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The Impact of AI on the Accounting Industry

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Abstract: As intelligent algorithms continue to break through the boundaries of traditional operations, artificial intelligence technology is reshaping the ecosystem of accounting practices in a disruptive manner. This article, through an analytical framework, reveals the double-edged sword effect contained in this digital revolution: while optimizing the efficiency matrix, it also reconstructs the risk topology. One representative example is the accounting information system based on AI. It can conduct rapid analysis of the information provided by users and give them correct feedback. However, other problems it generates are also worthy of attention. This study suggests that while artificial intelligence can make accounting smarter and more efficient, it also needs to be more cautious in terms of data protection and ethical responsibility. In the future, it is necessary to find a balance between the application of technology and the maintenance of professional judgment. This study reminds us that artificial intelligence is a useful tool, but it should be used wisely and responsibly in order to truly benefit from the accounting industry.

Keywords: Accounting Industry, Finance, Artificial Intelligence.

1. Introduction

In the rapid development of information technology, artificial intelligence plays an important role in the accounting industry and has a profound impact.. Compared with the cumbersome manual operations in traditional accounting, the financial accounting system can process financial information more quickly and improve accuracy. The emergence of AI has broken this traditional operation mode and greatly improved office efficiency and can conveniently serve enterprises. Intelligent financial systems and robot process automation (RPA) tools are representatives of this. The wide application of AI also brings challenges, including various information security risks and privacy leakage issues. How to use AI correctly and safely, how practitioners can comprehensively understand the role of AI in the accounting field, and achieving the coordination and cooperation between artificial intelligence and humans, and mutual connection are of vital importance.

In an era of rapid technological advancement, AI (Artificial Intelligence) has gained a significant foothold across various industries, particularly in the field of accounting. Many studies suggest that the development of financial AI represents a substantial advancement for the accounting profession. Wang pointed out that traditional accounting models are prone to errors, and the introduction of automation software such as RPA can significantly enhance work efficiency [1]. Huang mentioned that highly repetitive and simple tasks in accounting can be handled by financial robots. However, when it comes to research in the field of accounting, AI technology still requires further improvement

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[2]. CAI believes that traditional accounting can respond quickly to departmental communication and environmental changes. However, the efficiency, convenience, and cost-effectiveness of artificial intelligence can also contribute to the sustainable development of enterprises [3]. Hasan believes that AI in the accounting field can effectively assist accountants rather than completely replace them. Moreover, as accountants'demand for efficiency and value increases, artificial intelligence will be more widely adopted [4]. In the financial industry, which is closely related to accounting, artificial intelligence has also demonstrated outstanding effectiveness. Yan et al. study that after years of development, AI in the financial sector has become relatively mature, serving as a powerful assistant for financial professionals and providing more convenient customer support through intelligent financial tools [5]. Chu et al. argue that artificial intelligence can handle routine financial tasks, reducing the workload pressure on accountants and allowing them to focus more on key financial matters within the company. However, the development of AI also brings the risk of data leaks, posing potential security threats to enterprises [6]. At the same time, the development of artificial intelligence also brings the risk of data leaks, posing potential security threats to enterprises. Therefore, in the era of AI, accountants will face both opportunities and challenges. Zhong et al. believe that artificial intelligence poses a threat to accounting jobs. To survive in the AI era, accountants must improve work efficiency and expand their knowledge base. However, AI can also complement accountants, enhancing corporate competitiveness [7]. Enhancing corporate competitiveness. Luo, J. et al. argue that not only the financial accounting industry but all sectors should seize the opportunities presented by the AI era to achieve industry upgrades and transformation. Intelligent finance and accounting will become the dominant trends in future development, and the key to addressing challenges lies in the effective and strategic utilization of artificial intelligence [8]. Overly simple financial tasks have been replaced by intelligent financial robots, and customer information can be obtained in real-time through AI technology, eliminating the hassle of manual searches [2]. Chen Lin believes that ChatGPT has also had a significant impact on the auditing industry, helping auditors accurately identify the sources and authenticity of financial data. AI language models, represented by ChatGPT, not only intensify competition among auditors but also highlight the risks associated with artificial intelligence [9]. Yang pointed out that intelligent accounting has shortened the time required for financial risk management and played a key role in accounting analysis and financial statement preparation. Expanding the application of artificial intelligence can contribute to the high-quality development of enterprises; however, it is still necessary to enhance employees' professional capabilities [10]. Artificial intelligence is a double-edged sword—it can drive rapid business growth while also introducing unavoidable risks. The key to addressing these challenges lies in the effective integration of AI with the accounting industry. Enterprises must enhance employees' accounting skills while avoiding excessive reliance on artificial intelligence.

