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Artificial Intelligence in Accounting Practice: An Interdisciplinary Review of Technological Innovation and Its Socio-Economic Implications

Abdulrahman Abdulganiyu[1], Sulaiman Taiwo Hassan[2*]
[1]Department of Computer Science, Ibrahim Badamasi Babangida University, Lapai, Nigeria
[2]ANAN University, Business School, Abuja, Nigeria
[*]Penulis korespondensi, email: staiwohassan99@yahoo.com

Abstract— The accounting profession is undergoing significant transformation due to the advancements and integration of Artificial Intelligence (AI), which offers opportunities to enhance and restructure various accounting tasks. A crucial factor in this shift is the ability of accountants to rapidly adjust to these changes by developing the essential skills and knowledge required to effectively collaborate with AI technologies, while also addressing concerns about job security. This study aims to explore the influence of Artificial Intelligence on accounting by conducting a systematic review of existing literature. Results indicate that although current accounting practices incorporate technology to streamline processes and boost efficiency, there is concern that limited AI proficiency may reduce job prospects for accountants. This research contributes valuable insights into the challenges and potential advantages AI poses for the profession. It also emphasizes the need for proactive measures to equip future accountants for an AI-driven work environment.

Keywords: Artificial Intelligence, Accounting Profession, Accountants, Accounting Firms

1. Introduction

Artificial Intelligence (AI) has become a transformative force across numerous industries, offering the ability to perform complex tasks traditionally managed by humans. AI systems are designed to process vast amounts of data, thereby improving accuracy, efficiency, and decision-making capabilities [1]. In recent years, the advancement of AI has accelerated rapidly, with its applications now extending to fields such as agriculture, education, commerce, and professional services, including accounting [2]. Fundamentally, AI comprises software or systems that are programmed to replicate, enhance, or even replace human intervention in solving business problems [3]. Its growing integration in professional domains such as healthcare and finance highlights its potential for disruptive innovation [4].

In the context of accounting, the profession has evolved significantly over the past few decades, transitioning from manual bookkeeping to digital platforms that automate routine operations [1]. Technological innovations, particularly AI, are now capable of performing complex functions like decision-making and financial communication—roles previously reserved for professional accountants [5]. The integration of intelligent systems in accounting practices is not new; the transition began with the adoption of early computing systems and has gradually advanced to include AI-powered tools that support auditing, compliance checking, and real-time data analysis [4].

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Despite these technological benefits, the deployment of AI in accounting is not without challenges. The complexity of implementing AI systems, alongside the substantial costs required for training and software adaptation, presents significant barriers for organizations [6]. Moreover, while AI can streamline workflows and enhance accuracy, it also introduces hidden risks such as system vulnerabilities and ethical concerns. These complications have led to growing debates about whether AI will serve as a complementary tool or an eventual replacement for human professionals in the field [7].

AI's role in the accounting profession raises critical questions regarding job displacement, particularly for entry-level and junior accountants. As automation increasingly dominates repetitive tasks, the traditional pathways for gaining practical experience in the field may diminish [8]. Scholars argue that although AI reduces the necessity for human input in routine operations, it simultaneously demands that accounting professionals develop new skillsets—particularly in data analysis, interpretation, and strategic decision-making—to remain relevant [9].

Although interest in AI's impact on accounting is growing, comprehensive studies on this topic remain limited. There is a noticeable lack of systematic reviews addressing both the benefits and risks posed by AI adoption in accounting firms [1]. This study responds to that gap by conducting a Systematic Literature Review (SLR) to explore how AI is transforming the accounting profession, with a focus on identifying its implications for future accountants. The research aims to synthesize existing academic knowledge, examine emerging trends, and provide insights for accounting professionals and organizations preparing for an AI-driven work environment.

