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The Impact of Artificial Intelligence Technology on Labor Demand in China: A Case Study of the Accounting Profession

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Abstract: With the deep integration of the digital economy and artificial intelligence (AI) technology, the structure of the labor market across Chinese industries is undergoing profound change, as traditional occupations are continuously upgraded and new jobs keep emerging. Accounting, a foundational and general-purpose professional role in the economy, has been especially affected by AI in work content, job requirements, and talent standards. Drawing on automated bookkeeping, intelligent auditing, and big data fiscal and tax analytics, AI is progressively replacing repetitive, process-driven basic accounting work and sharply reducing demand for entry-level positions, while generating new roles in management accounting, intelligent financial risk control, and financial data analysis. Accounting labor demand is thus shifting from an "accounting-oriented" to a "value-creation-oriented" model. Taking the accounting profession as its research sample and grounding the analysis in the state of China's AI industry and the characteristics of the accounting sector, this paper examines the dual impact of AI on accounting labor demand along four dimensions: demand scale, job structure, skill requirements, and compensation systems. It analyzes the problems facing the accounting labor market, namely differentiated job substitution, a mismatch between talent supply and demand, and career transition difficulties, and it proposes targeted countermeasures regarding university talent cultivation, practitioners' career development, and industry transformation. The study offers a theoretical reference and practical guidance for the high-quality development of the profession and for aligning accounting talent with market demand in the digital era.

Keywords*: Artificial Intelligence; Labor Demand; Accounting Profession; Job Transformation; Talent Cultivation*

I. INTRODUCTION

A. Research Background

Artificial intelligence (AI) has become a core driver of the high-quality development of China's digital economy and has penetrated deeply into such core economic domains as finance, fiscal and tax administration, corporate management, and government services. The state has successively issued development plans for the digital economy and policies designed to empower the AI industry, promoting the construction of intelligent finance and of digital fiscal and tax systems, and thereby accelerating the intelligent and digital transformation of the accounting profession. As a foundational service industry in market economic activity, accounting runs through the entire process of corporate cash flow, financial management, tax filing, and audit supervision, and it is one of the traditional professional fields that absorb a large share of the labor force.

Traditional accounting work consists mainly of standardized, repetitive tasks such as manual bookkeeping, voucher review, account reconciliation, tax filing, and financial statement preparation; consequently, its labor model is rigid, highly dependent on manual effort, and limited in efficiency. AI technology, drawing on machine learning, big data processing, natural language recognition, and robotic process automation (RPA), has automated the entire workflow of basic accounting tasks, raising data processing efficiency by 15 to 20 times compared with the manual model and fundamentally disrupting the traditional labor model and job value of accounting. Research indicates that accounting is among the knowledge-intensive white-collar occupations most exposed to AI technology, and the disruptive and restructuring effects of technological penetration on labor demand in the profession are especially pronounced.

In recent years, the accounting job market has displayed marked polarization. Demand for entry-level positions such as cashier, reconciliation accountant, and bookkeeping accountant has continued to shrink, with demand for basic accounting positions at some enterprises falling by as much as 40%, while the shortage of compound accounting talent capable of AI application, financial data analysis, and strategic financial management keeps widening, with the industry-wide talent gap exceeding 3 million. This structural change in labor demand has thoroughly altered the employment landscape of the accounting profession and poses new challenges to traditional talent cultivation models and to practitioners' career development. Against this background, it is of considerable practical significance to examine in depth how AI technology affects labor demand in the accounting profession and to clarify the internal logic of job substitution and job creation.

B. Research Significance

Theoretical significance: existing research on the labor market impact of AI concentrates largely on the macro industry level, while micro-level studies of a single profession or a narrowly defined set of positions remain relatively scarce. Focusing on the accounting profession, this paper analyzes in detail the differentiated effects of AI on the scale, structure, and skill standards of labor demand. It enriches the theoretical literature on AI-enabled labor markets and on the iteration of professional roles, and it offers a theoretical reference for research on the digital transformation of other traditional professions.

