

ARTIFICIAL INTELLIGENCE BASED ACCOUNTING TRANSFORMATION: CREATING THE FINANCIAL MANAGEMENT OF THE FUTURE

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ABSTRACT

This study aims to analyse the transformation of accounting driven by artificial intelligence (AI) in creating future financial management. The research method used is a qualitative approach with a population consisting of accounting students, faculty of economics and business, surabaya state university in the academic year 2023. The research sample was taken from 200 respondents through a simple random sampling method. The research was conducted by distributing questionnaires and the data analysis technique used was multiple linear regression analysis. The results showed that the application of artificial intelligence in accounting has a positive and significant impact on the efficiency and effectiveness of financial management. In addition, the use of AI in the accounting process improves the accuracy of financial statements and supports better decision making. The higher the adoption of artificial intelligence in accounting practices, the greater the potential for creating innovative and sustainable financial management in the future.

Keywords: *Artificial Intelligence Based Accounting, Financial Management.*

INTRODUCTION

The integration of artificial intelligence (AI) into accounting practices represents a significant transformation in the way financial data is managed, analyzed, and utilized by businesses. AI-based accounting technologies are reshaping traditional financial management processes, enabling organizations to enhance accuracy, efficiency, and decision-making capabilities. With AI's ability to automate complex accounting tasks, from data entry to financial forecasting, the future of accounting is poised to shift towards a more dynamic, data-driven approach that relies on real-time insights and predictive analytics (Smith, 2022; Brown, 2021).

As businesses increasingly adopt AI-driven tools, the role of accountants is also evolving. No longer confined to manual number-crunching, modern accountants are expected to leverage AI to focus on higher-level analytical and advisory functions, providing strategic insights that drive business growth (Jones, 2023). AI applications, such as machine learning and natural language processing, can analyze large volumes of financial data, detect anomalies, and predict future trends with unparalleled accuracy, thus minimizing human error and enhancing compliance (Davenport & Harris, 2019).

However, this transformation brings its own set of challenges. Issues such as data security, ethical considerations in AI decision-making, and the need for continuous learning to keep pace with technological advancements must be addressed. As the landscape of accounting continues to evolve, professionals must adapt by acquiring new skills and competencies to harness the full potential of AI in their work (Goldstein & Lee, 2020).

This study aims to explore the impact of AI on accounting practices, focusing on how these technologies are transforming financial management. It will examine the benefits of AI implementation in accounting, the challenges faced by professionals in adopting these tools, and the future implications of AI on the financial industry.

RESEARCH METHOD

The research design is descriptive and explanatory in nature, focusing on identifying the factors that influence students' perceptions and understanding of AI in accounting. A cross-sectional survey method was used, where data was collected at a single point in time. This method allows for a comprehensive assessment of students' familiarity with AI technologies and their perceived impact on accounting practices (Sekaran & Bougie, 2016).

The population for this study consists of 450 undergraduate accounting students from the Faculty of Economics and Business at the State University of Surabaya, class of 2023. A simple random sampling technique was employed to select a representative sample of 60 students, calculated using the Slovin formula with a 5% margin of error. The selected sample ensures that diverse perspectives within the population are represented.

Data for this study was collected using a structured questionnaire, which was distributed to the selected sample. The questionnaire consisted of two parts. The first part is demographic information, including age, academic year, and experience with AI-based accounting tools. And the second part is a series of Likert-scale questions (ranging from 1 to 5) to measure students' perceptions of AI's impact on financial management, their readiness to adopt AI technologies, and the perceived benefits and challenges of AI in accounting.

The variables analyzed in this research include the independent variable AI-based technologies in accounting (X1) and the dependent variable students' accounting and financial management capabilities (Y); additionally, control variables such as students' familiarity with AI and interest in learning new technologies were included.

After collecting data, we processed and analyzed the responses using SPSS Version 26 through descriptive analysis to summarize respondent demographics and general perceptions of AI in accounting, validity and reliability testing employing Cronbach's Alpha with an acceptance threshold of 0.7 (Hair et al., 2019), multiple linear regression analysis to determine the impact of AI technologies on students' accounting skills while controlling for other variables like interest in learning and technological familiarity (Field, 2018), and hypothesis testing using t-tests where a p-value less than 0.05 indicated statistical significance.

RESULTS AND DISCUSSION

This study investigates the influence of artificial intelligence (AI) on accounting transformation and its impact on students' financial management capabilities. The data collected from 60 respondents were analyzed using descriptive statistics and regression analysis to determine the relationships between AI usage, familiarity, and perceived benefits in accounting.

Demographic Data of Respondents

Table 1 summarizes the demographic characteristics of the 60 respondents. The majority of participants were female (73%), aged between 18 and 21 years old. All participants were accounting students at the State University of Surabaya, class of 2023.

	Demographic Variable	Frequency	Percentage
Gender	Male	16	27%
	Female	44	73%
Age	18 years	12	20%
	19 years	30	50%
	20 years	18	30%

Descriptive Analysis

The descriptive analysis reveals the level of familiarity, usage, and perceived impact of AI in accounting among the respondents. The responses were measured on a Likert scale (1 to 5), with higher scores indicating a greater level of agreement or familiarity.

Variable	Mean	Std. Deviation
Familiarity with AI-based accounting tools	4.0	0.8
Perception of AI's role in enhancing efficiency	4.1	0.7
Current use of AI tools in accounting	3.6	1.0
Perceived importance of AI in accounting	4.0	0.9
Confidence in AI's impact on accuracy	3.8	0.8
Perceived replacement of accountants by AI	2.9	1.0

The findings indicate that the majority of respondents are familiar with AI tools in accounting, with an average familiarity score of 4.0. Most students believe that AI significantly enhances accounting efficiency, as reflected in the high mean score of 4.1.

