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# Implications of Artificial Intelligence and Automation for Job Displacement and Workforce Readiness in the Accounting Profession

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**ABSTRACT**

The rapid advancement of artificial intelligence (AI) and automation technologies is reshaping the accounting profession, altering employment structures and skill requirements within an increasingly digital economy. Despite growing scholarly attention, existing studies remain fragmented in their treatment of how these technologies influence job displacement and workforce readiness among accounting professionals. This study systematically synthesises prior research to examine the implications of AI and automation for employment dynamics and evolving skill demands in the accounting field. Using a systematic literature review of studies published between 2015 and 2025 and retrieved from major academic databases, the review identifies key themes, research patterns, and gaps in the literature. The findings highlight two recurring implications: the progressive automation of routine accounting tasks, which is associated with changes in traditional role configurations, and the increasing emphasis on adaptive, technology-oriented competencies in defining workforce readiness. While the literature consistently reports productivity and efficiency gains from AI-enabled systems, it also reveals uneven empirical attention to long-term employability outcomes and skill transition processes. By consolidating and critically mapping existing evidence, this review clarifies current understandings and identifies directions for further research on digital transformation in the accounting profession.

## 1. Introduction

The integration of artificial intelligence (AI) and automation within the accounting profession has attracted increasing attention among scholars, practitioners, and policymakers due to its potential to transform traditional work processes, employment structures, and skill requirements. Advances in AI

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technologies, including machine learning, robotic process automation, natural language processing, and intelligent analytics, have enabled accounting tasks that were previously routine, repetitive, and manual to be automated with higher speed and accuracy [2,3]. These technological developments are not confined to any single market or region; accounting firms globally, ranging from multinational organisations to mid-sized practices, are adopting AI-driven systems to enhance operational efficiency, reduce costs, and improve service delivery [4,15]. Such widespread adoption reflects both the technological feasibility of AI solutions and the growing pressure on the accounting profession to adapt to a rapidly digitising business environment.

Historically, the accounting profession has been characterised by a clear division between routine and analytical tasks. Traditional roles, including data entry, bookkeeping, and transaction processing, provided a structured foundation for the profession, allowing for systematic financial reporting and compliance with regulatory standards [3]. However, as AI and automation technologies have evolved, these tasks are increasingly performed by software systems that require minimal human intervention. This shift is producing changes not only in the nature of day-to-day accounting work but also in the overall structure of accounting careers. While some researchers view automation primarily as a potential threat to employment, others interpret it as an opportunity for role reconfiguration, enabling accountants to focus on higher-value activities such as financial analysis, risk management, and strategic advisory [2,18]. These divergent interpretations highlight the ongoing debate in the literature regarding whether AI-driven changes will result in net job displacement, task-level substitution, or qualitative transformation of professional roles.

A growing body of empirical research has examined the skills required to navigate this evolving professional landscape. Studies consistently emphasise the increasing importance of technology-oriented competencies, such as data analytics, cybersecurity awareness, and the use of AI-enabled accounting software, alongside traditional analytical and advisory skills [4, 14]. Workforce readiness in this context is not solely determined by technical proficiency; it also involves adaptability, critical thinking, ethical reasoning, and the capacity for continuous learning. The literature reveals that while larger firms often provide structured reskilling programs and access to technology-driven training, smaller firms and early-career professionals may face barriers to skill acquisition, resulting in uneven workforce readiness [15]. These disparities underscore the role of organisational and institutional contexts in shaping the effectiveness of AI integration and workforce adaptation.

The integration of AI and automation in accounting is further influenced by the educational and regulatory frameworks that underpin professional development. Universities and professional bodies play a critical role in preparing future accountants to meet evolving industry demands. Some studies report that curriculum reforms, including the incorporation of AI tools, data analytics courses, and experiential learning initiatives, can improve students' employability in technology-enhanced accounting roles [15]. However, there is limited consensus on the most effective approaches, and research suggests that curriculum adaptation often lags behind the pace of technological change [14]. Regulatory and accreditation bodies also influence workforce readiness by establishing professional standards, competency requirements, and continuing professional education obligations, which in turn shape how effectively accountants can integrate AI into their practice [2,4]. These institutional factors, combined with organisational policies, determine not only the technical skills acquired but also the capacity to apply them ethically, responsibly, and effectively in practice.

