



Original Article

Opportunities and Challenges: Revitalising the Accounting Profession Against Artificial Intelligent

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Abstract:

Technological developments noting Artificial Intelligence have impacted many aspects of activities and sectors of society, including the accounting profession. Therefore, this research is intended to analyse the opportunities and challenges that the AI revolution has on the accounting profession, as well as formulate a strategy to revitalise the role of accountants in the digital era. In this research, a qualitative approach method was used through literature review techniques. Based on the research results, it was found that AI offers enormous opportunities in improving efficiency, accuracy, and productivity through the automation of routine tasks such as transaction recording, data analysis, and so on. However, a significant source of risk has also emerged at the same time, and is a concern for the accounting profession today and in the future. Harnessing Artificial Intelligence impacts the liquidation process and the generation of new jobs, requiring the accounting profession to continuously evolve through challenges that demand increased technical, strategic competence and a deep understanding of technology. accounting as a strategic partner in business decision making. This article recommends collaborative efforts between educational institutions, professional organisations, and companies. As well as the development of accounting professional resources that are aligned with current conditions, to prepare accountants for the changes brought by Artificial Intelligence. With the right approach, Artificial Intelligence will not only be a challenge, but also an opportunity to strengthen the relevance and sustainability of the accounting profession in the future.

Keywords: Accounting profession, Artificial Intelligence, Accounting Revitalisation.



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Introduction

One of the milestones of the modern technological revolution is Artificial Intelligence. Starting in the 1950s with the concept of “machine intelligence” by Alan Turing and the term Artificial Intelligence, coined by John McCarthy, AI developed

rapidly from the 1980s in the era of “expert systems” to the 2010s which marked the era of machine learning, or deep learning. Today, AI not only supports aspects of daily life but also becomes a key solution in professional fields. One such field is accounting. AI can be defined as synthetic intelligence capable of simulating human intellectual functions, including learning from past data, recognizing patterns, and being automated in making decisions with minimal to no human intervention. In this regard, this paper discusses the applied practice of AI in accounting ([Jianwu et al., 2024](#)).

The advent of Artificial Intelligence has brought a major transformation to the accounting profession. AI leverages machine learning, natural language processing, robotic process automation, and other skills to automate most daily tasks, record financial transactions, identify anomalies, and analyze data ([Adelakun et al., 2024](#)). It helps the accountant focus only on his strategic tasks. AI brings advanced analytical tools backed by data that help accountants today in decision-making. The accountant profession is more advanced on precise data-driven thoughts. In this case, the knowledge is enhanced in the analysis of big data. Hence the importance of using cloud computing, as well as an understanding of the current to mitigate other cyber risk threats, and data privacy issues, which are currently and will remain important in the digital business world. ([Adeyelu et al., 2024](#)).

More importantly, AI is changing the role of accountants from technicians who all they have to do is execute, to strategic advisors who provide extraing in interpretation. Accountants are also business partners who play a role in planning and direct decision analysis ([Hernawati et al., 2021](#)). Thus, the implementation of AI brings complicated challenges, including resistance to strikes, concerns about job loss due to automation, and the inability to understand AI programs in strategic accounting writing. So that these challenges must be topped with the accountant's capacity to remain relevant to the technological era ([Sumadi et al., 2022](#)).

A number of previous studies have addressed AI in the context of accounting, from using image processing technology to speed up and streamline invoice processing to examining Industry 4.0 preparedness for accounting practices in emerging economies. ([Abdullah & Almaqtari, 2024](#)). However, there are still few studies that address the opportunities and challenges of revitalizing the accounting profession in the AI era specifically. Therefore, the research will be an important contribution to the existing literature and aims to fill the gap by examining the literature in a detailed scope. The research results are an important contribution and mostly at the time of generating them can provide a comprehensive insight into the possible future direction of the sustainability of the accounting profession by utilizing AI.

