Research on the Path to Align Accounting Talent Cultivation with Industrial Demand in the Era of Intelligent Finance

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Abstract: *With the rapid development of intelligent financial systems, the role of accounting is undergoing a profound transformation from traditional recording and reporting to data analysis and strategic insight. Consequently, the industrial demand for accounting talents has also shifted structurally, with a core focus on technological integration, higher-order cognition, and business acumen. However, the current accounting talent cultivation system lags behind and is disconnected from these needs, particularly in the integration of knowledge systems, the construction of competency frameworks, and the design of evaluation mechanisms, making it difficult to effectively respond to the dynamic demands of the industry. This study aims to systematically analyze the aforementioned adaptation dilemmas and thereby construct a path for talent cultivation that is suited to the era of intelligent finance. The research proposes that training objectives should be repositioned based on a competency matrix, that a knowledge-ability integration should be achieved through interdisciplinary curricula and contextualized teaching models, and that a dynamic quality assurance mechanism based on continuous feedback should be established. These measures are intended to drive a systematic and sustainable alignment between the talent cultivation system and industrial demands.*

Keywords: *Intelligent Finance; Accounting Talent Cultivation; Industrial Demand; Alignment Path; Competency Matrix; Interdisciplinary Integration*

Introduction

Driven by technological clusters such as automation, data analytics, and artificial intelligence, the era of intelligent finance has not only reshaped the tools and processes of accounting work but has also, on a deeper level, transformed the value creation logic of the accounting function and the structure of competency requirements that the industry demands from accounting talents. The professional role of accountants is evolving from that of information processors to value interpreters and management supporters, which presents a systemic challenge to the existing accounting talent cultivation system. Currently, the lag in integrating the accounting knowledge system with technology, the absence of higher-order cognition and digital literacy within the competency development framework, and the disconnect between evaluation mechanisms and the dynamic needs of the industry collectively contribute to a structural mismatch between talent supply and demand. Therefore, systematically investigating the path to align accounting talent cultivation with industrial demand is not only crucial for the direction of innovation in accounting education itself but also holds key significance for ensuring the sustained vitality and value contribution of the accounting profession amidst technological change. Taking this as its starting point, this study aims to construct a set of feasible paths designed to achieve dynamic alignment by analyzing functional transformation and examining the current state of the cultivation system.

1. The Transformation of Accounting Functions and the Evolution of Industrial Demand in the Era of Intelligent Finance

1.1 The Connotative Expansion of Accounting Functions Driven by Technology

The evolution of intelligent financial systems has redefined the boundaries of value creation in accounting work. Traditional accounting functions are centered on transaction recording, measurement, and reporting, with their output primarily serving ex-post reflection and compliance supervision.

However, driven by technological clusters such as automation, big data, and artificial intelligence, the connotation of the accounting function is expanding from a recording function centered on process handling to an analytical and insightful function centered on data interpretation and value discovery. Its work object is no longer confined to structured financial data but extends to a multi-dimensional information ecosystem encompassing business processes, information flows, and even external environmental data. This shift enables the accounting function to extend its reach into the front end of business processes and the level of strategic decision-making[1].

The core activities of the accounting function are thus exhibiting significant evolutionary characteristics. Fundamental, repetitive tasks such as bookkeeping and financial statement preparation are gradually being replaced by automated solutions, while the focus of accounting work shifts to rule setting, anomaly monitoring, process optimization, and system governance. A more profound change lies in the output formats of the accounting function, which are evolving from standardized financial reports to include real-time dynamic dashboards, business insights derived from predictive models, and specialized analysis reports tailored to specific decision-making scenarios. This expansion of functional connotation requires accountants to assume the composite role of data interpreters, business advisors, and risk predictors, with their value being realized by transforming data into actionable wisdom through the combination of professional judgment and intelligent tools.

1.2 The Structural Shift in Industrial Demand for Accounting Talent Competencies

The transformation of the industrial technological foundation has directly led to a structural reorganization of the demand for accounting talent competencies. Businesses' expectations for accounting professionals have surpassed traditional bookkeeping and tax compliance abilities, instead seeking individuals equipped with comprehensive capabilities to support business growth and strategic implementation. This demand shift is systematic in nature, manifesting as a migration from singular skill requirements toward an integrated competency framework. Specifically, on the demand side of the industry, accounting talents are now expected not only to possess a profound mastery of core accounting knowledge but also to grasp the fundamental principles of data science and information technology application, enabling them to skillfully operate intelligent financial tools for efficient data processing and modeling analysis.