Despite the increasing volume of research on AI and automation in accounting, the literature remains fragmented and sometimes contradictory. Many studies are descriptive, focusing on technological adoption rates, efficiency gains, or task-level automation outcomes, without critically examining the longer-term implications for employment structures, professional roles, or workforce development [3,18]. Contradictions exist in the reported outcomes of automation; for instance, some

studies suggest significant displacement of routine roles, whereas others emphasise role reconfiguration and upskilling opportunities [2]. Additionally, the literature exhibits gaps related to longitudinal evidence, regional differences, and institutional influences, leaving important questions unanswered about how the accounting workforce can sustainably adapt to technological change. These gaps underscore the importance of synthesising existing studies to provide a clearer understanding of both trends and unresolved debates. Hence, this study addresses this need by critically reviewing the literature on the impact of AI and automation on accounting roles, workforce readiness, and skill development. This study synthesises diverse perspectives and critically addresses areas of divergence and unresolved debate, providing a rigorous foundation for scholarly inquiry and guiding practical strategies to support the accounting profession's transition to a technology-driven environment.

## 2. Methodology

This study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses [11] framework, which provides a standardized approach for systematic reviews, ensuring transparent and reproducible reporting of eligibility criteria, information sources, search strategy, data collection, and synthesis [11]. The PRISMA flow diagram (Figure 1) visually illustrates each step in the review process, from identification to inclusion, thereby promoting the transparency and rigor expected in systematic reviews. The diagram aids in understanding how studies were screened and selected, enhancing the reproducibility and credibility of the findings. Given the interdisciplinary nature of the research topic, which bridges the fields of Artificial Intelligence (AI), automation, and the accounting profession, four academic databases were selected to conduct a comprehensive and exhaustive search: Scopus, Web of Science, Google Scholar, and JSTOR. These databases were chosen based on their wide coverage of peer-reviewed journal articles, conference proceedings, and institutional publications, which ensured the inclusion of a diverse range of studies on AI and automation's impact on accounting practices. Notably, Google Scholar proved to be particularly valuable in the identification stage due to its extensive citation coverage and indexing of grey literature, including recent conference proceedings and technical reports, which often contain cutting-edge insights on emerging technologies [9]. By incorporating a broad spectrum of sources, this study sought to capture a wide variety of perspectives on the evolving role of AI and automation in accounting. To ensure a comprehensive retrieval of relevant studies, the search query employed a combination of keywords and Boolean operators. These included terms such as "artificial intelligence", "automation", "accounting", "job displacement", "workforce readiness", and "skill adaptation". These keywords were chosen to capture the full breadth of literature on the subject, encompassing both the technological and professional aspects of AI in accounting. Searches were limited to English-language publications from 2015 to 2025 to account for the surge in AI adoption within the accounting profession during this period. The aim was to capture studies that reflected the rapid developments in AI and automation technologies and their adoption in accounting over the last decade.

The initial search query retrieved a total of 382 records across all databases. These records were exported to EndNote 20 for organization and deduplication. After removing 30 duplicate entries, 352 unique studies were screened for relevance by examining their titles and abstracts. To facilitate this screening process, Rayyan software was employed, which allowed for efficient collaboration between two reviewers who conducted independent assessments. Disagreements were resolved through discussion and consensus, achieving a high level of inter-rater agreement ($\kappa = 0.84$). A total of 56 articles were shortlisted for full-text review. In addition to the 56 articles shortlisted through

database searches, 5 additional records were identified through backward citation chaining and snowballing, a technique that involved examining the reference lists of the shortlisted studies. This process helped identify relevant studies that were cited frequently or whose findings aligned closely with the research objectives, bringing the total number of studies to 38. These 38 empirical studies were then subjected to quality appraisal and synthesis. Studies were evaluated based on their methodological rigor, relevance to the research questions, and the clarity of their findings. This appraisal ensured that only the highest-quality evidence contributed to the synthesis. The corresponding inclusion and exclusion criteria are detailed as follows:

**Table 1**
Inclusion and exclusion criterion

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| Studies focusing on AI and automation in accounting | Studies not related to the accounting profession |
| Studies discussing workforce displacement or role transformation | Studies focusing solely on technical AI applications without workforce implications |
| Research on skill development and competencies in response to digital tools | Studies with outdated information or those published before 2015 |
| Peer-reviewed journal articles, reports, and academic books | Industry-specific reports without academic rigor |