Methods

This research was conducted using a qualitative method with previous literature review techniques or library research. The data used are secondary data sources from scientific literature, such as quality journals, books, and related articles related to the impact of AI on the accounting profession. This literature review aims to build a conceptual understanding of the impact of AI on the accounting profession in terms of opportunities namely administrative accounting efficiency and in terms of challenges namely skills adaptation and professional ethics. In this regard, it is important to identify those key themes from various literatures and theoretical gaps as well as the results of previous research as the root cause and basis for understanding the observed phenomena. This research, in other words, provides an understanding based on the

existing literature to provide a qualified picture of the revitalization of the accounting profession in the AI era.

According to ([Lindsay, 2020](#)) the accounting profession involves all activities associated with recording, reporting, analyzing, and interpreting financial information for the purpose of decision consideration. In the same study, the research also found that accounting is a key skill for all business ownership and for people who want to be involved in planning and organizing projects that include adaptation to meet the situation. Corporate accountants need to have three skill components, it is important for accountants to understand accounting principles, be able to analyze financial data, and use applicable financial reporting standards. To top it off, corporate accountants must have integrity, good communication, and the ability to adapt to ever-changing technological developments.

Artificial Intelligence technology has transformed traditional practices in the accounting profession with Artificial Intelligence (AI) machine learning, natural language processing, and robotic process automation (RPA). ([Gotthardt et al., 2020](#)) Argued, these technologies enable real-time financial data processing, predictive analysis, and fraud detection. RPA, automates repetitive tasks and explores the various magnitudes of command returns. Robotic Process Automation, for example, offers the accounting profession to decision makers allowing accountants to define their decisions. Thus, accountants can execute automating processes, such as transaction reconciliation and fiddle password reconciliation, instead of spending time thinking about other transactions and reconciliations ([Avinla et al., 2024](#)).

Furthermore, ([Supriadi, 2024](#)), argues that AI supports fraud detection by analyzing transaction patterns for anomalies or suspicious activities. AI also strengthens data security and the reliability of financial information. However, the implementation of AI requires the development of new skills, such as data analysis and technological understanding and poses ethical challenges with respect to algorithm transparency, possible bias, and data privacy concerns. From another perspective, ([Adelakun et al., 2024](#)) understand that. By facing these challenges responsibly and ethically, AI can help accountants navigate the digital age by seizing strategic value and efficiency.

Results and Discussion

Results

1. Opportunities for Revitalizing the Accounting Profession against AI

Based on some of the results of previous studies that have been summarized, there are several main points that can be an opportunity for accountants with the rapid development of artificial intelligence technology. This is not only because certain tasks may not be executed by AI, in this case mainly routine tasks in accounting procedures, but also because AI software itself allows accountants to improve skills, quality services, and from the results of the study there are 3 main points, namely :

- a. This research found that AI can automate repetitive tasks such as processing transaction data for accounting applications and preparing financial statements. With technologies such as Robotic Process Automation (RPA), tasks that used to take a hefty chunk of an accountant's time can be completed much more quickly and accurately.
- b. AI can also provide accountants with hours of meaningful additional time that can be used for good strategic and tactical tasks and aid efficiency, while reducing

the amount of risk of human error in manual processes. As the amount of routine work to be done by the accounting profession decreases, accountants can focus more on tasks that focus on data-driven decision-making going forward.

- c. AI will also, help accountants to better see the financial picture provided by big data. AI is able to find patterns that are usually invisible to humans, which helps predict financial trends and allows a company to immediately check for imminent risks. For example, when AI with machine learning provides much better suggestions on how financial budgets and cash flows should be managed than humans have done so far. AI allows companies to predict risks and be ready for them. Even AI presents accountants with better and proactive decisions based on data rather than reactive market or economic conditions..

2. The Accounting Profession's Revitalization Challenge to AI

In addition to providing benefits, the application of AI in accounting poses certain threats that must be overcome. The results of this study found that, related to the revitalization of the accounting profession with AI, there are several challenges that must be overcome, namely role changes, HR readiness, and privacy data security. Therefore, these three are the categories that must be considered and addressed in the process of AI adoption in accounting.

