

Artificial Intelligence in Accounting for Sustainable Business: An Empirical Study of Professional Acceptance and Adoption Challenges

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ABSTRACT

Artificial intelligence (AI) is increasingly influencing accounting through automation, analytics, financial reporting and decision support. This study examines professional acceptance of AI in accounting, its perceived contribution to sustainable business, major adoption challenges, and future expectations concerning responsible AI. Primary data were collected through a structured questionnaire from 150 respondents representing accounting, auditing, taxation, finance, academia and business. Frequency, percentage, mean score, ranking and selected chi-square tests were used. The results show that 70.7 per cent of respondents currently use AI-enabled accounting or financial tools. The strongest agreement was for including AI-related skills in accounting education (mean 4.03), followed by intention to increase AI use in the future (3.77). AI was also viewed positively for improving financial reporting and analysis (3.67). High implementation cost (3.65) and shortage of skilled employees (3.62) emerged as important challenges. Profession was significantly associated with current AI-tool use ($\chi^2=17.43$, $p=.008$). The study concludes that sustainable AI adoption in accounting requires education, continuous professional training, organisational investment, responsible-use guidelines and human oversight. Initial reliability diagnostics of the broad item groupings were weak; therefore, the study interprets the items individually rather than claiming validated composite scales.

Keywords: Artificial Intelligence, Accounting, Sustainable Business, Professional Acceptance, AI Adoption, Responsible AI

INTRODUCTION

Artificial intelligence is changing the nature of accounting work by extending digital systems beyond routine recording toward automated classification, document processing, anomaly detection, forecasting and decision support. Contemporary evidence indicates that AI adoption in accounting is shaped by technological, organisational, environmental and individual factors, and that adoption patterns vary across accounting firms and accounting functions in other organisations (Abbas, 2026). In auditing, AI creates opportunities for automation and wider data analysis, while concerns remain about explainability, bias, privacy, robustness and overreliance on automated outputs (Kokina et al., 2025). The sustainability dimension adds another layer to this transformation. AI-enabled accounting can support paperless processes, better use of information, resource efficiency and improved sustainability-related reporting. However, technology alone does not guarantee sustainable or responsible outcomes. Professional readiness, digital skills, organisational support, data governance and human judgement remain essential. Against this background, the present study examines professional perceptions of AI usefulness, sustainable-business relevance, adoption challenges and future requirements for responsible AI in accounting.

REVIEW OF LITERATURE

Jackson and Allen (2024), using survey and interview evidence from accounting managers, found that technology adoption in accounting is influenced by technological, organisational and environmental

conditions, with security and privacy concerns playing an important role. Moron and Diokno (2023) reported positive relationships between readiness and adoption of AI-related technologies among accounting personnel, highlighting the importance of professional preparedness.

Kokina et al. (2025) found that simpler AI applications are already used in auditing, while more complex applications remain under development. Their study identifies transparency, explainability, bias, privacy, reliability and the need for AI guidance as important concerns. Abbas (2026) further demonstrates that AI adoption differs across accounting and non-accounting firms and stresses AI literacy, cross-functional collaboration and regulatory frameworks. Together, these studies suggest that accounting research should examine not only the perceived benefits of AI but also professional acceptance, skills, governance and responsible adoption. The present study extends this discussion by connecting these issues with sustainable-business perceptions.

Objectives of the Study

- To examine the current use and perceived usefulness of AI in accounting.
- To assess perceptions of AI's contribution to sustainable and responsible business practices.
- To identify major challenges affecting AI adoption in accounting.
- To examine future expectations relating to AI training, accounting education and responsible-use guidelines.
- To test whether selected respondent characteristics are associated with current use of AI-enabled accounting or financial tools.

RESEARCH METHODOLOGY

The study adopts a descriptive and empirical research design. The study was conducted during August 2026 across eight districts of Telangana State, namely Warangal, Hanumakonda, Mahabubabad, Karimnagar, Bhadradi Kothagudem, Mulugu, Jayashankar Bhupalpally and Peddapalli. Primary data were collected through a bilingual structured questionnaire from 150 respondents. The sample included accountants, auditors, tax consultants, finance professionals, academicians, business owners and others. The questionnaire contained demographic and AI-use questions, 20 five-point Likert statements (1 = Strongly Disagree to 5 = Strongly Agree), and a self-rated AI-knowledge question. The statements addressed AI usefulness and acceptance, sustainable business, adoption challenges, and future/responsible AI. A confirmed data-entry error in Q26 for Respondent 9 was corrected from 6 to 5. Frequency and percentage were used to describe the sample and current AI use. Mean scores and ranking were used to identify stronger and weaker perceptions. Chi-square tests examined associations between current AI-tool use and gender, age, profession, experience and AI knowledge. Initial Cronbach's alpha diagnostics for the four broad item groups were weak (approximately -0.20 to 0.07). Because the items within those broad groups did not demonstrate adequate internal consistency, composite-scale scores are not used as substantive evidence in this paper. Instead, individual items are analysed transparently. This avoids altering genuine responses merely to improve reliability.

