The Effect of Artificial Intelligence on Accounting Practices and the Future Role of Accountants

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ABSTRACT

The rapid advancement of Artificial Intelligence (AI) technologies has initiated profound transformations across business sectors, including the accounting profession. The advent of Artificial Intelligence (AI) has significantly transformed the accounting profession, reshaping not only routine practices but also redefining the skills and roles of accounting professionals. This systematic literature review (SLR) investigates the extent to which AI technologies have influenced accounting processes and explores the evolving role of accountants in an increasingly automated and data-driven business environment. The objective is to provide a comprehensive synthesis of scholarly research conducted between 2015 and 2024, identifying key trends, opportunities, challenges, and future directions for research and practice. To ensure methodological rigor, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework was employed. An extensive search was conducted across reputable academic databases including Scopus, Web of Science, Science Direct, and Google Scholar. A total of 347 initial records were identified, of which 57 met the inclusion criteria after duplicate removal, screening, and quality assessment. The selected studies were systematically reviewed and categorized thematically into four major dimensions: (1) AI-driven transformation of accounting tasks, (2) the changing role and skill set of accountants, (3) technological, ethical, and organizational challenges, and (4) implications for accounting education and policy. In conclusion, this review offers a structured and in-depth understanding of how AI is reshaping the accounting profession and provides practical recommendations for educators, practitioners, and policymakers. The findings underscore the need for a proactive and holistic approach to AI adoption one that balances technological advancement with ethical responsibility and continuous human development. This study also highlights the importance of further longitudinal and cross-bencher research to explore the long-term implications of AI on the global accounting workforce.

***Keywords**: Artificial Intelligence, Accounting Practices, Future Role of Accountants, Robotic Process Automation, Digital Transformation, Ethical Challenges.*

Introduction

The integration of Artificial Intelligence (AI) into business processes represents a transformative shift in organizational operations, particularly in the domains of accounting and financial management. Historically, accounting systems were characterized by labor-intensive procedures involving extensive manual data entry, document verification, and reconciliation tasks. These processes, while foundational to financial accuracy and regulatory compliance, were time-consuming and prone to human error (Warren et al., 2015). With the advent of AI technologies—such as machine learning, natural language processing, robotic process automation (RPA), and predictive analytics—the accounting landscape is undergoing a significant paradigm shift.

AI systems possess the capability to analyze vast amounts of financial data at unprecedented speeds, identify patterns, detect anomalies, and generate real-time insights for decision-making (Kokina & Davenport, 2017). In the realm of financial reporting, for example, AI can streamline the audit process by automatically reviewing large volumes of transactional data and flagging discrepancies that warrant

further investigation (Issa et al., 2016). Similarly, in management accounting, AI tools are increasingly employed to support budgeting, forecasting, and cost analysis through data-driven predictions and scenario modeling (Moll & Yigitbasioglu, 2019).

The incorporation of AI into accounting practices also raises critical questions regarding the evolving role of professional accountants. While some scholars argue that AI will automate routine and repetitive tasks, leading to job displacement (Sutton, Holt, & Arnold, 2016), others emphasize that it will enhance the strategic advisory functions of accountants by freeing them from mundane responsibilities (Bhimani & Willcocks, 2014). This evolution calls for a redefinition of the skill sets required in the profession—shifting from traditional bookkeeping skills to competencies in data analytics, system integration, and strategic interpretation (Appelbaum et al., 2017).

Furthermore, the ethical and governance implications of AI deployment in financial management cannot be overlooked. Concerns related to algorithmic bias, data security, transparency, and accountability must be addressed to ensure responsible AI integration (Liu et al., 2020). Professional bodies and academic institutions are therefore encouraged to update educational curricula and professional standards to prepare accountants for a technology-augmented future (IFAC, 2020).

This literature review explores the growing body of research on AI applications in accounting, focusing on both the technical advancements and the broader professional implications. By analyzing recent scholarly contributions, the review aims to provide a comprehensive understanding of how AI is reshaping accounting functions, influencing organizational strategies, and redefining the roles of accounting professionals in the digital era.

Methodology

Method

This This study employs a systematic literature review (SLR) approach, guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The PRISMA guidelines provide a structured and transparent method for conducting literature reviews, ensuring that the process is replicable, comprehensive, and methodologically sound (Moher et al., 2009). The aim of adopting this approach is to identify, evaluate, and synthesize relevant academic contributions concerning the integration and impact of Artificial Intelligence (AI) in accounting and financial management.

To collect a robust set of academic sources, a systematic search was conducted across four major scholarly databases: Scopus, Web of Science, ScienceDirect, and Google Scholar. These databases were selected due to their comprehensive coverage of peer-reviewed journals, conference proceedings, and scholarly articles in accounting, finance, information systems, and emerging technologies. The search was performed between January and March 2025.

