

Innovative Research on the Training System for New Business Talents Facing the Digital Economy: Experience from Multiple Local Universities

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Abstract:

The digital economy, with data as the core production factor, reshapes the global business paradigm and industrial pattern. Traditional business education can no longer meet the urgent demand of enterprises for compound and innovative digital talents. This paper explores the target structure, organizational mechanism, and path innovation of new business talent training facing the digital economy from the dual-driven perspective of capability restructuring and ecological synergy. The research points out that capability restructuring should be based on digital literacy, commercial knowledge as the framework, and practical ability as the orientation to form a “T-shaped” capability structure. Ecological synergy should break the “island-style” training of universities and build a ternary co-governance model of universities, enterprises, and technology platforms. The synchronized innovation of the curriculum system, teaching paradigm, teaching staff, and evaluation mechanism is the key to ensuring the sustainable operation of the dual-driven model. This study provides a systematic and operable transformation plan for the innovation of new business education facing the digital economy and helps build a strong education nation.

Keywords:

Digital Economy, New Business, Talent Training

1. Introduction

The digital economy is reshaping the global business ecosystem and economic landscape. Digital technologies represented by artificial intelligence, blockchain, cloud computing, and big data are accelerating integration with traditional industries, giving birth to new business forms, models, and industries [1]. According to statistics from the China Academy of Information and Communications Technology, China’s digital economy reached a scale of 63.8 trillion yuan in 2024, accounting for 41.5% of GDP and becoming the core engine of economic growth. The existing business education system, established on the basis of standardized production of the Industrial Revolution, is now facing the problem that the underlying logic has changed. Business education is confronted with the lag of knowledge renewal behind the technological iteration cycle. Disciplinary barriers hinder the cultivation of compound

capabilities, and theoretical teaching is detached from real business scenarios. Compared with traditional business education, new business education has three essential differences. First, the teaching focus has shifted from “knowledge transmission” to “capability construction.” Second, the disciplinary structure has shifted from “professional segregation” to “interdisciplinary integration.” Finally, the training has shifted from “university dominance” to “multi-party collaboration.” In response to the rapid development needs of the digital economy, the Ministry of Human Resources and Social Security, the Ministry of Education, and other departments have jointly issued the “Action Plan for Accelerating the Cultivation of Digital Talents to Support the Development of the Digital Economy (2024-2026).”

Existing research has found that traditional business education, due to the lag of knowledge renewal, the absence of practical scenarios, and the singularity of skill training, can no longer meet the urgent demand of digital commerce for compound and innovative talents [2]. Against this backdrop, “new business” has emerged as an educational paradigm revolution. Its essence is a repositioning of business education with digital technology as the engine, cross-boundary integration as the path, and Chinese management practice issues as the orientation [3,4]. New business talents need to achieve capability coupling in the three-dimensional space of “digital literacy - business knowledge - practical ability.” First, digital literacy not only includes tool skills such as data analysis, artificial intelligence, and blockchain [2], but also requires a deep understanding of data as both an object of labor and a tool of labor [5]. Second, business knowledge emphasizes the systematic integration of traditional business theories and emerging knowledge in the context of the digital economy, such as business models, digital marketing, and intelligent supply chains [10]. Third, practical ability points to solving complex problems in real business scenarios, including cross-boundary collaboration, innovative thinking, and social value transformation [3].

However, new business education still faces multiple structural barriers. The training goals are lagging and ambiguously positioned, mismatching the capability needs of the digital economy (such as the absence of data asset management) [6,7]. The curriculum system has not embedded digital genes, and teaching cases are detached from real business scenarios, resulting in a disconnect between “what is learned” and “what is needed” [2,3]. The teaching context is closed, and industry-education integration is superficial, with insufficient enterprise participation and limited in-depth application of virtual simulation [6]. There are prominent barriers in faculty and resources. Professional segregation makes it difficult for disciplines such as accounting and information technology to collaborate, and there is a dual shortage of interdisciplinary faculty and “dual-qualified” teams [8,9]. The evaluation mechanism is missing, lacking a dynamic assessment system for digital literacy and cross-boundary capabilities.

In response to the above dilemmas, the academic and industrial circles have carried out exploratory practices. At the curriculum level, Zhejiang University’s “Data Science and Management Engineering” course has achieved digital intelligence upgrade through content restructuring [10]. Beijing Institute of Technology has built a four-stage experimental data asset management system of “data discovery → value development → value realization → collaborative sharing,” incorporating experimental data into the framework of production factors [5]. Henan University has embedded a module of “business ethics × digital responsibility × era value” in the accounting curriculum to respond to ethical risks in technology application [11].

