

The Impact of Artificial Intelligence on the Development of the Accounting Profession and Corresponding Strategies

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ABSTRACT

The rapid development of artificial intelligence (AI) technology has had a profound impact on the development of the accounting profession. This paper explores the applications of AI technology in the accounting field, such as intelligent financial software and intelligent auditing systems. It analyzes the influence of AI on the development of the accounting profession, including changes in the demand for accounting positions and the enhancement of skill requirements for accountants. Additionally, corresponding strategies are proposed. Research indicates that although the application of AI poses certain challenges to the accounting profession, it also brings new opportunities for its development. Accountants should actively adapt to technological changes and upgrade their skills to better cope with future career development.

KEYWORDS

Artificial intelligence; Development of the accounting profession; Coping strategies

1. INTRODUCTION

In the current digital age, artificial intelligence (AI) technology is transforming various industries at an unprecedented pace, and the accounting industry is no exception. With its powerful data processing capabilities, intelligent analysis abilities, and automated execution functions, AI has been widely applied in the accounting field, as exemplified by intelligent financial software and intelligent auditing systems. The application of these technologies has not only enhanced the efficiency and accuracy of accounting work but also exerted a profound influence on the development of the accounting profession. On one hand, the use of AI enables the automation of some repetitive and regular accounting tasks, leading to a reduction in the demand for certain basic accounting positions. On the other hand, it poses new challenges regarding the skill requirements for accountants, demanding that they possess stronger data analysis abilities, information technology competencies, and strategic thinking skills. Therefore, studying the impact of AI on the development of the accounting profession and exploring corresponding coping strategies hold significant practical implications.

2. CURRENT APPLICATION STATUS OF ARTIFICIAL INTELLIGENCE IN THE ACCOUNTING FIELD

2.1. Automated Processing of Financial Data

Artificial intelligence technology plays a crucial role in the automated processing of financial data. For instance, Optical Character Recognition (OCR) technology enables the rapid and accurate

identification of information from paper-based financial documents such as invoices and vouchers, and automatically inputs this data into accounting systems. Take a certain enterprise as an example. Before introducing OCR technology, financial personnel had to spend a significant amount of time manually entering invoice information, which was not only inefficient but also prone to input errors. After the implementation of OCR technology, the time required for invoice information entry was substantially reduced, and the accuracy rate improved significantly, greatly alleviating the workload of financial staff. In addition, artificial intelligence can also achieve automation in accounting transactions. By utilizing pre-set accounting rules and algorithms, it can automatically complete operations such as voucher generation, review, and bookkeeping. When a company's procurement business occurs, procurement vouchers can be automatically generated based on information from procurement invoices and warehouse receipts, and then recorded according to pre-set accounting subjects. Simultaneously, it conducts real-time monitoring and analysis of accounting data, promptly detecting abnormal transactions and issuing warnings, thereby effectively enhancing the efficiency and accuracy of accounting transaction processing.

2.2. Generation and Analysis of Financial Statements

Artificial intelligence can automatically generate various financial statements based on a company's financial data, such as balance sheets, income statements, and cash flow statements. The system can swiftly and accurately summarize and analyze financial data in accordance with pre-set report templates and accounting standards, generating reports that meet the requirements. This not only saves a substantial amount of labor and time costs but also enhances the accuracy and timeliness of the reports. Meanwhile, through the analysis and mining of massive amounts of financial data, artificial intelligence can provide robust support for a company's financial decision-making. Machine learning algorithms can analyze historical financial data to identify patterns and trends and predict future financial conditions and operating results. For instance, by analyzing a company's past sales data, cost data, and profit data, artificial intelligence can forecast future sales volumes, cost fluctuations, and profit levels, assisting the company in formulating reasonable budgets and business plans and providing data-driven support for strategic decision-making.