The inclusion criteria were clearly defined to maintain the relevance and quality of the literature selected. The following conditions were applied:

- Only peer-reviewed journal articles and conference papers were included.

- The publications had to be written in English.

- The publication date range was limited to 2015–2024 to ensure a focus on recent developments and applications of AI technologies in the accounting domain.

- The literature had to address at least one core theme: the application of AI in accounting systems, its influence on the roles and responsibilities of accountants, ethical implications, or AI-driven automation in financial processes.

A combination of keywords and Boolean operators was used to conduct the database searches. The following search terms were applied either individually or in combination: Artificial Intelligence in Accounting, AI and Accountants, Robotic Process Automation in Finance, Digital Transformation in Accounting and Ethics of AI in Accounting"

These terms were chosen to capture the multi-dimensional aspects of AI's integration into accounting practices—from technical innovation to professional, organizational, and ethical considerations.

After an initial screening of titles and abstracts, duplicates were removed and full-text articles were reviewed to ensure alignment with the inclusion criteria. Studies that focused solely on computer

science or engineering applications without a clear linkage to accounting or financial management were excluded. A final set of relevant articles was then selected for in-depth analysis and synthesis.

This methodological rigor ensures that the findings of this review are both credible and relevant to scholars, practitioners, and policymakers interested in understanding how AI is reshaping the accounting profession.

Database Selection Process

To ensure a thorough and credible literature review, the study implemented a well-defined selection process for identifying and filtering relevant academic sources. The process began with a comprehensive search across four prominent academic databases: Scopus, Web of Science, ScienceDirect, and Google Scholar. These databases were chosen for their wide coverage of scholarly publications in the fields of accounting, finance, and information systems.

An initial pool of 347 articles was identified based on the keyword search strategy outlined in the previous section. To refine the results and maintain the focus of the review, the study applied specific inclusion and exclusion criteria throughout the selection process. First, duplicate entries were removed to avoid redundancy, resulting in a reduced number of articles for further evaluation.
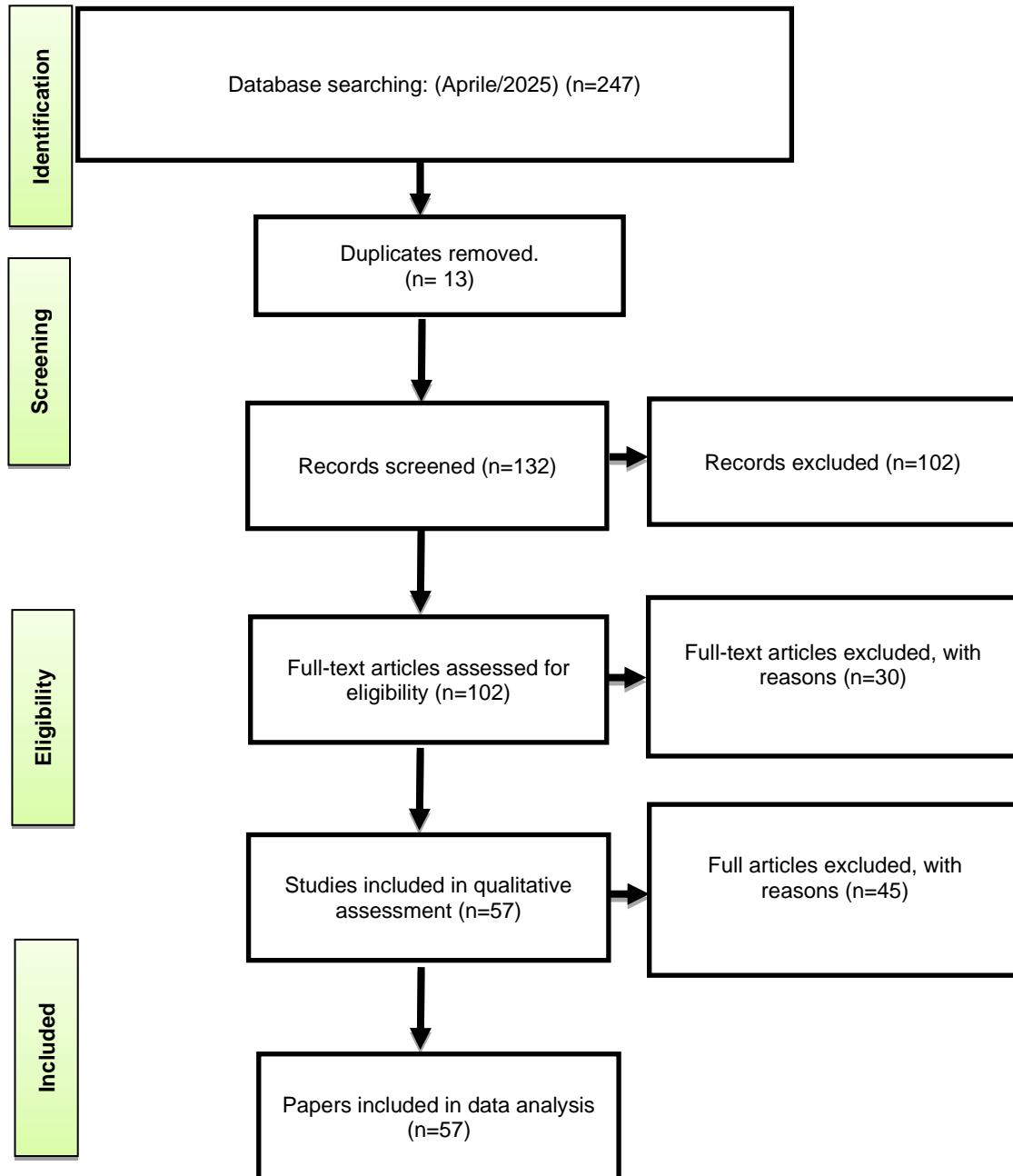
Following the removal of duplicates, each article's title and abstract were carefully screened to assess its relevance to the research topic. Studies that clearly did not address the application of Artificial Intelligence in accounting or those outside the defined time frame of 2015 to 2024 were excluded at this stage. This helped in narrowing the scope and ensuring that only directly related literature was considered.