To avoid the disconnection between theory and practice in traditional business education and to cultivate high-quality business talents that the economy and society truly need, it is necessary to deeply integrate the reform of the business education system with the digital economy. Against this background, this paper, based on the “dual-driven” model of capability restructuring and ecological synergy, systematically explores the innovative logic and practical path of new business talent training. Capability restructuring focuses on the quality dimension of talents, addressing the question of “what capabilities to cultivate.” Ecological synergy optimizes the relationship between training entities, addressing the question of “how to collaborate in training.” The two support each other and jointly promote the fundamental transformation of the new business education paradigm, providing high-quality talent support for the digital economy and contributing to the construction of a strong education nation.

2. The Disconnect Between Business Education and the Needs of the Digital Economy

2.1. The Contradiction Between Disciplinary Knowledge Structure and Cross-Boundary Capability Needs

Traditional business education has long followed a “professional segregation” disciplinary structure, with rigid department settings and course systems that fail to meet the cross-boundary integration capabilities required by the digital economy. Surveys have found that in most universities, majors such as finance, accounting, marketing, and management operate independently, with course modules lacking integration and fragmented knowledge structures. This closed nature leads to the following three prominent issues.

(1) Singular Knowledge Structure. Students are confined to narrow professional fields, with their understanding of digital technology remaining at the conceptual level. For example, finance students may be proficient in financial statement analysis but are unable to use Python for financial data analysis. Marketing students are familiar with the 4P theory but lack the ability to build user profiles.

(2) Lagging Training Programs. The long adjustment cycle of majors is out of step with the development of industrial technology. In 2025, the State Council’s Leading Group for Employment Promotion and Labor Protection emphasized in its guidelines that there is an urgent need for talents in big data, artificial intelligence, data security, and other fields in the digital economy. However, universities have not yet responded promptly to these needs in their major settings.

(3) Patchwork Course Models. The current common course patchwork model simply combines courses from computer science and business schools, essentially leaving the task of integration to the students themselves. This mechanical combination lacks organic integration, making it difficult for students to form a systematic digital business mindset.

2.2. Mismatch Between Capability Supply and Industry Demand

The digital economy has given rise to a number of emerging job positions, such as intelligent risk control officers, business data analysts, and digital transformation consultants. These positions require talents to possess both business insight and digital technology application capabilities, resulting in a significant mismatch between the

capabilities supplied by universities and the demands of the industry in the following areas.

(1) Growing Digital Skills Gap. For example, Henan's digital economy scale remains in the top 10 in the country, with over 200,000 core industry enterprises. However, the mismatch between digital talent supply and industry demand remains a key bottleneck constraining industrial development, with this contradiction being particularly prominent in fields such as financial technology, smart logistics, and digital marketing.

(2) Insufficient Digital Practice Capability Training. Traditional business education has a clear tendency to focus on theory over practice, with slow updates to case teaching and lagging practical training platform construction. More than 60% of enterprises believe that business graduates lack the ability to solve real business problems, especially in areas such as data-driven decision-making and business process optimization.

(3) Lack of Digital Strategic Thinking Cultivation. The digital economy requires managers to have the ability to anticipate technological trends and innovate business models. However, the current curriculum system focuses on teaching operational skills and neglects the cultivation of strategic architecture capabilities. Traditional tool users are no longer able to cope with complex management scenarios. Today's business education needs to cultivate industry architects who can leverage financial leverage to drive technological innovation and possess both theoretical knowledge and integration capabilities.

3. Digital Literacy Enhancement and Capability Restructuring of New Business Talents in the Digital Economy

3.1. Digital Literacy Enhancement for New Business Talents in the Digital Economy

Digital literacy is the fundamental survival skill for business talents in the digital economy age and requires systematic cultivation of data thinking, technical understanding, and algorithm application capabilities. The enhancement path should include the following three key aspects.

(1) Data Thinking and Tool Application. Integrate computational thinking training throughout the business curriculum and restructure the mathematics course cluster by adding AI mathematics foundations and expanding the core mathematical content for digital intelligence applications. For example, in finance majors, courses such as "Python Financial Data Analysis" and "Financial Econometrics and AI Application Experiments" can be added to strengthen students' data analysis tool application capabilities.