2.3. Risk Identification and Internal Control

Artificial intelligence also holds significant advantages in risk identification and internal control. It can identify potential financial risks by continuously monitoring and analyzing a company's financial data. For example, the system can detect risks such as potential cash flow disruptions and debt defaults by analyzing indicators such as a company's capital flows, debt levels, and profitability. Additionally, artificial intelligence can conduct risk assessments of a company's business processes, identifying potential operational and compliance risks. In terms of internal control, artificial intelligence can optimize a company's internal control processes, ensuring the accuracy and compliance of financial data. Simultaneously, the system can monitor a company's financial activities in real-time, promptly detecting and rectifying violations, thereby enhancing the company's risk management capabilities.

2.4. Intelligent Auditing

Intelligent auditing is one of the important applications of artificial intelligence in the accounting field. Traditional auditing work requires a significant amount of labor and time, whereas artificial intelligence technology can enable a rapid and precise auditing process through intelligent auditing systems. These systems can automatically detect potential errors and anomalies, improving the efficiency and accuracy of audits. For example, the system can analyze a company's financial statements to verify the accuracy and completeness of the reported data; it can also test a company's internal control system to evaluate its effectiveness. Through intelligent auditing, auditors can

complete audit tasks more efficiently, reduce the influence of human factors, and enhance audit quality.

3. THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE DEVELOPMENT OF THE ACCOUNTING PROFESSION

3.1. Changes in Demand for Accounting Positions

3.1.1. Decreased Demand for Basic Accounting Positions

With the application of artificial intelligence technology, repetitive and routine accounting tasks, such as data entry and report preparation, can be automated. This has led to a reduction in the demand for basic accounting personnel within enterprises. For instance, the role of cashiers, who were primarily responsible for managing cash, has undergone profound changes due to the rise of mobile payments, online banking, and automated financial processing systems. Today, shared service centers have fully taken over bank transfer operations, and when bank payment services are integrated into banking systems, data from major banks can ensure that every payment is accurate. The accuracy rate of AI-powered payments far surpasses that of manual operations by cashiers. Expense accountants mainly handle basic reimbursement businesses, including accounting for management expenses, sales expenses, and manufacturing expenses. In today's increasingly digital and automated environment, incorporating company policies into expense reimbursement platforms to enable automatic identification and review of reimbursement requests by the system has become an effective means to enhance financial management efficiency, reduce human errors, and strengthen internal controls. For routine and high-frequency tasks like expense reimbursement reviews, AI-powered solutions are highly suitable and efficient alternatives. Accounts receivable and payable accountants are primarily responsible for managing receivables and payables. AI technology can automate the handling of these transactions by accurately interpreting contract terms and conditions, thereby partially replacing or assisting the functions of accounts receivable and payable accountants.

3.1.2. Increased Demand for Emerging Accounting Positions

Although the application of artificial intelligence has led to a decrease in demand for some basic accounting positions, it has also given rise to several emerging accounting roles. Specifically:

Significant Increase in Demand for Financial Analysis Positions: While artificial intelligence can enhance the efficiency of financial analysis through automated data processing and predictive modeling, its capabilities are mainly focused on structured data calculations and pattern recognition. The core value of financial analysis still relies on human strategic judgment and business insights. Additionally, financial analysis involves decision support for unstructured problems and cross-departmental collaboration, areas where AI struggles to replace human expertise. Therefore, as the volume of corporate data grows and the demand for refined management increases, the demand for compound talents who are proficient in data analysis tools and can deeply participate in business decision-making has surged in financial analysis positions, which have not been replaced by AI but rather strengthened.

Growing Number of Financial System Maintenance Positions: Shared service centers, as the core departments for financial AI implementation, undertake the responsibility of intelligent accounting for the entire company. During the system tuning process, AI engineers alone cannot meet the system development needs, and accountants with professional financial knowledge are still required to provide assistance. This has given rise to financial system maintenance positions, primarily filled by individuals who possess both financial expertise and an interest in learning computing programs.

Rising Demand for KPI Tracking Positions: Currently, financial indicators hold a significant position in the performance evaluations of various companies. However, relying solely on quarterly financial

data for assessments can no longer meet the needs of advanced enterprises. KPI tracking positions require the timely decomposition of quarterly financial data into monthly, weekly, and daily metrics for real-time tracking, thereby improving operational efficiency and enhancing the company's profitability.