Within this structure, higher-order cognitive abilities and business acumen have become critical dimensions of demand. The industry places increasing emphasis on the critical thinking skills of accounting talents to address the application of accounting standards and professional judgment in complex business situations. Concurrently, a deep understanding of business processes, cross-departmental communication and collaboration skills, and the ability to formulate business recommendations based on data constitute the new yardstick for the value of accounting professionals. This signifies a fundamental shift in industrial demand, moving from the model of an "operations executor" to that of a "strategic supporter" and "value co-creator." This transition does not entail the abandonment of traditional knowledge but rather builds upon it to construct a composite competency system that integrates technological literacy, business insight, and strategic thinking.

1.3 The Challenges of Alignment in the Evolution of the Accounting Professional Role

The historical evolution of the accounting professional role is facing a series of challenges in achieving deep alignment with the intelligent finance environment. The essence of this role evolution is the transition from an information processor to an information interpreter and manager, a process that encounters tension between knowledge supply and dynamic demand. The knowledge structure shaped by the traditional accounting education system and career development paths possesses an inherent inertia, making it difficult to rapidly respond to the new knowledge landscape catalyzed by technological integration. Accounting professionals must both maintain the rigor of their professional core and continuously integrate external knowledge from fields such as information science and statistics. This dynamic reconstruction of the knowledge system constitutes the primary challenge of alignment.

A deeper challenge lies in the ambiguity of professional identity and the criteria for measuring value. As functional boundaries blur, the demarcation between the accounting profession and other management functions (such as business analysis and operations management) tends to merge, and its unique professional identity faces a risk of being diluted. Concurrently, traditional criteria for measuring the value contribution of the accounting role, such as the accuracy of accounting and the

timeliness of reporting, are no longer sufficient to comprehensively assess its new contributions in areas such as data insight, risk warning, and decision support. This lag in the value assessment system may lead to a misalignment of incentives for career development, thereby hindering the willingness and motivation of accounting professionals to proactively transition to new roles. Therefore, the evolution of the role is not merely a process of capability upgrading but also a systemic issue involving the reconstruction of the professional ecosystem[2].

2. A Structural Analysis of the Current Accounting Talent Cultivation System

2.1 The Lag in Integrating the Accounting Discipline's Knowledge System with Intelligent Technology

The knowledge system architecture of the current accounting discipline exhibits significant path dependence, with its core curriculum cluster still firmly rooted in traditional domains such as Financial Accounting, Management Accounting, Auditing, and Tax Law. Content related to intelligent technology, such as fundamentals of data analysis, principles of machine learning, or design of intelligent systems, is often appended to the periphery of the existing system in the form of independent elective courses or fragmented modules, failing to achieve an organic, interdisciplinary integration with core accounting knowledge. This "core-periphery" curricular structure results in technological knowledge being treated as an instrumental supplement rather than a foundational element for reconstructing the theoretical paradigms of accounting recognition, measurement, reporting, and auditing. Knowledge transfer remains at the level of software operation and process automation, lacking a critical exploration of how algorithmic logic, data governance, and ethical considerations are deeply embedded in and transform accounting principles and professional judgment.

Another manifestation of this lag in the knowledge system is the mismatch between the update cycle of textbook content and academic research and the pace of technological iteration. The coverage of emerging technologies in classic accounting textbooks mostly remains at the level of introductory chapters, lacking a perspective of technological integration that runs throughout. Simultaneously, the faculty responsible for knowledge transmission predominantly formed their own knowledge structures in the pre-intelligence era, facing capability challenges in integrating cutting-edge technological concepts with accounting theory. This lag in knowledge production, coupled with impediments in the transmission process, collectively results in a structural gap in the knowledge framework constructed by the learners. That is, while proficient in traditional accounting rules, they struggle to understand the underlying data logic and model mechanisms that drive intelligent financial systems, thereby exhibiting deficiencies in analytical ability and adaptability when confronted with complex, unstructured business scenarios.

2.2 The Deficiency of Higher-Order Cognition and Digital Literacy in the Competency Development Framework

The design orientation of the existing competency framework for accounting talent cultivation has not yet fully moved away from the industrial-era emphasis on training standardized professional skills. Although information technology courses have been widely introduced into cultivation programs, the understanding of the "digital literacy" they are supposed to develop often tends to be narrowly interpreted, equating it with proficiency in specific financial software or basic programming skills. Genuine digital literacy should encompass dimensions such as critical thinking about data, algorithmic awareness, digital information security and ethics, and the ability to use digital tools for collaborative innovation. These higher-order elements are systematically absent from the current competency development framework. The application of technological tools in teaching is mostly concentrated on verifying known conclusions or completing established processes, rather than being designed to stimulate the exploration of the unknown or to solve ill-defined, complex business problems[3].