(2) Technical Principle Understanding. Avoid becoming mere tool users by gaining a deep understanding of the underlying logic of technology. Courses that integrate artificial intelligence with business applications can be offered to break down the barriers between technology and business, helping students understand the commercial impact of algorithmic decision-making. For example, in business administration majors, courses such as "Technology Disruption Early Warning Methodology" and "AI Interaction Systems" can be added to cultivate students' ability to anticipate technological evolution.

(3) Digital Ethics and Security. The Ministry of Education's "Notice on Digital Empowerment of Teacher Development" requires strengthening teachers' ethical responsibilities and behavioral norms in digital application practices. Business education also needs to strengthen the cultivation of values such as data privacy, algorithmic fairness, and technology for good.

3.2. Capability Restructuring of New Business Talents in the Digital Economy

The complex business environment of the digital economy requires talents to have multidimensional capability pillars, forming a "T-shaped" capability structure, which means having both professional depth and cross-boundary integration breadth.

(1) Strategic Architecture Capability. Cultivate systemic thinking that transforms technological trends into business strategies. Course design focuses on the advanced path from using tools to understanding principles, being good at integration, and controlling risks. Through courses such as "AI Strategic Thinking" and "Technology Valuation Models," students' foresight in anticipating trends, co-creation capabilities in industry implementation, and risk resistance in the face of uncertainty are developed.

(2) Cross-Boundary Integration Capability. Integrate majors such as digital economy, financial management, logistics management, and international trade, and conduct cross-major simulation training. Students are grouped to simulate key positions in the industrial chain, forming a multi-major crossover collaborative combat team to understand the panoramic view of the industrial chain and the logic of interdisciplinary operations.

(3) Scenario Innovation Capability. Establish directions such as "Financial Technology Innovation Experimental Class" and "Senior Logistics Planner Innovation Experimental Class." Through professional qualification certificate exam training and on-the-job internships, students' innovative practical capabilities in integrating technology and business in specific scenarios are cultivated.

4. Ecological Synergy Innovation in New Business Talent Training in the Digital Economy

4.1. Innovation in Ternary Synergistic Talent Training Model

New business education needs to break the isolated training model of universities and build a ternary synergistic ecosystem of universities, enterprises, and technology platforms. Universities, as the main battleground for talent training, undertake the core functions of knowledge integration and theoretical innovation. Through measures such as "abolishing, creating, optimizing, and integrating," the connotation of majors is strengthened. Inefficient majors are abolished, traditional majors are optimized, and new business innovation classes are established by integrating multiple disciplines. Enterprises, as the demand side, provide real scenarios, practical topics, and industry mentors. They can also build immersive teaching scenarios through digital twins and virtual reality technologies. Technology platforms, as empowering levers, provide tool support and resource connections. Based on the interactive logic of the three main bodies, the following three-tier synergistic talent training framework is formed:

(1) Strategic Synergy. Relying on modern industry colleges, a dual-creation platform system of "basic laboratories - research platforms - college student entrepreneurship parks - off-campus internship bases" is constructed. Establish a

“Frontier Interdisciplinary College” to cultivate compound talents with the concept of “frontier leadership and interdisciplinary integration.” Deeply docked with industrial layout, systematically enhance students’ ability to serve regional development through the transformation of traditional business majors and the layout of emerging majors.

(2) Resource Synergy. Create a “learning community” by organizing AI interdisciplinary forums, AI industry clubs, and other activities to establish a knowledge co-creation network composed of students, alumni, and enterprise mentors. Implement a “dual mentor system,” inviting industry experts to participate in practical guidance and collaborating with on-campus and off-campus mentors to develop teaching cases. Practical training for college teachers and enterprise mentors jointly implement to achieve complementary strengths.

(3) Operational Synergy. Project-based learning andout come conversion, implement a “four-semester mentorship system.” In the second year of college, cultivate interest; in the second semester, promote learning through competitions; in the third year, promote learning through research; and in the fourth year, connect with positions and further education. Students delve into AI innovation projects, completing commercial validation, model building, and financing plan design from scratch.

4.2. Mechanism Innovation for Ternary Ecological Synergy

To ensure the sustainable operation of ternary synergy, three safeguard mechanisms need to be established.

(1) Interest Distribution Mechanism. Enterprises form industry standards through technology platform output, universities gain high-quality teaching resources, and students enhance their employment competitiveness, forming a closed loop of value co-creation and outcome sharing.

(2) Data Interoperability Platform. Relying on the National Education Big Data Center, promote the integration and collection of teacher learning data across multiple platforms and terminals, and achieve data connectivity management between pre-service learning and post-service development of teachers. For example, by realizing all courses being built online, support students’ personalized and ubiquitous learning.