Substantial Increase in Demand for Management Accounting Positions: The popularity of artificial intelligence has driven the transformation of management accounting from traditional accounting to a business partner role. Although AI technology can automate the processing of basic accounting data, the core functions of management accounting—business-finance integration and value creation—still require deep involvement from financial personnel. Therefore, the application of AI has amplified the strategic value of management accounting, leading to a sustained increase in demand for compound talents who understand data tools and can drive business implementation within enterprises.

3.2. Enhanced Skill Requirements for Accounting Personnel

3.2.1. Information Technology Competence

The widespread application of artificial intelligence technology has set new information technology (IT) skill requirements for accounting personnel. Firstly, AI-powered financial systems mandate that accountants master operational skills related to intelligent financial software, encompassing core functions such as data entry, anomaly detection, and system maintenance. Secondly, with the increasing prevalence of intelligent auditing systems, accountants need to possess specialized technical capabilities in system configuration, parameter adjustment, and result interpretation. More importantly, in an AI-driven environment, accountants must have a profound understanding of data security protection mechanisms, enabling them to identify and mitigate risks such as cyberattacks and data breaches. These skill requirements underscore the transition trend from traditional accounting to "technology + professional" compound talents.

3.2.2. Data Analysis Proficiency

The application of artificial intelligence necessitates that accounting personnel possess stronger data analysis capabilities. By analyzing and mining massive volumes of financial data, accountants can gain a deeper understanding of a company's financial health and operational performance, providing more valuable insights for corporate decision-making. For instance, machine learning algorithms can analyze historical financial data to identify patterns and trends, predicting future financial conditions and operational outcomes. By examining a company's past sales, cost, and profit data, AI can forecast future sales volumes, cost fluctuations, and profit levels, assisting in the formulation of reasonable budgets and business plans. Accountants need to master data analysis tools and methods, such as advanced Excel functions, SQL database queries, and Python data analysis, to extract valuable information from large datasets.

3.2.3. Strategic Thinking Ability

With the integration of artificial intelligence, accounting personnel are required to possess strategic thinking abilities, enabling them to participate in corporate strategic decision-making and risk management. For example, accountants can leverage financial data analysis to provide data-driven support for corporate strategic planning, aiding in the development of sound development strategies. Simultaneously, accountants need to stay abreast of industry trends and market changes, adjusting corporate financial strategies promptly to address market risks. This strategic thinking ability empowers accountants to transcend traditional accounting roles and contribute more significantly to the overall success and resilience of the organization.

3.2. Transformation of Accounting Professional Roles

3.2.1. Transition from Bookkeeping to Analytical Functions

Traditional accounting work primarily focuses on recording and calculating financial transactions. However, the application of artificial intelligence (AI) enables accountants to allocate more energy to high-value tasks such as data analysis, financial forecasting, and decision support. Accountants are no longer merely data recorders; they have evolved into data analysts and decision supporters. Through in-depth analysis of financial data, accountants can provide valuable financial information and analytical reports to corporate managers, aiding in strategic planning and decision-making. For instance, by analyzing a company's cost data, accountants can identify key points for cost control and propose specific measures to reduce costs, thereby offering decision support for corporate cost management.

3.2.2. Shift from Executors to Value Creators

In the era of artificial intelligence, the role of accountants has transformed from traditional executors to value creators. Previously, their primary responsibilities revolved around basic tasks such as recording, accounting for, and reporting financial data, relegating them to the background as support staff with limited visibility into their contributions to corporate value. Today, AI has automated many repetitive tasks, freeing accountants to engage in more strategically significant activities. As value creators, accountants leverage their financial expertise and business acumen to conduct in-depth analyses of corporate conditions, providing decision support and forward-looking recommendations to management. These recommendations may include optimizing cost structures, assisting in investment decisions, and participating in strategic planning and risk management. This evolution enhances the professional value and influence of accountants within the organization.

4. COPING STRATEGIES FOR THE DEVELOPMENT OF THE ACCOUNTING PROFESSION IN THE CONTEXT OF ARTIFICIAL INTELLIGENCE

Faced with the profound changes brought about by artificial intelligence (AI) to the accounting profession, accountants, the industry, and the government need to collaborate to jointly address challenges, seize opportunities, and promote the sustainable development of the accounting profession.

