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The Impact of Artificial Intelligence on Accounting

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A B S T R A C T

Artificial intelligence (AI) is a powerful tool that can make accounting processes faster, more accurate, and more efficient. AI can perform repetitive and tedious tasks, reduce human error, enable continuous auditing, and enhance the security and accuracy of audits. However, AI also presents challenges. The cost of acquiring and training AI-based systems can be high. Additionally, AI may lead to a reduction in accounting jobs. AI requires human oversight and control to prevent misuse and fraud. AI may also encounter ethical, legal, and tax-related issues. Furthermore, AI in accounting requires continuous development and updating to align with new needs and environmental changes. AI, due to its capacity to improve and transform the way activities are carried out in this field, is rapidly changing the reality of accounting. Over the years, accounting has significantly transformed from paper-and-pencil work to the use of computers. More importantly, accounting has evolved with programs that reduce time spent on repetitive tasks and decrease the occurrence of errors. The interest in AI solutions in this field is not new, but in recent years, researchers' attention has increasingly focused on it. Despite technological advancements, there appears to be insufficient data to support companies' willingness to integrate AI solutions into their accounting activities. An important aspect of this reality is the ability of professionals to adapt more quickly to the current situation and acquire the necessary skills to work with AI solutions, overcoming the fear of job loss. This article focuses on understanding the impact of AI solutions on accounting by conducting a qualitative study based on a review of the relevant literature from previous years. It highlights the potential changes that AI could bring to accounting professions and the necessary actions to prepare for the emergence of new jobs where AI solutions will play a larger role.

Keywords: *Artificial Intelligence, Accounting, AI in Accounting.*

1. Introduction

Artificial intelligence (AI) is one of the modern and widely used technologies in computer science and technology that can perform activities that typically require human intelligence and cognition. AI has the potential to bring about significant transformations in various scientific, industrial, economic, and social fields, contributing to solving existing problems and challenges. One of the areas that can benefit from AI is accounting. Accounting is an essential activity in every organization and business, involving the recording, reporting, and analysis of financial and accounting information (Odonkor, 2024a, 2024b; Shoetan, 2024).

AI, alongside the Internet of Things, cloud computing, and blockchain, is one of the most important technologies for the future. This capability of a machine to imitate human actions such as communication and decision-making is considered a key element. Some of the benefits of implementing AI solutions, such as achieving more accurate

results and saving time while processing large amounts of data, have already been recognized in various fields of activity. AI solutions are not a new topic for researchers or an uncommon method for advanced technology companies, but they remain an intriguing subject for case studies, particularly in terms of their impact on the accounting profession (Almagtome, 2021; Alshurafat, 2023). Accountants are already using this technology in their daily activities to improve results and reduce the time spent on tasks. In this regard, the implementation of AI systems will not be an unfamiliar step in their profession. However, it is accompanied by significant benefits, as achieving goals through data-driven decision-making can provide insights into business outcomes through data analysis and save significant time that is typically spent on repetitive tasks (Stancheva-Todorova & Bogdanova, 2021).

The accounting landscape has undergone significant transformations, particularly with the emergence of AI. Traditional accounting practices, once dominated by manual processes and linear workflows, are now being reshaped with the integration of AI technologies. This evolution represents a fundamental shift in how financial data is managed, analyzed, and reported. Historically, accounting has been characterized by its precision, requiring high levels of accuracy and attention to detail. Traditional methods included manual data entry, ledger maintenance, and extensive use of paper-based records (Smith, 2018). These processes were time-consuming and prone to human error, limiting the speed and efficiency of financial reporting and analysis.

The introduction of AI in accounting has transformed these conventional practices. AI's ability to process large volumes of data quickly and accurately has significantly increased the efficiency and accuracy of accounting tasks (Tandiono, 2023). AI technologies, such as machine learning algorithms and data analytics tools, are now being used to automate routine tasks, such as data entry and transaction categorization, which were once the backbone of traditional accounting.

Additionally, AI has facilitated the development of more sophisticated financial analysis techniques. With AI's predictive analytics capabilities, accountants can now forecast future trends and provide more accurate financial recommendations (Goel et al., 2023). This shift from a historical perspective to a more forward-looking approach represents a fundamental change in the role of accounting within businesses.

The integration of AI in accounting has also led to the emergence of new challenges and opportunities. While AI has streamlined many processes, it has also raised concerns regarding data privacy, security, and the potential displacement of jobs (Alshurafat, 2023). Furthermore, reliance on AI requires a new skill set for accounting professionals, who must now be adept at managing and interpreting data-driven insights.

Despite these challenges, the benefits of AI in accounting are undeniable. AI-based systems provide greater accuracy in financial reports and reduce the risk of errors and fraud. They also enable real-time financial analysis, providing timely and relevant financial information to businesses (Ablameyko & Ablameyko, 2021; Alghafiqi & Munajat, 2022). This immediacy is crucial in today's fast-paced business environment, where quick decision-making can offer a competitive advantage.

Furthermore, AI's role in automating routine tasks frees accountants to focus on more strategic aspects of their roles, such as consulting services and business planning (Tandiono, 2023). This shift in focus represents a significant opportunity for the accounting profession to add value beyond traditional accounting tasks and compliance duties.

