

Causal understanding is a defining characteristic of human cognition

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ABSTRACT

This paper explores the opportunities and challenges brought by AI technology to accounting applications. In terms of opportunities, AI facilitates new accounting and supervision in accounting; meanwhile, the application of large language models reduces the cost of AI applications for enterprises, bringing new development space to the accounting industry. Regarding challenges, the innovation of accounting models faces problems such as data migration and integration, data silos, and difficulties in real-time update coordination. Security and risk issues also deserve attention. To address these challenges, this paper suggests that accounting personnel need to upgrade their cognition, solidify their foundation, and reconstruct their capabilities. Enterprises, governments, and educational institutions should collaborate to cultivate accounting talents adapted to the AI era, promoting the sustainable development of the accounting industry.

KEYWORDS

artificial intelligence; accounting industry; and talent building

With the rapid development of AI technology, it has become a key force to promote global technological progress and social change. According to IDC forecast, the global AI industry scale in 2024 will reach 623.3 billion US dollars, up 21.5% year on year, and the amount of investment and financing will reach 31.6 billion US dollars, up 84% year on year. Globally, China and the United States have different advantages in AI technology development and application, while the EU promotes cooperative innovation through a policy framework. The Chinese government attaches great importance to the development of AI and promotes its deep integration with the real economy, and domestic technology companies have made significant progress in areas such as natural language processing.

In this context, the accounting field is facing the opportunities and challenges brought about by AI technology empowerment. AI technology can realize the automatic processing of financial data, intelligent audit and risk prediction, and greatly improve the efficiency of accounting work and data accuracy. However, it also brings about problems such as career transition, data security and regulatory adaptability. Therefore, an in-depth study of the impact of AI on the accounting field is of great significance for promoting the accounting industry to adapt to technological changes, improve industry norms, and achieve sustainable development.

1 AI technology to enable accounting applications

1.1 AI helps with new accounting

One of the core functions of accounting is accounting. At present, the traditional accounting mode is gradually being replaced by the new accounting mode. AI-assisted accounting innovation is mainly reflected in automated data processing, exception detection, compliance review, real-time monitoring and predictive analysis, intelligent application expansion, knowledge graph and information integration, etc. For example, the intelligent invoice identification system can automatically read and classify the invoice information, reducing the manual input time and error rate. At the same time, AI uses machine learning to detect abnormal transactions, automatically match regulations to ensure compliance, and update data, early warning risks, and forecast financial conditions in real time, such as monitoring abnormal cash flow and timely alerts. At the application level, the professional intelligent application of artificial intelligence has become mature, and the intelligent application is gradually expanding from a single level of operation to a cross-level of whole process combined application. Taking manufacturing as an example, AI has run through the whole process of product research and development, design, manufacturing, marketing services and after-sales operation. In contrast, the intelligent application in the field of accounting is still in the single level of operation stage, and there is still a big gap between the establishment of a set of comprehensive process intelligent application system covering accounting measurement, supervision and review, data analysis and control decision-making, which is the development of AI technology enabled accounting in the future.

1.2 AI helps the new accounting supervision

With the advent of domestic AI with low-cost and strong applications similar to DeepSeek, AI has a broad prospect in

processing basic accounting information, bringing significant opportunities for accounting supervision and risk assessment. First, AI can handle huge amounts of financial data and accurately identify potential risks and fraud patterns. For example, through machine learning algorithms, AI can monitor financial transactions in real time, quickly detect abnormal behaviors and issue alerts. This active detection capability not only improves the risk response rate, but also reduces the significant economic losses caused by violations. In addition, AI-driven risk assessment tools are able to continuously track regulatory changes and ensure that financial reporting meets the latest standards, which will help companies avoid the risk of violations. On the premise of ensuring the diversity of data and the fairness of algorithms, AI can facilitate the emergence of new accounting supervision models.

1.3 The large language model under the customized business can be applied

In recent years, although there are some deficiencies in the hardware of large language models in China, the domestic software and software adaptation capability has reached the world's leading level, which promotes the rapid development of large language models with low cost and high application value in China, and provides new development opportunities for AI accounting in customized business.

Specifically, the feasibility of using existing domestic equipment to build large language model platforms has been greatly improved. At present, enterprises can not only buy a complete set of small and large language model artificial intelligence physical building platform with only 1,000 yuan, but also it is no problem to realize the large language model auxiliary intelligent equipment from material procurement to practical application within 1,000 yuan. In the field of accounting, the corresponding enterprises can use domestic equipment to customize the large language model embedded accounting system, further meet the requirements of the trend of accounting business integration, and carry out the exploration of mutual connection of ERP, CRM and other systems.