- a. Accountants' Roles will Change, From Executives to Overseers and Strategic Thinkers. As a first step, one of the biggest challenges in implementing AI is the changing role that accountants have to take. Previously, many administrative tasks were taken care of by accountants, such as processing transaction data and generating reports.
- b. is the Readiness of Human Resources (HR) on the new skills required. As, to take full advantage of AI, accountants need to be able to use technology in several new ways, and so far most professionals in the accounting profession currently do not have the necessary skills. In accounting today this includes, for example, programming skills, data analysis, and an understanding of algorithms.
- c. Data and Privacy Problematic security, data protection covering sensitive matters. The use of AI poses intensive challenges in maintaining data security and privacy. If AI in all of accounting needs to access very difficult client financial information, it risks losing information or being vulnerable to cyberattacks. In accounting where client data and info exists at every level of accountants, data protection is a highly prioritized item.

3. Strategi Revitalisasi Profesi Akuntansi dengan AI

In this regard, in order to adapt to the changes expected from AI, the accounting profession needs to revitalize its role and skills. Key tools that can aid in the success of this endeavor include the following steps, which will provide the necessary advantages and footing:

- a. First is digital competency training and development. In the age of AI, accountants must learn machine learning, natural language processing, and robotic process automation (RPA) for automation of routine tasks and increased efficiency. Empowering these functions not only increases the speed and accuracy of the accounting role functions instead, which means accountants must also act as data-driven analysts and decision-makers, as demonstrated in several industry case studies.
- b. Ethical Awareness and Data Security of AI Implementation. Risks that can be

present are transparency, data security, and potential algorithm bias. Algorithms used in artificial intelligence (AI) systems should be known by accountants. Accountants should ensure the algorithms consist of human-led blinkered AI and prioritize privacy a key challenge in this variant. In particular, privacy is important, where essentially confronting the management of financial data spends it without an overly given opinion. Accountants must also ensure the algorithms used are free from bias. Bias, in this case, must be avoided in the operation of artificial intelligence, because it can be fatal to the financial results of the analysis and decision making. Accountants must ensure that the identity of the algorithm is transparent and accountable and can provide confidence to the public.

- c. **Increased Strategic Role of Accountants.** AI technology allows accountants to analyze real-time data and provide advice based on predictive information, transparency and a third algorithm can prove that the advice is made with data without bias. AI technology allows accountants to provide real-time informed advice, integrating the decision role very well in fraud situations. Although it sounds difficult to pass the algorithm independently, but it is possible to prevent it must work well together.

Discussion

1. Positive Implications of Using AI in the Accounting Profession

a. Operational Efficiency

Artificial Intelligence (AI) has made a significant impact in improving the operational efficiency of the accounting profession. Routine tasks such as recording transactions, reconciling data, and preparing financial reports can now be automated with technologies such as Robotic Process Automation (RPA) ([Ayinla et al., 2024](#)). With this automation, time previously spent on manual tasks can be minimized, providing a great opportunity for accountants to improve overall work efficiency. Automation also speeds up the processing time of financial reports, allowing companies to generate data faster for internal and external purposes.

In addition to time efficiency, AI technology also allows accountants to focus more on strategic tasks that require in-depth analysis and data-driven decision-making, such as financial analysis and long-term business planning. These tasks require more comprehensive insights, which can only be obtained through advanced technology-based analysis. ([Remlein et al., 2022](#)). With AI, accountants can generate more accurate, in-depth, and real data-driven insights, making their role more relevant and strategic in the digital era.