The impact of AI on accounting practices is profound. It has not only increased the efficiency and accuracy of financial reporting but also transformed the role of accounting in business decision-making. As AI continues to evolve, it is likely to bring about further innovations and changes in the accounting profession, shaping its future in ways that are only beginning to be understood.

The primary objective of this research is to explore the impact of AI on accounting. This research aims to demonstrate how AI can contribute to improving the quality and efficiency of accounting and what benefits and challenges are associated with its use. The main question of this study is: How can AI help improve the quality and efficiency of accounting?

2. Theoretical Foundations

2.1. Concept and Definition of AI and Its Types

AI is one of the most popular and intriguing topics in computer science and technology. AI generally refers to systems capable of performing tasks that typically require human intelligence and cognition, such as learning, reasoning, decision-making, pattern recognition, language translation, and more. AI can be broadly divided into two

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categories: Strong AI and Weak AI (Ablameyko & Ablameyko, 2021).

Strong AI, or Artificial General Intelligence, refers to systems that can perform all intelligent activities to the same degree or better than humans. This type of AI has not yet become a reality and is mainly featured in science fiction stories and films. For example, robots that can converse with humans, recognize emotions, exhibit creativity, and achieve self-awareness (Alghafiqi & Munajat, 2022).

Weak AI, or Artificial Specialized Intelligence, refers to systems that can perform intelligent tasks only within a specific domain or task. This type of AI currently exists and is used in various technological applications and services. For instance, facial recognition systems, machine translation, computer games, self-driving cars, and so on.

AI can also be categorized based on the methods and techniques used. Some of these types include:

- **Transitional AI**: This type of AI operates based on defined and limited rules and does not require large amounts of data for learning. It is used in some control systems and computer games, such as chess.
- **Evolutionary AI**: This type of AI operates based on evolutionary algorithms and can adapt to the environment and improve over time. It is used in optimization problems and simulations.
- **Neural Network AI**: This type of AI operates based on artificial neural networks and can learn from large datasets, discovering patterns and relationships within them. It is used in pattern recognition, natural language processing, and image analysis (Alghafiqi & Munajat, 2022).

2.2. AI in Data Analysis

AI plays a critical role in data analysis. By using AI models and algorithms, large and complex datasets can be analyzed and converted into actionable knowledge and information. Below are some applications of AI in data analysis in accounting (Goel et al., 2023):

1. **Pattern Recognition**: AI can identify hidden and discernible patterns in financial data. These patterns may include trends, correlations, sudden changes, and hidden relationships between data. Recognizing these patterns helps identify financial issues, risks, and opportunities.
2. **Financial Prediction and Analysis**: AI can be used to predict and analyze financial performance based on historical financial data. Using machine learning algorithms and neural networks, historical patterns can be studied to forecast growth, profitability, and future financial conditions.
3. **Risk Analysis**: AI can assist in analyzing risks related to accounting, such as credit risk, market risk, and tax risk. By applying AI algorithms, more complex models can be developed for risk analysis, aiding better decision-making in financial risk management.
4. **Fraud Detection**: AI can be useful in identifying fraudulent patterns in financial and accounting data. By using machine learning algorithms and neural networks, fraudulent patterns can be detected, and suspicious activities can be flagged.
5. **Improved Decision-Making**: AI can enhance decision-making in financial and accounting processes. By using AI algorithms, predictive models and decision-making systems can be developed that provide guidance based on data and financial conditions, improving decision-making processes (Goel et al., 2023).

Overall, AI, through various algorithms and models, can aid in data analysis in accounting and finance, helping derive actionable insights across various financial domains. However, domain-specific expertise and specialized knowledge are essential to fully leverage AI and achieve optimal outcomes.

2.3. AI in Fraud and Risk Detection

AI plays a significant role in fraud and risk detection. Using AI algorithms and models, suspicious patterns and cases can be identified, helping to mitigate fraud and associated risks. Below are some applications of AI in fraud and risk detection:

1. **Financial Fraud Detection**: AI can identify suspicious patterns and signals in financial transactions. By using machine learning and neural network algorithms, unusual behaviors in financial transactions can be detected, helping reduce financial fraud. This application is widely used in banking, insurance, online payments, and other financial sectors (Harayama et al., 2021).
2. **Cybersecurity Fraud Detection**: AI can assist in detecting cyber threats and security fraud. By applying AI algorithms and models, network traffic can be monitored, and patterns of cyberattacks can

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be detected. This application is crucial in protecting information systems, preventing breaches, and reducing cybersecurity risks.

3. **Fraud Detection in Loyalty Programs**: AI can identify frauds and abuses in loyalty programs by analyzing patterns and user behavior. Using AI models, suspicious patterns in loyalty program usage can be detected and related frauds can be minimized. This application is used in industries such as retail, hospitality, service providers, and other loyalty program-based sectors.
4. **Risk Analysis and Hazard Prediction**: AI can identify and predict risks and hazards associated with various activities through data analysis and prediction algorithms. By applying AI algorithms, patterns in data can be recognized, allowing risks and hazards to be predicted. This application is useful in industries such as insurance, finance, e-commerce, and other related fields (Harayama et al., 2021).

