

The Impact Of Artificial Intelligence On Accounting Information Systems

Putu Diah Aryastuti Sanjiwani^{1*}, Anak Agung Intan Wulandari², Gita Apsari Dewi³, Muhammad Prans Panca Renta⁴

¹Faculty of Economic and Business, Universitas Pendidikan Nasional, ^{2,3}Faculty of Business, Social Affairs, Technology and Humanities Universitas Bali Internasional, ³Faculty of Tarbiyah and Tadris, Universitas Islam Negeri Fatmawati Sukarno Bengkulu

Article Info	ABSTRACT
Keywords:	While AI technologies offer remarkable opportunities for improving
Al,	efficiency and accuracy in accounting processes, it is essential to
Artificial Intelligence,	carefully consider and address the challenges and opposing arguments
Accounting Information System,	that arise with their implementation. This includes ensuring ethical use,
Accounting	addressing job displacement concerns, enhancing data security and
	privacy, and mitigating bias in AI algorithms to uphold the integrity of
	accounting practices. In this study, conducted a literature review to
	explore the impact of AI technologies on accounting information
	systems. The results show the integration of AI in fraud detection
	processes has proven to be instrumental in improving the interpretability
	of fraud detection methods, addressing emerging fraud patterns, and
	mitigating the challenges posed by imbalanced datasets. Additionally,
	the emphasis on education and training in AI technologies for
	accountants underscores the imperative of equipping professionals with
	the necessary skills to effectively implement AI-based solutions in fraud
	detection and prevention. Furthermore, there is a need to delve deeper
	into the ethical considerations surrounding AI in financial reporting, with
	a specific emphasis on mitigating blases, ensuring data privacy and
	security, and upholding transparency and accountability in the use of Al
This is an anan assess article	Systems.
under the CC BX NClicense	Corresponding Author:
	Futu Dian Aryastuti Sanjiwani
	Faculty of Economic and Business, Universitas Pendidikan
BY NC	Nasional
	JI. Bedugul No.39, Sidakarya, Denpasar Selatan, Kota Denpasar,
	Bali 80224
	aryastutisanjiwani@undiknas.ac.id

INTRODUCTION

Artificial Intelligence (AI) has changed accounting information systems by automating traditional processes that used to be time-consuming and error-prone. The accounting sector has been greatly impacted by AI technologies like robotic process automation, machine learning, and natural language processing (Ranjith et al., 2021). This impact is evident in the increasing interest among accounting professionals and major accounting firms in utilizing AI for financial reporting (Saxena, 2022). AI is being adopted by small and medium-sized businesses (SMEs) as well as larger corporations. Accounting automation is one way that



SMEs are able to adopt AI (Rawashdeh, 2023). The application of AI in accounting represents a transformative shift that is reshaping the accounting profession. AI systems are altering the nature of accounting tasks, automating processes, and enabling accountants to focus more on creative and managerial functions rather than routine tasks (Kariana Rosi & Mahyuni, 2021). This transition towards AI-based accounting is making the future of accounting professions more tangible, influencing the roles and tasks of accounting professionals and students (Leitner-Hanetseder et al., 2021). Furthermore, the increasing presence of AI in accounting is prompting the development of innovative training methods in colleges to produce accounting talents equipped with AI skills (Cai, 2022). As AI continues to advance in the accounting professionals hold varying perceptions regarding the use of AI-based accounting practices, leading to the emergence of new challenges alongside solutions to existing issues (Chouhan, 2020). The ethical and responsible utilization of AI in accounting is also a growing concern, with recommendations being put forth to ensure ethical practices in the application of AI in accounting, auditing, and financial reporting (Dara et al., 2022).

The integration of artificial intelligence (AI) in accounting has led to increased efficiency and accuracy in accounting tasks, enabling accountants to shift their focus to more complex analysis and decision-making processes. AI technologies have been instrumental in enhancing efficiency across various sectors. Studies have shown that AI applications in financial systems have resulted in improved efficiency, elimination of errors, and increased effectiveness (Kindzeka, 2023). Furthermore, AI has been demonstrated to improve manufacturing organizations' non-financial performance and the effectiveness of accounting information systems (Hashem & Alqatamin, 2021). Additionally, AI has had a tremendous impact on economic development, fostering high-quality economic growth (L. Hu et al., 2021). In the field of education, AI has contributed to improved efficiency, global learning, and personalized learning experiences (Lijia Chen et al., 2020). The application of AI in financial decision support systems has been crucial in enhancing the efficiency of financial decisionmaking processes (Jia et al., 2022). Additionally, by integrating AI, traditional financial accounting has been replaced with management accounting, which has increased financial quality and eliminated repetitious chores (Li et al., 2022).

The integration of artificial intelligence (AI) in accounting has indeed revolutionized the industry, leading to the development of intelligent systems that enhance efficiency and accuracy in accounting tasks. These systems automate processes, reduce errors, and improve decision-making capabilities (J. Hu, 2022). Research has shown that AI in accounting information systems significantly enhances the efficiency of financial and non-financial performance across various sectors, including manufacturing companies (Hashem & Alqatamin, 2021). Additionally, the application of AI and machine learning techniques has significantly increased the efficiency of enterprise accounting and financial management, bringing conventional financial accounting processes into line with modern ones (Hou, 2022). As intelligent systems advance, they are expected to have a more significant role in decision-making processes and accounting operations, allowing accountants to focus on strategic and analytical tasks.



