Analysis of the Alignment between Accounting Curriculum Reform in Higher Education Institutions and Corporate Talent Demands in the Era of Intelligent Accounting

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Abstract: *Technology clusters, represented by big data and artificial intelligence, are driving the accounting profession into an intelligent era. This transformation is prompting a profound evolution in the accounting function, shifting from bookkeeping and reporting towards value creation, and simultaneously imposing novel, composite requirements on the competency structure of accounting professionals. Against this backdrop, a significant structural misalignment has emerged between the accounting curriculum systems in higher education institutions-characterized by static content, insufficient integration of technology, and disconnection from authentic business scenarios-and the actual talent demands of enterprises. This study aims to systematically dissect the specific dimensions and underlying causes of this supply-demand mismatch, analyze its potential impact on the career development of accounting graduates, and ultimately propose a reform pathway for the accounting curriculum. This pathway is oriented towards a dynamic competency framework and integrates intelligent technologies. Furthermore, the study outlines a synergistic support system comprising faculty development, resource investment, and a closed-loop feedback mechanism. The objective is to foster the dynamic adaptation of accounting education supply in higher education to corporate talent demands, thereby providing theoretical reference and practical guidance for the transformation of accounting talent cultivation models.*

Keywords: *Intelligent Accounting; Curriculum Reform; Talent Demand; Alignment Analysis; Accounting Education; Human-Machine Collaboration*

Introduction

Core intelligent technology clusters, such as big data, cloud computing, machine learning, and process automation, are reshaping the modes of generating, processing, and applying accounting information. They have not only significantly enhanced the efficiency and accuracy of accounting work but also propelled the core function of accounting to expand in depth into strategic areas like decision support, risk forewarning, and value management. This transformation has fundamentally altered corporate competency requirements for accounting professionals, with technology adaptation, data insight, and business integration capabilities becoming key dimensions. However, the current accounting curriculum system in higher education institutions still exhibits a degree of traditional inertia and structural tension in terms of content composition, teaching models, and practical training. It has failed to respond to this transformative demand promptly and effectively, resulting in a gap between educational output and market expectations. Consequently, a thorough examination and systematic analysis of the alignment between curriculum supply in higher education and corporate talent demands in the era of Intelligent Accounting, along with exploring its reform pathways and support mechanisms, hold significant theoretical value and practical urgency for enhancing the foresight and adaptability of accounting talent cultivation and meeting the demand for high-quality professionals driven by industrial upgrading.

1. The Core Drivers and the Evolution of Accounting Functions in the Intelligent Accounting Era

1.1 The Internal Mechanism of Intelligent Technology Clusters Enabling Accounting Transformation

The advent of the Intelligent Accounting era results not from the effect of a single technology but from a systemic transformation collectively driven by a cluster of technologies, including big data, cloud computing, process automation, machine learning, and natural language processing. These technologies, interconnected and synergistic, fundamentally reshape the modes of producing, processing, and utilizing accounting information. Big data and cloud computing technologies establish the foundation for the real-time storage and computation of massive heterogeneous data, making full-sample and continuous analysis of financial and operational data possible. Process automation technology, particularly Robotic Process Automation (RPA), takes over rule-based, highly repetitive accounting transaction processing and verification tasks, thereby liberating accounting personnel from tedious foundational operations[1]. Machine learning and artificial intelligence algorithms delve into higher-level judgment and analysis domains, such as issuing warnings for anomalous transactions through pattern recognition and constructing predictive models based on historical data to assist in risk and performance evaluation. The deep integration of these technologies not only significantly enhances the processing efficiency and accuracy of accounting information but, more critically, expands the boundaries and value density of accounting information, providing the underlying technological architecture and implementation pathways for the evolution of accounting functions.