Regression Analysis

A multiple linear regression was conducted to analyze the impact of AI familiarity and usage on perceived benefits (efficiency, accuracy, and strategic decision-making in accounting). The regression model is summarized below:

Variable	B	t-value	p-value
Familiarity with AI	0.530	6.200	0.000
Current use of AI	0.260	3.450	0.001
Perception of AI accuracy	0.310	4.120	0.000

$$R^2 = 0.72, F = 22.54, p < 0.001$$

The regression results show that familiarity with AI ($B = 0.530, p < 0.001$) and the current use of AI tools ($B = 0.260, p < 0.01$) have a significant positive impact on perceived benefits in accounting. This suggests that the more familiar students are with AI, and the more they use AI tools, the greater the perceived improvements in efficiency and decision-making accuracy.

Discussion

The results of this study highlight the significant role that AI plays in modernizing accounting practices among students. The high familiarity and positive perception of AI indicate that students are increasingly recognizing AI as an essential tool in their future careers. The regression analysis further supports this by showing that both AI familiarity and usage contribute significantly to the perceived benefits of AI, such as enhanced efficiency and accuracy in financial management.

However, despite the positive perceptions, some students expressed neutrality regarding whether AI could fully replace accountants in the future (mean score of 2.9). This may reflect concerns about the limitations of AI in handling complex financial judgments or ethical considerations, suggesting that while AI can automate routine

tasks, the role of accountants may shift towards more strategic and analytical responsibilities.

Variable	Mean	Std. Deviation	B	t-value	p-value
Familiarity with AI-based accounting tools	4.0	0.8	0.530	6.200	0.000
Perception of AI's role in enhancing efficiency	4.1	0.7			
Current use of AI tools in accounting	3.6	1.0	0.260	3.450	0.001
Perceived importance of AI in accounting	2.9	1.0			

$R^2 = 0.72$, $F = 22.54$, $p < 0.001$.

CONCLUSION

This study shows that the application of artificial intelligence (AI) in accounting practices has a significant positive impact on the efficiency and effectiveness of financial management, with accounting students at Surabaya State University showing a high level of familiarity and perception towards the use of AI-based tools. Regression analysis results indicated that the higher the familiarity and use of AI tools, the greater the perceived benefits in terms of efficiency and accuracy in financial decision-making. Nonetheless, there was uncertainty among students regarding the possibility of AI replacing the role of accountants completely, suggesting that while AI may automate routine tasks, the role of accountants will shift to more strategic and analytical functions. This research has some important implications for accounting education and practice, where educational institutions need to include curricula that focus more on AI technology and data analytics tools, and accounting firms should provide adequate training for employees to improve their understanding and use of AI tools, including ethical aspects and data security. However, this study also has limitations, such as sample limitations that only include accounting students at one university, the use of a survey method that relies on self-reporting which may cause bias, and does not consider other external factors that may affect the adoption of AI in accounting, so future research is recommended to expand the sample coverage and consider external factors that may affect the results.

DAFTAR PUSTAKA

- Agrawal, A., Gans, J. S., & Goldfarb, A. (2018). *Prediction Machines: The Simple Economics of Artificial Intelligence*. (n.d.). Harvard Business Review Press.
- Brown, M. (2021). The Role of AI in Modern Financial Management. (n.d.). *International Journal of Accounting Innovations*, 34(1), 120-135.
- Bryman, A. (2016). *Social Research Methods* (5th ed.). (n.d.). Oxford University Press.
- Christensen, C. M. (1997). *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. (n.d.). Harvard Business School Press.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). (n.d.). SAGE Publications.
- Davenport, T. H., & Harris, J. G. (2019). AI for Financial Professionals: Opportunities and Challenges. (n.d.). *Journal of Emerging Technologies in Accounting*, 36(3), 45-60.
- Davenport, T. H., & Ronanki, R. (2018). *Artificial Intelligence for the Real World*. (n.d.). Harvard Business Review, 96(1), 108-116.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of

- Information Technology. (n.d.). *MIS Quarterly*, 13(3), 319-340.
- Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). (n.d.). SAGE Publications.
- Goldstein, R., & Lee, C. (2020). AI and Ethical Accounting Practices: Navigating the New Era. (n.d.). *Journal of Business Ethics*, 28(3), 220-235.
- Gupta, R., Kumar, A., & Sharma, S. (2019). Disruptive Innovation and Artificial Intelligence in Accounting: A Paradigm Shift. (n.d.). *Journal of Accounting and Innovation*, 15(4), 112-125.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2019). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). (n.d.). SAGE Publications.
- Huang, H., & Vasarhelyi, M. A. (2022). AI in Accounting: The Revolution in Finance. (n.d.). *International Journal of Accounting Information Systems*, 35, 100514.
- Jones, P. (2023). Strategic Accounting in the Age of AI. (n.d.). *Financial Insights Journal*, 22(4), 150-165.
- Peterson, A. (2020). The Impact of AI on Financial Services: Challenges and Opportunities. (n.d.). *Journal of Financial Innovation*, 29(2), 180-195.
- Robson, C., & McCartan, K. (2016). *Real World Research* (4th ed.). (n.d.). Wiley.
- Schneider, S., & Sunyaev, A. (2021). The Role of Artificial Intelligence in Accounting: Benefits, Risks, and Future Trends. (n.d.). *Journal of Emerging Technologies in Accounting*, 17(3), 150-172.
- Smith, A. (2022). AI in Accounting: Automating the Future. (n.d.). *Journal of Financial Automation*, 45(2), 78-90.