2. Method

This study employed a Systematic Literature Review (SLR) to examine how Artificial Intelligence (AI) is influencing the accounting profession. The SLR method was chosen because it enables researchers to systematically collect, evaluate, and synthesize existing studies to generate a comprehensive understanding of a topic, especially in areas where empirical findings remain sparse or fragmented, such as AI applications in accounting [10]. The analysis in this study is grounded in the Task-Technology Fit (TTF) theory, which posits that technology contributes to performance improvement when its characteristics align with the specific tasks required by its users [11]. In the context of accounting, the TTF framework is particularly relevant for assessing whether AI technologies are capable of effectively supporting or replacing core professional functions such as reporting, auditing, and compliance.

The literature search process was conducted over a two-week period across four major academic databases: ScienceDirect, SpringerLink, Taylor & Francis, and Emerald Insight. Keywords used in the search included "Artificial Intelligence," "AI in accounting," "AI in finance," "technology in accounting," and "digitalization in accounting." Boolean operators were used to refine results and ensure thematic alignment with the research objectives. From this search process, a total of 106 publications were initially retrieved. These records were subjected to screening based on language (English only), peer-review status, and relevance to AI and accounting. Following a rigorous selection process, 19 sources were included in the final analysis—comprising 18 journal articles and 1 book chapter. Publications that did not meet the inclusion criteria were excluded on grounds of thematic irrelevance, duplication, or lack of methodological robustness.

The results of the literature search and selection are summarized in Table 1. It shows the number of publications reviewed by type and the count of those that were either included or excluded from the final dataset. A total of 87 sources were excluded from further consideration.

To ensure diversity and global representation, the reviewed studies originated from nine countries on six continents, as illustrated in Table 2. This broad geographic spread provides a richer contextual understanding of how AI is being adopted in different accounting environments.

Table 1. Summary of Literature Search and Selection

Source Type	No. of Publications	Included	Excluded
Journals	88	18	70
Conferences	10	0	10
Book Chapters	3	1	2
Theses/Reports	0	0	0
Websites	5	0	5
Total	106	19	87

Table 2. Summary of Literature Search and Selection

Country	No. of Studies
United States	4
United Kingdom	4
Italy	2
Poland	2
China	1
Colombia	1
Norway	1
Saudi Arabia	1
—	3 (Global Scope)

Each of the selected studies was carefully reviewed to identify recurring themes, which were then grouped into two principal categories: challenges and opportunities associated with the adoption of AI in accounting. A summary table was created to facilitate theme extraction by listing key elements from each study, including authors, publication title, and findings. These themes formed the basis for the in-depth discussion presented in the next section of the paper.

In addition to thematic categorization, all reviewed studies were evaluated for quality and methodological reliability using adapted criteria from existing SLR frameworks [12]. This evaluation considered clarity of research questions, transparency of methodology, and relevance to the accounting-AI nexus. The review process was conducted iteratively and independently to reduce bias and ensure objectivity. Through this methodological approach, the study aims to construct a reliable synthesis of existing academic perspectives on the implications of AI for the accounting profession, particularly regarding automation, skill transformation, and workforce adaptation in the face of technological disruption..

3. Results and Discussion

The results of the Systematic Literature Review (SLR) reveal that Artificial Intelligence (AI) is exerting a growing and multifaceted influence on the accounting profession. The synthesis of nineteen reviewed studies identifies three major thematic findings: first, the potential impact of AI on employment in the accounting sector; second, the technological and organizational challenges faced by accounting firms in adopting AI; and third, the opportunities and strategic advantages enabled by AI integration. These themes are interwoven with the broader implications of automation, digital transformation, and workforce adaptation, reflecting a global shift in how accounting is practiced and conceptualized.

One of the most prominent findings from the reviewed literature is the transformation of the employment landscape for future accountants. Several studies note that the increased automation of routine and repetitive tasks—such as data entry, reconciliation, and basic reporting—is reducing the demand for entry-level accounting roles [13]. Greenman [14] and Virgillito [15] emphasize that while AI may not eliminate accounting jobs entirely, it will alter the skill requirements and the nature of tasks accountants

perform. Future professionals must demonstrate capabilities in data analytics, interpretation of AI outputs, and strategic advising to remain competitive in a rapidly evolving market. In this sense, the profession is undergoing a shift from transactional work toward more analytical and consultative roles.