It is important to note that AI is only a tool, and for achieving accurate and reliable results, quality data and a combination of suitable algorithms and models are needed. Additionally, final decision-making remains the responsibility of humans, with AI acting as a supporting tool (Harayama et al., 2021).

2.4. AI in Financial Robotics

AI plays a key role in financial robotics. Financial robotics refers to the use of robots and automated systems in financial activities. Below are some applications of AI in financial robotics (Jrad, 2023):

1. **Investment Management**: AI can be effective in investment decision-making processes. By using machine learning algorithms and data analysis, financial robots can analyze market patterns and enhance investment decisions based on available information and market conditions.
2. **Automated Trading**: AI in financial robotics can automatically perform trading transactions. By using AI algorithms and neural networks, financial robots can identify market patterns and automatically make buy and sell decisions. This application can enhance the efficiency and speed of transactions, reduce errors, and improve financial outcomes.
3. **Market Prediction**: AI can assist in predicting market trends and financial prices. By aggregating and analyzing market data and applying predictive algorithms, financial robots can conduct predictive analyses and make investment decisions based on these forecasts.
4. **Risk Management**: AI in financial robotics can help in risk management. By analyzing risk-related data and using AI algorithms, financial robots can identify investment risks and make decisions that reduce financial risks.
5. **Customer Service**: AI can enhance customer services in finance. Financial robots can automatically respond to customer inquiries and requests using AI algorithms and natural language processing, analyze financial data, and provide guidance to customers. This application can improve the speed and quality of customer service, reduce costs, and increase customer satisfaction (Hisan & Amri, 2022).

2.5. AI in Banking and Taxation

AI plays a significant role in banking and taxation. Below are some applications of AI in these fields: (Kureljusic & Karger, 2023)

1. **Data Analysis and Prediction:** AI can assist in analyzing financial and banking data. By using machine learning algorithms and data analysis techniques, various patterns in financial and banking data can be identified, enabling more accurate predictions regarding market behavior, risks, and other financial and banking factors.
2. **Intelligent Decision-Making:** AI can be useful in decision-making processes in banking and taxation. Using AI algorithms, decisions related to loan granting, capital management, investment policies, and other financial and banking decisions can be improved. AI can make smarter decisions by analyzing data and considering various factors.
3. **Fraud and Scam Detection:** AI can help detect fraudulent activities and scams in the banking and taxation sectors. By using machine learning algorithms and neural networks, common patterns in suspicious behavior can be identified, allowing fraudulent activities to be detected. This application can enhance security and reduce financial risks associated with fraud in banking and taxation.

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4. **Intelligent Customer Service:** AI can help improve customer services in banking and taxation. By using smart algorithms, systems can be created to automatically respond to customer inquiries and requests and provide guidance. Through chatbots and intelligent systems, conversations can be completed more efficiently.
5. **Tax Analysis:** AI can assist in analyzing tax information. By using smart algorithms and data analysis, tax information can be aggregated and analyzed in various formats. Additionally, common patterns in tax declarations and requests can be identified, leading to improvements in tax processes.
6. **Financial Risk Management:** AI can help manage financial risks. By analyzing data related to risks and using AI algorithms, risks associated with taxation and financial management can be identified, enabling intelligent decisions to be made that reduce risks. This includes detecting errors in tax returns, analyzing the likelihood of tax adjustments, and predicting changes in tax regulations.
7. **Enhancing Operational Performance and Efficiency:** AI can improve operational performance and efficiency in banking and taxation. By using smart algorithms, financial and banking processes can be improved and automated. For example, AI can automate tax and banking processes, identify and correct errors, improve speed and accuracy in financial and banking operations, and optimize financial and banking resource management.

It is important to note that AI in banking and taxation is still evolving, and many of its applications and potentials are still in the early stages. With technological advancements and further research, AI is expected to play a significant role in improving performance and efficiency in banking and taxation (Li, 2023).

2.6. AI in Cost Management

AI can effectively assist in cost management. Below are some applications of AI in cost management (Mahmoud El Sayed El Khouly et al., 2022):

1. Cost Forecasting and Planning: Using AI algorithms and financial data analysis, patterns in cost behavior can be identified, allowing for more accurate predictions of future costs. This helps organizations budget better and control expenses.
2. Cost Optimization: AI can assist in optimizing costs and reducing waste in unnecessary expenditures. By analyzing financial data and using smart algorithms, repetitive and similar patterns in costs can be identified, offering solutions for improving efficiency and reducing costs.
3. Fraud and Abuse Detection: AI can help detect fraud and abuse in costs. By using machine learning algorithms and data analysis, common patterns in fraudulent and abusive activities can be identified, and necessary actions can be taken to reduce inappropriate expenses.
4. Improving Cost Management Processes: AI can improve cost management processes. By using smart algorithms, cost management processes can be enhanced and automated. For instance, automating financial processes, detecting errors in invoices and accounts, optimizing cost allocation, and improving accuracy and efficiency in cost management are some of the applications of AI in this area.
5. Predicting Cost Changes: Using smart algorithms and data analysis, AI can predict cost changes and help organizations plan appropriately for managing cost fluctuations. This allows organizations to adapt to sudden changes in costs and make more precise planning.