Furthermore, in research ([Gotthardt et al., 2020](#)) the implementation of this technology provides space for accountants to improve collaboration between teams through faster and more structured data access. With AI, accountants can work more synergistically in providing strategic insights to stakeholders, thereby helping to make more effective business decisions. This strengthens the accountant's position as the company's strategic partner in building strong business sustainability.

b. Improved Accuracy and Transparency

One of the key contributions of AI is its ability to improve accuracy in accounting processes. With anomaly detection technology, AI can

recognize suspicious patterns in financial data and provide early signals for fraud prevention. This helps companies in maintaining the integrity of financial statements, which is critical to retaining the trust of investors, regulators, and other stakeholders ([Zheng, 2022](#)).

In addition, AI-based systems are capable of producing more transparent and reliable financial reports, which contributes to increased client confidence in accounting services. With high accuracy, AI also helps companies comply with increasingly stringent regulations in finance and accounting. This transparency not only enhances the company's reputation, but also provides a solid basis for strategic decision-making ([Amelia et al., 2024](#)).

c. Predictive Analysis

AI technology enables accountants to perform predictive financial analysis by utilizing big data. By projecting financial trends and predicting potential risks, AI provides better support in data-driven decision making ([Khasanah et al., 2024](#)). This technology enables companies to be more proactive in the face of market challenges and regulatory changes.

For example, machine learning-based systems can provide optimized recommendations regarding cash flow management and company budgets, which can help companies respond more proactively to market changes ([Zheng, 2022](#)). In addition, predictive analytics allows companies to identify investment or cost-saving opportunities that may not be apparent with traditional methods. By utilizing this technology, companies can create more adaptive and future-oriented financial strategies.

2. Challenges Faced in AI Implementation

a. Transformation of the Accountant's Role

With the automation of technical tasks, the role of accountants changes from administrative task executors to supervisors and strategic advisors. However, this change presents a challenge in the form of the need to increase accountants' competence in understanding and utilizing AI technology ([Coman et al., 2022](#)). Accountants must be able to interpret data-driven analytical reports and provide relevant strategic insights to management.

This transformation also requires adaptation to a new mindset where accountants are not only “implementers” but also “strategic thinkers.” Many accountants lack confidence in facing this new task, especially with regard to technology. Therefore, strong support from the organization, including training, mentorship, and continuous professional development is needed to overcome these barriers ([Ahmad, 2024](#)).

b. Data Security and Privacy

AI implementation brings serious challenges in terms of data security and privacy. AI systems used in accounting often have to access sensitive financial data. If not managed properly, this can increase the risk of cyberattacks and data privacy breaches. Therefore, strict policies regarding data protection are required, including the use of encryption technology and compliance with data protection regulations such as GDPR (General Data Protection Regulation) ([Ducato, 2020](#)).

In a global context, this challenge is further complicated by the differences in data protection regulations between countries. Multinational companies must ensure that their AI systems comply with regulations in each jurisdiction in which they operate ([Li, 2020](#)). In addition, accountants should have a deep understanding of the ethical issues related to the use of AI, including how to handle sensitive data responsibly.

c. HR Skills Gap

The adoption of AI in the accounting profession requires new skills, such as programming, data analytics and understanding of algorithms. Currently, many accountants do not have sufficient competencies to utilize such technologies ([Hernawati et al., 2021](#)). Therefore, investment in training and skills development is needed so that accountants can adapt to the demands of modern technology.

This gap affects not only productivity but also a company's competitiveness. Organizations that are slow to adapt to technology risk falling behind their competitors. Therefore, investment in human capital development should be a top priority to ensure that accountants have the necessary tools and knowledge to succeed in an increasingly digital work environment ([Cordos & Tiron-Tudor, 2023](#)).

3. Strategies for Overcoming Challenges and Capitalizing on Opportunities

a. Digital Competency Training and Development

To deal with the changes brought about by AI, accountants need to be trained in technologies such as machine learning, natural language processing, and RPA. This training should be focused on developing analytical and data-driven decision-making capabilities, so that accountants can perform their strategic roles more effectively. In addition, training should include real-life case studies that allow accountants to understand the application of AI technologies in relevant business contexts ([Ng, 2023](#)).