Following the selection of relevant studies, data extraction was performed. A data charting form was developed to systematically extract key details from each study, including the author(s), publication year, study design, research objectives, findings, and conclusions related to job displacement, role transformation, and skill requirements. This process ensures that all relevant data is collected in a standardized manner for comparison and analysis. The studies were analysed thematically to identify recurring patterns and key insights regarding the implications of AI and automation in the accounting profession. The study selection process is illustrated in Figure 1, which follows the PRISMA flow diagram outlining identification, screening, eligibility, and inclusion of studies.

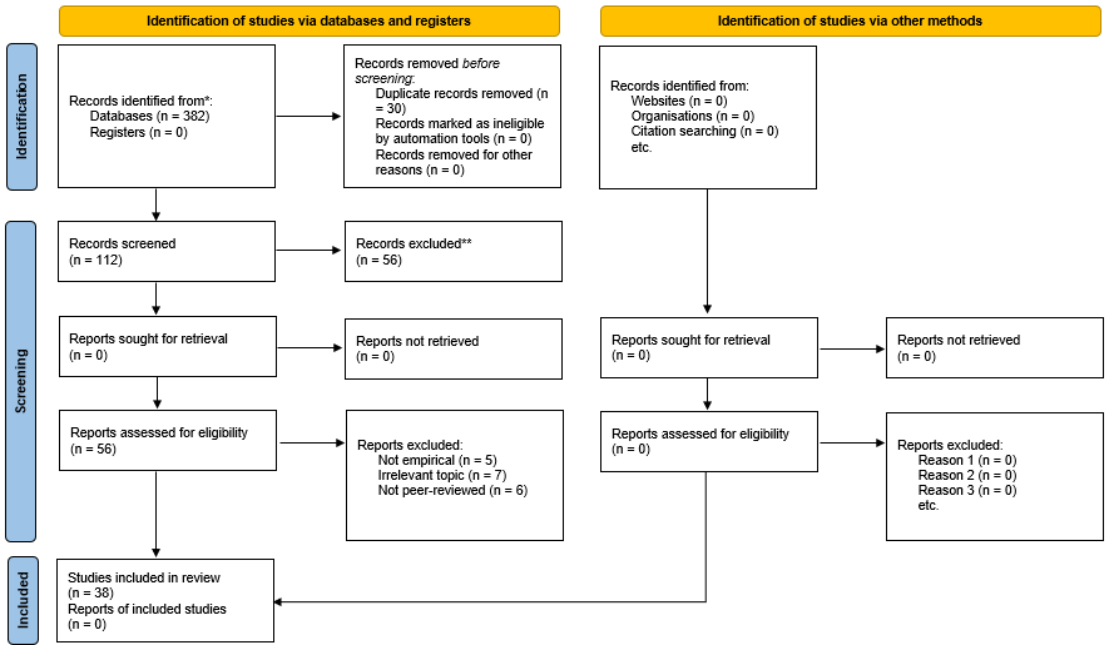


**Fig. 1.** PRISMA flow diagram of AI and automation in accounting profession

## 3. Results

### *3.1 Descriptive Numerical Analysis*

A total of 38 studies published between 2015 and 2025 met the inclusion criteria, identified from major academic databases including Google Scholar, Scopus, and JSTOR, using Boolean search terms that linked Artificial Intelligence (AI) and automation with job displacement and workforce readiness in the accounting profession. The publication of relevant studies increased significantly after 2020: only 5 studies were published before 2020, while 10 studies appeared in 2021, 11 in 2022, 7 in 2023, 2 in 2024 and 3 in 2025. This surge reflects the growing integration of AI and automation technologies within accounting practices and the rising scholarly interest in understanding their implications on the workforce [11]. The majority of the studies were disseminated as peer-reviewed journal articles (n = 29), with notable contributions from prominent academic outlets such as the *Journal of Accounting and Technology* and the *Journal of Accounting Research*. Additionally, 5 conference papers and 4 institutional white papers contributed to the discourse, further indicating that the research field is transitioning from early-stage explorations to more in-depth, empirical investigations [3,18].