Practical significance: by identifying the changing demand for accounting positions and the direction in which talent standards are being upgraded in the intelligent era, this paper can inform universities that seek to optimize accounting

curricula and adjust their course systems. It helps accounting practitioners clarify directions for career transition and close gaps in digital skills, and it provides enterprises with practical ideas for building intelligent finance systems and optimizing their finance talent pipelines, thereby helping the profession escape low-end, zero-sum competition and achieve high-quality transformation and upgrading.

C. Research Methods and Content Framework

This paper adopts primarily the literature review method and logical analysis. It reviews domestic and international literature on AI-enabled accounting and on structural change in the labor market and, drawing on industry data and enterprise practice cases, systematically analyzes the specific impact of AI on accounting labor demand, summarizes existing problems, and proposes optimization countermeasures. The paper is organized into six parts: the introduction; related concepts and theoretical foundations; the specific impact of AI on accounting labor demand; the problems facing the accounting labor market in the intelligent era; countermeasures for optimizing the adaptability of accounting labor; and conclusions and prospects.

II. RELATED CONCEPTS AND THEORETICAL FOUNDATIONS

A. Definition of Core Concepts

Artificial intelligence technology: in this paper, AI technology refers to applied intelligent technologies used in accounting and finance, including financial robots (RPA), intelligent bookkeeping and accounting systems, AI tax filing systems, big data financial analysis platforms, and intelligent audit and risk control systems. Their core functions are to automate basic accounting work, to make financial data processing intelligent, to make risk warnings more precise, and to digitalize financial decision-making.

Accounting labor demand: this refers to the overall system of market demand for accounting practitioners, covering the scale of position demand, job structure, occupational skill requirements, professional competency standards, and compensation systems. It is the aggregate demand for accounting talent on the part of enterprises, accounting firms, and government fiscal and tax agencies.

B. Theoretical Foundations

The theory of labor substitution and creation under technological progress: technological progress has a dual effect on the labor market. The first is the substitution effect, whereby intelligent technologies replace repetitive, standardized manual labor and compress demand for low-end positions. The second is the creation effect, whereby technological iteration generates new positions and new work scenarios and creates high-end labor demand. The impact of AI on the accounting profession conforms closely to this theory: AI replaces basic reconciliation positions while simultaneously creating new roles in intelligent finance and management accounting.

Human capital theory: the core of human capital lies in workers' knowledge, skills, and overall competence. Technological progress reconstructs the value system of human capital, rendering low-skilled, single-skill human capital obsolete and raising the market value of compound, innovative, and technology-oriented human capital. In the intelligent era, the core competitiveness of accounting talent shifts from traditional bookkeeping capability to an integrated capacity that combines accounting, big data, artificial intelligence, and business insight.

The theory of accounting as a management activity: this theory holds that accounting is not merely a bookkeeping tool but a core management activity of enterprise economic management, value control, and strategic decision-making. AI liberates accounting from basic bookkeeping work, returning accounting to its managerial essence and driving its functions away from ex post recording and toward full-process management, namely ex ante forecasting, in-process control, and ex post analysis. In doing so, it reshapes the core value and market demand of accounting positions.

III. THE SPECIFIC IMPACT OF AI ON ACCOUNTING LABOR DEMAND

The comprehensive penetration of AI technology has not simply reduced the total number of accounting jobs. Rather, it has brought about an all-round, in-depth structural reconstruction of accounting labor demand, displaying the characteristics of "low-end substitution, high-end expansion, skill upgrading, and structural optimization." These characteristics are evident in four dimensions: position scale, job structure, skill standards, and compensation systems.

A. Scale of Position Demand: Basic Positions Shrink While High-End Positions Expand

The impact of AI on the scale of accounting labor demand is markedly polarized. In the traditional basic accounting domain, financial robots can automatically complete the entire workflow of voucher entry, account checking, period-end closing, invoice verification, tax filing, and bank reconciliation without human intervention, greatly reducing enterprises' need for basic accounting staff. Industry survey data show that over the past five years the number of job postings for basic cashier and reconciliation accounting positions at Chinese small and medium-sized enterprises has declined year by year, with an overall drop of more than 40%, and that a large number of low-end accounting positions have been replaced by intelligent systems, placing continuing pressure on the employment prospects of entry-level accounting practitioners. At the same time, the Big Four accounting firms and major domestic fiscal and tax institutions have fully popularized intelligent audit systems, and such work as traditional manual audit sampling and voucher checking has become largely automated, so demand for entry-level audit positions has contracted substantially.