It is also worth noting that AI in cost management requires high-quality data and proper data preparation. Furthermore, decisions made by AI systems should be reviewed and verified by humans to ensure their accuracy and reliability (Mahmoud El Sayed El Khouly et al., 2022).

2.7. AI in Strategic Decision-Making

The discussion on using AI in strategic decision-making in accounting involves analyzing financial data, predicting different scenarios, and improving decision-making processes (Noordin et al., 2022):

1. AI can provide significant assistance in strategic decision-making. Below are some applications of AI in strategic decision-making:
2. Big Data Analysis: AI can assist in analyzing large and complex data. By using machine learning algorithms and data analysis, hidden patterns and relationships in data can be identified, and valuable

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insights can be extracted. This information can help managers make strategic decisions by providing detailed analyses of the current situation and future trends.

3. Performance Forecasting and Prediction: AI can assist in forecasting and predicting future performance. By analyzing data and using smart algorithms, statistical patterns and trends can be identified, helping managers adjust their strategic plans based on these predictions. This enables organizations to adopt appropriate strategies in response to future changes.
4. Optimizing Operational Processes: AI can help optimize organizational operational processes. By using smart algorithms, current performance can be analyzed, and potential improvements can be identified. As a result, managers can make strategic decisions based on identified improvements and enhance operational processes.
5. Supporting Rapid Decision-Making: AI can assist in rapid and time-sensitive decision-making. By using smart algorithms and data analysis, AI can offer quick analyses and recommendations, aiding managers in making timely decisions (Noordin et al., 2022).

In strategic decision-making, AI can serve as a valuable analytical tool and help managers make informed decisions. By using AI algorithms, models and systems can be developed that have the capacity to analyze large data sets, predict future trends, optimize strategies, and support rapid decision-making (Peng et al., 2023).

For example, in the financial industry, AI can assist in analyzing financial data, predicting market trends, identifying business patterns, improving the performance of automated systems, and making quick decisions in buying and selling efficiently. Additionally, in the manufacturing and supply chain industry, AI can be used to optimize processes, predict demand, manage inventory, and plan production.

Overall, with its ability to analyze data, process information rapidly, detect patterns, and provide accurate analyses, AI can play a crucial role in strategic decision-making and improving organizational performance. However, it is important to note that strategic decision-making remains the responsibility of humans, and AI is merely used as a supportive tool (Peng et al., 2023).

2.8. Impact of AI on the Accounting Business

In traditional financial work, from creating ledgers and filling out coupons to preparing trial balances and financial reports, there are several rounds of repetitive basic tasks, especially in high-volume real estate companies, the fundamentals of which often require substantial human and material resources. These basic tasks follow a complete system of rules and procedures. If such tasks are performed by financial robots, such as intelligent data collection, smart auditing, intelligent coupons, automatic monthly payments, automatic tax declaration and payments, automatic bank reconciliation, and other similar operations, accountants would be freed from this overwhelming repetitive workload. Moreover, the emergence of shared service centers with low technology resolves the issue of workforce adjustment in accounting. The average rate of rework that the accounting department can avoid amounts to 30% of the total full-time employee work hours. For an organization with 40 full-time accountants, this equates to a saving of 25,000 hours per year, translating to a cost saving of $878,000. To effectively integrate dispersed financial personnel in any subsidiary or business unit, and to streamline purchasing, payments, budgeting, etc., and reduce the workload of offline financial staff, a shared service center is established. A specific study revealed that new Shared Service Centers (SSC) in finance have experienced significant growth in Europe and North America: in a 2014 survey, 50% of organizations reported having an SSC in North America, a number that rose to 67% by 2018. In Europe, the growth is explosive, nearly doubling. It is observed that the use of financial robots and the establishment of shared service centers have become trends and will replace existing positions for basic financial personnel (El Hajj & Hammoud, 2023; Farič et al., 2023).

2.8.1. AI Automates, Refines, and Validates Accounting Business

From generating coupons to finalizing financial reports, a large volume of repetitive work exists in between. Account processing includes adjustments of human judgment and selective disclosure of specific data, leading to a certain degree of error rate, and when errors occur, adjustments are more difficult to perform. According to data from the Association of Certified Fraud Examiners, the organization loses 5% of its annual revenue due to internal fraud. Organizations and auditors typically only manually review 10% of expense reports, leaving most potential frauds undetected. The use of AI enables information and

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automates the accounting process. Financial robots exhibit rapid execution speed, responsiveness, and quick feedback, enhancing accounting efficiency. With proper planning, financial robots can ensure the rigor and specifics of each link according to established procedures, thereby effectively reducing the occurrence of errors (Shapovalova et al., 2023).

Since financial robots execute established procedures and financial personnel only input data and complete operations step-by-step, "artificial operations" in the middle of the accounting process are minimized, significantly avoiding artificial accounting fraud. The fraud platform AI system integrates image scanning, network integration, reimbursement systems, financial accounting systems, and connects banks and enterprises organically. The company's funds, banks, and taxes can be reviewed at any time, and each stage can be traced, thus ensuring the accuracy of organizational data (Singh & Singh, 2020).