4.1. Coping Strategies at the Accountant Level

4.1.1. Proactive Learning to Enhance Comprehensive Skills

Accountants should actively adapt to the demands of the AI era by proactively learning relevant knowledge and skills in data analysis, information technology, and strategic management. By participating in professional training, online courses, seminars, etc., they can master the use of tools such as Excel advanced functions, SQL database queries, and Python data analysis to improve data processing and analytical capabilities. At the same time, they should deepen their understanding of the principles and application scenarios of AI technology, become familiar with the operation of tools such as intelligent financial software and intelligent audit systems, and enhance work efficiency and accuracy. Additionally, accountants need to cultivate strategic thinking by attending strategic management lectures to learn analytical methods. They should collect information on industry policies and competitor dynamics on a weekly basis and summarize key points. Actively participating in discussions on corporate strategic formulation, they should use financial data in advance to assess the feasibility of different strategic plans, provide professional financial advice during discussions,

and continuously monitor financial risks during implementation to increase their participation in strategic decision-making and risk management.

4.1.2. Transition to Emerging Positions to Expand Career Paths

With the application of AI technology, the accounting industry is undergoing profound changes and transformations. Faced with a decrease in demand for basic accounting positions, accountants need to actively adapt to industry changes and transformations and adjust their career plans and development directions. Accountants should actively transition to emerging accounting positions such as financial analysis, comprehensive budgeting, financial system maintenance, KPI tracking, and management accounting. These positions have higher requirements for the comprehensive qualities of accountants but also offer broader career development spaces and higher career values. Accountants can strive to gain a foothold in these emerging positions by improving their abilities and achieve career development, transformation, and upgrading.

4.1.3. Maintain Continuous Learning to Adapt to Technological Changes

AI technology is developing rapidly, and accountants need to maintain a continuous learning attitude to keep pace with technological changes. Accountants should pay attention to the latest applications and development trends of AI in the accounting field and understand the impact of the emergence of new technologies and tools on the accounting profession. Continuously update their knowledge systems and enhance their understanding and application capabilities of new technologies. At the same time, accountants should also focus on cultivating their innovative awareness and practical abilities, being brave enough to try new technologies and methods to create greater value for enterprises.

4.2. Coping Strategies at the Industry Level

4.2.1. Formulate Industry Standards to Regulate Professional Conduct

Industry associations need to closely follow the application trends of AI in the accounting field and formulate comprehensive and detailed industry standards. At the data level, clearly stipulate the data collection scope, cleaning standards, storage methods, and security protection requirements when accountants use AI tools to process financial data to prevent data leakage and abuse. At the level of AI algorithm applications, formulate algorithm evaluation standards, requiring the algorithms used by accountants to be explainable, fair, and accurate to avoid financial information distortion caused by algorithm biases. At the same time, emphasize the professional ethical bottom line that should be followed when using AI for assistance. In addition, a professional certification system based on AI capabilities can be established, which, in addition to traditional professional knowledge assessments, increases evaluations of accountants' abilities to operate AI tools and apply data analysis algorithms, providing reference for enterprises to select compound talents who understand both accounting and AI technology.

4.2.2. Organize Exchange Activities to Promote Experience Sharing

Industry associations should regularly organize diverse exchange activities centered around the application of AI in the accounting field. Focus on application cases of AI in specific accounting scenarios such as financial accounting, auditing, and predictive analysis, and invite corporate accountants with successful practical experience in this field to share operational processes, problems encountered, and solutions. Conduct online lectures and invite well-known software developers to introduce the functional characteristics, operational skills, and integration methods with existing accounting systems of their newly developed intelligent financial software to help accountants understand and master advanced AI tools in a timely manner. At the same time, establish an online exchange platform or community to facilitate accountants to communicate and interact anytime and anywhere and promptly solve AI-related problems encountered in actual work.