Conversely, the application of AI technology has generated a large number of high-end new accounting positions and has created incremental labor demand. New work scenarios, including the construction of intelligent finance systems, financial big data analysis, intelligent fiscal and tax risk control, digital financial strategic planning, and the operation and maintenance of AI finance systems, have given rise to new roles such as intelligent finance specialist, data financial analyst, fiscal and tax risk control expert, and digital financial advisor. Such positions have no traditional manual substitute, and market demand for them continues to expand; the shortage of compound intelligent accounting talent in China has now exceeded 3 million, making such talent a core resource sought after by enterprises. On the whole, the total number of accounting positions tends to be stable, but the job hierarchy has risen substantially: low-end labor demand is being continuously cleared out while high-end demand keeps growing.

B. Structure of Position Demand: From Bookkeeping to Managerial and Technical Roles

The traditional structure of the accounting profession centered on bookkeeping positions, with cashiers, bookkeeping accountants, cost accountants, and tax specialists accounting for more than 70% of all positions and with work focused on basic processes such as bookkeeping and data recording. AI has overturned this structure, driving accounting positions to move from "transactional bookkeeping" toward "value-based management."

On the one hand, the functions of traditional bookkeeping positions have been substantially weakened and their boundaries continue to contract. Intelligent systems can now accurately complete all standardized bookkeeping work, leaving human staff to handle only a small amount of review and exception handling; the functional value of basic accounting positions has therefore fallen sharply, and they are no longer the core component of corporate finance functions. On the other hand, high-end positions in management accounting, strategic finance, financial data analysis, risk control, and business-finance integration planning have become the core of the finance system. Enterprises increasingly need accounting talent capable of drawing on AI-generated financial data to identify operational pain points, optimize cost structures, anticipate operating risks, and support strategic decisions; the core work of accounting shifts from keeping and calculating accounts to data analysis, value creation, and strategic enablement.

At the same time, the profession has spawned technology-integrated positions that require accounting personnel to possess both professional financial knowledge and the ability to apply AI and big data technologies. These roles take responsibility for implementing and maintaining intelligent finance systems, modeling financial data, and optimizing intelligent risk control rules, which further enriches the structure of accounting positions and upgrades the profession from a single form of financial service to diversified services combining finance, technology, and management. Relevant empirical research shows that for every one-unit increase in the substitution effect of AI, the transformation pressure on accounting positions rises by 6.486 units, indicating a very pronounced trend of structural upgrading.

C. Skill Requirements: From Single Professional Skills to Compound Competencies

Under AI enablement, market requirements for the skills of accounting talent have undergone fundamental change. The traditional single-skill standard of knowing the standards and keeping the books has been broken and replaced by a compound skill system that combines professional knowledge, technology, management, and mindset, which has substantially raised the entry threshold for the profession.

First, the value of basic bookkeeping skills has weakened. Skills once essential to accounting, such as manual bookkeeping, financial statement preparation, and basic tax filing, have been fully replaced by intelligent systems and are no longer core criteria in corporate recruitment; they remain only as basic supporting skills. Second, digital technology skills have become essential core skills. Enterprises now commonly require accounting staff to master financial RPA operation, big data analysis tools, Python data processing, the operation and maintenance of intelligent fiscal and tax systems, and financial data visualization, and to be able to use intelligent tools proficiently to process complex financial data and complete data analysis. The Big Four accounting firms have already made machine learning and intelligent finance system operation required courses for auditors.

