

Teaching Reform Research of Financial Management Majors in the Context of the Digital Intelligence Era

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Abstract: With the rapid development of the digital economy, the function of corporate financial management is transforming from accounting and recording to value creation, leading to an increasingly urgent demand for interdisciplinary financial talents. Based on the macro background of the digital intelligence era, this paper systematically analyzes the necessity, main problems, and root causes of the current teaching reform in financial management. Combining current teaching practices and industry development trends, it proposes a systematic reform path involving "curriculum system reconstruction, teaching method innovation, faculty team building, and deepening industry-education integration." The research shows that the deep integration of digital intelligence technologies can not only enhance teaching quality but also effectively solve the problem of the "disconnect between learning and application," providing a feasible solution for cultivating high-quality financial management talents with digital intelligence literacy.

Keywords: Digital Intelligence; Financial Management; Teaching Reform.

1. Introduction

In today's era of rapid digital technology development, the global economy is undergoing a technological system reshaping centered on big data, cloud computing, artificial intelligence (AI), and blockchain. According to calculations by the National Bureau of Statistics of China, the added value of core industries in China's digital economy reached 14.1 trillion yuan in 2024, accounting for over 10% of GDP for the first time, an increase of 2.7 percentage points from 2020, achieving the "14th Five-Year Plan" target ahead of schedule. Consequently, the business environment for enterprises is undergoing fundamental changes: the function of financial management is shifting from traditional accounting processing to data-driven value creation and strategic decision-making. Higher education institutions, as the main channel for talent cultivation, face an urgent need to innovate their teaching content and models. The Financial Management major bears the critical responsibility of supplying core managers for enterprises, and the quality of education directly impacts corporate competitiveness and the quality of economic development. However, the existing education system faces dual pressures: firstly, graduates need to possess operational skills in digital intelligence tools to meet job requirements; secondly, the faculty faces pressure to update their capabilities due to technological iterations ^[1]. Therefore, promoting the digital intelligence teaching reform of the Financial Management major is not only an urgent task to respond to industry changes but also an inevitable requirement to implement the national digital economy strategy and serve high-quality economic development.

2. The Necessity of Teaching Reform in Financial Management under the Digital Intelligence Background

2.1. An Inevitable Requirement to Adapt to National Macro Strategies and Industry Changes

The national "14th Five-Year Plan" identifies the digital economy as a key force in reshaping global resource allocation and economic structure, providing a policy framework for the transformation of financial management functions. Against this macro background, corporate finance departments are shifting from back-end accounting units to front-end data governance centers, undertaking core functions such as value assessment, risk warning, and strategic decision support. If university talent cultivation lags behind this functional shift, it will face the dual risks of graduate structural unemployment and weakened professional social identity. Technological substitution effects further force the reconstruction of talent capabilities. Intelligent financial robots and RPA process automation have largely replaced basic accounting positions. Enterprises' demands on financial personnel capabilities have shifted from "bookkeeping skills" to "three-dimensional literacy": extracting decision-making bases from massive information, using algorithmic models for predictive analysis, and achieving value creation through business-finance integration ^[2]. The traditional "accounting clerk" training model can no longer meet the talent needs of new organizational forms like financial shared service centers and digital risk control platforms.

2.2. A Key Measure to Solve the Current Mismatch between Education Supply and Demand

Currently, financial management programs in universities have long overemphasized theoretical indoctrination while neglecting the cultivation of practical abilities. Figure 1 clearly shows the comparison of practical credit ratios

between financial management majors and engineering-related majors in universities. The data indicates that the practical credit ratio for financial management majors is only 17.37%, far lower than that of software engineering (40.41%), marketing (32.10%), and even lower than accounting

(22.72%). This structural defect directly leads to the problem of "disconnect between learning and application" after graduation, requiring enterprises to invest significant time and resources in re-education.