The main objective of this study is to explore what influence AI taking to accounting. This study explores the benefits of using AI in the calculation, such as improving the effectiveness of financial projects and supporting decision-making. At the same time, there is also a focus on related risks such as data safety and depend on AI systems. The aim is to understand how AI can be used efficiently in the accounting system while ensuring that staff continue to control ethical and security concerns. The study is intended to provide useful information on how to integrate AI into computational methods.

2. The main type of AI

2.1. The development of AI

The prototype of artificial intelligence was born in Turing's paper published in 1950, where the "Turing Test" was proposed. The Turing Test and the subsequent Dartmouth Conference marked the

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birth of AI. From 1950 to 1970, AI entered its early development boom period, including symbolicism, early reasoning systems, early neural networks, and expert systems. These developments drove the second AI boom: the statistical school in the field of speech recognition replaced expert systems, and AI enhanced the deep machine learning capabilities, specializing in studying how computers simulate human learning behaviors, and the developed neural networks could recognize tasks proposed by users. Since 2006, the development of AI has become mature, capable of quickly analyzing information provided by users through the identification of big data, and leading the progress of speech recognition, image recognition, and natural language processing through deep learning such as machine vision and machine translation. The continuous development of technologies such as big data, cloud computing, and the Internet of Things has provided broader scenarios and opportunities for the application of artificial intelligence.

2.2. ChatGPT

Chatgpt is an advanced AI modeling language based on the OpenAI GPT architecture. It is a natural language processing system that can generate human text, engage in meaningful conversations, and support various tasks such as academic writing, data analysis, and programming. The essence of Chatgpt lies in the depth of learning and technology, especially in neural networks based on Transformers architecture. This enables them to understand and generate coherent text that fits the context. This is an unmanned learning training that uses a large amount of textual data to learn grammar, facts, thinking patterns, and language structures. ChatGPT is applicable in multiple fields, including: Text generation: Writing papers, reports, stories and creative writing. Conversational AI: Engaging in human-like conversations to assist users in accomplishing various tasks. Academic assistance: Helping with research, abstract writing and complex concept interpretation. Programming support: Writing and debugging code in various programming languages. Financial and business applications: Supporting financial analysis, accounting calculations and market research.

2.3. Deepseek

DeepSeek is a large-scale generative language model (Large Language Model, LLM) independently developed by the Chinese artificial intelligence enterprise DeepSeek. Its technical architecture is based on the improved Transformer neural network and adopts the self-attention mechanism to achieve sequence modeling. This model is constructed through a two-stage training paradigm: Firstly, it undergoes unsupervised pre-training on PB-level heterogeneous corpora (covering multilingual texts, codes, academic literature, and structured data) to learn language representations and cross-domain knowledge; subsequently, it aligns user intentions through instruction fine-tuning (Instruction Tuning) and reinforcement learning based on human feedback (RLHF), optimizing the accuracy, safety, and logical coherence of the generated content.In terms of training strategies, DeepSeek Chat adopts Mixed-Precision Training and a distributed parallel computing framework, and utilizes the MoE (Mixture-of-Experts) architecture to enhance the efficiency of model parameters. Its performance benchmark tests (such as MMLU, C-Eval) show that this model achieves industry-leading levels in tasks such as mathematical reasoning, code generation, and Chinese semantic understanding. The current system is deployed on a cloud-edge collaborative computing platform, achieving low latency responses in high-concurrency scenarios through dynamic load balancing. The typical application scenarios of this model cover academic research assistance, automatic generation of business documents, adaptive learning systems in the field of education, etc. Its technical route embodies the paradigm shift of generative AI in knowledge-intensive tasks.

