Analysis of the Impact of the Development of Digital New Business Formats on University Students' Employment Choices

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Abstract: *Employment serves as the foundation of people's livelihood and the source of economic vitality. The employment of university students is directly related to the stability of the social structure and the momentum for national innovation and development. Against the backdrop of the digital economy restructuring the industrial ecosystem, systematically deconstructing the mechanism through which emerging business formats influence the career decision-making of university students holds significant practical importance. The development of digital new business formats has opened up flexible and diversified career paths for university students while simultaneously posing structural challenges to the traditional paradigm of employment choices. Based on this, this paper analyzes the opportunities and challenges brought about by the development of digital new business formats to the employment choices of university students. It proposes optimization strategies from the dimensions of education, industry, and policy, aiming to provide a systematic solution for enhancing the career competitiveness of the university student population in the era of the digital economy.*

Keywords: *digitalization; new business formats; university students; employment choices*

Introduction

In recent years, industrial transformation driven by digital technology has not only reconfigured the methods of allocating production factors but has also given rise to a new paradigm of the digital economy. This paradigm encompasses intelligent decision-making modules, the extension of data value chains, and distributed business ecosystems[1]. Digital new business formats are not merely the product of technological advancement; they represent a systemic transformation of social production methods and labor relations. Their innovative, efficient, and flexible nature has positioned them as a new engine driving economic growth and social development. The development of digital new business formats presents both new opportunities and challenges for university student employment. It has catalyzed novel employment domains and facilitated a shift from traditional hierarchical employment models towards platform-based and liquid forms of employment. In 2023, China's digital economy accounted for 42.8% of its GDP, and 67% of newly emerging professions were directly related to digital skills. This signifies a value shift in the job market from "job stability" to "skill fluidity." To delve deeply into the impact of digital new business format development on university students' employment choices, this study first clarifies the theoretical concept of digital new business formats. It then analyzes the opportunities and the associated risks and challenges they pose for university students' employment choices. Finally, the study constructs a collaborative governance framework. This framework includes advancing the reform of the education system, deepening the integration of industry and education, optimizing technical information services, and strengthening policy and institutional safeguards. The aim is to empower university students to transition from "passive adapters" to "active creators" within the digital wave, thereby promoting the stable development of the social economy.

1. Theoretical Connotation and Structural Characteristics of Digital New Business Formats

1.1 Theoretical Connotation

Digital new business formats represent a novel economic form driven by digital technologies at their core. They rely on technologies such as the internet, big data, artificial intelligence, and cloud

computing, emerging through the restructuring of traditional industry value chains or the creation of entirely new business models. The essence of digital new business formats lies in the transformation of production organization methods triggered by the fifth technological revolution. Fundamentally, they achieve enhanced production efficiency, optimized resource allocation, and innovative service models by facilitating the flow and value addition of data as a production factor[2], thereby overcoming the law of diminishing marginal returns associated with traditional production factors. The process of data capitalization transforms user behavior data into a new type of production material, driving the evolution of business formats towards platformization, intelligence, and decentralization.

The morphological evolution of digital new business formats manifests across three dimensions. First, native formats based on internet information technology, such as e-commerce and online payment operations, demonstrate the capacity of technological infrastructure to reshape commercial forms. Second, process innovations derived from the digitalization of traditional industries, such as smart manufacturing based on digital twin technology and supply chain finance utilizing blockchain. Third, personalized service ecosystems empowered by digital technologies, including precision education based on AI algorithms and health management leveraging big data, which achieve granular matching of demand and supply through data profiling. These three forms do not exist in isolation; rather, they form a value network interconnected through data middle platforms.

Digital new business formats in China exhibit a characteristic of "institutional embeddedness." They not only transcend traditional industrial boundaries but also become deeply embedded within the existing economic system, forming a unique hybrid innovation pathway[3].

1.2 Structural Characteristics

The development of digital new business formats during the digital transformation process has become a core issue for China in further promoting high-quality development. The rapid evolution of these new formats has profoundly influenced the topics and paradigms of development research[4]. The structural characteristics of digital new business formats primarily include a technology-driven nature, a platform-based economy, flexibility and boundary transcendence, and the deep embedding of digital technologies in traditional industries.

First is its technology-driven nature. The essence of this technology-driven nature lies in the paradigm-reconstructing effect of technology clusters. The synergistic innovation of artificial intelligence, blockchain, and the Internet of Things has broken through the path dependence of traditional linear technological evolution, forming a "digital technology ecosystem." This ecosystem accelerates industrial iteration cycles through disruptive innovation. The emergence of generative AI not only reshapes the application scenarios of technology but also reconstructs the power structure of knowledge production. Specifically, the dominance over content creation shifts from humans to human-machine collaboration, forming a dialectical relationship of "technological empowerment and alienation."

