


Can AI (Artificial Intelligence) Replace the Role of Accountants?

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Article Info	ABSTRACT
Keywords: artificial intelligence, accounting, self-efficacy, digital transformation	With an emphasis on information system quality, information quality, and self-efficacy, this study investigates how accounting professionals and students perceive the function and effects of artificial intelligence (AI) in the accounting field. Data was gathered using a combination of methods, including questionnaires and in-depth interviews with a range of stakeholders, such as banking analysts, financial managers, and auditors. Multiple regression analysis shows that system and information quality have a significant impact on user satisfaction while self-efficacy does not. User satisfaction is the primary factor influencing the use of AI. Qualitatively, AI is believed to be useful for routine tasks, but its application to challenging decisions is restricted, and it faces challenges pertaining to technical, financial, and human resource readiness. These results highlight the significance of human-AI cooperation, efficient training methods, and the moral application of digital transformation in accounting.
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INTRODUCTION

Scholarly research on the application of artificial intelligence (AI) to the accounting industry has grown in importance, prompting investigations into how these technological developments are changing the roles and responsibilities of accountants. By automating repetitive operations, AI technology can improve accounting processes' efficacy and efficiency and free up professionals to concentrate on making strategic decisions. As AI systems become more integrated into the financial reporting cycle, accountants are required to learn how to interact with and optimize these technologies while upholding ethical values and operational transparency (Y. Peng, 2023). It is further emphasized that educational institutions need to adapt their curricula to equip future accountants with the essential AI competencies necessary to navigate the evolving professional landscape (BB Luka, 2025).

Empirical research reveals a significant shift in accountants' responsibilities, driven by AI's capabilities in analyzing and processing large volumes of data. Adopting AI can enhance the functionality of accounting professionals by automating audit and reporting processes (Melinda, 2025). This view is supported by research (PD Astuti, 2025), which emphasizes that AI not only improves accounting quality but also enables companies to implement their sustainability goals. In addition, a study (J. Ballantine, 2024) reports that the use of AI reduces human errors and the burden of repetitive tasks, thereby improving accountants' work performance.

This transformation presents significant challenges related to change management and the need for comprehensive training programs (D. Deliau, 2024). However, although public accountants recognize the potential of AI, the adoption rate in the field remains low, indicating a slow adaptation process (P.E., 2021). This study confirms that AI redefines the role of accountants, rather than replacing them entirely, requiring a blend of technical expertise and critical thinking for accountants to remain relevant and valuable in an increasingly automated environment. Although AI has revolutionized the function of accountants, there remains an urgent need for competency development, integration of ethical policies, and adoption strategies so that the full potential of the technology can be realized in contemporary accounting practice.

New technologies, including AI, do have the potential to replace many manual jobs. However, they also argue that AI will be more effective in augmenting human work, not entirely replacing it. While AI can improve productivity and accuracy in auditing and accounting, the acceptance of this technology is heavily influenced by individuals' beliefs in their ability to operate new systems, often referred to as self-efficacy (N. Li, 2023).

As artificial intelligence (AI) technology advances, its integration into the accounting profession presents significant opportunities and serious challenges. A paradigm shift is being observed in the way accounting practices operate, primarily driven by the automation of repetitive tasks and the introduction of tools that enhance data analysis capabilities. AI tools, such as machine learning and natural language processing, show potential to transform audit practices, improve the accuracy of financial reporting, and provide insights previously unattainable through traditional means (Y. Peng, 2023).

Despite these advantages, the accounting profession faces several hurdles as it transitions to AI adoption. Chief among these concerns are those related to ethical implications, job displacement, and the adequacy of current training and education systems in preparing future accountants for a technology-driven landscape. (D. Deliau, 2024). Moreover, the need for proactive measures to ensure transparency and fairness in AI-based operations demands that professionals not only learn to use these systems but also critically evaluate their output. (N. Li, 2023). Given the profound impact that AI is expected to have on accounting roles, there is an urgent need to reformulate educational strategies to include a focus on digital competencies, ethics, and adaptability in responding to emerging technologies (P.E, 2021).

To successfully integrate AI into the accounting profession, a multifaceted approach to problem-solving is required, encompassing curriculum development, professional training, the establishment of ethical guidelines, and collaborative research efforts. Curriculum Development: Educational institutions should revise their accounting curricula to include AI-related courses, emphasizing digital fluency, data analytics, and ethical considerations surrounding the use of AI (BB Luka, 2025). This interdisciplinary approach ensures that future accountants possess the essential skills necessary to thrive in a technology-enhanced professional landscape.