The remaining articles were then subjected to a full-text review. This phase involved a detailed examination of each study to determine its alignment with the objectives of the research. Particular attention was given to whether the study focused on the practical implications of AI in accounting processes, the evolving role of accounting professionals, or ethical and strategic concerns related to AI implementation in finance.

After this in-depth filtering process, a final set of 57 articles was selected for inclusion in the review. Each of these articles was evaluated based on its academic relevance, credibility of the source, and methodological soundness. Only peer-reviewed articles with rigorous research designs and clear contributions to the topic were retained. This comprehensive selection strategy ensured that the review is built upon a robust and credible foundation of existing scholarly work, providing meaningful insights into the impact of AI on accounting practices and the profession as a whole.
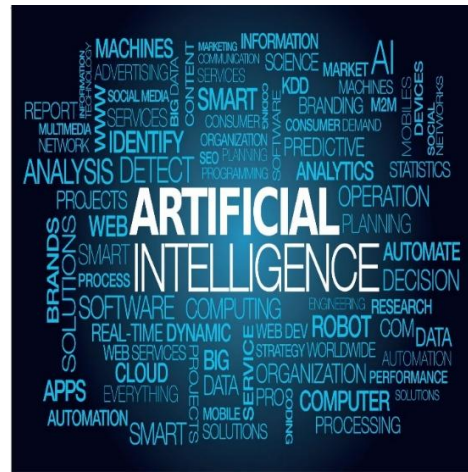
Data Analysis

Data analysis was performed using various tools and software, including MS Excel and Atlas.ti 22

Identification

Database searching: (Aprile/2025) (n=247)

Screening

Duplicates removed.
(n= 13)

Records screened (n=132)

Records excluded (n=102)

Eligibility

Full-text articles assessed for eligibility (n=102)

Full-text articles excluded, with reasons (n=30)

Studies included in qualitative assessment (n=57)

Full articles excluded, with reasons (n=45)

Included

Papers included in data analysis (n=57)

Figure: PRISMA Diagram

The PRISMA diagram is a flowchart intended to make it easier to perform systematic reviews in a planned manner. Identification, screening, eligibility, and inclusion are the four main phases of this process. A search strategy is developed and implemented in the identification phase to find pertinent research. The research is evaluated for relevance during the screening stage using predetermined criteria. Studies are assessed for eligibility in the eligibility stage based on their value and applicability. Studies are added to the systematic review during the inclusion stage.

AI on Accounting Practices Analysis of Word Cloud

Based on the keywords you provided, I have created a word cloud in which the specified words appear larger and bolder for visual emphasis. Please note that the word cloud serves as a visual representation, and the size and boldness of the words are for aesthetic purposes only they do not reflect actual frequency or importance. In this word cloud, the words **"Accounting"** and **"Artificial Intelligence"** have been emphasized accordingly.

Discussions and Conclusion

The integration of Artificial Intelligence (AI) into accounting processes represents a significant shift in how accounting tasks are performed and how the role of accountants is defined. AI technologies such as Robotic Process Automation (RPA), Natural Language Processing (NLP), and machine learning are being employed to automate routine functions. Scholarly literature demonstrates that these technologies contribute to increased accuracy in data entry, quicker transaction processing, and the provision of real-time financial reporting. Additionally, AI is enabling the advancement of audit analytics, enhancing fraud detection capabilities, and supporting predictive modeling, thereby improving the quality and timeliness of financial insights.