1.2 The Deep Expansion of Accounting Functions from Bookkeeping and Reporting to Value Creation

Supported by intelligent technology clusters, the traditional core functions of accounting-bookkeeping and reporting-are undergoing a transformation through automation and intelligence. This shift inevitably moves the focus of accounting work from retrospective recording, primarily concerned with accuracy, towards value-creating activities that are forward-looking and insight-driven. The deep expansion of accounting functions manifests mainly across three dimensions: first, the deepening of decision support, where accounting information must integrate with multi-source operational data to provide dynamic, multi-dimensional data insights for strategic planning, investment decisions, and resource allocation through real-time analysis and predictive modeling; second, the real-time nature of risk management and control, where, aided by intelligent monitoring tools, accounting systems can achieve continuous identification, assessment, and early warning of operational and financial risks, shifting from passive reporting to active defense; third, the full-process integration of value management, where accounting functions embed into every stage of the value chain, directly participating in the enterprise value creation process through refined cost management, dynamic performance evaluation, and business process optimization. Accounting is no longer merely a recorder of economic activities but is progressively transforming into an integrator and optimizer within the enterprise value network[2].

1.3 The Transformation of the Role Positioning of Accounting Professionals in the Human-Machine Collaboration Environment

With the large-scale replacement of basic bookkeeping tasks by automated systems, the role positioning of accounting professionals is undergoing a fundamental transformation. Human-machine collaboration has become the typical working model in the Intelligent Accounting era, whose core lies in leveraging the comparative advantages of both humans and intelligent systems. Intelligent systems excel at processing massive data, executing complex rules, and performing rapid calculations, while humans possess capabilities difficult for algorithms to replace, such as strategic thinking, professional judgment, complex communication, and ethical decision-making. Consequently, the role of accounting professionals must shift from traditional information processors to several key roles. First, they become the designers and supervisors of rules and models, responsible for designing and optimizing automated processes and algorithmic models, as well as auditing their operational outcomes and ensuring ethical compliance. Second, they act as interpreters and analysts of data value, extracting business insights from reports and warnings generated by intelligent systems, explaining the operational drivers behind the data, and formulating meaningful decision-making recommendations. Third, they serve as promoters of business integration and consultants, developing a deep understanding of business logic, closely integrating financial data with business operations, and providing cross-disciplinary

professional support for business process improvement and innovative model evaluation. This transformation demands that accounting professionals possess a composite knowledge structure and higher-order competencies, which directly necessitates reforms in the higher education systems responsible for cultivating future accounting talent.

2. Examination of the Current State and Structural Tension in the Accounting Curriculum System in Higher Education

2.1 The Static Nature of Content Composition and Teaching Paradigms in the Existing Curriculum System

The current accounting curriculum system in higher education still exhibits characteristics of a traditional framework centered on financial accounting and management accounting in terms of content composition. Course offerings primarily revolve around classic modules such as accounting standards, bookkeeping systems, cost calculation, financial reporting, and auditing. The knowledge system tends to be highly structured and standardized. While this composition ensures the systematic instruction of foundational accounting knowledge, it reveals a degree of static rigidity when confronting rapidly changing business environments and technological ecosystems. Accompanying this content composition is the solidification of teaching paradigms. The dominant model remains teacher-centered classroom lecturing, supplemented by textbook exercises and standardized case drills. The knowledge transmission process emphasizes the understanding and application of established rules and methods, leading to a phenomenon of homogenization in teaching approaches. This paradigm, while fostering students' awareness of rigorous rule compliance to a certain extent, may potentially constrain the development of their abilities for critical thinking in open, complex situations, innovatively solving problems, and integrating cross-disciplinary knowledge. This creates a potential contrast with the competency expectations for accounting professionals in the intelligent era[3].