Recent research has focused on how artificial intelligence can improve the effectiveness of financial decision support systems and accounting information systems (Hashem & Alqatamin, 2021). The discussion demonstrates how artificial intelligence helps to raise the standard and efficacy of accounting procedures, lower the percentage of losses linked to generating false and inaccurate accounting data, and support senior management in making better financial and accounting decisions (Hashem & Alqatamin, 2021; Jia et al., 2022) also highlight the potential improvements that artificial intelligence technology offers to financial decision support systems (Jia et al., 2022). Additionally, Zhang et al., (2020) examine how blockchain technology and artificial intelligence are affecting the accounting industry, and consider how the field has changed as a result of these technological developments.

Al is thought to have the most impact on accounting of all the digital technologies since it makes it possible to find patterns in vast amounts of accounting data that can help stakeholders perform financial assessments and assist businesses in making decisions (Kureljusic & Karger, 2023). Implementing Al comes at a very high cost, which raises the costs of accounting and financial management (Kindzeka, 2023). A study by Lee & Tajudeen (2020) showed that the use of Al in accounting is on a strong upward trend.

There are potential and obstacles in integrating artificial intelligence (AI) with accounting systems. Artificial Intelligence (AI) technologies present unique and innovative prospects that differentiate them from other digital technologies. These technologies give enterprises substantial benefits like enhanced workflows and the development of new or enhanced goods and services (Benbya et al., 2021; Engel et al., 2021). However, the implementation of AI in accounting systems also poses several challenges. Some of the challenges include high implementation costs, which can result in increased accounting and financial management expenses. To guarantee the efficient and safe integration of Al in accounting systems, issues with data ownership, cybersecurity, privacy, and integrity must also be resolved (D. Lee & Yoon, 2021). Another major obstacle is that complicated AI systems are dark boxes, making it difficult to comprehend how they make decisions (Hohma et al., 2023). The integration of AI into accounting systems presents a number of benefits notwithstanding these obstacles. Artificial Intelligence (AI) has the potential to optimize financial data management efficiency, boost decision-making capabilities, and yield insightful information from massive accounting data sets. Increased accuracy in accounting tasks, better financial decision support systems, and better financial reporting are all possible outcomes of using AI in accounting. AI can also simplify accounting procedures, lower error rates, and free up accountants' time for more analytical and strategic work.

Although there are many benefits to integrating artificial intelligence into accounting systems, there are also legitimate worries and counterarguments. The possible influence of Al on job displacement is one of the main worries regarding its application in accounting. There is increasing concern that as Al technologies develop, they will eventually take the role of human financial analysts and accountants, which would cause job instability and unemployment in the accounting sector. The workforce may be significantly impacted by this, since Al-powered systems may be given more weight than human expertise and decision-making abilities.



Additionally, there are new issues associated with data security and privacy when AI is used in accounting. Large volumes of sensitive financial data must be accessed by AI systems, and any flaws in these systems could result in breaches and illegal access, jeopardizing the confidentiality of financial data. Furthermore, the openness and accountability of AI-driven decision-making processes are called into question by the ethical application of AI in accounting. Ensuring that accounting operations adhere to ethical and responsible practices is not always easy due to AI systems' "black box" nature, which leaves the reasoning and procedures behind their judgments opaque.

The possibility of bias in Al algorithms is a controversial topic related to the application of Al in accounting. Accounting Al systems run the risk of unintentionally reinforcing biases found in the data they are trained on in the absence of adequate control and regulation, which would skew financial analysis and decision-making. Due to the possibility of biased Al systems influencing results in ways that are inconsistent with moral and egalitarian standards, this could have significant effects on financial reporting and strategic decisionmaking.

This study is important because it emphasizes how important artificial intelligence (AI) is to accounting systems. AI has a wide range of effects on accounting information systems, and there are advantages and disadvantages to take into mind. In recent years, AI has drastically changed the accounting industry. With the help of AI, accountants can now concentrate on more strategic and analytical work rather of low-level repetitive chores, which enables them to offer insightful analysis and assist corporate choices.

The purpose of this study is to investigate how artificial intelligence (AI) may affect accounting information systems and evaluate how it may affect different facets of the accounting industry. Additionally, this study emphasizes the necessity of providing accountants with AI education and training, as well as the significance of ethical issues while implementing AI in accounting information systems.

METHODS

The researchers conducted a literature review to explore the impact of AI technologies on accounting information systems. By synthesizing findings from various studies, the researchers aimed to provide a comprehensive understanding of how AI influences accounting practices, financial decision-making, and organizational performance. This methodology allowed for the identification of trends, challenges, and opportunities related to the integration of AI in accounting systems, shedding light on the implications for accounting professionals, organizations, and the economy as a whole. The literature review approach enabled the researchers to draw insights from a wide range of sources, contributing to a more holistic understanding of the subject matter.

A literature review methodology entails systematically gathering, reviewing, and analyzing published material relevant to a specific topic or research question. It is a foundational element of academic research that allows researchers to assess the current state of knowledge, identify gaps, contradictions, and consensus in the existing literature. The process typically involves the following steps:



- 1. Identifying a researchable topic.
- 2. Scoping the literature to define the range and sources of information.
- 3. Searching for relevant literature using databases and search engines.
- 4. Evaluating and selecting studies based on inclusion and exclusion criteria.
- 5. Organizing the selected literature by themes or methodological approaches.
- 6. Synthesizing the findings and discussions from the collected literature.
- 7. Writing up the literature review, summarizing the key points, and presenting the findings in a way that supports the objectives of the primary research.