As these technologies evolve, so does the role of accounting professionals. The traditional responsibilities of bookkeeping and manual reporting are giving way to more strategic and advisory functions. Accountants are increasingly expected to possess skills in data analytics, information systems, and ethical judgment. Their ability to interpret AI-generated data and contribute meaningfully to organizational strategy has become essential. This shift highlights the growing demand for interdisciplinary expertise within the accounting profession.

However, the widespread adoption of AI also introduces several challenges. Ethical concerns such as algorithmic bias, lack of transparency, and the accountability of AI systems are frequently cited in recent studies. Organizations face additional difficulties, including internal resistance to change, data security concerns, and the absence of sufficient technical skills among personnel. These issues are particularly prominent in developing economies, where disparities in AI-readiness and technological infrastructure limit the pace and effectiveness of implementation.

Educational institutions and policy frameworks must respond to these changes. There is a clear need for reforms in accounting education, particularly in the incorporation of AI literacy, data analytics, and digital ethics into academic curricula. Furthermore, ongoing professional development should be supported by industry and regulatory bodies to ensure that current practitioners remain equipped to navigate the evolving demands of the profession. Cross-sector collaboration between academia, professional organizations, and policymakers will be essential in building a future-ready workforce.

The synthesis of reviewed literature suggests that AI, while transformative, does not render the accounting profession obsolete. Instead, it redefines the role of the accountant, emphasizing human judgment, ethical interpretation, and strategic oversight. The implementation of AI offers efficiency and enhanced decision-making capabilities, but its success depends on how well organizations manage associated challenges and prepare their workforce.

This systematic literature review contributes to a comprehensive understanding of how AI is reshaping accounting practices and redefining the professional identity of accountants. It underscores the importance of adaptability, lifelong learning, and ethical awareness in facilitating a balanced and responsible integration of AI. Addressing gaps in skills, managing ethical concerns, and overcoming resistance to change will be critical in realizing the full potential of AI in the accounting domain.

Limitations and Future Research Directions

Limitations

This systematic literature review, while comprehensive, is subject to several limitations that should be considered. One of the primary limitations is the time frame chosen for the literature search, which focused on publications from 2015 to 2024. As AI technology has been evolving rapidly, this narrow window may have excluded seminal works published prior to 2015 or the very latest research on cutting-edge AI applications in accounting.

Another limitation is the language restriction, as the review included only English-language publications. This choice may have unintentionally excluded valuable research from non-English-speaking regions, potentially overlooking unique cultural, economic, and technological perspectives on AI adoption in accounting. The global nature of the profession calls for a more inclusive approach to capturing regional differences in AI integration and its impact on accounting practices.

Furthermore, the review did not employ a quantitative meta-analysis, which means the synthesis of findings remains qualitative. While the thematic insights provided are valuable, this approach does not allow for statistical comparisons of AI's impact on accounting outcomes, such as efficiency, accuracy, or cost reduction. A lack of quantitative evidence limits the ability to generalize findings across different contexts.

The review's reliance on selected academic databases, including Scopus, Web of Science, ScienceDirect, and Google Scholar, may also limit the scope of articles included. Research published in niche journals or in interdisciplinary fields such as data science, business ethics, or educational technology might not have been fully captured in the search.

Future Research Directions

To address the limitations outlined above, future research should aim to broaden the scope of the study. First, research efforts could expand to include multilingual sources to ensure that studies in non-English languages are considered. This would help provide a more global perspective on AI in accounting, particularly in regions where the technology is being adopted differently due to local economic, cultural, or regulatory factors.

Longitudinal studies could provide valuable insights into the long-term effects of AI integration on accounting professionals and organizations. Such research could examine how the role of accountants continues to evolve and whether AI adoption leads to long-term career shifts or changes in organizational structures. Empirical studies focused on AI's direct impact on performance metrics such as fraud detection accuracy, audit effectiveness, and financial forecasting reliability would strengthen the evidence base and offer more actionable insights.

Additionally, research into the human-AI interaction is essential. Understanding how accountants collaborate with AI tools and how they adapt to changes in their workflows and decision-making processes will be crucial for optimizing AI systems and ensuring that accountants continue to add value in strategic and ethical decision-making roles.

Further exploration of policy and regulatory frameworks is needed, particularly in terms of how professional organizations, governments, and educational institutions are preparing for widespread AI adoption in accounting. Research that investigates how these entities can create standards and certifications for AI usage in the profession would be valuable for ensuring ethical AI practices and fostering a well-prepared workforce.

Finally, cross-cultural comparative studies should explore how different regions, especially in the Global South, are adopting AI technologies in accounting. Understanding the challenges and opportunities in these contexts would contribute to a more comprehensive view of AI's global impact and inform international AI policy development.

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