Second is the platform-based economy. The platform-based economy reflects the digital transformation of capitalist production relations. Platforms, serving as the "digital intermediate layer," reconstruct market rules through mechanisms such as algorithmic pricing and credit rating systems. They integrate resources from both supply and demand sides, as seen in models like e-commerce, crowdsourcing, and live streaming, thereby forming a decentralized employment ecosystem. This organizational form deconstructs the boundaries of hierarchical enterprises but gives rise to new forms of power asymmetry. While workers gain flexibility, they also become entangled in the predicament of "algorithmic coercion."

Third are flexibility and boundary transcendence. Flexibility and boundary transcendence point to a liquid turn in labor forms. Remote work dissolves the physical anchor points of workplaces, and the gig economy deconstructs the stability of employment relationships. The rise of new employment forms breaks traditional spatial and temporal constraints. This "flexible existence" unleashes individual autonomy while simultaneously intensifying the individualization crisis within the risk society.

Fourth is the deep embedding of digital technology in traditional industries. The essence of industrial digitalization is the deepening of technological embeddedness. Digital technology is no longer an exogenous variable superimposed on traditional industries; instead, it reconstructs the production function through a "technology-industry" co-evolution mechanism. This demands that workers break through professional barriers and develop a composite competency structure combining "digital literacy and domain-specific knowledge."

2. The Impact of Digital New Business Format Development on University Students' Employment Choices

In recent years, the digital industry has undergone further in-depth development. The exponential increase in the penetration rate of digital technology has given rise to innovative business paradigms, driving a leap in the energy level of the labor market. In 2023, the total factor productivity of the digital economy continued to optimize. The added value of core digital economy industries accounted for 10% of the gross domestic product, creating a coupling effect of enhanced employment quality and increased macroeconomic resilience. This has become a crucial safeguard for stabilizing employment and growth. The development of digital new business formats has expanded the employment choice space for university students.

2.1 The Opportunity Space for University Student Employment Created by the Development of Digital New Business Formats

First, there is a diversification and expansion of employment opportunities. Data indicates that by 2035, the scale of China's digital economy is projected to exceed 160 trillion yuan, with employment in new business formats under the digital economy surpassing 400 million people. The emergence of new professions, such as AI engineers, data annotators, and blockchain developers, has seen a surge in demand. Digital development creates an upgrading imperative for traditional industries. The digital transformation of manufacturing fosters interdisciplinary roles like "digital twin designers" and "smart production line operation and maintenance technicians," which require both industry-specific knowledge and digital skills. Positions for liberal arts majors, such as in digital marketing and new media operations, are breaking down disciplinary barriers. The proportion of professionals engaged in cross-border e-commerce is also increasing.

Second, the flexibility of employment forms is enhanced. New business formats in the digital era, primarily supported by technologies like big data and the internet, enable university students to engage in flexible employment through social media and online platforms, making work more autonomous[5]. On one hand, the prevalence of the gig economy has made freelance careers like short-video creators and independent developers a mainstream choice. By 2024, the domestic flexible workforce is expected to exceed 240 million people. On the other hand, the normalization of remote work allows positions in software development, online education, and similar fields to transcend geographical limitations. Graduates from central and western regions can participate in project collaborations with first-tier cities, providing diverse employment models for university students' career choices.

Third, there is a reconstruction of career development competencies. The development of digital new business formats not only alters employment forms but also profoundly reshapes the underlying logic of professional capabilities. The traditional linear relationship of "educational background - ability - income" is being dismantled, replaced by an emphasis on digital literacy, innovative capacity, and career resilience. Skills like data analysis and the application of AI tools are becoming fundamental competency thresholds. The shortening of technology iteration cycles transforms "lifelong learning" from a concept into a survival necessity. Corporate recruitment logic is shifting from "educational background screening" to "learning capability assessment," making continuous learning ability a core competitiveness.

