

Original Research Article

An Empirical Study on Awareness and Adoption of AI-Based Accounting Software Among Accountants

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1. Introduction

The accounting landscape is undergoing an evolutionary shift as traditional manual bookkeeping methods are augmented by intelligent, data-driven systems. For decades, accounting workflows relied heavily on manual data entry, physical invoice verification, standard spreadsheet formulas, and retrospective ledger postings. While the arrival of computerized accounting software improved transaction recording, it did not eliminate the labour-intensive burden of routine data handling. The integration of modern Artificial Intelligence (AI) platforms represents a major change in how financial operations are conducted. By combining optical character recognition (OCR), natural language processing (NLP), and machine learning models, contemporary accounting software can automatically parse digital invoices, match multi-bank accounts in real time, generate predictive cash-flow insights, and spot unusual ledger transactions.

Despite the clear benefits of faster processing cycles and reduced human error, the actual adoption of AI tools remains uneven across the accounting community. Large multinational firms and enterprise organizations have invested substantially in intelligent enterprise resource planning (ERP) suites, but independent practitioners,

small-to-medium accounting firms (SMPs), and local corporate teams face practical challenges. These include high subscription fees, concerns over client data privacy, and a shortage of applied training programs. This empirical study investigates the current level of awareness, direct workplace adoption, organizational enablers, and key challenges experienced by accounting practitioners, providing practical suggestions to help bridge the gap between emerging technology and everyday practice. Furthermore, the integration of artificial intelligence is fundamentally redefining the professional identity and core responsibilities of modern accountants. Rather than simply replacing human labor, intelligent systems serve as cognitive augmentations that shift the practitioner's primary role from backward-looking transaction recording to forward-looking strategic advisory. As regulatory mandates, digital tax compliance frameworks, and real-time electronic reporting mechanisms become more intricate, the demand for technology-enabled accounting professionals continues to escalate. Consequently, understanding how practitioners perceive their own digital competencies, interact with emerging algorithmic tools, and navigate institutional hurdles is critical. Evaluating these dynamics ensures that both academic curricula and professional certification programs evolve in tandem with the ongoing digital restructuring of the global financial sector.

2. Objectives of the Study

The specific research objectives guiding this study are:

1. To assess the current level of awareness regarding AI-based accounting software and its key functional features among practicing accountants.
2. To examine the extent of adoption and practical integration of AI-enabled tools within accounting operations and routines.
3. To evaluate the key factors influencing the adoption of AI-based accounting software, including technical expertise, organizational culture, regulatory drivers, and perceived usefulness.
4. To identify the perceived benefits of implementing AI solutions, such as operational efficiency, improved financial accuracy, and accelerated strategic decision-making.
5. To investigate the primary challenges and barriers (such as implementation costs, security concerns, training gaps, and resistance to change) hindering the seamless adoption of AI accounting software.

3. Review of Literature

- **Kokina and Davenport (2017)** examined how artificial intelligence and robotic process automation (RPA) are reshaping accounting and auditing functions. Their research demonstrated that while intelligent applications automate repetitive data transcription, bank reconciliations, and compliance verifications, they elevate the accountant's role from a basic record-keeper to a strategic business advisor.
- **Moll and Yigitbasioglu (2019)** conducted an extensive review of internet-related and cloud technologies in accounting practice. They found that although cloud-based cognitive tools enhance collaborative financial analysis, widespread organizational adoption is constrained by gaps in digital infrastructure, internal data governance, and employee technical readiness.
- **Al-Sayed and Westrup (2021)** explored the structural transformation of professional accountancy in the digital era. Their findings indicated that while large corporate enterprises rapidly adopt AI systems, independent accounting practitioners and smaller firms face major adoption bottlenecks due to high initial capital outlays, continuous software licensing costs, and inadequate organizational support.
- **Hasan (2022)** empirically evaluated the influence of artificial intelligence on the overall quality of financial reporting and managerial decision-making. The study found a statistically significant positive relationship

