

Reforming the Model for Training Financial Professionals in the Era of Artificial Intelligence

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Abstract: As artificial intelligence reshapes the financial industry, the traditional talent cultivation model in finance education is confronting significant challenges. This paper delineates the current practical predicaments in finance education, encompassing outdated curricula, monolithic pedagogical models, insufficient industry-education integration, and suboptimal faculty knowledge structures, while delving into the core mechanisms of talent cultivation in the era of artificial intelligence. The analysis reveals that reconstructing a curriculum system that integrates cutting-edge AI technologies, innovating intelligent cultivation models, deepening the industry-education collaborative mechanism, and addressing the bottleneck of faculty interdisciplinary competence are pivotal to navigating the ongoing “digital-intelligent” transformation in finance education. These efforts lay the foundation for establishing a new ecosystem for cultivating high-caliber finance talent adapted to the demands of the intelligent era.

Keywords: Artificial intelligence; Finance talent cultivation; Curriculum reconstruction; Pedagogical models; Industry-education integration; Interdisciplinary faculty

Online publication: August 31, 2026

1. Introduction: Artificial intelligence reshaping the financial industry and educational challenges

With the rapid advancement of frontier technologies such as big data and artificial intelligence, the global financial industry is undergoing a digital and intelligent transformation. Traditional financial business models, impacted by algorithm-driven operations, data empowerment, and scenario restructuring, are accelerating their “digital-intelligent” evolution, profoundly altering the operational logic and value-creation mechanisms of the financial sector. This transformation not only reshapes the operational ecosystem of financial institutions but also imposes new demands on practitioners’ knowledge structures, skill sets, and modes of thinking, rendering conventionally trained finance professionals inadequate for the complex challenges of the intelligent finance era.

Current academic and industry discourse on finance talent cultivation in the era of artificial intelligence increasingly focuses on precisely identifying the impact of financial industry transformation on talent cultivation models under this macro backdrop. How traditional cultivation models can effectively address the urgent industry demand for “digital-intelligent” talent has become a core issue requiring immediate resolution in finance talent development. Against this backdrop, this paper systematically examines the transformation logic of the financial industry driven by AI, delves into the deep-seated challenges and corresponding strategies for traditional talent cultivation, and subsequently reconstructs the finance talent cultivation system, with the aim of providing theoretical support and practical reference for building a new educational framework adapted to “digital-intelligent” financial development.

2. Problems facing traditional finance talent cultivation in the era of artificial intelligence

2.1. Outdated traditional curriculum content

In current finance education, the pace of curriculum content updates fails to keep pace with the rhythm of industry technological iteration, resulting in a disconnect between curriculum design and the actual operational demands of financial markets. Li Jun pointed out that with the intensifying digitalization trend in the global financial industry, the curriculum configuration of finance programs in higher education institutions has significantly lagged behind industry development ^[1]. Chen Han et al. argued that the curriculum architecture of finance programs in vocational colleges suffers from specific issues such as disconnection from practical work, misalignment with actual industry needs, and detachment from future development trends, necessitating urgent curriculum reform ^[2]. Liu Hui and Xu Yu, in discussing fintech talent cultivation, noted that traditional educational models, hampered by curricula and knowledge systems that lag behind technological iteration, result in a misfit between talent cultivation and actual industry demands ^[3]. The above literature indicates that in the current evolution of big data and AI technologies applied to the financial industry, traditional finance education exhibits significant problems in curriculum timeliness, severely constraining the alignment between talent cultivation and industry needs.

2.2. Insufficient effectiveness of traditional pedagogical models

In the context of artificial intelligence technology reshaping the financial industry, the traditional teaching model centered on teachers and one-way knowledge imparting has insufficient effectiveness in updating financial knowledge and developing individuality. Li Dongrong noted that in the context of the big data era, traditional finance education models struggle to cope with the opportunities and challenges brought by informationalized finance, necessitating an urgent transformation of talent cultivation approaches to match the new financial landscape ^[4]. Fan Hongjuan and Dai Xu, building upon and innovating existing pedagogical models, combined financial theory knowledge with new teaching methodologies to accelerate the process of pedagogical model reform in higher education ^[5]. Liu Yong and Cao Tingting argued that traditional finance cultivation models predominantly employ a “teacher-centered, textbook-centered, classroom-centered” instructional approach, supplemented by practical teaching ^[6]. This model, which overemphasizes theoretical instruction at the expense of practice, fails to meet students’ comprehensive learning needs and is detrimental to their personalized development. Song Liping pointed out that traditional finance instruction lacks cultivation of students’ information technology capabilities, rendering it inadequate for meeting the skill