1.4 The transformation of accounting function in the new era

With the increasingly powerful auxiliary ability of artificial intelligence on intelligent devices, a large number of basic accounting work has been replaced by AI, which is not a simple job loss, but opens the door for accounting personnel to the more creative and higher value work fields. Originally in the non-core function gradually change to the core, in this process, the role of accounting personnel is being profoundly reshaped.

According to the 2023 Shanghai national accounting institute of intelligent financial institute report the ChatGPT of the big model of the transformation of accounting personnel function and cope with the —— based on questionnaire example, big model of the accounting development function, especially in the field of financial analysis, which provides a broader development space for accounting personnel, make it can depth mining the value behind the data, decision-making to provide more prospective and accurate advice. Although the big model has a relatively small impact on risk compliance, financial BP, investment and financing management, corporate strategic finance and other aspects, it just means that accountants still have great potential in these fields and can create more value for the enterprise by virtue of their professional quality and unique perspective.

Compared with the past, the accounting function of the new era pays more attention to the macro grasp. In the digital transformation work, from the top-level blueprint design to the specific implementation step planning, from the organizational structure change to the business process reengineering, and then to the re-polishing of technical details, this series of changes provide a stage for accountants to show their ability. Accounting personnel will be more involved in the strategic planning and management decisions of enterprises, and their management functions and data analysis to provide information work will be greatly strengthened.

2 AI technology is enabling the application of accounting challenges

2.1 The painful period of accounting model innovation

2.1.1 Challenges of data migration and integration

One of the core problems in the digital transformation of financial accounting is the migration and integration of data. Migrating existing financial data from a traditional system to a new digital platform is not a simple data handling, but a complex and detailed project. Old data often has problems such as non-standard format, missing information and data redundancy. If these problems are not handled properly in the migration process, it will directly affect the data accuracy of the new system and the accounting process of the smooth. For example, the incompatibility of data format may cause the system to correctly identify and process data, thus causing data error or loss; the lack of information may bias the generation of financial statements and not accurately reflect the financial situation of the enterprise. At the same time,

the security and confidentiality of data migration is also very important, once leaked, will bring serious losses to the enterprise.

2.1.2 System management and data governance challenges in digital transformation

During the digital transformation period, enterprises are faced with the parallel management difficulty of the old and new systems and the dual requirements of data quality and process optimization. On the one hand, enterprises need to run both traditional accounting systems and new digital systems to ensure business continuity, and this parallel model increases the complexity of business processes. Financial personnel need to double the data entry and check between the two systems, which is prone to errors. At the same time, the data interaction and collaboration have technical difficulties between the old and new systems, which may lead to data inconsistency or process interruption, and thus affect the accuracy of financial analysis and decision-making.

On the other hand, the digital accounting mode puts forward higher requirements for data quality and data governance. Under the traditional accounting method, data accuracy depends on manual audit, which is low but errors can be corrected through manual intervention. However, in the digital accounting mode, the data accuracy directly affects the authenticity and reliability of the report generated by RPA robot, and then affects the management decision. If data have quality problems, such as errors, repeated entries or incomplete, financial statements may affect management decisions. Therefore, enterprises need to establish a sound data governance system, from data collection, storage, processing to analysis of each link to ensure the accuracy, integrity and consistency of data. At the same time, the digital transformation also encourages enterprises to re-examine and optimize their financial processes and internal control mechanisms.

2.2 The collaborative challenge of data island and real-time update

Under the traditional enterprise financial accounting mode, the phenomenon of data island generally exists in the internal and external ecology of enterprises. The adoption of heterogeneous systems and platforms by various departments leads to inconsistent data formats, forming problems such as separation of financial and business data, difficulties in docking between bank and enterprise systems, and differences in declaration standards of tax enterprises. This fragmentation state not only increases the complexity of data cleaning and integration, but also directly causes the lag of information update, which seriously affects the operation efficiency and decision-making quality of enterprises.