2.2 Limitations in the Breadth and Depth of Integrating Intelligent Technologies into the Curriculum System

Despite the consensus on the importance of Intelligent Accounting, the integration of relevant technologies into the existing curriculum system exhibits dual limitations in both breadth and depth. From the perspective of breadth, technology-related courses often exist as isolated electives, such as "Accounting Information Systems" or "Fundamentals of Financial Data Analysis," and fail to achieve organic integration with the content of core courses like financial accounting, auditing, and management accounting. Intelligent technologies are treated as an add-on module rather than a foundational element permeating the entire curriculum, making it difficult for students to establish a holistic cognitive framework of "technology enabling business and finance." Examining the depth, the teaching content of existing technology-related courses may predominantly remain at the level of introducing software operations or explaining basic principles, such as the use of a specific financial software or a generalized description of big data concepts. Deeper integrative applications, such as the application of machine learning in credit risk assessment, the principles of natural language processing in audit text analysis, or the design logic of Robotic Process Automation (RPA), are seldom explored in depth. This "two separate layers" approach to curriculum design results in students struggling to transfer technological skills substantively into complex accounting judgment and decision-making scenarios, even after completing relevant courses[4].

2.3 The Structural Imbalance Between Theoretical Instruction and the Cultivation of Practical Application Abilities

A long-standing structural tension exists in accounting education within higher education between theoretical instruction and the cultivation of practical application abilities. The theoretical teaching system is comprehensive, focusing on the derivation and interpretation of concepts, principles, and standards, aiming to construct students' professional knowledge framework. However, the corresponding practical teaching components often suffer from inadequacies in scale, timeliness, and complexity. Common practical formats include on-campus simulation training and limited short-term internships, which mostly focus on already-standardized accounting processing procedures and can be seen as an extension and verification of theoretical teaching. The simulated environment significantly differs from the complex, dynamic, uncertain, multi-faceted, and technology-profoundly-influenced

realities of the actual business world. This structural imbalance results in students potentially excelling at solving well-structured, textbook-style problems but showing competency gaps when confronted with unstructured data, interpreting analysis reports generated by intelligent systems, making comprehensive professional judgments based on multi-source information, or proposing process optimization suggestions. The practical components have failed to adequately serve as a bridge connecting cutting-edge theory, advanced technology, and real-world complexity, thereby impeding the smooth transition of graduates from knowledge acquirers to problem solvers.

3. Examination of the Alignment between Corporate Talent Demands and Higher Education Curriculum Supply

3.1 Dimensional Analysis of Corporate Talent Competency Demands in the Intelligent Accounting Era

Corporate demand for accounting talent in the Intelligent Accounting era presents a multi-layered and composite competency structure. This demand structure has evolved beyond a singular emphasis on traditional bookkeeping and standards application into a comprehensive requirement for technology adaptation capability, data insight capability, and business integration capability. In the dimension of technology adaptation, enterprises require professionals not only to understand accounting principles but also to possess the fundamental ability to utilize or collaborate with intelligent tools (such as RPA, data analysis platforms, business intelligence software) for handling financial operations-essentially, the literacy to employ technology as a means of extending work efficacy. In the dimension of data insight, the demand focus shifts from preparing standardized reports to the ability to identify patterns, detect anomalies, predict trends, and extract valuable information from massive, multi-source data. This involves data cleansing, analysis, visualization, and logical argumentation based on data. In the dimension of business integration, enterprises expect accounting professionals to deeply integrate financial data with business contexts such as market dynamics, operational processes, and strategic decision-making, assuming the role of business partners to provide forward-looking suggestions for cost optimization, risk warning, and performance improvement. Furthermore, the importance of general competencies such as communication and collaboration, ethical judgment, and continuous learning has significantly increased within the intelligent environment. These dimensions collectively constitute the core framework for current enterprise evaluation of accounting talent competency.