Training programs can be designed with collaboration between technology companies, educational institutions, and accounting professional associations. The focus is not only on technology, but also on strategic aspects such as data analysis and risk management. This continuous training ensures accountants remain relevant amidst rapid technological changes, while building their confidence to adapt to new, more strategic roles.

This professional training strengthens strategic analytical skills and data-driven decision-making. Simulations and case studies help accountants have a better idea of big data and how business functions manage this more effectively. For example, companies using this RPA report lower error rates and more efficient operations, suggesting great potential for AI-based technology processes ([Oviya et al., 2024](#)).

b. Strengthening AI Regulations and Ethic

It is important to ensure that the use of AI in accounting is done ethically and transparently. Accountants need to understand the algorithms used by AI systems, including the potential biases and risks

that may arise. In addition, strong regulations related to data security and algorithm management should be implemented to ensure accountants can work with AI technology responsibly.

Transparency of algorithms and clarity in data usage are important pillars to maintain public trust. These regulations should also include mechanisms to oversee the implementation of AI in accounting, including periodic testing of the algorithms used. Accountants should be involved in the development of internal company policies related to AI, ensuring that the technology is used in accordance with ethical values and applicable laws. Thus, the risk of misuse of technology can be minimized. This can be found in research ([Supriadi, 2024](#)) which discusses the integration of artificial intelligence in the audit environment in detecting fraud.

Such efforts show that strengthening data regulation and regular monitoring of algorithms are good steps forward in the effort to tackle AI ethical challenges. Scanners are guaranteed to respond to biased algorithms and schemes quickly once detected, meaning that the damage caused by both circumstances is minimal. Clear rules imposed on accounting firms also allow accountants to ensure compliance with existing legal and ethical standards. The move is pushing towards a much more transparent, accurate, and trustworthy system ([Adelakun et al., 2024](#)).

c. Strategic Partnerships

Collaboration between educational institutions, professional organizations, and companies is key in creating an ecosystem that supports the adaptation of AI technology. Through this partnership, training and human resource development programs can be integrated with industry needs, so that accountants can face the changes presented by AI with confidence.

The partnership also includes the establishment of an industry forum to share best practices in AI implementation. Educational institutions can play an important role by developing curricula that are relevant to market needs. Companies can support this initiative through internship or mentorship programs, helping new accountants to gain hands-on experience with AI technologies. This synergy between various parties ensures that the adaptation to AI is not only effective but also sustainable ([Khasanah et al., 2024](#)).

The transparency of AI algorithms allows accountants to prove that the suggestions they make are not influenced by individual biases and this increases the trust in the results of their previous analysis. In addition, AI helps accountants appropriately handle situations related to fraud identification. Although there are issues related to ensuring that AI algorithms function independently, there are no major problems that are impossible to overcome if accountants understand and manage AI properly. The success rate of implementing AI in the accounting profession depends entirely on the cooperation between accountants and technology. Accountants must be able to work together in different systems to ensure that all AI technology results are transparent and accurate. In this way, AI becomes not only a support tool but also a

strategic partner in improving the quality of decision-making in the accounting profession.

Conclusion

In many ways, Artificial Intelligence (AI) has revolutionized the accounting profession. AI enables the automation of most standard accounting tasks, including the recording of transactions, data processing, and the formulation of financial statements. In addition to optimizing the speed and accuracy of these actions, the technology gives accountants the opportunity to perform additional, more important tasks. Using big data, advanced analytics tools, accountants provide faster and more efficient support for data-driven decision making. But this significant change is predicated on the development of a number of more modern skills: formal or non-formal education, including programming, data analysis, and knowledge of artificial intelligence algorithms.

There are also a number of specific challenges related to the loss of data privacy, the worsening of information security threats, which must be addressed to preserve the position of public trust in the professional field. The education and training of accountants is the most positive answer to these challenges. It enables competitive sustainability in the ever-evolving AI era. This approach allows the accounting profession to continue to face future challenges by being better prepared and more adapted to technological developments.

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