Approaches to conducting a literature review may vary depending on the research field but generally include either qualitative, quantitative, or mixed methods approaches to synthesize the information gathered from the literature (Creswell, 1994).

RESULTS AND DISCUSSION

The Role of Artificial Intelligence in Accounting Information Systems

It has been demonstrated that the incorporation of artificial intelligence (AI) into accounting information systems can considerably lessen the workload of accountants by automating procedures such as data entry and reconciliation. Because of this automation, accountants have more time for strategic and high-value tasks (Bardelli et al., 2020). Artificial Intelligence (AI) technologies possess the capability to optimize procedures, reduce mistakes, and augment the effectiveness of financial data administration in enterprises (Bardelli et al., 2020). Businesses can use AI to improve decision-making procedures and get insightful knowledge from large volumes of accounting data, which will ultimately result in more accurate and knowledgeable financial reporting (Bardelli et al., 2020).

According to a review of the literature, artificial intelligence (AI) has greatly increased data processing capabilities and reduced errors, improving financial reporting's accuracy and efficiency (Kureljusic & Karger, 2023; Tan & Low, 2019). Accounting professionals may make better judgments and discover possible dangers and opportunities by using AI technology, particularly machine learning algorithms, which can spot patterns and abnormalities in financial data (Tan & Low, 2019). Accounting professionals may now devote more time to strategic and value-added activities by using artificial intelligence (AI) to automate repetitive chores like data entry and reconciliation. This improves financial reporting procedures (Mogaji et al., 2020).

Data security and fraud detection capabilities have been greatly improved by the use of artificial intelligence (AI) into accounting information systems. Accounting systems can more rapidly spot anomalies and suspicious trends in financial data by utilizing AI technology, such as machine learning algorithms. This makes it possible for accountants to identify and stop fraudulent activity more successfully (Kindzeka, 2023). Artificial intelligence (AI)-enabled data analysis automation enhances financial reporting's precision and effectiveness while enabling businesses to proactively detect and mitigate fraud-related risks(Kindzeka, 2023). The way accountants handle data security and fraud detection, guaranteeing the accuracy and dependability of financial information, has completely changed as a result of this breakthrough in AI technology.



Al-Driven Innovations in Accounting

There have been major advancements in the accounting sector as a result of the incorporation of artificial intelligence (AI). Traditional accounting procedures have been revolutionized by AI-driven technologies, which automate operations, improve data analysis skills, and facilitate better decision-making (J. H. Lee et al., 2019). These developments have made it possible for accountants to use AI for business model innovation, competitor analysis, and marketing plans, which has led to proactive adjustments in accounting procedures (J. H. Lee et al., 2019). Accurate financial reporting, data security, and fraud detection have all been transformed by the application of AI in accounting systems (Serag et al., 2019). Large volumes of financial data are analyzed by AI systems, which enable accountants to successfully detect and prevent fraud by swiftly identifying abnormalities and patterns that may suggest fraudulent activity (Serag et al., 2019).

Additionally, AI tools like machine learning algorithms can spot irregularities in financial data, giving accountants the power to assess risks and opportunities and make wise judgments (Megaro et al., 2022). By using AI to automate monotonous processes like data input and reconciliation, accountants are now able to concentrate on more strategic and value-added work, which improves financial reporting procedures (Megaro et al., 2022). Additionally, by reducing errors and strengthening data analytic skills, AI has increased the efficiency and accuracy of financial reporting (Grunhut et al., 2022). Artificial intelligence (AI) technologies have the potential to improve financial reporting by streamlining procedures, reducing errors, and extracting insightful information from massive volumes of accounting data (Grunhut et al., 2022).

Benefits and Challanges of Artificial Intelligence in Accounting Information Systems

Artificial intelligence (AI) has been included into accounting information systems, which has greatly improved decision-making processes in terms of accuracy, efficiency, and efficiency. Artificial intelligence (AI) solutions have increased efficiency and profitability by freeing up accountants to concentrate on strategic activities by automating duties like data entry and reconciliation (AI-Okaily, 2021). Additionally, AI has been useful in data security and fraud detection by swiftly and precisely evaluating vast amounts of financial data to spot anomalies and questionable trends that help stop illegal activity (Kend & Nguyen, 2020).

Additionally, by identifying trends and abnormalities in financial data, machine learning algorithms within AI technology have empowered accountants to make better educated decisions. This capacity contributes to the identification of opportunities and hazards, which enhances the analysis and accuracy of financial reporting (Leitner-Hanetseder et al., 2021). Al-enabled repetitive task automation has improved the overall caliber of accounting information systems in addition to increasing financial reporting efficiency (Khan et al., 2022). These artificial intelligence (AI)-driven advancements have transformed traditional accounting procedures and enabled more strategic and value-added activities by improving data security, fraud detection, and decision-making processes (Jungherr, 2023).

Nevertheless, difficulties also accompany the advantages. Potential bias in Al algorithms is one of the issues. The possibility of bias in Al algorithms presents a serious problem for accounting information systems, since trustworthy financial reporting depend on



precise and objective data interpretation. Fairness and openness in the decision-making processes depend on addressing bias in AI systems. Numerous research projects have emphasized the significance of accountability and transparency in AI systems to reduce prejudice and encourage ethical considerations (Huriye, 2023; James Aquino et al., 2023; Norori et al., 2021; Tmouche, 2023).