Despite its transformative potential, the adoption of AI in accounting is fraught with challenges. Among these, technological complexity emerges as a key barrier. Kokina and Blanchette [16] note that many AI applications—particularly Robotic Process Automation (RPA) and machine learning tools—require detailed process mapping, continuous monitoring, and system maintenance, which may exceed the technical expertise of traditional accounting staff. Similarly, Rikhardsson and Yigitbasioglu [17] argue that users' familiarity with digital systems strongly influences satisfaction and successful AI adoption. They find that when users lack experience or confidence with AI tools, implementation tends to be slower and more error-prone.

Furthermore, infrastructure and software limitations continue to impede full AI integration. Lu et al. [18] classify these obstacles into three categories: human resource limitations, such as insufficient training and resistance to change; technical issues, including poor system integration and data fragmentation; and organizational constraints, like inadequate investment in IT infrastructure. These challenges are exacerbated by security concerns, particularly in environments where sensitive financial data must be protected from breaches or manipulation. As such, successful AI implementation requires not only technical upgrades but also organizational change management and capacity building.

Nonetheless, the reviewed studies also highlight significant opportunities associated with AI adoption in the accounting profession. AI can greatly enhance efficiency, reduce operational costs, and improve the accuracy of financial reporting when appropriately integrated into business processes [19]. For instance, Jędrzejka [20] reports that RPA can free accountants from low-value tasks, allowing them to focus on strategic planning and business advisory roles. Moreover, failed automation attempts—reported to occur in 30–50% of initial RPA projects—can provide valuable insights for redesigning workflows and optimizing process performance [20]. Rather than viewing AI as a one-time technological fix, accounting firms are encouraged to approach automation as an iterative process that includes continuous evaluation, pilot testing, and incremental implementation.

The reviewed literature also supports the notion that AI should not be perceived solely as a substitute for human labor, but rather as a tool to augment human intelligence and judgment. For example, Ding et al. [21] demonstrate how machine learning can be used to enhance the accuracy of financial estimates in insurance accounting. Their findings suggest that AI has the potential to improve data relevance and decision quality for managers, investors, and auditors. Similarly, studies by Al-Htaybat and von Alberti-Alhtaybat [22], as well as Bhimani and Willcocks [23], point to the value of AI in managing big data and supporting real-time financial reporting, which is increasingly demanded by stakeholders.

Given these insights, it becomes clear that AI adoption requires a fundamental rethinking of both accounting education and professional development. Accountants must not only learn how to operate AI tools, but also how to interpret their outputs, assess their limitations, and communicate AI-generated insights to decision-makers. This dual expertise in technical and professional domains will define the next generation of accounting practitioners.

In conclusion, the results of this review underscore both the disruptive and enabling aspects of AI in accounting. While the technology introduces considerable uncertainty, particularly concerning job displacement and ethical implications, it also presents a path for enhancing the strategic relevance and societal impact of the profession. The integration of AI must therefore be approached as a multidisciplinary challenge—one that involves not only technical innovation, but also educational reform, policy adaptation, and organizational transformation.

4. Conclusion

This study has examined the impact of Artificial Intelligence (AI) on the accounting profession through a Systematic Literature Review (SLR) of nineteen peer-reviewed sources published in reputable academic databases. The findings reveal that AI is transforming accounting practices by automating routine tasks, reshaping professional competencies, and challenging traditional employment structures within the field. While some scholars have expressed concerns about AI-induced job displacement [24], others argue that this technological evolution presents an opportunity for the profession to elevate its strategic value through enhanced analytical and advisory capabilities [25].

The review confirms that AI holds the potential to increase efficiency, reduce human error, and improve data-driven decision-making in accounting functions. Tools such as Robotic Process Automation (RPA), machine learning, and advanced analytics are becoming increasingly integral to modern accounting systems, enabling real-time reporting and more precise forecasting [26]. However, the transition to AI-enhanced systems is not without its challenges. Organizations face significant barriers, including limited technical infrastructure, insufficient staff training, resistance to change, and concerns over data security and ethical accountability [27].