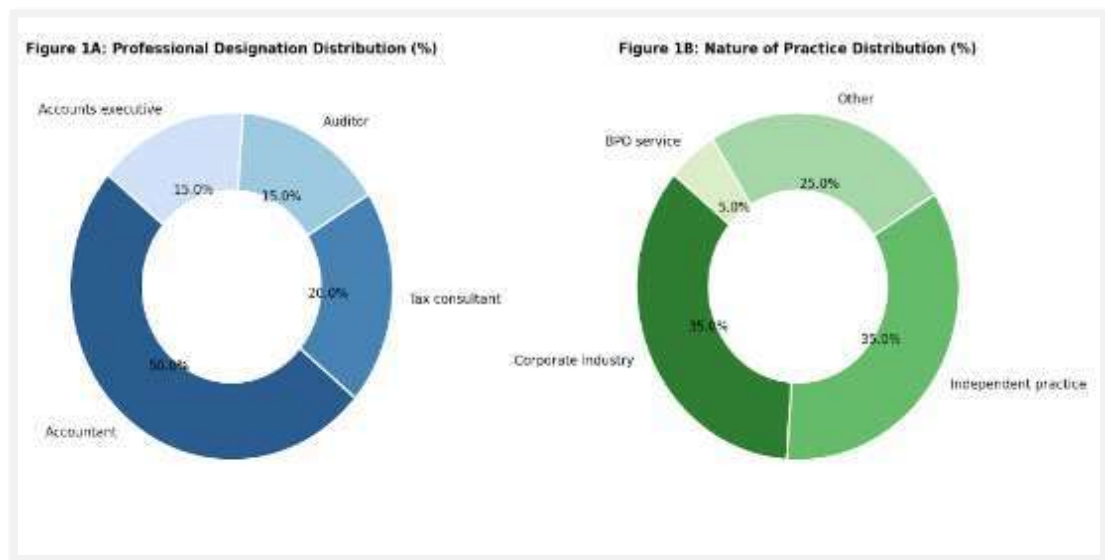
between AI integration and reporting accuracy, specifically noting that algorithmic validation minimizes human calculation errors and accelerates strategic financial evaluations.

- **Qasim and Kharabsheh (2020)** investigated the preparedness of the accounting workforce to adopt machine learning and intelligent software tools. Their study highlighted an urgent need for higher education institutions and professional certifying bodies to modernize accounting curricula, recommending a transition from purely conceptual teaching to hands-on, practical software application.

4. Research Methodology

4.1 Research Design and Data Collection

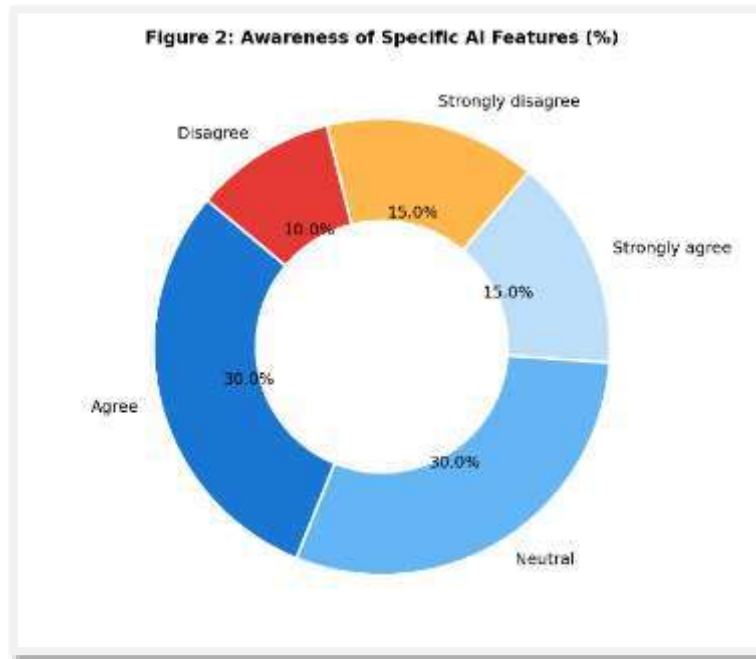
This study uses an empirical, cross-sectional descriptive survey method. Primary data was gathered from active accounting, auditing, and taxation professionals through a structured online questionnaire. The practitioner group includes professionals operating in corporate finance divisions, independent consultancies, specialized firms, and business process outsourcing (BPO) agencies.



5. Data Analysis

5.1 Demographic Composition of Respondents

The demographic profile of participating professionals reflects a broad representation across various accounting disciplines, operational sectors, and experience levels. Exactly 45.0% of respondents expressed positive awareness of specific AI capabilities (30.0% Agree and 15.0% Strongly Agree), whereas a notable 30.0% remained neutral and 25.0% indicated disagreement (10.0% Disagree and 15.0% Strongly Disagree), demonstrating that while automated accounting concepts are recognized across the industry, functional understanding of practical tools remains limited to less than half of the surveyed practitioners. This gap is further reflected in broader digital trends, where positive agreement rates for general AI principles, cloud accounting updates, and regulatory drivers stood at 40.0%, 45.0%, and 45.0% respectively, with neutral responses consistently accounting for 35.0% to 45.0% across all three categories.