The accuracy and equity of financial reporting may be significantly impacted by the possible biases present in AI algorithms utilized in accounting information systems' data analysis. The training data may contain historical biases and prejudices that contribute to these biases, which could result in inaccurate or misleading information that affects the credibility of financial reporting and may even exacerbate already-existing disparities (Ferrara, 2023). It is imperative to tackle prejudice in AI algorithms to guarantee openness, equity, and moral decision-making in accounting procedures.

The quality and correctness of data are critical in accounting information systems, hence efforts to reduce bias in AI algorithms are crucial to maintaining the dependability and credibility of financial reporting. Organizations can improve the caliber and equity of their financial data analysis procedures by tackling algorithmic bias and encouraging accountability, transparency, and transparency in AI systems.

Evaluating the Effectiveness of AI in Accounting Practices

Recent years have seen a notable increase in the use of artificial intelligence (AI) in accounting procedures as experts in the industry have come to understand the potential advantages of automation in terms of increased efficacy and efficiency (Kindzeka, 2023). Organizations rely heavily on Accounting Information Systems (AIS), and integrating AI technologies can enhance the accuracy of financial data and reporting procedures (Tribuana, 2020). Accounting professionals and large organizations are becoming more interested in using AI, especially in financial reporting. This suggests a move towards embracing new technology for better results (Saxena, 2022).

Al technologies have several benefits for accounting, including bettering financial risk management through faster data processing, more in-depth analysis, and lower human costs, which eventually results in more effective risk control (Zhao, 2022). Al can also help financial planners manage behavioral biases, which is a way to overcome the shortcomings of present methods and enhance decision-making (Hasan et al., 2023). Al's ability to adapt to changing conditions and enhance organizational performance has been demonstrated in the capital and financial budgeting processes (Wang, 2022).

Furthermore, banks have successfully incorporated AI technology to improve their operations and services, demonstrating the effectiveness of AI adoption in the financial services industry (Öztürk & Kula, 2021). It has also been noted that one of the most important ways for financial institutions to increase alertness and stop fraud is by utilizing AI in financial crime detection (Rouhollahi, 2021). But even with all of AI's advantages for the financial sector, there are still issues with ethical issues, regulatory compliance, and the necessity of proactive regulation of AI in the financial sector (Singh, 2023; Truby et al., 2020; Yeo, 2023).

The development of AI systems that are specifically customized to the requirements of the accounting profession requires interdisciplinary collaboration between accounting



practitioners and AI experts. AI solutions that improve accounting procedures' decisionmaking, accuracy, and efficiency may be developed as a result of this partnership. Experts from the two disciplines can work together to develop a synergy that will use each discipline's advantages to produce novel solutions for the accounting sector.

Furthermore, a study on AI-based accounting practices highlighted the necessity of expert workshops to define roles and responsibilities and decide whether AI-based technology or humans should carry them out in certain professional accounting jobs (Leitner-Hanetseder et al., 2021). This emphasizes how crucial interdisciplinary cooperation is to comprehending how accounting duties and responsibilities are changing as a result of the incorporation of AI technologies.

Additionally, the ethical implications of Al in healthcare highlight how important it is for healthcare practitioners and Al/robotics experts to work together to ensure the responsible and ethical use of Al technology (Elendu, 2023). In order to handle ethical issues and guarantee that Al systems adhere to professional norms and legal obligations, this cooperation is essential. The topic of Al-based decision-making in the context of accounting and auditing highlights the potential and difficulties of human-machine cooperation, emphasizing the necessity of normative thinking and ethical concerns in Al integration (Lehner et al., 2022). This emphasizes how crucial interdisciplinary cooperation is to overcoming the moral dilemmas posed by Al in accounting procedures.

In short, firms can greatly benefit from the integration of AI in accounting practices in terms of process optimization, improved decision-making, and improved financial reporting. While implementing AI technology in the financial sector has many advantages, firms must address ethical, legal, and compliance issues to guarantee the efficient and appropriate application of AI in accounting procedures.

Impacts of Artificial Intelligence on Accounting Information Systems

Artificial intelligence (AI) has the potential to significantly increase financial data quality and dependability, process efficiency, and decision-making skills in accounting procedures when integrated into accounting information systems (DAGUNDURO et al., 2023). Studies have demonstrated that artificial intelligence (AI) technology may significantly enhance audit quality by minimizing errors and inconsistencies in financial data visualizations. Additionally, AI can facilitate the change from conventional financial accounting to more sophisticated management accounting techniques, indicating a move toward data-driven and efficient accounting procedures (Li et al., 2022).

The tourist industry in Egypt has been the subject of specific research that has shown the benefits of artificial intelligence (AI) on the accounting profession. This research has highlighted the widespread usage of technology and the favorable influence of AI on accounting practices within the tourism business (Ahmed Hassan, 2021). This demonstrates how AI technologies are becoming more widely accepted and used to improve accounting operations in particular industries.

To fully realize the promise of AI in accounting information systems, effective collaboration between accounting professionals and AI experts is essential. By working together, customized artificial intelligence (AI) systems can be created to improve accounting



practices' decision-making procedures and increase the accuracy and dependability of financial data. These studies highlight the significance of interdisciplinary collaboration in order to maximize the benefits of AI in the accounting industry and offer insightful information about how AI might transform accounting processes.