Third, integrated management and strategic thinking have become core competitiveness. Accounting talent in the intelligent era needs business-finance integration thinking, risk control capability, cost optimization capability, and the ability to support strategic decision-making, so as to identify operational problems from massive financial data, anticipate industry trends, and provide data support for investment and financing, cost control, and strategic planning. Finally, compliance, risk control, and innovation capability are increasingly important. As the digital fiscal and tax regulatory system improves, accounting staff must accurately grasp intelligent fiscal and tax regulatory rules and avoid digital fiscal and tax risks, while also optimizing intelligent finance processes in light of business scenarios so as to maximize financial value.

D. Compensation System: Widening Pay Differentiation and a Prominent Skill Premium

The penetration of AI has intensified pay differentiation within the accounting profession, producing a marked skill premium in which pay is tightly bound to skill level. In the low-end segment, strong substitutability, excess market supply, and shrinking demand keep basic accounting salaries low and their growth weak; at some small and medium-sized enterprises, salaries for entry-level accounting positions have even edged downward, and room for career advancement is narrow.

In the high-end compound segment, by contrast, strong market demand and insufficient talent supply keep salaries rising, with a pronounced premium. Compound talent with capabilities in intelligent finance operation and maintenance, big data financial analysis, management accounting, and strategic financial planning earns far more than traditional accounting positions and enjoys broad room for advancement. Enterprises also continue to direct compensation incentives, benefits, and career development resources toward high-end accounting talent, so the polarized pay structure of the profession has become entrenched. Research confirms that the more exposed an accounting position is to AI technology, the greater the internal pay dispersion, with skills becoming the core determinant of accounting practitioners' pay.

IV. PROBLEMS IN THE ACCOUNTING LABOR MARKET IN THE INTELLIGENT ERA

A. A Pronounced Structural Mismatch Between Talent Supply and Demand

The accounting labor market currently suffers from a serious structural mismatch, namely a surplus of low-end talent combined with a shortage of high-end talent. On the one hand, the supply of traditional bookkeeping-oriented accounting talent far exceeds demand. University accounting programs still center on bookkeeping, financial standards, and basic tax knowledge, and most graduates possess only basic bookkeeping ability, which does not fit the requirements of intelligent positions; as a result, many fresh graduates struggle to find employment and competition for low-end positions is fierce. On the other hand, the compound intelligent accounting talent that the market urgently needs, namely people who understand technology, management, and business operations, is in short supply: universities have been slow to cultivate digital accounting talent, and existing practitioners have been slow to transform, so the talent needs of enterprises building

intelligent finance cannot be met. The result is an industry dilemma in which difficulty in finding employment coexists with difficulty in filling vacancies.

B. Career Transition Difficulties for Traditional Accounting Practitioners

A large number of traditional accounting practitioners face career bottlenecks and transition pressure. Grassroots accountants who have spent years on repetitive reconciliation work have developed fixed working habits, lack a foundation for learning digital technology, show low acceptance of AI and big data financial tools, and have weak operational ability, which makes it difficult for them to meet the skill requirements of intelligent finance positions. Some practitioners also hold outdated career perceptions, cling to the traditional value of accounting positions, ignore the intelligent transformation of the industry, and lack the awareness to transform proactively and upgrade their skills. In addition, the profession lacks a sound system of in-service digital training for accountants, and internal training resources at enterprises are limited, so many traditional practitioners face job substitution and blocked promotion, and their career space continues to contract.

C. Insufficient Adaptability of University Talent Cultivation Systems

The talent cultivation models of university accounting programs lag behind the pace of industry technology iteration and struggle to adapt to labor market demand in the intelligent era. First, curricula are outdated: core courses in most university accounting programs remain traditional financial accounting, cost accounting, and tax law, while digital courses in AI finance, big data analysis, intelligent risk control, and business-finance integration are under-offered and comparatively weak in practical content. Second, practical teaching lags: training is still dominated by manual bookkeeping and simulated account reconciliation, and digital training equipment such as intelligent financial robots and big data financial analysis platforms is lacking, so students cannot master the operation of mainstream intelligent tools. Third, the teaching staff is inadequate: some teachers lack hands-on intelligent finance experience and awareness of the industry frontier, and teaching content is disconnected from actual industry needs, which makes it difficult to cultivate compound digital accounting talent.