development demands of the AI era^[7]. Wang Yueru discussed the challenges posed by the AI era to finance program instruction and cultivation, clearly pointing out the need to improve teaching methods and focus on cultivating students' thinking ability, innovation capacity, problem-solving skills for differentiated scenarios, and adaptability^[8]. Huang Wenqing, in an in-depth analysis of finance course characteristics, explicitly stated that under traditional models lacking AI support, the teacher-dominated instructional approach has long suffered from practical deficiencies including insufficient effectiveness, lack of personalized support, and constrained student comprehensive capabilities^[9]. The above studies generally indicate that the traditional rote-learning finance education model exhibits clear shortcomings in addressing knowledge updates and personalized development needs within the “digital-intelligent” financial landscape, necessitating an urgent reconstruction of pedagogical models through the introduction of artificial intelligence technologies to achieve a transition from “standardized provision” to “personalized support.”

2.3. Insufficient depth of industry-education integration

In the current financial education system, there is an overemphasis on theory at the expense of practice, accompanied by weak university–industry collaboration mechanisms and a disconnect between talent training objectives and actual industrial demands. Zhang Guaili proposed the construction of innovative social training platforms for talents, aiming to realize a new model of diversified talent cultivation that combines academic education with social training through industry-education integration^[10]. Zhang Pu further proposed building an industry-education integration platform and deepening internship and practice mechanisms to break the path dependence of traditional talent cultivation^[11]. Liu Hui and Xu Yu pointed out that the insufficient depth of industry-education integration in traditional financial education models is one of the core root causes of the mismatch between talent supply and industrial needs^[3]. In current financial education, although some universities offer practical training courses, these are often dominated by simulated software operations and lack immersion in real business scenarios. Many university–industry collaborations remain at the level of “internship bases in name only” or inviting corporate executives to give guest lectures, lacking systematic mechanisms for joint talent cultivation and regular communication platforms between universities and enterprises. As a result, it is difficult for enterprises to provide timely feedback to universities regarding talent demands and job skill standards.

2.4. Inadequate faculty knowledge structure

Faculty constitute the foundation of financial talent cultivation. Against the backdrop of AI-empowered financial education, the lag and deficiencies of university teaching staff in knowledge structure, technical literacy, and interdisciplinary teaching capabilities make it difficult to effectively support the cultivation of financial talents with digital and intelligent capabilities. Wei Sizheng, in studying the talent cultivation model for fintech majors under AI empowerment, argued that the effectiveness of AI is constrained by the lack of faculty interdisciplinary competence, which is one of the key challenges in cultivating high-quality financial interdisciplinary talents^[12]. Most finance faculty, especially senior ones, still have a knowledge system confined to “classical financial theories plus traditional econometric methods,” and lack systematic understanding of technologies such as machine learning, natural language processing, and large language models. Teachers harbor “technophobia” or “replacement anxiety” regarding AI, and are unable to effectively use AI tools for assisted teaching. The lack of regular exchange mechanisms with industry experts results in

teachers having very limited knowledge of the latest developments in the fintech industry. Therefore, the lag in teacher knowledge updating and the insufficiency of digital and intelligent interdisciplinary competence have become the core bottleneck hindering the deepening of financial education reform.