2.2 Negative Challenges for University Student Employment Posed by the Development of Digital New Business Formats

While university students' employment choices encounter opportunities within the new digital paradigm, they also face numerous negative challenges. The first is the risk of structural unemployment. The structural unemployment triggered by the digital wave manifests the contradiction between technological revolution and institutional inertia. Artificial intelligence exerts a substitution effect on traditional positions, with standardized roles such as bank tellers and traditional customer service representatives being replaced by AI. The rapid development of digital technologies and the continuous emergence of new employment models increase the unemployment risk for university students. Furthermore, a mismatch exists between university curriculum education and the skill demands of university student employment. University course systems suffer from lagging development, creating a generational gap with the skills required by enterprises. The adjustment cycle for academic program offerings significantly lags behind the iteration speed of digital professions, leading to a disconnect between course content and industry needs. This lag will exacerbate the risk of structural

unemployment.

The second challenge is the decline in employment stability. Under digital new business formats, while university students enjoy greater employment flexibility, they also face a lack of stability. Compounding this, there is insufficient social security coverage at the societal level. Occupations such as food delivery riders and live-streaming bloggers often lack social insurance coverage, leaving individuals to bear occupational risks independently. There is a lack of unified regulations for issues like workplace injury recognition and personal income tax payments for freelancers. The social security system, originally designed based on the "work unit-employee" relationship, struggles to adapt to the "de-labor-relation-ization" characteristic of the platform economy. Many flexible workers are not enrolled in any social insurance schemes, and legal gaps concerning occupational injury recognition and working hour standards have normalized "algorithmic exploitation." University students consequently face numerous obstacles in employment competition[6]. The shortening lifecycle of internet-based careers, highlighted by the "age 35 crisis" in the internet industry—where the average active career period for an algorithm engineer is only eight years—means university students still confront a severe employment landscape.

The third challenge is psychological adaptation pressure. The psychological stress induced by technological iteration represents an individualized experience of the "consequences of modernity." The rapid pace of technological change leads to a sense of frustration among graduates, a feeling that one "can never learn enough." In the highly saturated digital talent market, the symbolic capital of academic credentials is depreciating at an accelerated rate. The shortened half-life of digital skills forces individuals into continuous learning. However, non-systematic training often fails to build core competitiveness. Individualized learning lacking institutional support easily falls into the trap of "single-loop learning," unable to achieve a leap in capabilities. University students face the dual pressures of "skill overload" and "skill devaluation," hindering their ability to participate effectively in the employment competition within digital new business formats.

3. Enhancement Strategies for University Students' Employment Choices Under Digital New Business Formats

The burgeoning development of digital new business formats provides opportunities and space for university students' employment choices, while simultaneously reshaping the underlying logic of these choices and introducing new risks and challenges. Under this new business format development model, a coordinated response from education, industry, and policy is required to form a multi-dimensional social support system. This will enable university students to transition from being "passive adapters" to "active creators" within the digital wave.

3.1 Advancing the Reform of the Education System and Constructing a New Paradigm for Digital Competency Cultivation

The competitiveness of university students in employment is inextricably linked to the quality of higher education and scientific career guidance. Universities should accurately grasp the employment landscape under digital new business formats, improve the educational cultivation mechanism[7], and assist students in achieving high-quality employment in these new fields. First, in terms of interdisciplinary restructuring, a dual-track cultivation model integrating "digital general education and vertical skills" should be established. Digital literacy should be embedded into general education courses for all majors, while "micro-specializations" should be dynamically aligned with industry demands, such as combined courses like "Finance + Blockchain" and "Medicine + AI Diagnosis." This approach achieves both the universal cultivation of digital literacy and precise alignment with industry needs.

Second, focus should be placed on upgrading practical teaching. Universities should collaborate with technology enterprises to establish industry-academia integration innovation laboratories. Industrial-grade digital twin systems should be introduced to conduct smart manufacturing simulation training, building a three-stage practical training system comprising "virtual factory, real-scenario operations, and project review." This system provides university students with practical opportunities for entrepreneurship and employment.

Third, innovation in lifelong learning mechanisms should be implemented. A "credit bank" system should be promoted, allowing graduates to exchange work experience for qualification to return to

campus for further studies. Working professionals should be supported in taking micro-specialization courses through MOOC platforms, and upon accumulating sufficient credits, they may apply for digital skill certification.

3.2 Deepening the Integration of Industry and Education to Bridge the Talent Supply-Demand Linkage

The improvement of university students' employment situation under the development of digital new business formats cannot be separated from the support of digital technology. A favorable digital learning environment aids university students in mastering and practicing employment-related skills. First, an intelligent talent monitoring system should be established. Leveraging big data from the industrial economy, a dynamic early warning model should be constructed to monitor in real-time the digital talent gaps in key regions of China, such as the Yangtze River Delta and the Guangdong-Hong Kong-Macao Greater Bay Area. A list of job vacancies and their corresponding competency matrices should be released quarterly. Second, project-based teaching reform should be implemented. Enterprises can open their real project libraries to universities, allowing student teams to bid for and undertake projects, with enterprise mentors participating in process guidance and final acceptance. Third, the collaborative mentorship system with dual tutors from academia and industry should be optimized.