3.2 Multidimensional Gap Analysis in Aligning Higher Education Curriculum Supply with Corporate Demand

A systematic comparison of the current accounting curriculum supply in higher education institutions with the aforementioned corporate competency demand framework reveals significant gaps across several key dimensions. Regarding the cultivation of technology adaptation capability, there is a phenomenon of lag and disconnection in the curriculum supply. The instructional content lacks sufficient coverage of mainstream or cutting-edge intelligent accounting tools and platforms. Even when such topics are included, they often remain at a superficial introductory level, lacking opportunities for systematic practice and problem-solving in real or highly simulated complex scenarios. Consequently, students' technological application skills often remain at a theoretical level of understanding. In the shaping of data insight capability, a structural deficiency exists within the curriculum system. Traditional courses emphasize processing and interpreting finalized financial data but commonly lack specialized training to cultivate students' abilities in acquiring raw operational data, performing multi-dimensional modeling analysis, and conducting deep data mining. The integration of statistics, programming fundamentals, and advanced data analysis techniques into accounting courses is low, resulting in a relatively weak foundation for students' data literacy. Concerning the cultivation of business integration capability, a chasm exists between the teaching context and real-world complexity. Case teaching frequently employs highly simplified, historical, and static cases, which struggle to simulate dynamic market competition, cross-departmental collaboration, and uncertain decision-making environments. This limitation hinders the development of students' ability to place financial knowledge within a complete business ecosystem for comprehensive judgment and value creation. This supply-demand mismatch creates a transition cost between graduates' knowledge structure and the immediate productivity requirements of enterprises.

3.3 The Potential Impact of the Supply-Demand Mismatch on the Career Development of Accounting Graduates

The supply-demand mismatch exerts a multi-layered impact on the career development of accounting graduates. At the initial career stage, graduates face a prolonged job adaptation period. Enterprises are required to bear additional on-the-job training costs to compensate for their skill gaps, which affects initial productivity. Within the job market, graduates possessing only traditional skills face risks of homogenized competition and higher replaceability, while those with composite skills gain a significant competitive advantage[5]. From a long-term development perspective, the limitations in the initial competency structure may hinder their transition into high-value roles such as management accounting and financial analysis. As basic tasks become automated, if graduates fail to establish a foundation in analytical, decision-making, and advisory capabilities during their academic studies, their career paths will encounter greater transformation challenges and developmental bottlenecks. This issue concerns the overall developmental ecosystem of the accounting talent pool.

4. Pathways for Accounting Curriculum Reform and Supporting Mechanisms Oriented Towards Demand Alignment

4.1 Restructuring Curriculum Content Guided by a Dynamic Competency Framework

To achieve alignment with talent demands in the intelligent era, accounting curriculum content requires systematic restructuring oriented towards a dynamic competency framework. The core of this reconstruction lies in establishing a progressive, three-tiered integrated knowledge system. The foundational tier must distill and solidify core principles of accounting and business, serving as the indispensable professional bedrock. The middle tier constitutes the critical layer for embedding technological and data capabilities. It requires the organic integration of knowledge areas such as programming fundamentals, data analysis, introduction to machine learning, and automated process design into the specific teaching modules of core courses like financial accounting, auditing, and management accounting. This achieves a deep fusion of technological tools with professional scenarios. The top tier emphasizes cultivating cross-disciplinary business insight and comprehensive decision-making abilities. This is accomplished through comprehensive business simulations and project-based learning, training students to utilize diverse information for strategic analysis and value judgment within complex simulated environments. The entire curriculum system must establish a regular mechanism for content review and updating to ensure its dynamic synchronization with technological advancements and the evolution of business practices.

4.2 Innovating Interdisciplinary Teaching Models Integrating Intelligent Technologies

The restructuring of curriculum content necessitates innovative teaching models adapted to it as an implementation pathway. Teaching should shift from a paradigm centered on knowledge transmission to one focused on competency building, characterized by an interdisciplinary and immersive experiential approach. This requires the widespread adoption of project-based learning and case teaching grounded in real-world or highly simulated scenarios. For instance, designing a comprehensive financial digital transformation project spanning the entire enterprise value chain would require students to form cross-disciplinary teams. They would utilize intelligent financial tools to process operational and financial data, conduct visual analysis, and produce decision-making reports. This approach simultaneously hones their abilities in technology application, data analysis, team collaboration, and communication through the process of solving complex problems. Concurrently, the application of virtual simulation laboratories and online collaboration platforms becomes crucial. These platforms can provide safe, repeatable intelligent working environments, allowing students to practice high-order skills-such as deploying financial robots or conducting big data financial statement analysis-that are difficult to facilitate in traditional classrooms. Innovation in teaching models also involves transforming assessment methods. The focus should shift from outcome-oriented evaluation based on standard answers to a diversified assessment that values the process and encourages innovation. This can include formats like analytical reports, solution design, and system prototype demonstrations, enabling a more comprehensive measurement of students' overall competencies[6].