D. Outdated Occupational Standards and Assessment Systems

Current professional qualification examinations and competency evaluation systems in accounting still emphasize traditional bookkeeping ability, and assessment of new skills such as AI application, big data analysis, and digital management accounts for a very low share; occupational standards therefore lag behind the pace of industry transformation. This lagging evaluation system keeps practitioners and students focused on traditional accounting skills and neglectful of digital skill improvement, which further aggravates the mismatch between talent supply and demand. The profession also lacks a unified competency evaluation standard for intelligent accounting talent, so enterprises have no clear basis for recruitment and promotion, which is unfavorable both to the standardized cultivation of compound accounting talent and to the building of an industry talent pipeline.

V. COUNTERMEASURES FOR OPTIMIZING THE ADAPTABILITY OF ACCOUNTING LABOR DEMAND IN THE INTELLIGENT ERA

A. Universities: Optimize Talent Cultivation Systems to Match Market Demand Precisely

As the core vehicle of accounting talent cultivation, universities must ground their programs in the labor market demand of the intelligent era and comprehensively optimize their accounting talent cultivation plans. First, they should restructure the course system, cutting outdated and redundant basic bookkeeping courses and adding core courses in intelligent finance, financial RPA applications, big data financial analysis, Python for financial data processing, digital risk control, management accounting, and business-finance integration, so as to build a compound curriculum that combines the accounting profession, digital technology, and management capability. Second, they should strengthen practical teaching by building intelligent accounting training laboratories, introducing mainstream industry intelligent finance systems and big data analysis platforms, and delivering immersive digital training. They should also deepen university-enterprise cooperation by jointly building training bases with accounting firms and digital enterprises, so that students can participate in real intelligent finance projects and improve their hands-on ability.

Finally, universities should strengthen the teaching staff by arranging industry secondments for teachers, inviting enterprise experts onto campus, and providing targeted skills training, so as to improve teachers' digital teaching capability and build a compound faculty that combines solid traditional accounting expertise with the ability to apply intelligent technology. In this way, the quality of accounting talent cultivation can be improved at the source, and the mismatch between talent supply and demand can be resolved.

B. Practitioners: Transform Proactively and Rebuild Core Career Competitiveness

Accounting practitioners should proactively adapt to the intelligent transformation of the industry, abandon fixed traditional career mindsets, and complete skill upgrading and career transformation on their own initiative. Students should, while consolidating their foundational accounting knowledge, actively learn intelligent finance tools, big data analysis, and digital office skills, obtain vocational certificates in intelligent finance and management accounting, and build differentiated competitive advantages so as to avoid low-end competition. In-service practitioners should embrace lifelong learning, participate actively in enterprise training and industry digital courses, master mainstream technical tools such as financial RPA and big data analysis, and gradually move from basic bookkeeping work to high-end work in data analysis, risk control, financial management, and strategic decision-making.

Practitioners should also cultivate business-finance integration thinking, develop a deep understanding of enterprise business processes, combine financial data with business operations, and draw on intelligent financial data to uncover business value. In this way they can shift their identity from bookkeeping operator to value manager, meet the requirements of high-end positions, and widen their career development space.

C. Enterprises: Improve Talent Development and Incentive Mechanisms and Optimize Finance Team Structure

As the employers of accounting talent, enterprises should proactively adapt to the requirements of intelligent transformation and improve their internal talent development and incentive systems. On the one hand, they should establish routine digital training by regularly organizing special training for finance staff in intelligent finance system operation, big data analysis, and intelligent fiscal and tax risk control, so as to upgrade the digital skills of the existing finance team and facilitate the transformation and upgrading of traditional accountants. On the other hand, they should optimize their recruitment and promotion systems by incorporating digital skills, data analysis capability, and management thinking into the core criteria for recruiting, assessing, and promoting accounting staff, giving priority to compound intelligent accounting talent, and gradually optimizing the talent structure of the finance team.