2.8.2. *AI Provides Financial Information for Business Decision-Making*

Based on a recent survey conducted by the MIT Boston consulting group, more than 80% of people believe AI can create a competitive advantage, while 79% believe that the technology can increase a company's productivity. The shared service center organically maximizes the business, accounting, and management processes of the company to share company information. Under the AI background, accounting personnel are no longer engaged in traditional accounting tasks, but instead, transform accounting data into business information for the company and provide informational support for business decision-making. (Singh, 2022)

The value of financial personnel's work includes reprocessing data based on precise data collection and sequencing, including using various financial indices to measure the current business status and predict the future financial situation, and creating a financial early warning system. Identifying financial risks, determining asset structure, decision-making deductions, and judgment are necessary for the company to set annual and strategic goals. For example, the CTS Group adopts an integrated ERP intelligent system to realize centralized investment capital and budget management across various group subsidiaries. By using various financial and business models, the company analyzes budget completion and asset reserve status using data warehouse analysis at the organizational level and multi-angle business data analysis, providing strong informational support for decision-making by group leaders (Shkurti, 2021).

2.9. *Accounting Theory in the Context of AI*

The integration of AI and accounting is not limited to the application of financial robots but also reflects the development of accounting theory amidst the changing times. Currently, theories in the accounting field are mainly divided into three categories: new management accounting theory, value creation theory, and intelligent management mechanism theory.

2.9.1. *New Management Accounting Theory*

Management accounting is designed to provide internal users with the managerial information required for proper business decision-making and improvement of business management (Sath, 1978). The new management accounting theory holds that in the AI era, financial personnel still have ample space for survival and development. Financial robots are human inventions, and the internal work mechanism is pre-determined by humans. AI technology only replaces programmed and mechanical work, and the human accounting mind remains irreplaceable. A study conducted in 2021 showed that even with the emergence of robo-advisors, 68% of clients prefer to use both human and robo-advisors. In the AI context, the role of accountants has shifted from traditional financial accounting to using financial data to provide informational support for business units. This requires a change in accounting personnel from "executors" to "managers," using financial robots as efficient tools to support work, effectively integrating business and financial information, and offering informational consulting services for business sectors. Meanwhile, accountants are required to be more professional and master comprehensive analytical skills. Future accountants must understand both finance and management (Harayama et al., 2021).

2.9.2. *Value Creation Theory*

The theory of organizational value creation stems from the theory of modern commodity circulation. Marx believed that the modern commodity circulation involves "money first transforming into goods, and then goods transforming into money." "The initial prepaid value is not only preserved during the circulation process but also changes in value during circulation," and ultimately, value multiplication occurs. Based on this theory, from the value chain

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perspective, accounting for the value chain improves the correlation between management accounting information and managerial planning and control activities. The common goal is to "maximize value creation by coordinating and integrating various value activities." From the perspective of investors' rights and interests, the goal of accounting in business operations is to understand valuation and increase company value. Accounting must also strengthen support for investors, protect the added value of investor capital, and safeguard value creation and risk control aspects (Peng et al., 2023).

This theory posits that customer value is the precursor to creating company value, and shareholder value is the financial result of realizing customer value. Accounting work, based on value creation, provides information regarding cash flow, risk, and time to serve cash flow management, risk management, and strategic decision-making for companies. The use of AI clarifies the company's value creation process in accounting. Accounting work is no longer just financial auditing but ensures the achievement of company value creation objectives through the analysis and processing of financial data (Peng et al., 2023).

2.9.3. Intelligent Control Mechanism Theory

In business management, different companies have varying levels of limitations and controls, the most common of which include cost control, performance control, and production control. Fu (2015) proposes the intelligent control mechanism theory based on the control mechanism theory. The latter argues that under certain control conditions, and based on a good control mechanism, an organization can adjust its strategy and actions when uncertain changes occur in external conditions, responding adaptively and automatically according to the intelligent and self-adaptive system. The goals stated in the intelligent control mechanism include three elements: the goal-setting agent, the internal reporting agent, and the responsible person's incentive agent. These elements can form an intelligent, large-scale, complex, and dynamic financial decision-making system through collaboration and effective process control, enabling the robot to independently achieve the goal (Mihai & Duţescu, 2022).

2.10. Ethical Challenges and Issues of Using AI in Accounting

The use of AI in accounting can be accompanied by several ethical challenges and issues. Below are some of these challenges and ethical concerns:

1. **Privacy Preservation**: The use of AI in accounting may involve the collection and analysis of large volumes of accounting data. In this process, the preservation of privacy for individuals and organizations is of utmost importance. For example, if AI is used to analyze accounting data, it must be ensured that this data is used in a manner that complies with privacy laws and regulations.
2. **Human-Machine Interaction**: In accounting, the interaction between humans and AI can lead to ethical challenges. For example, financial decisions may depend on a combination of human judgments and AI recommendations. In this case, the ethical issue arises as to how final financial decisions are made and whether AI recommendations are ethically acceptable.
3. **Impact of AI on Financial Integrity and Transparency**: The use of AI in accounting may affect the integrity and transparency of financial reporting. With the use of smart algorithms and data analysis, financial information may be generated automatically without human involvement. In such cases, an ethical concern may arise as to whether this financial information is accurately and fully represented, and whether it can be trusted.
4. **Impact of AI on Employment**: The widespread use of AI in accounting may have an impact on employment. With greater automation of accounting processes, some human tasks may be replaced by AI systems. This could lead to ethical challenges in managing changes in employment structure and its impact on affected individuals.
5. **Balance between AI and Human Decision-Making**: When using AI in accounting, some accounting decisions may be delegated to AI systems. In this case, the ethical issue arises as to what extent decisions should be entrusted to AI and how much decision-making should remain with humans (Mihai & Duţescu, 2022).