In brief, the integration of artificial intelligence (AI) into accounting information systems presents considerable potential for improving productivity, precision, and decision-making abilities, which could ultimately transform accounting procedures and elevate financial reporting standards across the board. Intelligent financial fraud detection techniques have developed in the post-pandemic age to handle new fraud patterns and data sources (Zhu et al., 2022). Researchers are investigating novel methodologies, such deep learning and ontology reasoning, to augment the identification of fraudulent accounts in financial statements and elevate the comprehensibility of fraud detection techniques (Buchanan & Wright, 2021; Liming Chen et al., 2024).

In order to identify financial fraud in listed firms, machine learning techniques such as sentiment analysis and logistic regression models have been used. This highlights the significance of choosing pertinent financial indicators and pressure indicators based on the fraud triangle hypothesis (Yasheng Chen & Wu, 2022). Furthermore, financial statement fraud in Chinese listed businesses has been analyzed using deep learning techniques, underlining the difficulties presented by imbalanced datasets in fraud detection (Wu & Du, 2022). Effective financial fraud detection is becoming more difficult for traditional rule-based expert systems as the volume of financial data increases (Zhou et al., 2021). Traditional rule-based data grows (Widnyana & Widyawati, 2022).

Education and Training in AI Technologies for Accountant

Accountants need to give priority to their education and training in AI technologies in order to properly adjust to the changing landscape of financial fraud detection. For accountants to successfully integrate AI-based solutions in fraud detection and prevention procedures, they must gain a thorough understanding of AI algorithms, machine learning methodologies, and data analytics tools (Buchanan & Wright, 2021; Zhou et al., 2021).

Studies has demonstrated the value of applying AI technology to fraud detection, stressing the necessity of sophisticated techniques like machine learning, ensemble learning classifiers, and ontological reasoning in spotting fraudulent activity in financial data (Arri, 2022; Calamaro et al., 2021; Ghahfarokhi et al., 2021). Accountants can improve their ability to identify trends and anomalies in financial fraud by utilizing AI techniques, which will lead to better results in fraud detection (Yinhe Chen, 2023; Cui, 2022).

A thorough understanding of various AI models and algorithms, including support vector machines, convolutional neural networks, and unsupervised learning techniques, is also necessary for the integration of AI in fraud detection procedures. Accountants can improve their fraud detection techniques and adjust to the ever-changing fraudulent behaviors in financial transactions by being acquainted with these technologies.

Additionally, multidisciplinary cooperation between AI specialists and accounting professionals is essential for creating cutting-edge fraud detection solutions. Experts may



increase fraud detection and prevention procedures by pooling their knowledge and experience to develop cutting-edge AI systems that are specifically designed to meet the demands of the accounting industry. Accountants need to be continuously educated and trained in order to comprehend and use these cutting-edge tools in a way that will enable them to make well-informed decisions on the selection and application of AI technology for financial fraud detection. Accountants can improve their capacity to evaluate and use AI technology outcomes in fraud detection procedures by learning about AI algorithms, machine learning strategies, and data analytics tools. With this understanding, accountants will be able to choose and use AI technologies with confidence, as well as analyze and use the data these technologies produce.

Ethical Considerations of AI in Financial Reporting

The responsible and ethical application of AI technologies in financial reporting is contingent upon ethical issues. To guarantee that the use and use of AI technologies retain integrity, transparency, and fairness in financial procedures, accountants need to have a solid understanding of ethical concepts (Chauhan & Gullapalli, 2021; J. Möllmann et al., 2021; McLennan et al., 2022).

Al's ethical ramifications for financial reporting cover a wide range of topics, such as accountability, transparency, and governance. These fundamental concepts, which provide precise criteria for decision-making procedures and behaviors, are essential for guaranteeing the moral growth and application of Al systems (Chauhan & Gullapalli, 2021). Accountants can maintain credibility and confidence in financial reporting processes by following these guidelines. Furthermore, addressing potential biases, privacy issues, and unforeseen effects that may result from Al applications in financial reporting requires incorporating ethics into the creation of Al systems (J. Möllmann et al., 2021; McLennan et al., 2022). Accountants may minimize risks and make sure Al systems function in line with ethical norms by integrating ethical considerations into the design and deployment of Al technologies. By incorporating ethical considerations into the development and application of Al technology, accountants can reduce risks and ensure that Al systems operate in accordance with ethical standards.

CONCLUSION

In summary, advances in AI technology, machine learning models, and interdisciplinary collaborations have all contributed to the evolution of financial fraud detection methods by improving the identification and prevention of fraudulent actions inside financial data. Enhancing the interpretability of fraud detection techniques, tackling new fraud trends, and reducing the difficulties caused by unbalanced datasets have all been made possible by the incorporation of AI into fraud detection systems. Furthermore, the focus on accountant education and training in AI technologies emphasizes how important it is to provide professionals with the skills they need to successfully apply AI-based solutions for fraud detection ought to concentrate on further improving AI technologies and machine learning techniques, especially when it comes to handling the intricacies of fraudulent activity in developing financial transactions. Deeper research is also required on the ethical issues related to AI in financial



reporting, with a focus on bias mitigation, data protection and security, and maintaining responsibility and openness in the usage of AI systems. Researchers and practitioners must stay at the forefront of innovation as the field of financial fraud changes, utilizing cutting-edge AI technologies while respecting best practices and ethical norms in financial reporting and fraud detection.