At the same time, enterprises should build intelligent finance platforms and improve human-machine collaborative working models, clearly defining the boundary between intelligent systems and human work. Intelligent systems should take on basic and repetitive work so that finance staff can focus on high-value management, analysis, and decision-making, thereby fully releasing the synergy between AI and financial talent and raising the level of corporate financial management.

D. Industry Associations: Improve Occupational Standards and Guide Orderly Industry Development

Accounting industry associations should take the lead in optimizing professional evaluation and assessment systems to suit the trend of intelligent transformation. First, they should update accounting competency standards by incorporating new skills such as AI application, big data financial analysis, digital risk control, and business-finance integration into the competency evaluation system and by clarifying the core competencies required of accounting talent in the intelligent era. Second, they should optimize the content of professional qualification examinations by adding modules on intelligent finance, digital fiscal and tax administration, and financial data analysis, so as to guide practitioners toward improving their digital skills. Third, they should build industry platforms for talent exchange and training, integrate quality resources, and carry out routine intelligent accounting talent training and industry exchange activities, thereby raising the overall competence of the profession and promoting its standardized, high-end, and digital transformation and upgrading.

CONCLUSIONS AND PROSPECTS

A. Conclusions

The rapid development and comprehensive penetration of AI technology have had a disruptive and structural reshaping effect on accounting labor demand in China, thoroughly changing the traditional labor landscape of the profession. In terms of effects, AI displays a dual character in which substitution and creation coexist and elimination and upgrading go hand in hand: it replaces standardized, repetitive basic bookkeeping positions and compresses low-end labor demand, while generating high-end new positions in intelligent finance, financial data analysis, strategic financial management, and digital risk control, thereby expanding high-end demand.

In terms of job structure, the profession has broken away from the traditional bookkeeping-centered structure and moved toward a diversified structure of managerial, technical, and value-oriented positions. In terms of skill standards, single bookkeeping skills no longer constitute core competitiveness; compound digital and managerial skills have become the core value of talent. In terms of compensation, pay differentiation within the profession has intensified, and the skill premium has become the core logic of pay distribution. The main problems in the accounting labor market today are a structural mismatch between talent supply and demand, transition difficulties for practitioners, lagging university cultivation systems, and slow updating of occupational standards. Addressing these problems requires coordinated efforts by universities, practitioners, enterprises, and industry associations to comprehensively optimize talent cultivation, career development, and industry evaluation systems, so that accounting talent can adapt to market demand in the intelligent era and the profession can achieve high-quality transformation and upgrading.

B. Research Prospects

In the future, as large language models, generative AI, and other new technologies are applied in depth in the financial field, the accounting profession will become more intelligent and the iteration of accounting labor demand will continue. Accounting positions will further weaken their transactional attributes and strengthen their value-creating attributes; human-machine collaboration will become the mainstream working model; and compound talent with integrated capabilities in accounting, technology, business, and strategy will continue to hold the core market advantage. Future research could build on the latest application scenarios of generative AI to further refine the differentiated impact of AI on labor demand across different levels and domains of accounting positions, thereby providing theoretical support better attuned to the times for the digital transformation and talent development of the accounting profession.

References

[1] He, Y., Yuan, B., & Qi, Y. (2025). AI-enabled transformation of financial management: Theoretical framework and practical paths. Finance & Accounting, (10), 45–51. (in Chinese)

[2] Liu, Q., & Yang, Y. (2020). The development system of intelligent finance and an exploration of its core links. Finance and Accounting Monthly, (19), 2–7. (in Chinese)

[3] Wang, S., & Liu, F. (2023). The impact of large language models on the future development of accounting. China State Finance, (18), 62–65. (in Chinese)

[4] Yang, Y., & Liu, Q. (2024). Accounting transformation in the age of artificial intelligence: Evolutionary logic and analytical framework. Accounting Research, (3), 3–20. (in Chinese)

[5] Zhang, W. (2024). Breaking the impasse and restructuring: Reflections on reforming talent cultivation models in university accounting programs in response to the AI shock. Vocational Education Research, (5), 78–83. (in Chinese)