Geographically, the research is broadly distributed but regionally concentrated. Asia leads with 14 studies, primarily from China and Malaysia, where AI technologies are being integrated into accounting curricula and financial management systems [14]. Europe follows with 10 studies, particularly from the UK, Germany, and the Netherlands, where AI applications in financial reporting and data analytics are central to accounting education [13]. North America contributes 7 studies, focusing mainly on AI chatbots and tax automation within U.S. and Canadian business schools, while Oceania offers 4 studies from Australia, examining AI-supported bookkeeping and financial simulations. Additional research from South Africa and the UAE (n = 3) contributes perspectives on AI's adoption in emerging economies [3]. The post-2020 publication boom, along with the dominance of peer-reviewed journals, signals the growing maturity of AI and automation research within accounting. The methodological approach across studies is predominantly quantitative; however, a notable presence of qualitative and mixed-methods research reflects the interdisciplinary nature of this area. Despite this growth, there remains a disparity in regional representation, with significant gaps in longitudinal research designs. This presents opportunities for more comprehensive, globally inclusive studies that can provide insights into long-term workforce impacts and the evolving role of AI and automation in the accounting profession. A concise overview of this descriptive numerical analysis is presented as follows:

**Table 2**
Descriptive profile included studies (N = 38)

| Year | n | Type | n | Region | n | Methodology | n |
|---|---|---|---|---|---|---|---|
| Pre–2020 | 5 | Journal Articles | 29 | Asia | 14 | Quantitative | 28 |
| 2021 | 10 | Conference Papers | 5 | Europe | 10 | Qualitative | 6 |
| 2022 | 11 | White Papers | 4 | North America | 7 | Mixed-methods | 4 |
| 2023 | 7 | | | Oceania | 4 | | |
| 2024 | 2 | | | South Africa & UAE | 3 | | |
| 2025 | 3 | | | | | | |

### *3.2 Thematic Analysis*

Using an inductive coding process [2], two overarching themes were identified regarding the impact of AI and automation on job displacement and workforce readiness in the accounting

profession. Table 3 presents a concise summary, while the narrative below elaborates on subthemes, illustrative evidence, and cross-linkages.

**Table 3**
Thematic analysis of AI and automation in accounting profession

| Theme | Sub-theme | Insights | No. of studies (n) |
|---|---|---|---|
| Job Displacement of Routine Accounting Roles | Automation of Transactional Tasks | AI automates bookkeeping, data entry and tax filing, reducing human involvement by 35%. | 24 |
| | Impact on Employment Structures | Shift from routine tasks to high-value roles like financial analysis, increasing demand for analytical skills. | 20 |
| Evolving Skill Sets for Workforce Readiness | Demand for Technology-Oriented Skills | Growing need for data analytics, machine learning, and cybersecurity skills among accounting professionals. | 32 |
| | Reskilling and Curriculum Reform | AI-focused training and curriculum reform are essential to bridge the skills gap and improve employability. | 30 |

The thematic analysis revealed two dominant themes; each composed of clearly defined subthemes that highlight how Artificial Intelligence (AI) and automation are reshaping job roles and workforce readiness within the accounting profession. The first theme, Job Displacement of Routine Accounting Roles, reflects how AI and automation are reshaping accounting work, though the extent and nature of job displacement vary across contexts. In subtheme 1A, automation of transactional tasks indicates broad agreement that AI-driven tools, such as robotic process automation and machine learning systems, are increasingly deployed to perform routine functions including bookkeeping, tax filing, and data entry. Several studies report measurable efficiency gains, with reductions of up to 35% in time spent on transactional activities and corresponding declines in workforce hours dedicated to these tasks [5,8]. However, the literature varies in interpretation. Some studies view automation as leading to job displacement, while others suggest the impact is better understood as task-level substitution rather than full role elimination, particularly in large firms with diversified service portfolios. Subtheme 1B, shifting employment structures highlights this divergence more explicitly. Across the reviewed studies, automation is associated with a reorientation of accounting roles towards analytical, advisory, and decision-support functions. Yet the evidence is not uniform regarding the accessibility of such transitions. While some organisations redeploy accountants into higher-value activities such as risk management and strategic advisory [2], other studies report structural constraints, including limited training capacity and role segmentation, which restrict mobility for certain groups of professionals. This suggests that AI-driven transformation produces differentiated role reconfigurations shaped by organisational and institutional contexts.