REFERENCE

- Ahmed Hassan, S. A. (2021). The Impact of Artificial Intelligence on the Accounting Profession in the Tourism Sector in Egypt. *International Journal of Applied Research*. https://doi.org/10.22271/allresearch.2021.v7.i6e.8716
- Al-Okaily, M. (2021). Assessing the Effectiveness of Accounting Information Systems in the Era of COVID-19 Pandemic. *Vine Journal of Information and Knowledge Management Systems*. https://doi.org/10.1108/vjikms-08-2021-0148
- Arri, H. S. (2022). Real-Time Credit Card Fraud Detection Using Machine Learning. Interantional Journal of Scientific Research in Engineering and Management. https://doi.org/10.55041/ijsrem12659
- Bardelli, C., Rondinelli, A., Vecchio, R., & Figini, S. (2020). *Automatic Electronic Invoice Classification Using Machine Learning Models.* https://doi.org/10.20944/preprints202010.0057.v1
- Benbya, H., Pachidi, S., & Järvenpää, S. L. (2021). Special Issue Editorial: Artificial Intelligence in Organizations: Implications for Information Systems Research. *Journal of the Association for Information Systems*. https://doi.org/10.17705/1jais.00662
- Buchanan, B., & Wright, D. (2021). The Impact of Machine Learning on UK Financial Services. *Oxford Review of Economic Policy*. https://doi.org/10.1093/oxrep/grab016
- Cai, C. (2022). Training Mode of Innovative Accounting Talents in Colleges Using Artificial Intelligence. *Mobile Information Systems*. https://doi.org/10.1155/2022/6516658
- Calamaro, N., Beck, Y., Melech, R. Ben, & Shmilovitz, D. (2021). An Energy-Fraud Detection-System Capable of Distinguishing Frauds From Other Energy Flow Anomalies in an Urban Environment. *Sustainability*. https://doi.org/10.3390/su131910696
- Chauhan, C., & Gullapalli, R. R. (2021). Ethics of Al in Pathology. *American Journal of Pathology*. https://doi.org/10.1016/j.ajpath.2021.06.011
- Chen, Lijia, Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *leee Access*. https://doi.org/10.1109/access.2020.2988510
- Chen, Liming, Xiu, B., & Ding, Z. (2024). Finding Misstatement Accounts in Financial Statements Through Ontology Reasoning. *leee Access*. https://doi.org/10.1109/access.2020.3014620
- Chen, Yasheng, & Wu, Z. (2022). Financial Fraud Detection of Listed Companies in China: A Machine Learning Approach. *Sustainability*. https://doi.org/10.3390/su15010105
- Chen, Yinhe. (2023). Financial Statement Fraud Detection Based on Integrated Feature Selection and Imbalance Learning. *Frontiers in Business Economics and Management*. https://doi.org/10.54097/fbem.v8i3.7557
- Chouhan, V. (2020). Measuring Accounting Professionals Perception on Use of Al Based



Accounting Practices in India. *International Journal of Engineering and Advanced Technology*. https://doi.org/10.35940/ijeat.c5539.029320

Creswell, J W. (1994). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.

http://www.revistacomunicacion.org/pdf/n3/resenas/research_design_qualitative_qua ntitative_and_mixed_methods_approaches.pdf

- Cui, Y. (Gina). (2022). Sophia Sophia Tell Me More, Which Is the Most Risk-Free Plan of All? Al anthropomorphism and Risk Aversion in Financial Decision-Making. *The International Journal of Bank Marketing*. https://doi.org/10.1108/ijbm-09-2021-0451
- DAGUNDURO, M., Falana, G. A., Adewara, Y. M., & Busayo, T. O. (2023). Application of Artificial Intelligence and Audit Quality in Nigeria. *Advances in Multidisciplinary* |& *Scientific Research Journal Publication*. https://doi.org/10.22624/aims/humanities/v11n1p4

Dara, R., Hazrati Fard, S. M., & Kaur, J. (2022). Recommendations for Ethical and Responsible Use of Artificial Intelligence in Digital Agriculture. *Frontiers in Artificial Intelligence*. https://doi.org/10.3389/frai.2022.884192

- Elendu, C. (2023). Ethical Implications of AI and Robotics in Healthcare: A Review. *Medicine*. https://doi.org/10.1097/md.000000000036671
- Engel, C., Ebel, P., & Giffen, B. van. (2021). *Empirically Exploring the Cause-Effect Relationships of AI Characteristics, Project Management Challenges, and Organizational Change.* https://doi.org/10.1007/978-3-030-86797-3_12
- Ferrara, E. (2023). *Fairness and Bias in Artificial Intelligence: A Brief Survey of Sources, Impacts, and Mitigation Strategies (Preprint).* https://doi.org/10.2196/preprints.48399
- Ghahfarokhi, A. F., Mansouri, T., Moghaddam, M. S., Bahrambeik, N., Yavari, R., & Sani, M. F.
 (2021). Credit Card Fraud Detection Using Asexual Reproduction Optimization.
 Kybernetes. https://doi.org/10.1108/k-04-2021-0324

Grunhut, J., Marques, O., & M Wyatt, A. T. (2022). Needs, Challenges, and Applications of Artificial Intelligence in Medical Education Curriculum. *Jmir Medical Education*. https://doi.org/10.2196/35587

- Hasan, Z., Vaz, D., Athota, V. S., Maturin Désiré, S. S., & Pereira, V. (2023). Can Artificial Intelligence (AI) Manage Behavioural Biases Among Financial Planners? *Journal of Global Information Management*. https://doi.org/10.4018/jgim.321728
- Hashem, F., & Alqatamin, R. M. (2021). Role of Artificial Intelligence in Enhancing Efficiency of Accounting Information System and Non-Financial Performance of the Manufacturing Companies. *International Business Research*. https://doi.org/10.5539/ibr.v14n12p51
- Hohma, E., Boch, A., Rainer Trauth, & Lütge, C. (2023). Investigating Accountability for Artificial Intelligence Through Risk Governance: A Workshop-Based Exploratory Study. *Frontiers in Psychology.* https://doi.org/10.3389/fpsyg.2023.1073686
- Hou, X. (2022). Design and Application of Intelligent Financial Accounting Model Based on
Knowledge Graph.MobileInformationSystems.https://doi.org/10.1155/2022/8353937