RESULTS AND DISCUSSION

Of the 150 respondents, 120 (80.0%) were male, 24 (16.0%) female and 6 (4.0%) other. The largest age group was 25–35 years with 70 respondents (46.7%). Accountants formed the largest professional category with 59 respondents (39.3%), followed by tax consultants with 26 (17.3%). Regarding experience, 76 respondents (50.7%) had 5–10 years of experience. Most importantly, 106 respondents (70.7%) reported that they currently use AI-enabled accounting or financial tools, while 44 (29.3%) reported that they do not.

Rank	Selected Statement	Mean	Interpretation
1	Q24: Accounting education should include AI-related skills	4.03	Strong support

2	Q21: Intend to increase AI use in accounting in future	3.77	Positive intention
3	Q8: AI improves financial reporting and analysis	3.67	Positive perception
4	Q16: High implementation cost is a major barrier	3.65	Important challenge
5	Q19: Lack of skilled employees is a major challenge	3.62	Important challenge

The highest mean score was recorded for Q24 (4.03), showing strong support for integrating AI-related skills into accounting education. Future adoption intention was also favourable: Q21 recorded a mean of 3.77. Respondents perceived AI positively in relation to financial reporting and analysis (Q8, mean 3.67). Among the barriers, high implementation cost (Q16, 3.65) and lack of skilled employees (Q19, 3.62) were prominent. Other notable means included Q7 on reducing time for routine accounting activities (3.59), Q15 on responsible/environmentally sustainable business practices (3.54), Q18 on data privacy/cybersecurity concerns (3.51), and Q25 on responsible AI guidelines (3.54).

The results are not uniformly positive across all statements. Q6, which states that AI improves the accuracy of accounting work, recorded the lowest mean (2.39). Q22, willingness to recommend AI-based accounting applications to other professionals, recorded a mean of 3.07. This variation is meaningful: respondents may value specific operational, educational or future benefits without expressing the same confidence across every AI claim. The finding supports a cautious interpretation of AI acceptance rather than treating it as a single uniform attitude.

The chi-square analysis showed a statistically significant association between profession and current AI-tool use ($\chi^2=17.43$, $df=6$, $p=.008$). Associations with gender ($p=.259$), age ($p=.073$), experience ($p=.488$) and self-rated AI knowledge ($p=.061$) were not significant at the 5 per cent level. These findings suggest that professional role may be related to actual AI use in this sample, although the study does not establish causation and should not be generalised beyond the sample without caution.

MAJOR FINDINGS AND IMPLICATIONS

The study produces five central findings. First, AI-enabled accounting or financial tools have already reached a substantial level of use among respondents (70.7%). Second, the strongest response concerns education: respondents clearly favour the inclusion of AI skills in accounting curricula. Third, future intention to increase AI use is positive, indicating scope for continued adoption. Fourth, implementation cost and skill shortages remain practical constraints, alongside privacy and cybersecurity concerns. Fifth, the significant profession–AI-use association indicates that adoption may differ by professional context. These findings broadly align with recent literature emphasising readiness, skills, organisational context, privacy, governance and AI literacy (Jackson & Allen, 2024; Kokina et al., 2025; Abbas, 2026).

SUGGESTIONS

Accounting institutions should integrate practical AI literacy, data analytics, ethics and responsible-use concepts into curricula. Employers and professional bodies should provide continuing training and opportunities to use AI under appropriate human supervision. Organisations should adopt AI in phases, evaluate cost and usefulness, strengthen data security and establish procedures for checking AI-generated outputs. Government and professional bodies should encourage clear guidance on privacy, accountability, transparency and human oversight. Sustainability-oriented AI initiatives should be connected to measurable outcomes such as paperless processes, efficient resource use, improved reporting and better-informed responsible decisions.

LIMITATIONS

The study is based on 150 respondents and does not claim to represent the entire accounting profession. The

measures capture self-reported perceptions rather than verified organisational outcomes. The broad multi-item groups showed weak internal consistency, so they are not treated as validated composite constructs. Future research should pilot-test revised scales, separate theoretically distinct constructs more carefully, use larger probability samples where feasible, and apply factor analysis or confirmatory measurement approaches before testing structural relationships.

CONCLUSION

AI is becoming an important part of accounting, but its adoption is neither automatic nor uniform. The present evidence shows substantial current use, strong support for AI education and positive future intention, while cost, skills and governance remain important concerns. Sustainable AI adoption in accounting therefore requires more than automation: it requires professional competence, organisational readiness, responsible governance and continuing human judgement. By retaining the original responses and reporting item-level evidence where reliability is weak, the study offers a transparent picture of professional perceptions and provides practical directions for education, organisations and professional bodies.

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