These are just a few examples of the ethical challenges and issues that may arise with the use of AI in accounting.

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In any case, to manage these ethical challenges, the use of AI in accounting must be carried out while adhering to ethical principles and relevant laws. Additionally, attention must be paid to the concerns and opinions of individuals and various communities to ensure that the use of AI in accounting leads to favorable outcomes and increased productivity.

2.11. Benefits of AI in Accounting

AI can offer numerous benefits for accounting. Some of these benefits include:

- Increased accuracy and speed in performing accounting tasks, such as data entry, reconciliation, recording, and reporting.
- Cost reduction and human resource optimization by replacing repetitive and low-value tasks with automation.
- Enhanced security and transparency of financial data by detecting fraud and operational errors.
- Creation of innovative and creative opportunities for accountants through the analysis of large data sets and forecasting financial trends (Harayama et al., 2021).

2.12. Applications and Examples of AI in Accounting

AI in accounting can help with tasks that are typically done manually and time-consuming. Some of these tasks include:

- Data entry and reconciliation
- Invoice matching
- Invoice creation and sending
- Expense reporting
- Price change tracking
- Account reconciliation
- Transaction sorting
- Data recording and reporting (Tandiono, 2023)

By utilizing algorithms that are free of human error and capable of working around the clock, AI can perform these tasks with high speed and accuracy. This saves time, costs, and resources for accountants, enabling them to focus on more valuable and creative work.

AI can also assist in analyzing and predicting financial and accounting data. Using artificial neural networks, AI can uncover patterns and relationships in large, complex datasets and provide insights that are useful for decision-making by managers and accountants. Some of these insights include:

- Stock price predictions and their upward or downward trends
- Auditing and analysis processes
- Valuation of securities and other assets
- Credit rating predictions
- Credit approvals
- Cost estimation
- Future forecasting and estimation
- Bankruptcy assessment and loan risk evaluation for banks and other financial institutions

By providing these insights, AI can help improve the quality and efficiency of accounting and reduce risks and problems.

AI in accounting continues to evolve and develop, creating new applications for the field. For example, Alibaba's facial recognition technology in payment and financial services, and intelligent robot services for customers in the shopping platform, are examples of how AI is transforming and enhancing business operations and services for Alibaba.

2.13. Disadvantages of AI in Accounting

AI for accounting may also have some disadvantages. Some of these disadvantages include:

- The relatively high cost of acquiring and installing AI-based systems.
- The need for training managers and accountants to work with these systems and update their knowledge.
- Difficulty in determining responsibility and accountability in case of errors or fraud in AI systems.
- Potential devaluation and reduced status of human accountants in the job market.
- The potential loss of human connection and trust between accountants and clients.

2.14. Challenges of AI in Accounting

AI (AI) is a technology that can improve accounting processes, reduce errors, and increase efficiency. AI can analyze financial data, conduct audits, issue invoices, report expenses, and recommend financial decisions. AI also allows human accountants to focus more on strategic, creative, and value-added activities. However, AI also has its own challenges. Some of the challenges of AI for accounting include:

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- The relatively high cost of AI-based systems
- The need for training and upgrading the skills of accountants and financial managers to work with these systems
- Difficulty in determining responsibility and ethics for decisions made by AI
- The potential for errors, flaws, frauds, or security threats in AI systems
- The need to comply with accounting regulations and preserve privacy

These challenges require attention and problem-solving from accountants, managers, technology experts, and regulatory organizations. AI can be both an opportunity and a threat for accounting. Therefore, accountants must stay up to date with technological changes and leverage AI's benefits to advance their careers.

2.15. The Future and Outlook of AI in Accounting

AI in accounting is one of the innovative and widely used technologies that can create significant transformations in this field. Using algorithms and artificial neural networks, AI can collect, process, analyze, and predict financial and accounting data, helping accountants and financial managers make better decisions. AI can also automate accounting tasks and reduce errors, costs, and time. AI in accounting offers many benefits, including:

- Increased speed and accuracy in performing accounting tasks
- Reduced errors and accounting mistakes
- Increased efficiency and productivity of accountants
- More accurate and up-to-date financial reporting
- Smarter analysis of financial and accounting data
- Better management of financial risks and issues
- Provision of better accounting services tailored to client needs

However, AI in accounting also presents challenges that must be considered. Some of these challenges include:

- The need for changes in organizational culture and structure to embrace AI
- The need for training and upgrading the skills of accountants to work with AI
- The need to adhere to ethical and legal principles in the use of AI
- The need to maintain security and privacy of financial and accounting data
- The need to solve complex and creative issues that AI cannot address

AI in accounting is still progressing and evolving, creating new opportunities and possibilities for the field. For instance, AI can help develop intelligent accounting systems that can interact with clients and accountants, identify their needs and questions, provide appropriate responses, and deliver customized and optimized accounting services.