5.2 Awareness Levels Regarding AI Accounting Tools Features The data demonstrates moderate overall awareness regarding specific AI features, with a collective 45.0% of respondents reporting familiarity (30.0% agree and 15.0% strongly agree). A notable 30.0% of participants hold a neutral position, indicating an ambiguous or developing understanding of these tools. Meanwhile, a combined 25.0% of respondents state that they lack awareness, split between 10.0% who disagree and 15.0% who strongly disagree.

Figure 3A: Current Organizational Use (%)

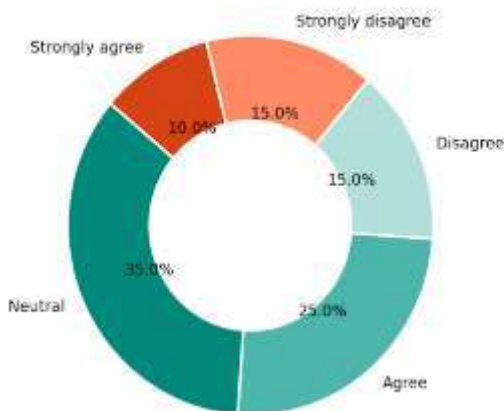
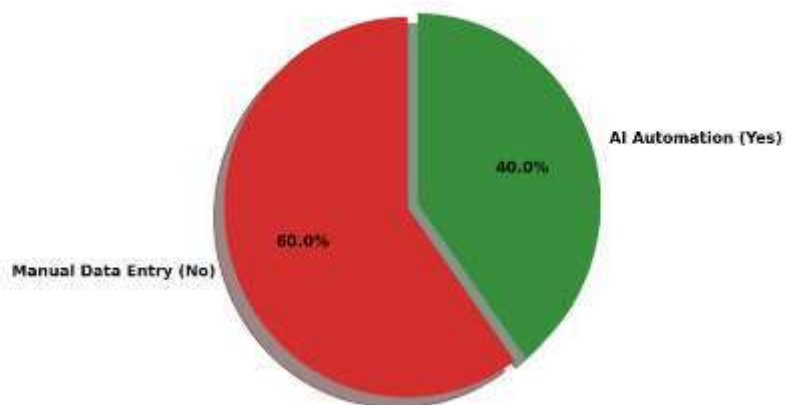
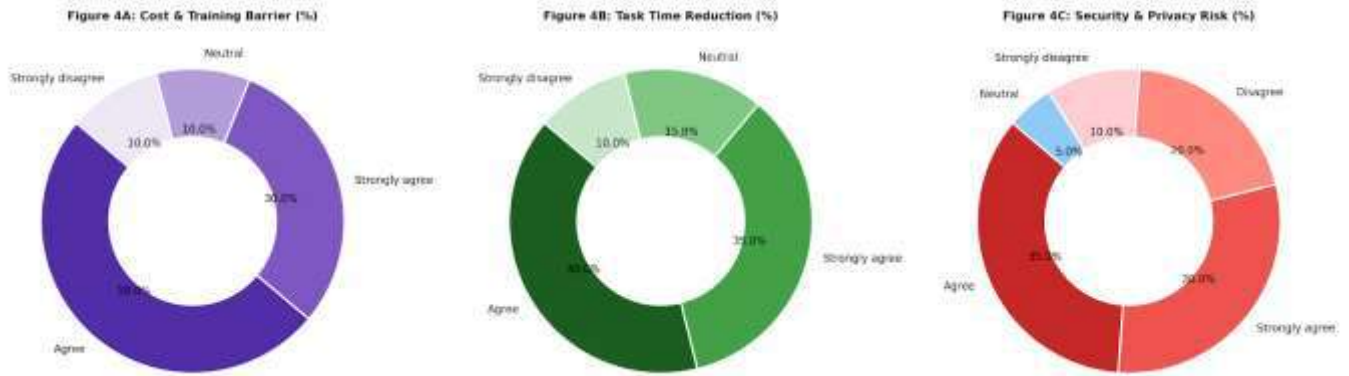


Figure 3B: Heavy Reliance on Automation vs Manual Entry (%)



5.3 Extent of Operational Adoption vs. Manual Reliance

Organizational adoption remains limited, with only 35.0% of respondents confirming active AI implementation within their workplace (25.0% agree and 10.0% strongly agree), while 35.0% remain neutral and 30.0% state their organizations do not utilize AI (15.0% disagree and 15.0% strongly disagree). This limited implementation is directly reflected in daily operational workflows, where the majority of respondents (60.0%) continue to rely primarily on manual data entry rather than transitioning to AI automation (40.0%).