3. Core mechanisms for cultivating finance talents in the age of artificial intelligence

3.1. Restructuring the curriculum system through integration with AI technologies

In the era of artificial intelligence, finance education should break down traditional disciplinary barriers by deeply integrating and restructuring the classical theoretical framework of finance with big data processing, AI algorithms, and other cutting-edge technologies, so as to cultivate interdisciplinary talents capable of adapting to industrial transformation. Li Jun explicitly noted that traditional teaching systems are facing severe challenges, and that universities should continuously update their curricula in light of big data and AI to keep pace with the rapid development of the financial industry ^[1]. Zhang Pu proposed restructuring the curriculum system with a focus on strengthening cross-disciplinary integration and skill orientation. Specifically, core course modules should be reorganized to shift from a “pure finance” model to a “finance + AI” paradigm ^[11]. In the foundational module, classic financial theories—such as finance, asset pricing, risk management, and corporate finance—are retained but streamlined, and their content is reinterpreted through an AI lens. A new mandatory technology module is introduced, covering Python/R programming (for financial data processing), machine learning and deep learning (for predictive modeling and risk identification), natural language processing (for financial statement crawling), and blockchain (for digital currencies and smart contracts). Interdisciplinary applied integration courses, such as “Quantitative Investment and Algorithmic Trading” and “RoboAdvisory,” are also offered to embed technical tools into realworld financial business scenarios.

3.2. Innovating teaching models and achieving intelligent transformation

In terms of teaching models, this section explores how AI technologies are transitioning from auxiliary tools to core elements that reshape finance course instruction, thereby achieving deep integration of technology with teaching content. Huang Wenqing pointed out that with breakthroughs in generative AI and the rise of opensource models, the reshaping of finance course teaching by AI has entered a critical stage of “deep coupling,” addressing deficiencies in traditional instruction such as insufficient teacherled effectiveness and lack of personalized support ^[9]. Specifically, teaching methods should evolve from traditional classroom settings to an “intelligent blended learning” approach. This involves reestablishing a “dualteacher classroom” model, where online virtual digital human instructors deliver basic conceptual explanations and standardized knowledge transfer, while onsite human teachers are responsible for case discussions, project guidance, and addressing complex questions. An intelligent teaching system based on large language models is deployed to automatically push personalized learning pathways, exercises, and video explanations according to students’ knowledge mastery. The teaching process is made intelligent by using AI tools to collect behavioral data in real time from classroom interactions, assignment submissions, code execution, and forum discussions, generating a “student competency heatmap” that helps instructors precisely identify common weaknesses across the class and adjust teaching pace accordingly. Teaching evaluation is also intelligentized: AI systems generate “quantified competency” radar charts based on classroom performance and assignment quality,

thereby refining the student ability assessment framework.

3.3. Deepening the industry-education integration mechanism

In the era of artificial intelligence, the cultivation of financial talents must transcend the boundaries of campus education by deepening industry-education integration, thereby achieving an organic connection between academic education and social training to meet the urgent demand of the industry for interdisciplinary talents. Liu Hui and Xu Yu, addressing the imbalance between financial talent supply and demand against the backdrop of rapid advances in AI and big data, proposed and constructed a novel “four-in-one” integrated talent cultivation model for fintech professionals, with industry-education integration serving as the core link to ensure that talent training precisely matches actual industrial needs^[3]. Specifically, universities and fintech enterprises jointly establish a “dual-subject” Digital and Intelligent Finance Industry College as an educational entity, with enterprise executives appointed as associate deans to collaboratively formulate training programs, curriculum standards, and assessment systems. They also co-build an AI Finance Joint Laboratory equipped with resources such as transaction flow data, desensitized risk control models, computing power, quantitative trading platforms, and intelligent investment research systems, allowing students to engage in real financial industry projects. A “project-driven” practice-oriented teaching model is implemented, in which students form interdisciplinary teams to participate in real projects, and successfully incubated projects may be prioritized for integration into the enterprise ecosystem. Furthermore, a benefit-sharing collaborative innovation mechanism is deepened, whereby models, algorithms, and patents generated by students within the industry-education integration projects are jointly owned by the university and the enterprise in agreed proportions. Enterprises may pre-identify outstanding students early, forming a targeted cultivation model where “enrollment equates to entry into the industry.”