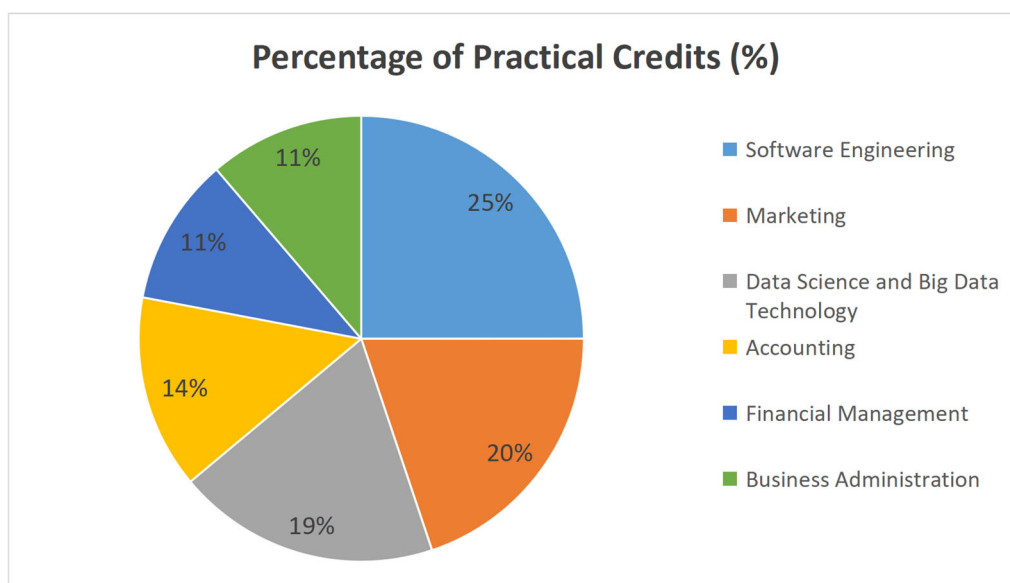


Figure 1. Comparison of Practical Credit Ratios across University Majors (2023-2024 Academic Year)
Data Source: Ministry of Education, 2023-2024.

More importantly, a 2024 survey shows that China faces a severe shortage of new-type industry-finance data application and management talents, with a gap of over 10 million people. Meanwhile, 58% of universities offer only 0-2 digital intelligence courses, and 40.78% of students believe that course content only "partially covers" the latest trends. The update speed of digital intelligence technologies is extremely fast, and traditional teaching models cannot respond quickly to this change. Only through teaching reform, integrating new technologies into courses, can students cultivate the ability for "lifelong learning," enabling them to become interdisciplinary talents with "finance + technology + business" composite capabilities.

2.3. Theoretical Basis for Promoting Interdisciplinary Integration

Digital intelligence transformation requires deep integration of financial management with information technology and data science. Traditional disciplinary divisions can no longer adapt to this trend of cross-development; barriers between disciplines need to be broken to achieve integrated development^[3]. Furthermore, teaching reform is not only to meet professional demands but also a requirement for the discipline's own development and innovation. Currently, the digital intelligence era requires students not only to possess professional financial knowledge but also logical thinking, data analysis capabilities, and innovative spirit. Through teaching reform, while cultivating students' professional skills, their comprehensive qualities can be enhanced, fostering them into high-quality talents adaptable to future economic and social development needs.

3. Problems Existing in Current Financial Management Teaching

3.1. Serious Disconnect between Teaching Content and Industry Frontiers

The current curriculum system still centers on traditional accounting principles and management theories, failing to deeply embed modern information technologies (such as cloud computing, AI, big data), leading to a disconnect between course content and the industry. For example, students might be familiar with calculating the cost of capital in "Financial Management" but unable to operate enterprise internal systems like SAP or UFIDA U8. Moreover, cases used in classroom teaching mostly come from traditional industries (like manufacturing cost calculation cases), lacking analysis of emerging business formats (such as the sharing economy, digital platforms), resulting in students' understanding of "digital enterprises" remaining superficial. More importantly, traditional teaching emphasizes standard answers and formula application, neglecting the increasingly important "forecasting" and "decision-making" functions in financial management, making it difficult for students to cultivate sensitivity to new technologies and innovative capabilities.

3.2. Obsolescence and Lag in Faculty and Teaching Methods

Although some financial management teachers have profound theoretical knowledge, they lack sufficient mastery of the latest financial digital intelligence tools (such as Power BI, Python data analysis), making it difficult to conduct practical operational demonstrations in classroom teaching^[4]. Teachers still largely adopt the "cramming" method of lecturing, lacking interaction and participation. Even when

multimedia is used, the content often involves one-way knowledge infusion, lacking cultivation of students' analytical and hands-on abilities. Furthermore, the teacher team lacks members with information technology backgrounds, making it impossible to break the barrier between "finance" and "technology" and hindering interdisciplinary cooperation, resulting in students' difficulty in receiving systematic interdisciplinary training.

3.3. Serious Shortcomings in Industry-Education Integration and Practice Platforms

Although most universities have signed "school-enterprise cooperation" agreements with companies, cooperation often remains at the student internship stage, lacking deep course co-construction, resource sharing, and achievement transformation, leading to students needing to relearn the company's business processes upon entering the enterprise^[5]. Additionally, due to the confidentiality of core enterprise data, students usually can only practice using simulated data on campus, lacking experience in processing and analyzing real financial data, making it difficult to meet enterprises' high standards for big data processing. Coupled with the untimely update of existing teaching resource libraries, lacking case libraries, data resource libraries, and model libraries targeting digital intelligence transformation, students can only rely on outdated textbook materials.