5.4 Evaluated Factors Influencing Adoption, Benefits, and Barriers

Respondents overwhelmingly view implementation cost and staff training as the primary hurdle to AI adoption, with 80.0% agreement (50.0% agree and 30.0% strongly agree) compared to only 10.0% who strongly disagree and 10.0% who are neutral. Despite these adoption challenges, 75.0% of participants acknowledge clear operational benefits through task time reduction (40.0% agree and 35.0% strongly agree), with only 10.0% strongly disagreeing and 15.0% remaining neutral. Concurrently, data security and privacy risks remain a major operational concern for 65.0% of respondents (35.0% agree and 30.0% strongly agree), outweighing the 30.0% who disagree (20.0% disagree and 10.0% strongly disagree) and the 5.0% who are neutral.

The empirical findings reveal an accounting profession in the midst of digital transformation. Accounting professionals recognize the operational value of AI—notably its capacity to automate routine reconciliations, improve ledger precision, and free up time for advisory functions. However, several structural barriers continue to slow widespread adoption:

1. **Economic Disparity Between Large and Small Practices:** While large enterprises have the financial resources to deploy comprehensive cognitive ERP systems, independent consultants and smaller firms are frequently hindered by expensive subscription models.
2. **The "Theoretical vs. Practical" Training Gap:** Academic curricula and professional development programs often focus on theoretical concepts rather than hands-on, tool-specific training on platforms like Power BI, advanced data modules, and automated compliance trackers.
3. **Data Governance Concerns:** Worries over client data privacy and system dependability indicate that formal regulatory guidance from accounting standard-setters is essential to build practitioner confidence.

7. Recommendations

7.1 For Professional Accounting Bodies (e.g., ICAI, ACCA, ICMAI)

- **Develop a Standardized AI Accounting Standard:** Create practical frameworks and ethical guidelines governing algorithmic audit verification, automated bookkeeping, and data protection standards.
- **Launch Subsidized, Practical Certifications:** Introduce affordable, hands-on training programs focusing on everyday tools, including automated invoice parsing, financial dashboarding in Power BI, and Python for data analytics.
- **Transition to Computer-Based Examinations:** Modernize qualifying examinations by shifting from manual pen-and-paper formats to desktop-based evaluations that test practical software skills.

7.2 For Academic and Higher Education Institutions

- **Embed AI in Commerce Curricula:** Make modern accounting software, data analytics, and cloud platforms mandatory core components in undergraduate and postgraduate commerce degrees.
- **Establish Practical Simulation Labs:** Create dedicated accounting technology laboratories where students work directly with automated tax platforms and simulated audit software.

7.3 For Accounting Firms and Industry Organizations

- **Invest in Internal Digital Upskilling:** Allocate dedicated budgets to train accounting staff on modern automated software tools.
- **Adopt Scalable Cloud Solutions:** Transition gradually away from manual data entry by adopting modular, pay-as-you-go cloud tools for high-volume tasks like reconciliation and invoice processing.

8. Limitations and Scope for Future Research

This study provides empirical insights into digital accounting adoption, but certain limitations should be noted:

- **Exploratory Scope:** The study serves as an exploratory inquiry into current practitioner perspectives. Future research should expand the participant pool across broader geographic regions to allow for confirmatory factor analysis (CFA) and structural equation modeling (SEM).
- **Cross-Sectional Scope:** The data reflects a single point in time. Longitudinal studies could evaluate how adoption rates and attitudes evolve as generative AI and automated platforms become more widespread.
- **Sub-Sector Differences:** Future investigations could compare adoption dynamics across specific accounting niches, such as forensic auditing versus SME taxation.

9. Conclusion

Artificial Intelligence-based accounting software offers clear benefits for operational speed, financial accuracy, and data-driven business decisions. However, widespread adoption across the accounting community remains limited by software expenses, concerns over data privacy, and a lack of practical, workflow-oriented training. Addressing these challenges requires coordinated effort among professional accounting bodies, academic institutions, and firm leadership. By modernizing educational curricula, shifting to computer-based testing, and providing affordable, practical software training, the accounting profession can successfully navigate this digital transformation.

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