Continuing Professional Development: Today's accounting professionals should have access to continuing professional development programs focused on AI technologies. Targeted training workshops can enhance technical skills and increase adaptability,

ensuring accountants can leverage AI effectively in their daily work. Establishment of Ethical Guidelines: It is crucial to develop comprehensive ethical guidelines governing the use of AI in accounting. These guidelines should outline best practices in data privacy, algorithm transparency, and accountability, addressing potential biases that may arise from AI applications.

Research Collaborations: Forming academic-industry partnerships can yield valuable insights into the evolving role of AI in the accounting field. Collaborative research projects can help address gaps in the current literature, evaluate the effectiveness of AI tools in practice, and inform curriculum adjustments based on empirical findings.

The current accounting landscape is characterized by intense scrutiny regarding the implications of AI adoption. Emerging research has focused on the dual nature of AI technology, which simultaneously presents opportunities to enhance operational efficiency while raising ethical concerns related to data governance and auditor independence. For example, studies highlight the impact of AI in advancing audit techniques, demonstrating how automated processes can increase audit efficiency while improving the overall quality of financial reporting.

A significant phenomenon in the literature is the growing recognition of "AI literacy" as a necessary competency for accountants. This extends beyond technical skills to encompass a comprehensive understanding of how AI can augment, rather than replace, human judgment in accounting practice. In addition, the integration of emerging technologies is reshaping organizational culture within accounting firms, requiring adaptive strategies to maintain team member engagement and professional accountability.

The novelty in this research domain lies in discussing how the accounting profession can not only embrace AI tools for efficiency but also navigate the associated ethical landscape. Research exploring AI perceptions among accounting professionals uncovers gaps in readiness—a critical area for educational initiatives and

Given this phenomenon, this study aims to explore whether AI can replace the role of accountants, focusing on the quality of information systems and individual self-efficacy in adopting new technologies. Based on the explanation in the previous sentence, the research problem is formulated as follows:

Formulation of the problem

1. Can AI replace the role of accountants in the long term?
2. How does the quality of AI systems affect the use of AI in accounting work?
3. To what extent does the quality of information generated by AI influence decisions made in accounting?
4. What are the perceptions of accounting students, corporate management, auditors, and banking financial analysts regarding the application of AI in accounting work?
5. What is the impact of implementing AI on reducing the role of humans in routine and repetitive accounting tasks?

According to the information system success model, which is based on earlier studies, an information system's effectiveness may be evaluated along five primary dimensions: system quality, information quality, service quality, system usage, and the impact of system implementation. This model offers a foundation for assessing information system quality in

the context of artificial intelligence in accounting, which has an impact on financial reporting, auditing, and decision-making. According to research on AI's effects on accounting, this technology can improve productivity and reduce human mistake while creating financial reports and audits.

However, it emphasizes that AI focuses more on automating routine work, and many accounting jobs require human expertise, especially in more complex decision-making processes. Research further explains that AI in auditing and accounting has the potential to increase efficiency, but it also introduces challenges related to user trust in the results generated by AI. In this context, the quality and effectiveness of information systems are crucial in ensuring that AI delivers accurate and reliable results.

This study finds that self-efficacy influences respondents' perceptions of AI technology adoption in accounting work. For example, an accountant with a high level of self-efficacy regarding technology use may be more open to the use of AI in accounting and auditing processes. Conversely, individuals who feel less confident in their ability to use AI tend to be more skeptical and reluctant to adopt the technology.

According to Sutton et al. (2016) and Kokina & Davenport (2017), individuals with high levels of self-efficacy tend to have strong beliefs in their ability to face challenges and overcome obstacles. In the accounting context, this means that accountants who feel confident in using AI will be more likely to utilize AI to improve the efficiency, accuracy, and productivity of their work.

Similarly, self-efficacy is also related to the level of acceptance of changes in work. In the context of technology, self-efficacy can influence attitudes toward AI adoption, as those with high self-efficacy are more likely to accept and utilize new technologies more effectively and efficiently.

Self-efficacy theory was first developed in 1977 and expanded upon. States that self-efficacy plays a vital role in determining how individuals overcome challenges and obstacles in specific tasks. In the context of technology use, self-efficacy refers to the belief that one can effectively master and apply new technology in one's work. Individuals with high levels of self-efficacy are more likely to believe that AI can replace most routine tasks in accounting work.

H1: The quality of the AI system has a positive effect on AI user satisfaction in the accounting process.

H2: The quality of information produced by AI has a positive effect on AI user satisfaction in the accounting process.

H3: Self-efficacy has a positive effect on AI user satisfaction in the accounting process.

H4: Self-efficacy has a positive effect on the quality of financial reports.