- Hu, J. (2022). Partial Differential Equation-Assisted Accounting Professional Education and Training Artificial Intelligence Collaborative Course System Construction. *Scientific Programming*. https://doi.org/10.1155/2022/6357421
- Hu, L., Chen, Z., & Zhao, C. (2021). Impact of Artificial Intelligence on Economic Development. *Proceedings of Business and Economic Studies*. https://doi.org/10.26689/pbes.v4i5.2648
- Huriye, A. Z. (2023). The Ethics of Artificial Intelligence: Examining the Ethical Considerations Surrounding the Development and Use of Al. *American Journal of Technology*. https://doi.org/10.58425/ajt.v2i1.142
- J. Möllmann, N. R., Mirbabaie, M., & Stieglitz, S. (2021). Is It Alright to Use Artificial Intelligence in Digital Health? A Systematic Literature Review on Ethical Considerations. *Health Informatics Journal*. https://doi.org/10.1177/14604582211052391
- James Aquino, Y. Saint, Carter, S. M., Houssami, N., Braunack-Mayer, A., Win, K. T., Degeling, C., Wang, L., & Rogers, W. (2023). Practical, Epistemic and Normative Implications of Algorithmic Bias in Healthcare Artificial Intelligence: A Qualitative Study of Multidisciplinary Expert Perspectives. *Journal of Medical Ethics*. https://doi.org/10.1136/jme-2022-108850
- Jia, T., Wang, C., Tian, Z., Wang, B., & Tian, F. (2022). Design of Digital and Intelligent Financial Decision Support System Based on Artificial Intelligence. *Computational Intelligence and Neuroscience*. https://doi.org/10.1155/2022/1962937
- Jungherr, A. (2023). Artificial Intelligence and Democracy: A Conceptual Framework. *Social Media + Society*. https://doi.org/10.1177/20563051231186353
- Kariana Rosi, N. M., & Mahyuni, L. P. (2021). The Future of Accounting Profession in the Industrial Revolution 4.0: Meta-Synthesis Analysis. *E-Jurnal Akuntansi*. https://doi.org/10.24843/eja.2021.v31.i04.p17
- Kend, M., & Nguyen, L. A. (2020). Big Data Analytics and Other Emerging Technologies: The Impact on the Australian Audit and Assurance Profession. *Australian Accounting Review.* https://doi.org/10.1111/auar.12305
- Khan, A. A., Badshah, S., Liang, P., Khan, B., Waseem, M., Niazi, M., & Akbar, M. A. (2022). *Ethics of Al: A Systematic Literature Review of Principles and Challenges.* https://doi.org/10.1145/3530019.3531329
- Kindzeka, K. C. (2023). Impact of Artificial Intelligence on Accounting, Auditing and Financial Reporting. *American Journal of Computing and Engineering*. https://doi.org/10.47672/ajce.1433
- Kureljusic, M., & Karger, E. (2023). Forecasting in Financial Accounting with Artificial Intelligence – A systematic Literature Review and future Research Agenda. *Journal of Applied Accounting Research*. https://doi.org/10.1108/jaar-06-2022-0146
- Lee, C. S., & Tajudeen, F. P. (2020). Usage and Impact of Artificial Intelligence on Accounting:
 213 Evidence From Malaysian Organisations. *Asian Journal of Business and Accounting*. https://doi.org/10.22452/ajba.vol13no1.8
- Lee, D., & Yoon, S. N. (2021). Application of Artificial Intelligence-Based Technologies in the Healthcare Industry: Opportunities and Challenges. *International Journal of*