4. Countermeasures for Teaching Reform of Financial Management under the Digital Economy Background

4.1. Reconstructing the Curriculum System

It is suggested to introduce emerging modules such as "Application of Financial Robot Technology," "Smart Contracts and Blockchain," and "Corporate Big Data Analysis" into the traditional "Financial Management" course. A specific approach is to collaborate with the School of Information to offer "digital intelligence elective courses" and

require financial management students to earn a certain number of credits to graduate. Integrate "Financial Management" with "Enterprise Resource Planning (ERP)" to achieve data flow and knowledge flow articulation between courses. For example, when explaining "cost of capital" in "Financial Management," use real-time data from the enterprise's actual financial system for case analysis, rather than traditional textbook data. Simultaneously, it is recommended to co-build a "digital intelligence case library" with partner companies, inviting heads of corporate digital intelligence departments each semester to update "digital transformation cases," ensuring teaching cases synchronize with the industry frontier^[6].

4.2. Enhancing Faculty Team and Teaching Methods

It is recommended to form a joint teaching team of "on-campus full-time teachers + off-campus industry experts," hiring enterprise digital intelligence experts and technical engineers to undertake practical teaching modules, enabling students to directly access cutting-edge industry experience. Jiaxing University has co-built a case library with manufacturing enterprises in the Yangtze River Delta region, adopting a dual-track system of "on-campus virtual simulation + enterprise internship." Among the 2024 graduates, 62% were engaged in financial analysis positions in manufacturing enterprises, a 27% increase compared to the 2022 cohort. Enterprise surveys show that their cost accounting solutions adoption rate reached 73%, 40% higher than that of traditionally trained graduates. Regularly organize teachers to participate in specialized training on flipped classrooms, project-driven teaching methods, etc., promoting teachers' transformation from knowledge imparters to learning guides^[7].

Simultaneously, it is suggested to compress the proportion of traditional lecture hours, reserving sufficient time for student project practice and case seminars. Table 1 intuitively shows the comparative data of various teaching effects before and after the digital intelligence teaching reform, demonstrating significant reform outcomes.

Table 1. Comparison of Teaching Effects Before and After Digital Intelligence Teaching Reform

Indicator	Traditional Class	Reform Pilot Class	Improvement Amplitude
Financial Data Analysis Excellence Rate	Baseline Value	Baseline +41%	+41 percentage points
Industry-Finance Integration Competition Winning Rate	Baseline Value	Baseline +35%	+35 percentage points
Employment Rate within 3 Months of Graduation	89%	98%	+9 percentage points
Enterprise Solution Adoption Rate	33%	73%	+40 percentage points
Classroom Performance Average Score	83.2	91.4	+8.2 points
Cash Flow Modeling Accuracy Rate	85.00%	95.80%	+10.8 percentage points

Data Source: Survey data from Zhejiang University, Central University of Finance and Economics, and Jiaxing University.

The average classroom performance score of students in the experimental class was 91.4 points, compared to 83.2 points in the control class. On the training platform, the accuracy rate of students in the experimental class in completing cash flow modeling reached 95.8%, nearly 10 percentage points higher than that of the control class. Teachers are encouraged to adopt a hybrid model of "concise theoretical instruction + practical exercises + group discussions" to strengthen students' active learning and

problem-solving abilities.

4.3. Deepening Industry-Education Integration

Universities can collaborate with enterprises to co-build "Financial Shared Service Centers" or "Enterprise-level Intelligent Finance Laboratories." Students no longer use virtual simulation systems but log into the enterprise's real financial systems (such as UFIDA, Kingdee Cloud) for operations. All operational records are automatically entered

into the teaching evaluation system, allowing teachers to view students' operational levels in real-time. Directly introduce the enterprise's ongoing "digital intelligence transformation projects" as teaching subjects. For example, student teams take over the enterprise's "Financial Robot Process Automation (RPA)" transformation project, completing the entire process from needs analysis, system configuration, to go-live testing. Such "real tasks" would serve as students' graduation designs and semester projects. Regarding the sensitivity of enterprise data, a strict "desensitized data flow mechanism" can be established. Enterprises provide real business processes, and students only practice with desensitized data, ensuring both enterprise data security and the authenticity of teaching.

5. Conclusion

In the current era of rapid digital economy rise, the function of corporate financial management is undergoing a profound transformation from "data custodian" to "value creator." Based on the macro background of the digital intelligence era, this paper systematically diagnoses and analyzes the current teaching situation of the Financial Management major, proposing a systematic reform path of "reconstructing the curriculum, innovating teaching, and deepening industry-education integration." The research shows that the deep integration of digital intelligence technologies is not only a tool to enhance teaching quality but also a key lever to solve the "disconnect between learning and application" problem and cultivate high-quality financial management talents with digital intelligence literacy. Only by adhering to industry demand orientation and continuously deepening the innovation of teaching content and methods can the talent cultivation of the Financial Management major truly serve the

overall situation of high-quality economic development.

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