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3. The influence of AI on the accounting industry

3.1. Technical details

In terms of training strategies, DeepSeek Chat adopts Mixed-Precision Training and a distributed parallel computing framework, and utilizes the MoE (Mixture-of-Experts) architecture to enhance the efficiency of model parameters. Its performance benchmark tests (such as MMLU, C-Eval) show that this model achieves industry-leading levels in tasks such as mathematical reasoning, code generation, and Chinese semantic understanding. The current system is deployed on a cloud-edge collaborative computing platform and achieves low latency responses in high-concurrency scenarios through dynamic load balancing. The typical application scenarios of this model cover academic research assistance, automatic generation of business documents, adaptive learning systems in the field of education, etc. Its technical route embodies the paradigm shift of generative AI in knowledge-intensive tasks.

3.2. Application in the accounting industry

With the development of artificial intelligence (AI) technology, ChatGPT and DeepSeek, as advanced large language models (LLMs), are increasingly widely applied in the accounting industry. They not only enhance the automation level of financial work but also strengthen the capabilities in data analysis, auditing, and decision support. This article will explore the main impacts of these two AI models in the accounting industry. Automation of accounting processing ChatGPT and DeepSeek have significantly enhanced the automation level in accounting work through natural language processing (NLP) and machine learning, including automatic bookkeeping and data entry: By using AI to analyze bank statements, electronic invoices, and financial transaction records, they can automatically classify and verify. Automated invoice management: DeepSeek combines OCR (Optical Character Recognition) technology to quickly process invoice information, thereby improving the efficiency of financial accounting.

Tax calculation and compliance checks: ChatGPT can automatically calculate the taxes payable based on the latest tax laws (such as IFRS, GAAP, and tax policies of various countries), provide compliance suggestions, and reduce the risk of tax errors. Financial Data Analysis and Forecasting language models can swiftly process large-scale financial data and enhance accountants' data analysis capabilities, including: Financial statement analysis: Utilizing NLP to parse balance sheets, income statements, and cash flow statements, and automatically generating management reports. Financial ratio calculation: AI can automatically calculate key indicators such as the current ratio, return on assets (ROA), and return on equity (ROE), assisting in business decision-making. Financial forecasting and risk assessment: DeepSeek, combined with big data analysis, can predict the future financial performance of enterprises, helping management to formulate more precise budgets and investment plans.Audit and Risk Management The application of AI in the fields of auditing and risk control has made enterprise financial management more precise and efficient: Abnormal transaction detection: ChatGPT and DeepSeek can identify potential fraud behaviors through analyzing historical transaction data, such as false accounting entries and duplicate payments. Automated audit report generation: AI can quickly sort through audit data and generate audit reports in accordance with International Standards for the Accreditation of Auditing Bodies (ISA), thereby enhancing the efficiency and accuracy of the auditing process. Legal and compliance support: DeepSeek can be used to analyze complex accounting regulations to ensure that enterprise financial reports comply with the latest legal requirements. Intelligent Financial Consulting and Management Decision Support ChatGPT and DeepSeek can not only serve as intelligent financial assistants for enterprises, but also assist senior managers in making key financial decisions: Management financial

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interpretation: AI can transform complex financial data into understandable business suggestions, helping managers quickly grasp the financial status of the enterprise. Investment and capital allocation suggestions: DeepSeek can combine market data to analyze investment opportunities and provide reasonable financial optimization plans. Personalized financial consultation: Enterprises can obtain personalized financial advice through AI, such as how to reduce tax burdens and optimize cash flow.

4. Challenge and solution

4.1. The risk of being replaced by basic positions is increasing day by day

With the extensive application of artificial intelligence technology in accounting information systems, a large number of traditional accounting tasks are gradually being automated. Basic tasks such as voucher entry, accounting verification, and preliminary report generation are increasingly being undertaken by OCR recognition, RPA process robots, and intelligent algorithms. Although this trend has significantly enhanced work efficiency and accuracy, it has also invisibly reduced the survival space for junior accountants, leading to a profound adjustment in the job demand structure. Especially for those who have not yet completed skill upgrading, the employment pressure has significantly increased.