(3) Evaluation Mutual Recognition System. Incorporate industry project results, innovation patents, and other elements into evaluation indicators, implement the Ministry of Education’s requirements for promoting data-supported teacher evaluation reform, and promote the application of evaluation results in qualification recognition, title evaluation, and commendation.

5. Innovative Pathways for New Business Talent Training in the Digital Economy

5.1. Curriculum System Innovation: From Knowledge Accumulation to Capability Map

Based on the logic of capability restructuring, the new business curriculum system needs to break the traditional curriculum system structure (basic courses - professional basic courses - professional courses) and build a capability-oriented course matrix.

(1) Interdisciplinary Course Cluster Construction. In terms of disciplinary direction, integrate the school’s advantageous disciplinary resources; in terms of

digital intelligence technology, establish a digital enterprise management direction; and in terms of practice orientation, build a comprehensive training system.

(2) AI Integration Course Development. For example, Shandong University of Finance and Economics released the “Implementation Plan for New Finance Talent Training in the Age of Artificial Intelligence,” comprehensively revised the training plan, and added an artificial intelligence introduction general education course for the entire university.

(3) Modular Capability Certification Units. Drawing on the Ministry of Education’s “Teacher Lifelong Learning Points” concept, design a micro-certificate system, such as capability modules like “Blockchain Financial Application” and “Smart Supply Chain Optimization,” to support flexible combinations and continuous updates.

5.2. Teaching Paradigm Transformation: From Classroom Lectures to Scenario Immersion

Teaching methods are the key carriers for capability implementation and need to promote three major transformations.

(1) Application of Simulation Teaching Platforms. Build a virtual industrial ecosystem through digital twin technology, and students are grouped to simulate job roles, cultivating systematic business thinking in dynamic market competition.

(2) Long-Cycle Project Practice. Implement a “consistent scientific research training” system, where the second year cultivates interest, the second semester promotes learning through competitions, the third year promotes learning through research, and the fourth year connects with positions and further education.

(3) Integration of Competitions and Teaching Mechanisms. Bind the full-process application of data elements with real scenarios in depth, promoting students to integrate data processing skills into the entire problem-solving process.

5.3. Faculty Upgrading: From Academic Dominance to Dual-Mentor Co-Cultivation

Teachers’ digital literacy is the core variable for the digital transformation of education. A three-track approach needs to be implemented:

(1) Teacher Digital Literacy Enhancement. The Ministry of Education launched the “Teacher Digital Literacy Enhancement Action,” established teacher intelligent literacy standards, and built teacher digital literacy portraits. For example, Beijing Normal University assembled a team of professors: Dean Qi Yudong, who has been deeply engaged in the research of digital economy and management, Professor Jiao Hao, who explores strategic management in the context of the digital economy, and Professor Zhou Jianghua, who focuses on digital enterprise transformation, forming a cross-disciplinary faculty matrix.

(2) In-Depth Participation of Industry Mentors. Build an industry mentor exchange platform where industry mentors participate in thesis proposal, defense, and other stages and host scientific research practice academic lectures.

(3) Innovation of Teaching and Research Collaboration Mechanisms. The Ministry of Education promotes the construction of “famous teachers, famous principals studios, and virtual teaching and research rooms” to leverage the leading

role of famous teachers. For example, Professor Shangguan Xuming of Xinyang Normal University has shifted his research to AI economics and digital finance, ensuring that the research frontier feeds back into teaching.

5.4. Evaluation Mechanism Restructuring: From Score Orientation to Capability Portrait

Firstly, build a capability evaluation map. Secondly, recognize the value of practical achievements by incorporating subject competitions, scientific research projects, and entrepreneurial practice into the credit recognition scope. Finally, establish a continuous tracking and feedback mechanism by creating a graduate career development database to dynamically analyze the achievement of training goals.

6. Conclusion and Outlook

The theoretical contribution of this paper lies in constructing an “integrated framework of three-layer capability model + ternary synergistic ecosystem,” providing theoretical guidance for the digital transformation of business education. However, further research is needed to test the applicability differences of this framework in different types of universities and explore the application boundaries of educational large models in capability evaluation and the integration of humanistic literacy. In the era of accelerating technological iteration, business education needs to embrace innovation while adhering to the essence of talent cultivation, training new-era management talents with both digital capabilities and humanistic spirit, and providing solid support for the construction of a strong education nation.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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