The cultivation of higher-order cognitive abilities, particularly critical thinking, systematic analysis, and innovative problem-solving, is marginalized within a curriculum assessment model that emphasizes knowledge memorization and rule application. Case teaching and project-based learning, if lacking careful design, can easily become mere formalities, failing to effectively simulate the real decision-making contexts of the intelligent finance environment, which are characterized by information redundancy, model uncertainty, and multi-stakeholder games. This deficiency in competency development may result in graduates possessing technical proficiency in executing

standardized tasks. However, when confronted with outputs generated by intelligent systems, they lack the deeper capability to question the underlying assumptions, evaluate potential biases, and integrate business context to provide sound interpretation and decision support. A significant gap thus emerges between this competency structure and the industry's emphasis on higher-order thinking and comprehensive judgment.

2.3 The Disconnect Between Talent Cultivation Evaluation Mechanisms and the Dynamic Demands of the Industry

The evaluation mechanism for talent cultivation serves as the core guiding instrument for teaching and learning behaviors. Most current evaluation systems predominantly focus on assessing the mastery of deterministic knowledge and the ability to solve standardized problems, relying on formats such as closed-book examinations and standardized test questions. This evaluation model naturally tends to reward memorization and imitation over exploration and innovation. It struggles to effectively measure students' composite abilities to integrate diverse knowledge, utilize intelligent tools, exercise professional judgment, and propose solutions in dynamic, open-ended scenarios. The evaluation content is only weakly linked to the key performance dimensions valued by the industry, such as practical problem-solving skills, potential for continuous learning, and team collaboration effectiveness, resulting in a misalignment between the signals from educational outputs and those from labor market demands[4].

The singularity of the evaluation subjects further exacerbates this disconnect. The authority for evaluation is primarily concentrated among university faculty, with industry representatives or third-party professional organizations rarely participating deeply in the evaluation of key nodes within the cultivation process. The absence of continuous, formative feedback from the demand side makes it difficult for educational institutions to perceive in a timely manner the dimensional changes and shifts in the weighting of competency demands from the industry. The feedback loop of evaluation results also primarily serves the purpose of academic performance assessment, rather than being used to systematically diagnose deficiencies in the cultivation system and drive the iteration of curricula and teaching methods. This static, inwardly-focused evaluation mechanism is unable to adapt to the dynamic competency demands arising from the rapid evolution of the industrial technology ecosystem and business models in the era of intelligent finance, causing the talent cultivation system to exhibit significant adjustment inertia and lag when facing external changes.

3. Constructing a Path for Aligning Accounting Talent Cultivation with Industrial Demand

3.1 Repositioning the Objectives of Accounting Talent Cultivation Based on a Competency Matrix

The repositioning of objectives for accounting talent cultivation must proceed from a clear, multi-level professional competency matrix. This matrix should systematically integrate the dimensions of knowledge, skills, and literacy within the intelligent finance environment. Vertically, it can be differentiated into core accounting professional competence, technological integration and application ability, and business insight and strategic support capability. Horizontally, it describes the progressive levels of proficiency for each dimension, from foundational to advanced. The key to this repositioning lies in shifting the focus of cultivation from mastering discrete knowledge points to developing comprehensive competencies that enable the dynamic combination and application of these abilities to solve complex, unstructured problems. The training objective should be explicitly articulated as cultivating accounting value managers who are capable of mastering intelligent systems, implementing data-driven decisions, and upholding professional ethics.

Objective setting based on the competency matrix requires educational institutions to engage in backward design. The training objectives must be specifically translated into observable and measurable learning outcomes, which should be embedded throughout the entire curriculum and all teaching activities. This implies that the traditional objective statements centered on the transmission of disciplinary knowledge must give way to explicit commitments to new types of outputs, such as analytical modeling capabilities, process design skills, risk assessment abilities, and human-machine collaborative decision-making competencies. The essence of this objective repositioning is to structurally translate industrial demands into executable and assessable guidelines within the education system. This enables a precise, competency-based alignment between the exit specifications of talent cultivation and the entry requirements of intelligent finance positions. Implementing backward design

necessitates breaking down the management barriers between departments and disciplines, forming curriculum development teams composed of disciplinary experts, technology specialists, and industry representatives. This ensures that competency requirements are decomposed and integrated without loss into the design, implementation, and assessment of each teaching module, thereby constructing a new paradigm for talent cultivation with a high degree of consistency among objectives, processes, and outcomes.