METHODS

This study uses a mixed-methods approach, integrating both qualitative and quantitative techniques.

1. Qualitative Methods

In-depth interviews with accounting practitioners, company management, auditors, and financial analysts to gain insights into how they view the role of AI in accounting and whether they feel AI can replace the work of accountants.

2. Quantitative Methods

The questionnaire will be distributed to accounting students, accounting practitioners, financial managers, auditors, and financial analysts. The questionnaire focuses on the quality of information systems used in AI and their impact on accounting work.

The population used in this study was accounting students and lecturers. Meanwhile, in-depth interviews were conducted with users of financial reports, represented by auditors, given their direct access to assess the financial reports produced and the financial report preparers of the audited companies. Purposive sampling was used to determine the sample, a sampling method based on research objectives or specific criteria. The analysis used statistical applications for empirical testing and data analysis to analyze the results of the in-depth interviews with selected respondents.

RESULTS AND DISCUSSION

Result

Perception Analysis of the Role of AI in the Accounting Profession

This study employs multiple regression analysis to investigate the impact of Information Quality (IQ), System Quality (SQ), and Self-Efficacy (SE) on two dependent variables: User Satisfaction (US) and Usage Behavior (UB). Two regression models are used to analyze the relationship.

Model 1: $US \sim KI + KS + SE$

The first model tests the influence of Information Quality, System Quality, and Self-Efficacy on User Satisfaction. The analysis results show that this model has an R^2 value of 0.854, which means that the three independent variables can explain 85.4% of the variation in User Satisfaction. The F-statistic value of 77.88 with $p < 0.001$ indicates that this model is statistically significant.

Individually:

- Information Quality (IQ) has a significant influence on User Satisfaction, with a coefficient of 0.426 and a p-value of 0.001. This indicates that the higher the quality of information received, the higher the level of user satisfaction.
- System Quality (KS) also has a significant effect on User Satisfaction, with a coefficient of 0.488 and $p < 0.001$. This indicates that a high-quality system directly increases user satisfaction.
- On the other hand, Self-Efficacy (SE) does not have a significant effect on User Satisfaction (coefficient 0.041, $p = 0.367$).

Model 2: $UB \sim KI + KS + SE + US$

The second model tests the influence of four variables—Information Quality, System Quality, Self-Efficacy, and User Satisfaction—on Usage Behavior. This model has an R^2 of 0.748, meaning that these variables can explain 74.8% of the variation in Usage Behavior. The F-statistic value of 28.97, with $p < 0.001$, indicates that the model is statistically significant overall.

However, in this model, only one variable was shown to have a significant influence:

- a. User Satisfaction (US) has a significant and strong influence on Usage Behavior, with a coefficient of 0.752 and $p = 0.003$. This indicates that the more satisfied users are with the system, the more likely they are to use it consistently.
- b. Meanwhile, Information Quality (IQ), System Quality (SQ), and Self-Efficacy (SE) did not show a significant influence on Usage Behavior, with each having a p-value greater than 0.05.

Based on the results of the two regression models, Information Quality and System Quality have a significant influence on User Satisfaction. User Satisfaction is the only factor that substantially influences Usage Behavior. Self-efficacy has no substantial effect on either model, in terms of user satisfaction or usage behavior.

These findings emphasize the importance of improving the quality of systems and information in the technology systems used, as both directly increase user satisfaction, which will ultimately encourage active and continuous use of the system.

The following are indicators of each construct:

KI (Information Quality): KI1–KI4

KS (System Quality): KS1–KS4

SE (Self-Efficacy): SE1–SE3

US (User Satisfaction): US1–US5

UB (Usage Behavior): UB1–UB2

Multiple regression model:

Model 1 : $US \sim KI + KS + SE$

Model 2 : $UB \sim KI + KS + SE + US$

The following are the results of the multiple regression analysis based on the processed questionnaire data.

Model 1 : $US \sim KI + KS + SE$

In Model 1, it is stated that Information Quality, System Quality, and Self-Efficacy influence User Satisfaction.

$R^2 = 0.854$: The model explains 85.4% of the variation in user satisfaction.

F-statistic = 77.88, $p < 0.001$: The model is significant overall.

Variables	Coefficient	p-value	Interpretation
KI	0.426	0.001	Significant: The higher the quality of information, the higher the satisfaction.
KS	0.488	<0.001	Significant: System quality has a substantial impact on satisfaction.
SE	0.041	0.367	Not significant.

Model 2 : $UB \sim KI + KS + SE + US$

In this model, it is stated that KI, KS, SE, and we influence Usage Behavior.