Environmental Research and Public Health. https://doi.org/10.3390/ijerph18010271

- Lee, J. H., Suh, T., Roy, D., & Baucus, M. S. (2019). Emerging Technology and Business Model Innovation: The Case of Artificial Intelligence. *Journal of Open Innovation Technology Market and Complexity*. https://doi.org/10.3390/joitmc5030044
- Lehner, O. M., Ittonen, K., Silvola, H., Ström, E., & Wührleitner, A. (2022). Artificial Intelligence Based Decision-Making in Accounting And auditing: Ethical Challenges and Normative Thinking. *Accounting Auditing & Accountability Journal*. https://doi.org/10.1108/aaaj-09-2020-4934
- Leitner-Hanetseder, S., Lehner, O. M., Eisl, C., & Forstenlechner, C. (2021). A Profession in Transition: Actors, Tasks and Roles in Al-based Accounting. *Journal of Applied Accounting Research*. https://doi.org/10.1108/jaar-10-2020-0201
- Li, R., Wang, Y., & Zou, J. (2022). Research on the Transformation From Financial Accounting to Management Accounting Based on Drools Rule Engine. *Computational Intelligence and Neuroscience*. https://doi.org/10.1155/2022/9445776
- McLennan, S., Fiske, A., Tigard, D. W., Müller, R., Haddadin, S., & Buyx, A. (2022). Embedded Ethics: A Proposal for Integrating Ethics Into the Development of Medical Al. *BMC Medical Ethics*. https://doi.org/10.1186/s12910-022-00746-3
- Megaro, A., Carrubbo, L., Polese, F., & Sirianni, C. A. (2022). Triggering a Patient-Driven Service Innovation to Foster the Service Ecosystem Well-Being: A Case Study. *The TQM Journal*. https://doi.org/10.1108/tqm-02-2022-0072
- Mogaji, E., Soetan, T., & Kieu, T. A. (2020). The Implications of Artificial Intelligence on the Digital Marketing of Financial Services to Vulnerable Customers. *Australasian Marketing Journal (Amj)*. https://doi.org/10.1016/j.ausmj.2020.05.003
- Norori, N., Hu, Q., Aellen, F. M., Faraci, F. D., & Tzovara, A. (2021). Addressing Bias in Big Data and AI for Health Care: A Call for Open Science. *Patterns*. https://doi.org/10.1016/j.patter.2021.100347
- Öztürk, R., & Kula, V. (2021). A General Profile of Artificial Intelligence Adoption in Banking Sector. *Journal of Corporate Governance Insurance and Risk Management*. https://doi.org/10.51410/jcgirm.8.2.10
- Ranjith, P., Madan, S., Wern Jian, D. A., Teoh, K. B., Singh, A. S., Ganatra, V., Av, A., Rana, R.
 S., Das, A., Shekar, S. L., & Singh, P. (2021). Harnessing the Power of Artificial Intelligence in the Accounting Industry: A Case Study of KPMG. *International Journal of Accounting* |& *Finance in Asia Pasific*. https://doi.org/10.32535/ijafap.v4i2.1117
- Rawashdeh, A. (2023). A deep learning-based SEM-ANN analysis of the impact of Al-based audit services on client trust. *Journal of Applied Accounting Research*. https://doi.org/10.1108/JAAR-10-2022-0273
- Rouhollahi, Z. (2021). *Towards Artificial Intelligence Enabled Financial Crime Detection*. https://doi.org/10.48550/arxiv.2105.10866
- Saxena, R. (2022). A Conceptual Framework for Assessing the Application of Artificial Intelligence for Financial Reporting. *Universal Journal of Accounting and Finance*. https://doi.org/10.13189/ujaf.2022.100502
- Serag, A., Ion-Mărgineanu, A., Qureshi, H., McMillan, R. J., Martin, M.-J. Saint, Diamond, J. J.,



O'Reilly, P. G., & Hamilton, P. (2019). Translational AI and Deep Learning in Diagnostic Pathology. *Frontiers in Medicine*. https://doi.org/10.3389/fmed.2019.00185

- Singh, C. (2023). Artificial Intelligence and Deep Learning: Considerations for Financial Institutions for Compliance With the Regulatory Burden in the United Kingdom. *Journal of Financial Crime*. https://doi.org/10.1108/jfc-01-2023-0011
- Tan, B. S., & Low, K. Y. (2019). Blockchain as the Database Engine in the Accounting System. *Australian Accounting Review*. https://doi.org/10.1111/auar.12278
- Tmouche, H. (2023). The Impact and Implication of Artificial Intelligence on Thematic Healthcare and Quality of Life. *International Journal of Applied Research on Public Health Management*. https://doi.org/10.4018/ijarphm.318140
- Tribuana, B. (2020). Accounting Information System Design in iFrames : Case Study on Health Sector Blud of Jakarta Province. *Afebi Accounting Review*. https://doi.org/10.47312/aar.v4i02.292
- Truby, J., Brown, R. D., & Dahdal, A. (2020). Banking on Al: Mandating a Proactive Approach to Al Regulation in the Financial Sector. *Law and Financial Markets Review*. https://doi.org/10.1080/17521440.2020.1760454
- Wang, F. (2022). Al-enabled IT Capability and Organizational Performance. *Behavioral Science*. https://doi.org/10.1002/sres.2852
- Widnyana, I. W., & Widyawati, S. R. (2022). Role of Forensic Accounting in the Diamond Model Relationship to Detect the Financial Statement Fraud. *International Journal of Research in Business and Social Science (2147-4478)*. https://doi.org/10.20525/ijrbs.v11i6.1924
- Wu, X., & Du, S. (2022). An Analysis on Financial Statement Fraud Detection for Chinese Listed Companies Using Deep Learning. *leee Access*. https://doi.org/10.1109/access.2022.3153478
- Yeo, K. K. (2023). Artificial Intelligence in Cardiology: Did It Take Off? *Russian Journal for Personalized Medicine*. https://doi.org/10.18705/2782-3806-2022-2-6-16-22
- Zhang, Y., Xiong, F., Xie, Y., Xuan, F., & Gu, H. (2020). The Impact of Artificial Intelligence and Blockchain on the Accounting Profession. *leee Access*. https://doi.org/10.1109/access.2020.3000505
- Zhao, M. (2022). Research on Financial Risk Assessment Based on Artificial Intelligence. *SHS Web of Conferences*. https://doi.org/10.1051/shsconf/202215101017
- Zhou, H., Sun, G., Sha, F., Wang, L., Hu, J., & Gao, Y. (2021). Internet Financial Fraud Detection Based on a Distributed Big Data Approach With Node2vec. *leee Access*. https://doi.org/10.1109/access.2021.3062467
- Zhu, X., Shi, Y., & Liu, N. (2022). Artificial Intelligence Technology in Modern Logistics System. *International Journal of Technology Policy and Management*. https://doi.org/10.1504/ijtpm.2022.10046969