3.2 Innovation in Interdisciplinary Curricula and Contextualized Teaching Models

The innovation of the curriculum system should take interdisciplinary knowledge integration as its core characteristic. This is not simply about adding technology-focused courses but achieving a substantive intersection of accounting with fields such as data science, information management, behavioral economics, and even design thinking through the reconstruction of curriculum content and structure. Specific pathways include developing integrated courses such as "Accounting Data Analytics," "Design and Governance of Intelligent Financial Systems," and "Business Process Automation and Internal Control." The teaching content of these courses revolves around real-world financial and business problems, naturally incorporating the comprehensive application of algorithmic logic, data pipelines, and accounting rules. The underlying logic of curriculum design is to start from solving complex problems, thereby guiding the organic integration and synergistic application of multidisciplinary knowledge[5].

Complementing curricular innovation is the in-depth application of contextualized teaching models. Teaching models should strive to construct highly simulated or entirely authentic work situations, such as analysis projects based on real enterprise data pools, financial due diligence and valuation modeling simulating the entire process of a corporate merger or acquisition, or response exercises to address failures and ethical dilemmas in intelligent financial systems. Project-based learning and case studies are upgraded to immersive experiences, the core of which is to create a decision-making environment characterized by information asymmetry, time pressure, and conflicting objectives. Within this environment, students must mobilize the various elements of their competency matrix, producing solutions through teamwork, tool application, and iterative trial and error. In this process, they internalize knowledge, hone their judgment, and build mental models for coping with uncertainty.

3.3 A Cultivation Quality Assurance Mechanism Based on Continuous Feedback and Dynamic Adjustment

Constructing an alignment path requires a dynamic quality assurance mechanism capable of responding to changes in the external environment. The core of this mechanism is to establish a feedback system with multi-stakeholder participation that continuously collects and analyzes data related to the quality of cultivation. Sources of feedback data should extend beyond traditional internal academic performance and graduate questionnaires to systematically include periodic evaluations from industry mentors, process performance data from student internships or project-based work, tracking information on alumni career development, and dynamic intelligence on industry technical standards and job competency models. These data points form a multi-dimensional chain of evidence for assessing the match between cultivation effectiveness and demand. To achieve effective feedback, it is necessary to establish standardized rubrics for competency performance assessment and data collection protocols. Learning analytics techniques should be used to conduct multi-dimensional analyses of student behavior data, process artifacts, and final outcomes within integrated curricula and contextualized projects. This helps identify the strengths and weaknesses of competency development, providing a basis for targeted intervention[6].

A dynamic adjustment mechanism based on continuous feedback requires educational institutions to possess the capacity for agile curriculum iteration and resource reconfiguration. The analysis of feedback data should periodically trigger the review and revision process of cultivation programs, involving updates to course content, optimization of teaching methods, and adjustments to resource allocation. This necessitates breaking away from rigid curriculum management cycles and authorizing teaching teams to make rapid, fine-tuned adjustments within a defined framework. The focus of quality assurance should shift from post-hoc evaluation to process-oriented monitoring and forward-looking adjustment. The goal is to transform the talent cultivation system itself into an intelligent, open system capable of learning, evolving, and maintaining dynamic adaptation with the industrial ecosystem, thereby sustainably maintaining the alignment between cultivation outputs and industrial demands.

Conclusion

This study systematically examines the expansion of accounting functions, the structural shift in industrial demand, and the alignment gap with the current talent cultivation system in the context of intelligent finance. The research finds that the core of accounting functions is extending toward data analysis, process governance, and strategic insight, while industrial demand focuses on composite competencies integrating technological literacy, business insight, and higher-order cognition. However, the existing cultivation system exhibits significant structural inertia in knowledge integration, competency development, and evaluation feedback. To address this, the study constructs an alignment path framework encompassing objective repositioning, innovation in curricula and teaching models, and dynamic quality assurance mechanisms. This path emphasizes backward design guided by a competency matrix, achieves the unity of knowledge and action through deep interdisciplinary integration and contextualized teaching, and ensures the environmental adaptability of the cultivation system through multi-stakeholder feedback and agile adjustment mechanisms. Future exploration could further focus on refining and measuring the specific dimensions of the competency matrix, deepening the construction of an industry-education collaborative ecosystem, and examining the reshaping influence of intelligent technology on the theoretical paradigms and ethical frameworks of accounting, thereby promoting the continuous iteration and optimization of the alignment path.

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