$R^2 = 0.748$ → The model explains 74.8% of the variation in usage behavior.

F-statistic = 28.97, $p < 0.001$ → The model is significant overall.

Variables	Coefficient	p value	- Interpretation
US	0.752	0.003	Significant: User satisfaction has a major impact on usage behavior.
KI	0.203	0.335	Not significant.
KS	0.078	0.692	Not significant.
SE	-0.030	0.665	Not significant.

- Information Quality (IQ) and System Quality (SQ) have a significant influence on User Satisfaction (US).
- Only User Satisfaction (US) has a significant influence on Usage Behavior (UB).
- Self-efficacy (SE) did not show a significant influence in either model.

Discussion

- The following are the interview results.

This study aims to understand the perceptions of accounting professionals and students regarding the role and impact of artificial intelligence (AI) in the accounting world. Data were obtained through written interviews with five respondents, which were analyzed qualitatively using a thematic approach.

- The Development of AI Technology in the Accounting Profession

Most respondents described the rapid and significant development of AI in the accounting field. Respondent DS stated that "AI is very sophisticated and fast," while respondent KRS used the word "rapid" to describe the same sentiment. This indicates that the majority of respondents are aware that AI has and will continue to develop in accounting. However, there are also doubts and limited understanding, as expressed by EH: "I do not really understand the developments." This indicates challenges in technology adoption among certain groups (Sutton et al., 2016; Kokina & Davenport, 2017).

- The Potential of AI to Replace Routine Jobs

All respondents generally stated that AI has significant potential to replace routine and administrative accounting tasks. Respondent SA stated that AI "can only be used for non-complex clerical activities," while EH noted that its use "makes work more efficient." However, one respondent (OC) still stated that AI's role "has not been that significant," indicating variation in its implementation in the field.

- The Role of AI in Complex Decision Making

The majority of respondents believe that AI is not yet capable of entirely replacing the role of accountants in complex decision-making, especially those that require ethical and professional considerations. DS stated that "AI can, yes, it can no" depending on whether the decision is objective or subjective. This statement suggests that although AI can support the analysis process, the final decision remains highly dependent on human judgment.

- Impact on Efficiency and Effectiveness

Respondents agreed that the use of AI has a positive impact on work efficiency. Statements such as "accountants' work is faster and easier" (SA) and "company efficiency is achieved" (KRS) reinforce this view. However, there were notes from OC respondents who

stated that despite its influence, AI is “not yet very effective.” This suggests that the uneven level of AI adoption and integration could be a barrier to optimizing its benefits.

The main challenges faced by respondents in integrating artificial intelligence (AI) encompass several crucial aspects. First, a lack of technical understanding (KRS) is a significant barrier, as limited knowledge can hinder the optimal utilization of technology. Second, limitations in systems and technological flexibility (SA) are also issues, as existing infrastructure is not yet fully capable of supporting effective AI integration. Third, cost constraints and human resource (HR) adaptation also impact successful implementation, as significant investment and human resource readiness are required. Overall, these factors demand a comprehensive strategy for optimal AI integration. DS even touched on the potential for AI dominance to replace humans if not managed wisely. Thus, implementation challenges encompass technical, organizational, and ethical aspects.

f. The Social Impact of AI on the Accounting Profession

Respondents generally agreed that AI will not completely replace accountants, but will change their roles. DS stated that if accountants do not adapt, their profession will be "threatened." Most respondents emphasized the importance of reskilling so that accountants can compete with AI, rather than being replaced by it. SA expressed concern about the decline of "humanism." Still, the majority, such as KRS and EH, expressed optimism about the transformation of the accountant's role towards a more strategic and technology-based one.

CONCLUSION

Interview results indicate that artificial intelligence (AI) is viewed as a highly beneficial tool in supporting routine tasks, although its ability to make complex decisions still has limitations. In general, the use of AI is considered to contribute positively to increased work efficiency; however, the integration process is not without challenges, such as technical barriers, cost limitations, and human resource readiness issues. From a social perspective, the implementation of AI is perceived more as a driving factor for work process transformation rather than a total replacement of human roles, requiring adaptive strategies to maximize benefits and minimize potential risks. Based on the research findings, it is recommended that training and education programs related to artificial intelligence (AI) be expanded for accounting professionals to improve their competence and adaptability to technological developments. Furthermore, synergistic collaboration between humans and AI needs to be optimized to achieve operational efficiency and accuracy in data analysis. Technology implementation must also be accompanied by an ethical and strategic approach, thereby minimizing potential social disparities. This approach is expected to ensure that digital transformation in the accounting sector is inclusive, sustainable, and oriented towards improving service quality.

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