of AI use, and AI literacy training (Salsabila & Ismaya Hasanudin, 2026). Professional regulators need to accelerate the preparation of technical guidelines and ethical standards for the use of AI in accounting (Bon & Arthana, 2025). Educational institutions need to update curricula to include digital competencies and AI understanding (Strydom & Mohammadali-Haji, 2025). For accountants, commitment to lifelong learning and digital skill development is required (Jingbo & Zaini, 2026).

This study has several limitations. First, this study relies on secondary data from published literature, which may have limitations in terms of coverage and currency. Second, the conceptual nature of the study limits empirical validation of findings. Third, most of the literature analyzed is from developed market contexts, so the findings may not fully reflect the challenges faced by the accounting profession in developing countries such as Indonesia. Future research should conduct empirical studies on AI implementation in accounting firms in Indonesia, develop a more specific ethical governance framework for the Indonesian context, and examine the effectiveness of AI training programs for accountants. Longitudinal studies could examine how the challenges evolve over time as AI technology continues to advance and as the accounting profession adapts to these changes. Comparative studies across different countries and institutional contexts would also provide valuable insights into the role of regulatory and cultural factors in shaping AI adoption challenges. Future research could employ mixed-method approaches, such as combining surveys with interviews or case studies, to provide richer insights into the mechanisms through which AI challenges affect accounting practices and professional identity.

In conclusion, this study contributes to the growing body of literature on accounting profession transformation in the digital era by providing a comprehensive synthesis of the challenges facing the accounting profession in the dynamics of AI advancement. The findings suggest that technology risks, ethical challenges, skills gaps, and organizational constraints are interconnected challenges that require integrated solutions. As AI technology continues to advance and become more integrated into accounting practice, understanding these

challenges and developing effective strategies to address them becomes increasingly important for ensuring the sustainability, integrity, and relevance of the accounting profession in the digital era. The accounting profession must embrace the opportunities offered by AI while carefully managing the associated risks through robust verification protocols, ethical governance frameworks, continuous professional development, and organizational readiness.

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