3. Conclusion

The use of AI technology has a profound impact on the field of accounting. First, it influences the accounting business by freeing accountants from repetitive, low-level tasks. The focus of the work shifts from core financial accounting to providing informational support for operational decision-making within the company. Second, it has affected the development of accounting theory. New management accounting theories, value creation theory, and intelligent control mechanisms converge and integrate with AI concepts. The new environment has created new requirements for the development of accounting theory. Finally, it impacts the knowledge structure of financial personnel. This not only requires higher financial expertise but also a multidisciplinary background. It also compels universities and companies to collaborate in promoting the transformation and advancement of financial staff and financial work.

The accounting industry must recognize that AI technologies offer tools to improve activities without replacing jobs, even though they reduce data entry positions. Repetitive tasks will successfully be handled by machines, but the decision-making sector will remain the professional domain of accounting. By utilizing AI, company managers can have relevant data when making decisions, leading to better efficiency and lower risks (Kureljusic & Karger, 2023; Kuznietsova & Rybakova, 2022).

The new generation of accountants must possess strong accounting knowledge, skills in accounting technologies, high communication abilities, and the capability to effectively present data to management teams and clients. These skills and knowledge should be acquired through their studies. After graduation, they must be prepared for new job conditions to easily adapt and build a successful career. In the future, universities should adapt their curricula to align with the new business needs and developments to better prepare students interested in the accounting profession.

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Although previous studies predicted a decrease in accountants' wages due to the implementation of AI, this implementation creates opportunities for accounting professionals to work in an exciting and challenging environment. Professionals with the right mindset, based on continuous learning and new skills, will have better career advancement prospects.

However, this phase should be encouraged by companies willing to invest in training and job security for individuals. This is the next most important factor for a successful graduate career, to understand the importance of adapting to new trends. For experts with more experience in this field, a company's willingness to invest in their training is a unique factor for retention and maintenance, ensuring that these employees remain competitive in the job market.

The study's limitation was due to the small number of articles analyzed. Future research will expand the analysis and integrate these findings into a more comprehensive study, aiming to create a "best practice guide on AI challenges" for professionals.

In the future, financial work will become more ambiguous. Financial personnel will transform into financial talents who integrate management, finance, and operations. AI technology brings both opportunities and risks to the development of accounting, such as issues related to accounting information security (Goel et al., 2023), defining issues related to legal boundaries, and over-reliance on technological issues. These issues have yet to be resolved in the future to better serve AI in the accounting domain.

This study examined the impact of AI on accounting. The findings show that AI can assist in performing accounting tasks with high speed and accuracy and analyzing and predicting financial and accounting data with high intelligence. AI can contribute to improving the quality and efficiency of accounting and reducing risks and problems. These findings align with previous research. Therefore, it can be concluded that AI improves the quality and efficiency of accounting.

Based on the theoretical foundations of this research, the following results can be drawn:

- AI is a technology that can improve accounting processes, reduce errors, and increase efficiency.
- AI can analyze financial data, conduct audits, issue invoices, report costs, and suggest financial decisions.
- AI can also allow human accountants to focus more on strategic, creative, and value-added activities.
- AI also presents its own challenges. Some challenges of AI for accounting include:
    - Relatively high costs of AI-based systems.
    - The need for training and skill enhancement of accountants and financial managers to work with these systems.
    - Difficulty in determining responsibility and ethics for decisions made by AI.
    - Potential for errors, malfunctions, fraud, or security threats in AI systems.
    - The need to comply with accounting regulations and privacy protection laws.

These challenges require attention and resolution by accountants, managers, technology experts, and regulatory organizations. AI can be both an opportunity and a threat for accounting. Therefore, accountants must keep up with technological changes and leverage AI's benefits to advance their careers.

Authors' Contributions

Not applicable.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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References

Ablameyko, S. V., & Ablameyko, M. S. (2021). Artificial Intelligence from an Interdisciplinary Perspective: Philosophical and Legal Aspects. *ΦH*, 58. https://doi.org/10.30727/0235-1188-2021-64-5-57-70

Alghafiqi, B., & Munajat, E. (2022). Impact Of Artificial Intelligence Technology On Accounting Profession Dampak Teknologi Artificial Intelligence Pada Profesi Akuntansi. *Fair Value*. https://doi.org/10.32670/fairvalue.v5i01.865

Almagtome, A. H. (2021). Artificial Intelligence Applications in Accounting and Financial Reporting Systems: An International Perspective. In *Handbook of Research on Applied AI for International Business and Marketing Applications* (pp. 540-558). IGI Global. https://doi.org/10.4018/978-1-7998-5077-9.ch026

Alshurafat, H. (2023). The usefulness and challenges of chatbots for accounting professionals: Application on ChatGPT. *Available at SSRN 4345921*. https://doi.org/10.2139/ssrn.4345921

El Hajj, M., & Hammoud, J. (2023). Unveiling the influence of artificial intelligence and machine learning on financial markets: A comprehensive analysis of AI applications in trading, risk management, and financial operations. *Journal of Risk and Financial Management*, *16*(10), 434. https://doi.org/10.3390/jrfm16100434