4.2.3. Carry Out Research Cooperation to Promote Technological Innovation

Industry associations should actively play a bridging role and collaborate with universities and research institutions to carry out research cooperation at the intersection of the accounting field and AI. Jointly set up research topics and provide more scientific and reasonable career development suggestions and guidance for accountants through in-depth research and analysis. At the same time, actively promote technological innovation and achievement transformation, establish an industry-university-research cooperation mechanism, and quickly apply research results to actual accounting work. For example, embed the developed intelligent financial analysis model into the corporate financial system to provide real-time and accurate financial analysis reports for enterprises and improve the efficiency and quality of accounting work. In addition, industry associations can also set up innovation award funds to recognize and reward teams or individuals who have achieved outstanding results in the integration and innovation of AI and accounting, stimulating innovation vitality within the industry.

4.3. Coping Strategies at the Government Level

4.3.1. Improve Policies and Regulations to Create a Development Environment

The government should formulate and improve a policy and regulatory system covering the all-round application of AI, not just focusing on the data level. In terms of data, clarify the norms and requirements for data collection, processing, storage, and use, ensure the security and privacy of corporate financial data, strengthen supervision and law enforcement efforts, and severely crack down on illegal activities such as data leakage and abuse. At the same time, in response to AI algorithms, issue relevant guidelines to regulate the design, training, and application of algorithms, ensure algorithm fairness, transparency, and explainability, and avoid negative impacts on the accuracy and reliability of accounting information due to algorithm biases or black-box operations. For the access of AI systems in the accounting field, establish a strict certification and approval mechanism, stipulate system performance indicators, safety standards, etc., and only allow certified systems to be put into use to ensure the stability and quality of accounting work. In addition, formulate ethical guidelines for the application of AI in the accounting profession to guide enterprises and accountants to use AI technology correctly and prevent moral risks caused by technology abuse, providing a comprehensive and favorable legal and policy environment for the healthy development of the accounting profession.

4.3.2. Provide Training Support to Promote Talent Transformation

The government can collaborate with universities and training institutions to provide targeted training support for accountants, helping them improve comprehensive skills such as data analysis and information technology. By setting up special funds and providing training subsidies, it can reduce the learning costs of accountants and stimulate their learning enthusiasm. At the same time, the government can also promote cooperation between universities and enterprises and establish internship and training bases to provide practical opportunities for accountants and promote their transition to emerging accounting positions.

4.3.3. Guide Industrial Upgrading to Create Employment Opportunities

The government should actively guide enterprises to carry out industrial upgrading and digital transformation and promote the widespread application of AI technology in the accounting field. By providing tax incentives, financial support, and other policy measures, it can encourage enterprises to increase investment in and application of tools such as intelligent financial software and intelligent audit systems. At the same time, the government can also pay attention to the development trends of emerging accounting positions and timely release employment information to provide accountants with more employment opportunities and career development choices.

5. CONCLUSION

The development of artificial intelligence (AI) technology is reshaping the landscape of the accounting profession. This transformation brings both unprecedented challenges and new development opportunities.

Firstly, AI significantly enhances the efficiency and accuracy of accounting work through functions such as automated financial data processing, intelligent financial statement generation, risk identification and early warning, and intelligent auditing. However, at the same time, this has led to a reduction in demand for basic and repetitive accounting positions, creating pressure for career transition among traditional accountants.

Secondly, the application of AI has given rise to emerging positions such as financial analysis, financial system maintenance, KPI tracking, and management accounting, driving the accounting profession towards higher-value areas. The role of accountants is shifting from traditional accounting practitioners to data analysts and strategic decision supporters, posing new requirements for the skill sets of accountants, including information technology capabilities, data analysis abilities, and strategic thinking skills.

In response to these changes, this paper proposes multi-level coping strategies: accountants should proactively learn new technologies, enhance their comprehensive abilities, and achieve career transition; industry associations need to formulate intelligent accounting standards, organize technical exchanges, and promote industry-university-research cooperation; government departments should improve policies and regulations, provide training support, and guide industrial upgrading.

Looking ahead, the deep integration of AI and the accounting profession will be an ongoing evolutionary process. Only through multi-party collaboration among the government, industry associations, and practitioners can the benign development of AI technology and the accounting profession be achieved, jointly propelling the accounting industry towards a more efficient and intelligent future.

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