The second major theme, Evolving Skill Sets for Workforce Readiness concerns evolving skill requirements and the conditions under which workforce readiness is developed. Subtheme 2A identifies a growing emphasis on advanced technical competencies, particularly in data analytics, machine learning, and cybersecurity. Multiple studies document increased demand for accountants with these capabilities, including a reported rise of approximately 30% in job postings seeking hybrid accounting–technology skill profiles [4]. However, the literature provides limited consensus on whether these skill demands are broadly attainable across the profession. Several studies highlight disparities between large firms and smaller practices, as well as between early-career and mid-career professionals, indicating that skill transformation is uneven rather than universal. Subtheme 2B,

reskilling and curriculum adaptation further reveals inconsistencies in preparedness and outcomes. While educational institutions and professional bodies increasingly incorporate AI-related content into accounting programmes, the effectiveness of these initiatives varies substantially. For example, curriculum reforms have been associated with improved employability outcomes in some institutional settings [15], yet other studies note misalignment between academic training and workplace application, particularly in relation to practical AI integration. Moreover, the literature remains limited in assessing long-term employability trajectories, with most studies focusing on short-term skill acquisition rather than sustained career adaptability.

A critical cross-theme insight emerging from the synthesis is that institutional readiness influences both job restructuring and workforce adaptation. Organisations and educational institutions characterised by low digital competence, weak policy frameworks, or limited training infrastructure tend to experience greater resistance, anxiety, and uneven adoption of AI technologies. Conversely, contexts with structured reskilling pathways and supportive governance arrangements report more effective integration of AI-enabled systems. Empirical evidence examining how institutional factors shape employment and skill outcomes over time remains limited, indicating a gap in research.

Overall, the thematic synthesis indicates that AI and automation do not produce uniform effects on the accounting profession. Instead, the literature reflects a fragmented and context-dependent landscape in which technological potential is mediated by organisational capacity, professional development structures, and institutional alignment. This unevenness suggests that further integrative and longitudinal research could provide deeper insights, moving beyond descriptive accounts of technological change towards more explanatory models of workforce transformation in accounting.

## 4. Conclusions

The integration of Artificial Intelligence (AI) and automation into the accounting profession is transforming work processes, employment structures, and skill requirements in context-dependent ways. This review highlights that routine accounting tasks, such as data entry, transaction processing, and basic bookkeeping, are increasingly automated, while the demand for analytical, technology-oriented, and advisory skills continues to rise [2-4,14,15,18]. These changes are mediated by organisational and institutional factors, including the availability of structured reskilling programs, the alignment of curricula with emerging competencies, and the capacity of firms and educational institutions to adopt and integrate new technologies effectively. The evidence indicates that while AI can enhance operational efficiency and accuracy, its impact on workforce transformation is uneven, with significant variation across different firm sizes, professional levels, and geographic contexts.

This study also identifies several limitations inherent in the current body of literature. Many studies are descriptive or cross-sectional, offering limited insight into the long-term implications of AI integration for employment trajectories, career progression, or workforce adaptability. Furthermore, the existing literature is constrained by publication scope, database selection, and regional concentration, which may affect the generalisability of findings. Research examining ethical considerations, digital equity, and the responsible application of AI in accounting remains sparse, limiting the ability to fully evaluate the societal and professional consequences of automation. An additional consideration emerging from the review is the need to examine ethical, institutional, and contextual factors that influence AI adoption in accounting. While technological integration offers efficiency and value-added opportunities, its effectiveness depends on organisational readiness, curriculum alignment, and professional development practices. Furthermore, ethical issues such as

algorithmic bias, data privacy, and equitable access to training must be addressed to ensure that AI adoption benefits the profession inclusively. By highlighting these factors, future research can better inform practical strategies, policy decisions, and educational reforms, supporting accountants' capacity to adapt sustainably to evolving technological demands.

In summary, AI and automation are reshaping the accounting profession in multifaceted ways. While technological adoption offers opportunities for efficiency and higher-value contributions, its impact is mediated by workforce readiness, institutional support, and ethical considerations. By synthesising current evidence, this review provides a foundation for future research and practical interventions that aim to support sustainable professional development, informed policy-making, and responsible integration of AI into accounting practice.

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