From a practical standpoint, the implications of these findings are twofold. First, accounting professionals must be proactive in acquiring digital competencies that go beyond traditional bookkeeping. This includes developing fluency in data interpretation, understanding how AI models function, and applying insights generated by intelligent systems to guide strategic business decisions [28]. Educational institutions and professional bodies therefore have a critical role to play in updating curricula and certification standards to reflect these new requirements. Second, firms must recognize that successful AI adoption is not solely a technological endeavor—it requires cultural change, continuous staff development, and deliberate governance to ensure responsible use and integration of AI tools [29].

Although the review presents a robust overview of current academic discourse, it is not without limitations. The analysis is based on a relatively small sample size of 19 publications, which, although diverse in scope and geography, may not fully capture the breadth of ongoing developments in AI adoption across the global accounting industry. Additionally, the reviewed studies vary in methodological depth and empirical rigor, with many relying on qualitative case studies or theoretical assessments. This limits the generalizability of findings, particularly regarding industry-specific applications or regional regulatory environments.

Future research should address these gaps by conducting empirical studies that explore how accounting professionals perceive AI integration in their work and what organizational factors facilitate or hinder its adoption. Longitudinal studies examining the evolution of AI practices within firms could also provide valuable insights into long-term impacts on employment, ethics, and professional identity. Furthermore, comparative cross-country research may shed light on the role of institutional frameworks and cultural attitudes in shaping AI adoption patterns.

In conclusion, the growing presence of AI in accounting signifies both disruption and opportunity. If embraced strategically, AI can empower the profession to enhance its relevance, accuracy, and value creation potential. However, this transformation demands a shift not only in tools and techniques, but also in mindset, ethics, and education. The future of accounting will increasingly depend on the profession's ability to integrate human expertise with technological intelligence in a way that is both innovative and responsible.