With the acceleration of digital transformation, the contradiction between the real-time demand of data and the existing data islands has become increasingly prominent. Real-time data flow can effectively solve the problem of information lag in the traditional mode, automatically matching bill data through the bank-enterprise system, and controlling the end-to-end data of tax declaration can ensure the synchronous update of financial information to avoid the compliance risk caused by data delay. It is worth noting that the essence of the real-time data requirement is to break down the information barriers through technical means. When financial data wants to achieve dynamic flow across departments and organizations, it is more necessary to improve the efficiency of business collaboration, provide the management with decision support based on the global perspective, and form a virtuous cycle of "data-driven business".

2.3 Safety and risk-related issues

In the process of linkage between banks, enterprises and tax authorities, data is frequently transmitted and shared, involving sensitive data such as financial information, bank account information and tax declaration, and there are a variety of security risks. First, security risks in data transmission and sharing. When data interacts between different institutions, it may be stolen, tampered with or leaked. Such as bank-enterprise reconciliation data, it will lead to capital settlement errors. Second, the security vulnerabilities brought by system compatibility and integration. There are differences in different system technical architectures and data standards, and problems such as data interface mismatch or format conversion errors may be used maliciously, leading to data leakage or system attack. Third, the risk of operation and management of internal personnel, financial personnel, bank staff and tax personnel contact with a large number of sensitive data, lack of security awareness may lead to misoperation and leakage of data, malicious behavior such as unauthorized access or tampering with data will also cause serious threats. Therefore, it is crucial to strengthen the safety training and management of internal personnel and establish a sound access control and audit mechanism.

3 Optimization strategy for enabling accounting application of AI technology

In the above article, this paper deeply analyzes a series of challenges encountered by the application of AI enabling

accounting. Based on this, this part will focus on the countermeasures and optimization measures, so as to help the accounting field to better integrate AI technology and achieve transformation and upgrading.

3.1 Cognitive upgrading and strategic layout optimization

Accountants should take the initiative to embrace the new trend of AI, cultivate a keen insight into new technologies, and accurately predict their change trend in financial process, data analysis and other businesses. This is not only a cognitive update, but also a reshaping of strategic layout thinking. Learn to integrate cross-field technologies, build a systematic business architecture, use existing resources to achieve refined information analysis, and feed back business decision-making and information security protection. Take the initiative to grasp the corresponding technical details, business process, try to establish a cross-field, multi-technology joint system of the overall strategic layout concept.

3.2 Consolidate the foundation and ability reconstruction and strengthening

On the one hand, accountants need to return to the source of accounting to ensure the mastery of the basic accounting process, such as the basic guarantee for the supervision of AI operation and error correction, to build a solid bottom line for information quality. On the other hand, it is necessary to vigorously expand the map of information technology capabilities, covering three aspects of software, hardware and hardware and software adaptation. In the process of talent training, in addition to the linkage of universities and enterprises and government and enterprises, it is also necessary to strengthen their ability to quickly adapt to cutting-edge technologies, shorten the running-in period, and improve the "fighting power". In the future, when cultivating new accounting talents, more emphasis needs to be placed on their professional abilities in the emerging information technology fields such as big data and artificial intelligence. The cultivation of such professional abilities should also be in line with the actual needs. For example, develop targeted AI accounting training courses to simulate real business scenarios and accelerate talent growth.

3.3 Multi-party collaboration and industry customized training

Enterprises, governments and colleges and universities should work together to train accounting talents according to the characteristics of different industries. Taking the new energy automobile industry as an example, when cultivating accounting talents, we can embed the professional knowledge and technical points of new energy, so that they can accurately calculate the cost, reasonably plan the capital flow, and meet the unique needs of the industry. At the same time, industry associations are encouraged to take the lead in formulating AI accounting application standards and norms, guide enterprises to carry out digital transformation in an orderly manner, avoid disorderly competition and resource waste, optimize the industry ecology from the macro level, and create a healthy and sustainable development environment for AI-enabled accounting.

4 Summary

AI technology enables the application of accounting in risk, generally benefiting the development of the industry, driving the new quality productivity of the industry. The rapid development of AI technology has brought new opportunities for the accounting field, including intelligent accounting, supervision and data analysis. However, the application of AI technology has also brought many challenges, including the problems of data migration and integration in the innovation of accounting mode, data isolation, security risks and new requirements for the ability of accounting personnel. In order to meet these challenges, it is necessary for enterprises, the government and universities to train accounting talents to adapt to the AI era from multiple dimensions such as cognitive upgrading, solid foundation, ability restructuring and strategic layout, so as to promote the sustainable development of the accounting industry.

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