3.4. Building a “dual-competency” faculty team

To address the core issue of the disconnect between current financial faculty capabilities and industrial needs, it is essential to build a “dual-competency” faculty team that is proficient in both classical financial theory and cutting-edge artificial intelligence technologies. In concrete terms, reforms should be undertaken in the systems of professional title evaluation and performance appraisal, establishing “AI+Finance” teaching specialized positions and adding fintech-oriented teaching roles, with assessment indicators centered on the development of digital and intelligent finance courses, guidance of student AI competition awards, and participation in industry-sponsored collaborative research projects, replacing the traditional emphasis on publication counts. An “AI+Finance” empowerment system should be created, offering faculty a series of practical courses on AI financial tools, selecting key faculty to participate in “fintech boot camps,” and providing funding for faculty to visit and collaborate with leading fintech institutions and schools, jointly developing courses or publishing co-authored papers. An interdisciplinary and inter-institutional faculty sharing platform should be built, establishing a “Fintech Joint Teaching and Research Group” comprising finance and computing disciplines, and forming a cross-institutional AI Finance Faculty Alliance with both online and offline exchange platforms, so as to enhance the digital and intelligent capabilities of the faculty.

4. Conclusions and prospects

This paper systematically reviews the new challenges that the transformation of the financial industry

landscape in the era of artificial intelligence poses to talent cultivation, provides an in-depth analysis of the practical difficulties confronting traditional financial education models—including outdated course content, monolithic teaching approaches, insufficient industry-education integration, and inappropriate faculty knowledge structures—and proposes core pathways to empower financial talent development through curriculum system restructuring, innovative intelligent teaching models, deepened industry-education integration mechanisms, and resolution of the bottleneck in faculty interdisciplinary competence. The research indicates that the central logic of reforming financial education models lies in shifting from mere transmission of financial knowledge to the construction of composite “finance + AI” capabilities, emphasizing an industry-demand-oriented approach that fosters deep coupling between educational elements and AI technologies. This is intended to achieve precise alignment between talent supply structures and the intelligent transformation of the industry, address the sustained challenges posed by rapid AI iteration to financial talent cultivation, and ultimately foster a sustainable, adaptive new ecosystem for financial talent development.

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Li J, 2020, Research on Cultivating Interdisciplinary Financial Talents under the Background of Big Data and Artificial Intelligence. *Economic Research Guide*, 2020(29): 43–45.
- [2] Chen H, Zhan J, Li XH, 2024, Exploring the Construction of Finance Majors in Higher Vocational Colleges in the Era of Artificial Intelligence. *Journal of Hainan Open University*, 2024(4): 139–145.
- [3] Liu H, Xu Y, 2026, Exploration and Practice of the “Four-Integration-One-Body” Fintech Talent Cultivation Model under the AI Background. In *Proceedings of the 2026 Sociology Symposium (Vol. 1)*. <https://doi.org/10.26914/c.cnkihy.2026.004248>
- [4] Li DR, 2013, Financial Talent Cultivation in the Era of Big Data. *China Finance*, 2013(24): 9–10.
- [5] Fan HJ, Dai X, 2019, Reform and Innovation of Financial Higher Education Models in the Era of Artificial Intelligence. *Journal of Jilin Provincial Institute of Education*, 2019(8): 128–131.
- [6] Liu Y, Cao TT, 2020, Development Trends of the Fintech Industry and Talent Cultivation. *China University Teaching*, 2020(1): 31–36 + 59.
- [7] Song LP, 2020, An Analysis of Teaching Reform for Finance Majors in the Era of Artificial Intelligence—Taking the “Corporate Finance” Course as an Example. *Monthly Journal of Science and Technology Entrepreneurship*, 2020(8): 141–144.
- [8] Wang YR, 2022, Challenges and Responses in Teaching and Cultivation of Finance Majors in the Era of Artificial Intelligence. *Science & Technology Vision*, 2022(4): 104–105.
- [9] Huang WQ, 2025, Exploration and Practice of AI-Empowered Finance Course Teaching. *Educational Informatization Forum*, 2025(10): 16–18.
- [10] Zhang GL, 2023, Research on the Reform Path of Financial Talent Cultivation Models under the Background of Artificial Intelligence. *China High-Tech*, 2023(20): 158–160.
- [11] Zhang P, 2026, Innovative Paths for AI-Empowered Cultivation of Finance Majors in Local Universities. *Western*

Quality Education, 2026(9): 11–15.

- [12] Wei SZ, 2025, Research on the Talent Cultivation Model for Fintech Majors under AI Empowerment. Zhongguancun, 2025(12): 143–145.

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