REFERENCES

[1] M. Stancu and A. Duțescu, "Artificial Intelligence in accounting: Threat or opportunity?," *Audit Financiar*, vol. 19, no. 4, pp. 672–682, 2021.
[2] M. A. Goralski and T. K. Tan, "Artificial intelligence and sustainable development," *Int. J. Manag. Educ.*, vol. 18, 2020.
[3] M. Smith, *Accounting and Artificial Intelligence: The Future Role of Accountants*, Routledge, 2020.
[4] V. C. Banta, S. M. Rîndas, A. Tănasie, and D. Cojocaru, "Artificial Intelligence in the accounting of international businesses: A perception-based approach," *Sustainability*, vol. 14, no. 11, p. 6632, 2022.
[5] D. Andriosopoulos, D. Michalis, M. P. Panos, and C. Zopounidis, "Computational approaches and data analytics in financial services: A literature review," *J. Oper. Res. Soc.*, vol. 70, no. 10, pp. 1581–1599, 2019.
[6] I. Munoko, H. L. Brown-Liburd, and M. Vasarhelyi, "The ethical implications of using artificial intelligence in auditing," *J. Bus. Ethics*, vol. 167, no. 2, pp. 209–234, 2020.
[7] C. Greenman, "Exploring the impact of artificial intelligence on the accounting profession," *J. Res. Bus. Econ. Manag.*, vol. 8, no. 3, pp. 1451–1454, 2017.
[8] J. Warren, K. Moffitt, and Z. Byrnes, "How Big Data will change accounting," *Accounting Horizons*, vol. 29, no. 2, pp. 397–407, 2015.
[9] D. Zhang, J. Dai, and M. A. Vasarhelyi, "The impact of disruptive technologies on accounting and auditing education: Practitioners' perspectives," *J. Emerging Technol. Accounting*, vol. 15, no. 1, pp. 43–60, 2018.
[10] S. Shahrol, A. R. Iahad, M. M. Ab Aziz, and M. S. Husin, "The use of systematic literature review methodology in accounting research," *Int. J. Acad. Res. Accounting, Finance & Management Sciences*, vol. 10, no. 2, pp. 1–8, 2020.
[11] D. L. Goodhue and R. L. Thompson, "Task-technology fit and individual performance," *MIS Quarterly*, vol. 19, no. 2, pp. 213–236, 1995.
[12] M. T. Dishaw and D. M. Strong, "Extending the technology acceptance model with task-technology fit constructs," *Inf. Manag.*, vol. 36, no. 1, pp. 9–21, 1999.
[13] J. Warren, K. Moffitt, and Z. Byrnes, "How Big Data will change accounting," *Accounting Horizons*, vol. 29, no. 2, pp. 397–407, 2015.
[14] C. Greenman, "Exploring the impact of artificial intelligence on the accounting profession," *J. Res. Bus. Econ. Manag.*, vol. 8, no. 3, pp. 1451–1454, 2017.
[15] V. L. Virgillito, *Rise of the Robots: Technology and the Threat of a Jobless Future*, Oxford University Press, 2017.
[16] J. Kokina and S. Blanchette, "Early evidence of digital labor in accounting: Innovation with Robotic Process Automation," *Int. J. Accounting Inf. Syst.*, vol. 35, 100431, 2019.
[17] P. Rikhardsson and O. Yigitbasioglu, "Business Intelligence and Analytics in Management Accounting Research: Status and Future Focus," *J. Manag. Accounting Res.*, vol. 30, no. 1, pp. 1–28, 2018.
[18] K. Lu, Y. Fu, C. Gu, and L. Zhang, "Problems and solutions of popularization of accounting computerization," *Physics Procedia*, vol. 33, pp. 1155–1159, 2012.
[19] S. Aguirre and A. Rodriguez, "Automation of a business process using Robotic Process Automation (RPA): A case study," in *Applied Computer Sciences in Engineering*, vol. 742, pp. 65–71, 2017.
[20] D. Jędrzejka, "Robotic Process Automation and its impact on accounting," *Zeszyty Teoretyczne Rachunkowości*, vol. 105, no. 161, pp. 137–166, 2019.
[21] K. Ding, B. Lev, X. Peng, T. Sun, and M. A. Vasarhelyi, "Machine learning improves accounting estimates: Evidence from insurance payments," *Review of Accounting Studies*, vol. 25, no. 3, pp. 1098–1134, 2020.
[22] K. Al-Htaybat and L. von Alberti-Alhtaybat, "Big data and corporate reporting: Impacts and paradoxes," *Accounting, Auditing & Accountability J.*, vol. 30, no. 4, pp. 850–873, 2017.
[23] A. Bhimani and L. Willcocks, "Digitisation, 'Big Data' and the transformation of accounting information," *Accounting and Business Research*, vol. 44, no. 4, pp. 469–490, 2014.

[24] V. L. Virgillito, *Rise of the Robots: Technology and the Threat of a Jobless Future*, Oxford University Press, 2017.
[25] D. Jędrzejka, "Robotic Process Automation and its impact on accounting," *Zeszyty Teoretyczne Rachunkowości*, vol. 105, no. 161, pp. 137–166, 2019.
[26] K. Ding, B. Lev, X. Peng, T. Sun, and M. A. Vasarhelyi, "Machine learning improves accounting estimates: Evidence from insurance payments," *Review of Accounting Studies*, vol. 25, no. 3, pp. 1098–1134, 2020.
[27] K. Lu, Y. Fu, C. Gu, and L. Zhang, "Problems and solutions of popularization of accounting computerization," *Physics Procedia*, vol. 33, pp. 1155–1159, 2012.
[28] J. Kokina and S. Blanchette, "Early evidence of digital labor in accounting: Innovation with Robotic Process Automation," *Int. J. Accounting Inf. Syst.*, vol. 35, 100431, 2019.
[29] I. Munoko, H. L. Brown-Liburd, and M. Vasarhelyi, "The ethical implications of using artificial intelligence in auditing," *J. Bus. Ethics*, vol. 167, no. 2, pp. 209–234, 2020.