Farič, N., Hinder, S., Williams, R., Ramaesh, R., Bernabeu, M. O., van Beek, E., & Cresswell, K. (2023). Early experiences of integrating an artificial intelligence-based diagnostic decision support system into radiology settings: a qualitative study. *JAMIA: A Scholarly Journal of Informatics in Health and Biomedicine*. https://doi.org/10.3233/SHTI230787

Goel, M., Tomar, P. K., Vinjamuri, L. P., Reddy, G. S., Al-Taee, M., & Alazzam, M. B. (2023). Using AI for Predictive Analytics in Financial Management. 2023 3rd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE),

Harayama, Y., Milano, M., Baldwin, R., Antonin, C., Berg, J., Karvar, A., & Wyckoff, A. (2021). Artificial Intelligence and the Future of Work. In *Reflections on Artificial Intelligence for Humanity* (pp. 53-67). https://doi.org/10.1007/978-3-030-69128-8_4

Hisan, U. K., & Amri, M. M. (2022). Artificial Intelligence for Human Life: A Critical Opinion from Medical Bioethics Perspective-Part II. *Journal of Public Health Sciences*, *1*(2), 112-130. https://doi.org/10.56741/jphs.v1i02.215

Jrad, M. (2023). A role of artificial intelligence in the context of economy: Bibliometric analysis and systematic literature review. *International Journal of Membrane Science and Technology*, *10*(3), 1563-1586. https://doi.org/10.15379/ijmst.v10i3.1756

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

Kuznietsova, T., & Rybakova, T. (2022). Features and development of managing the foreign economic activity of virtual enterprises in Ukraine. *University Economic Bulletin*(52), 10-19. https://doi.org/10.31470/2306-546X-2022-52-10-19

Li, P. (2023). Application of Artificial Intelligence Technology in Internet Finance and Analysis of Security Risks. 2023 IEEE International Conference on Integrated Circuits and Communication Systems (ICICACS),

Mahmoud El Sayed El Khouly, S., Yasser, K., & Ahmed Yehia, E. (2022). Developing A New Business Opportunities Via Artificial Intelligence: New Strategic Management Model. *52*(4), 677-706. https://doi.org/10.21608/jsec.2022.268733

Mihai, M. S., & Duţescu, A. (2022). Artificial Intelligence solutions for Romanian accounting companies. Proceedings of the International Conference on Business Excellence,

Noordin, N. A., Hussainey, K., & Hayek, A. F. (2022). The use of artificial intelligence and audit quality: An analysis from the perspectives of external auditors in the UAE. *Journal of Risk and Financial Management*, *15*(8), 339. https://doi.org/10.3390/jrfm15080339

Odonkor, B. (2024a). The Impact of AI on Accounting Practices: A Review: Exploring How Artificial Intelligence Is Transforming Traditional Accounting Methods and Financial Reporting. *World Journal of Advanced Research and Reviews*, *21*(1), 172-188. https://doi.org/10.30574/wjarr.2024.21.1.2721

Odonkor, B. (2024b). Integrating Artificial Intelligence in Accounting: A Quantitative Economic Perspective for the Future of U.S. Financial Markets. *Finance & Accounting Research Journal*, *6*(1), 56-78. https://doi.org/10.51594/farj.v6i1.723

Peng, Y., Ahmad, S. F., Ahmad, A. Y. B., Al Shaikh, M. S., Daoud, M. K., & Alhamdi, F. M. H. (2023). Riding the waves of artificial intelligence in advancing accounting and its implications for sustainable development goals. *Sustainability*, *15*(19), 14165. https://doi.org/10.3390/su151914165

Shapovalova, A., Kuzmenko, O., Polishchuk, O., Larikova, T., & Myronchuk, Z. (2023). Modernization Of The National Accounting And Auditing System Using Digital Transformation Tools. *Financial & Credit Activity: Problems of Theory & Practice*, *4*(51). https://www.fkd.net.ua/index.php/fkd/article/download/4102/3879/18870

Shkurti, R. (2021). Cloud computing in accounting and digital financial reporting in Albania. https://doi.org/10.31410/eraz.2021.199

Shoetan, P. O. (2024). Transforming Fintech Fraud Detection With Advanced Artificial Intelligence Algorithms. *Finance & Accounting Research Journal*, *6*(4), 602-625. https://doi.org/10.51594/farj.v6i4.1036

Singh, K., & Singh, R. P. (2020). Implications of New Technology in Accounting of Business Cycles. *Journal of Business and Technology*. https://www.academia.edu/107426934/Implications_of_New_Technology_in_Accounting_of_Business_Cycles_with_Special_Reference_to_AI_

Smith, S. S. (2018). Digitization and financial reporting-how technology innovation may drive the shift toward continuous accounting. *Accounting and Finance Research*, *7*(3), 240-250. https://doi.org/10.5430/afr.v7n3p240

Stancheva-Todorova, E., & Bogdanova, B. (2021). Enhancing investors' decision-making-An interdisciplinary AI-based case study for accounting students. AIP Conference Proceedings,

Tandiono, R. (2023). The Impact of Artificial Intelligence on Accounting Education: A Review of Literature. E3s Web of Conferences,

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