Suggestion: The accounting industry should be driven to transform towards a high-end talent structure, gradually reducing reliance on low-value-added positions. The education department can introduce content such as data analysis, business intelligence, Python programming, and ERP system operation through curriculum reform, to build a "finance + technology" compound talent cultivation system. Meanwhile, enterprises should also strengthen on-the-job training mechanisms to enhance employees' adaptability to technological changes and their career mobility.

4.2. Pressure on data security and privacy protection is increasing

The in-depth mining and centralized processing of financial data by AI systems undoubtedly enhance management efficiency, but they also bring unprecedented information security challenges. Enterprise financial data usually involve highly sensitive contents such as business secrets, salary structures, and tax information. If there are security loopholes in the system architecture, data transmission, or storage process, it is very likely to cause data leakage, hacker attacks, or illegal use. This not only harms the interests of enterprises but may also lead to legal liability pursuit and repetitional crises.

Suggestion: When enterprises deploy AI accounting systems, they should simultaneously advance information security construction from both technical and management perspectives. At the technical level, they should strengthen data encryption, network protection and access permission management; at the management level, they should establish a complete data governance system, clearly define the scope of data usage, authorization processes and accountability mechanisms. At the same time, they should organize regular security audits and system tests to enhance their ability to identify and respond to potential threats.

5. Conclusion

This study explores the dual impact of Artificial Intelligence (AI) on the accounting industry in the era of big data. The findings indicate that AI demonstrates significant advantages over traditional accounting in terms of improving financial processing efficiency. However, it also introduces risks such as data breaches. Therefore, the accounting profession must strengthen its technological management capabilities and ethical standards when adopting AI technologies. The use of AI in

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financial operations should be approached with caution, emphasizing the importance of intelligent financial systems that enable effective human-machine collaboration. Striking a balance between technological advancement and risk control is essential. This study highlights the need for accounting practitioners to remain vigilant about the implications of AI and to utilize it appropriately to enhance their professional competence and decision-making capabilities.

References

[1] *Wang Tiantian. (2024). Research on the Application of Artificial Intelligence in the Field of Financial Accounting. In (eds.) Proceedings of the 2024 Academic Exchange Meeting of the China Construction Accounting Society (Volume II) (pp. 628-633). The Fourth Engineering Co., Ltd. of China Railway 15th Bureau Group.*

[2] *Huang Liang. (2021). Research on the Future Accounting Transformation Driven by AI—Based on the Technological Perspective. Journal of Yancheng Institute of Technology (Social Science Edition), 34(04), 53-58.*

[3] *Cai Jiayi. (2024). Research on the Possibility of Accounting Work Being Replaced by AI. Sci-Tech and Economy Market, (05), 44-46.*

[4] *Hasan, A. (2022) Artificial Intelligence (AI) in Accounting & Auditing: A Literature Review.Open Journal of Business and management 10, 440-465.*

[5] *Yan, L. S., Fan, K. H., Wang, Z., & Zhu, B. H. (2024). The Development History and Prospect of AI in the Finance. Artificial Intelligence and Robotics Research, 13(4), 988-995.*

[6] *Chu, H. Y., & Wu, W. R. (2024). Research on the Transformation from Financial Accounting to Management Accounting Driven by Artificial Intelligence. *Frontiers of International Accounting*, 13(4), 619-623.*

[7] *Zhong, G. J., & Wu, W. R. (2024). Opportunities and Challenges Faced by Accountants in the Context of Artificial Intelligence. *Frontiers of International Accounting*, 13(4), 543 - 547.*

[8] *Luo, J. , Meng, Q. and Cai, Y. (2018) Analysis of the Impact of Artificial Intelligence Application on the Development of Accounting Industry. Open Journal of Business and Management, 6, 850-856.*

[9] *Chen, L. (2024). The Impact of Artificial Intelligence on the Development of Auditing—A Study from the Perspective of ChatGPT. *E - Commerce Review*, 13(2), 3016-3023.*

[10] *Yang, Y. C. (2025). The Application and Development of Intelligent Accounting in Enterprises. *Investment and Cooperation*, (02), 93-95.*