3.3 Optimizing Technical Information Services to Reduce Career Selection Costs

The university career guidance service system serves as a vital foundation for cultivating high-quality talent and a crucial pathway for helping students develop correct career selection and employment perspectives[8]. To better enhance university students' employability in the digital domain, the quality of career and employment services must be continuously improved. First, a career navigation cloud platform should be established. This involves integrating and aggregating corporate job demand data to construct an intelligent decision-making system with features such as skill-matching analysis, salary competitiveness assessment, and career path simulation, visualized as a career map. A digital employment navigation system should be developed to consolidate job requirements, skill maps, and salary data.

Second, a new occupation awareness project should be organized. In collaboration with leading enterprises such as ByteDance and Meituan, short videos for a "Digital Occupation Encyclopedia" should be produced. Virtual reality technology can be utilized to showcase emerging positions like cloud computing engineers and AI trainers. Third, a regional collaborative cultivation plan should be implemented. An "Eastern Data, Western Training" base should be established, enabling real-time interaction with the digital twin systems of eastern enterprises via 5G private networks. This would allow students from central and western regions to remotely access the practical training systems of eastern enterprises, cultivating a group of high-quality talents capable of adapting to the development of new business formats.

3.4 Strengthening Policy and Institutional Safeguards to Construct a Digital Employment Safety Net

The establishment of a systemic employment security framework serves as critical support for empowering university students in their career development and aiding them in precisely unleashing the value of their human capital within the digital job market. First, a legal protection system for new forms of employment should be constructed. It is recommended to amend the Labor Law by adding a dedicated chapter on "Flexible Employment Protection," bringing gig economy workers into the scope of statutory protection. Platforms should be mandated to establish dedicated funds for occupational injury insurance and continuing education. Legislative empowerment aims to activate the endogenous motivation of young people to participate in the digital economy and stimulate university students' proactive engagement in employment within new business formats.

Second, an innovative mechanism for confirming the value of digital labor should be developed. Leveraging blockchain notarization technology, a platform for the registration and confirmation of personal data asset rights should be established. A multi-dimensional data asset valuation model should be developed, encompassing factors such as data contribution level, skill scarcity, and collaboration complexity. This ensures that digital workers enjoy statutory rights, including the right to be informed about algorithmic decisions and the right to share in data-generated revenue.

Third, Compliance Guidelines for AI Recruitment Systems should be issued, explicitly prohibiting enterprises from using screening algorithms with age discrimination or educational background bias. An algorithm filing, review, and dynamic monitoring mechanism should be established. A dynamic tracking system should monitor key metrics of recruitment platforms in real-time, such as fluctuations in resume pass rates and interview conversion rates.

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References

[1] Yan Ying. The Enhancement Path of University Students' Employability in the Context of Digital New Business Formats[J]. Market Weekly, 2024, 37(31): 168-171.
[2] Zhang Li. Digital New Business Formats Boost the Transformation and Upgrading of Traditional Industries[J]. China's Foreign Trade, 2021, (04): 24-26.
[3] Liu Shouying. The Unique Path of Chinese Modernization[J]. Economic Herald, 2021, (09): 8-14.
[4] Li Peilin. New Business Formats and New Quality Productive Forces: New Topics in Development Research[J]. Journal of Hangzhou Normal University (Social Sciences Edition), 2024, 46(06): 94-97.
[5] Xu Rong, Tian Qiming. The Current Situation, Problems, and Countermeasures of the University Student Employment Market[J]. Journal of Shanxi University of Finance and Economics, 2024, 46(S1): 269-271.
[6] Shi Qiuheng, Sun Xinyan, Jin Linghong. The Formative Logic and Strategic Orientation of High-Quality Employability for University Students[J]. Research in Educational Development, 2024, 44(07): 1-8.
[7] Yan Ni, Yuan Wenyi, Ren Li. A Study on the Impact of University Students' Cognition of New Business Formats on Their Employment Intention—An Empirical Analysis Based on the Theory of Planned Behavior[J]. Social Security Studies, 2023, (03): 80-91.
[8] Qiu Sheng. Analysis of the Employment Situation and Application of Countermeasures for College Graduates Under New Business Formats[J]. Employment and Security, 2024, (08): 163-165.