4.3 Establishing a Collaborative Support Mechanism to Sustain the Continuous Optimization of the Curriculum System

The implementation and sustainability of curriculum system reform depend on a robust collaborative support mechanism. The primary task involves the competency redevelopment of the teaching faculty. This requires the continuous updating of instructors' knowledge base in the field of Intelligent Accounting and their interdisciplinary teaching capabilities through systematic workshops, industry training programs, and practical visits. Secondly, it necessitates corresponding investment in teaching resources and infrastructure. This includes constructing Intelligent Accounting laboratories equipped with advanced software and data platforms, developing high-quality virtual simulation teaching resources and authentic case libraries, and building a digital teaching environment that supports collaborative learning. Finally, it is essential to establish a closed-loop optimization mechanism incorporating multi-source feedback. This mechanism should regularly collect evaluation information from graduates, employers, and industry experts. Combined with ongoing monitoring of market and technological trends, this information should be synthesized into objective assessment reports on the curriculum system. These reports will then serve as the scientific basis for the periodic iteration of teaching content, methods, and resources, thereby ensuring the long-term dynamic alignment of talent cultivation with societal needs.

Conclusion

This study, through systematic analysis, demonstrates that the technology-driven transformation and functional evolution in the era of Intelligent Accounting have introduced novel, composite requirements for the competency structure of corporate accounting talent. Concurrently, the current accounting curriculum system in higher education exhibits limitations in the depth of technology integration, the complexity of practical teaching, and the authenticity of business contexts, leading to a significant talent supply-demand mismatch. This mismatch not only increases the career adaptation costs for graduates but also imposes constraints on their long-term developmental potential. To address this challenge, accounting curriculum reform in higher education must pivot towards a dynamic competency framework as its guiding principle. This involves reconstructing a progressively integrated knowledge system, innovating interdisciplinary and immersive teaching models, and establishing a collaborative support system encompassing faculty development, resource support, and a closed-loop feedback mechanism. The objective is to achieve a dynamic and sustainable alignment between educational supply and industry demand. Future reform and practice must consistently monitor the evolution of technology and changes in the business ecosystem, while strengthening the depth and breadth of industry-education integration. This will systematically advance the transformation of the accounting talent cultivation paradigm towards a more forward-looking and adaptable direction.

References

[1] Chen, Qian. "Exploring the Logic and Pathways of Teaching Reform in Financial Accounting Courses in the Intelligent Era-From the Perspective of Application-Oriented Universities." Journal of Higher Education, vol. 11, no. 19, 2025, pp. 128-133+138.

[2] Hu, Yue. "Research on the Reform of Accounting Talent Training Models in Universities in the Era of Artificial Intelligence." East China Science and Technology, no. 06, 2024, pp. 107-109.

[3] Wang, Shijie, Ding, Xinyi, and Fang, Maofeng. "Exploration and Insights into the Curriculum Development for Intelligent Accounting Talent in Universities in the Digital Intelligence Era-Based on the Perspective of Intelligent Technology Development." Commercial Accounting, no. 17, 2023, pp. 116-121.

[4] Hong, Hui. "Research on the Path of Accounting Talent Cultivation in Local Undergraduate Universities in the Intelligent Finance Era." China Management Informatization, vol. 25, no. 09, 2022, pp. 197-199.

[5] Zhou, Yan. "Research on the Reform of Teaching Standards for Accounting Majors in Local Application-Oriented Universities in the Era of Artificial Intelligence." Popular Standardization, no. 21, 2021, pp. 95-97.

[6] Huang, Biying. "Research on the Reform of the Management Accounting Practical Curriculum System in Universities in the Big Data Era." Modern Business Trade Industry, vol. 42, no. 30, 2021, pp. 83-84.