

Research on Countermeasures for the Employment of Chinese University Students in the Context of the Development of Digital Economy

Ping Zhang, Jia Zhao

Sichuan Normal University, Chengdu, Sichuan, China, 610066

Abstract: After agricultural and industrial economies, the digital economy is the third economic structure that utilizes data resources as a fundamental component. The major carrier is modern information networks, and the integration and application of information and communication technology, as well as the digital transformation of all elements, are significant driving forces. This promotes greater coherence between equity and efficiency. The rapid growth of the digital economy has increasingly affected employment in three main areas: scale, structure and quality. The Chinese government attaches great importance to the employment of college students, which still faces greater challenges under the impact of weak global economic growth and multiple international and domestic factors exceeding expectations. In this context, researching the influence of the digital economy's development on employment and offering positive and effective countermeasures will assist to promote full employment and improve the quality of employment for Chinese university students.

Keywords: Digital Economy; Development; University Students; Employment

1. Introduction

In recent years, the scale and scope of China's digital economy have expanded dramatically, triggering revolutionary changes in the modes of production and employment, with a particularly significant impact on university students' employment.

2. Current status and outlook for the development of the digital economy

In recent years, the Internet, big data, cloud computing, artificial intelligence, blockchain, and other technologies have accelerated innovation and become increasingly integrated into the whole process of economic and social development. Countries are competing to formulate digital economy development strategies and introduce incentive policies. The speed of digital economy development, the scope of radiation and the degree of influence are unprecedented. The digital economy is becoming a key force in reorganizing global factor resources, reshaping the global economic structure, and changing the global competition pattern. The United States government has consistently prioritized the information technology sector as a strategic focus, implementing a range of technological development initiatives at the national strategic level. These include the Network and Information Technology Research and Development Plan, the National Strategic Computing Plan, and the National Strategy for Key and Emerging Technologies. The purpose of these measures is to remain at the forefront of the evolving digital technology landscape and secure a preeminent global position in technology. The Chinese government has always attached great importance to the development of digital economy. During the 13th Five-Year Plan period, China thoroughly implemented the digital economy development strategy, continuously improved the digital infrastructure, accelerated the cultivation of new business forms and new models, and achieved positive results in promoting digital industrialization and industrial digitization.

The data shows that from 2012 to 2022, the scale of China's digital economy increased from 11 trillion yuan to 50.2 trillion yuan. The total volume of China's digital economy has remained the second in the world for many years, and its proportion in GDP has increased from 21.6% to 41.5%. The digital economy industry has become a dominant industry in China's economic development.^[1]

2.1. Outlook for the development of the digital economy

In February 2023, the Chinese government released the Overall Layout Plan for the Construction of Digital China, envisioning the establishment of an integrated promotion framework by 2025 characterized by horizontal and vertical connectivity as well as robust coordination, and the construction of Digital China will have made important progress. By 2035, China's digitalization development will be at the forefront globally, showcasing remarkable achievements in the establishment of a Digital China. The digital advancements across economic, political, cultural, social, and ecological domains will exhibit enhanced coordination and sufficiency, providing robust support for the comprehensive construction of a modern socialist nation.^[2]

2.2. Impact of the development of the digital economy on employment

The rapid advancement of the digital economy in recent years has fundamentally transformed the trajectory of economic growth and exerted a profound influence on employment, primarily in terms of its magnitude, composition, and quality.

2.3. Impact of the development of the digital economy on the scale of employment

On the one hand, the dominance of the digital economy's "substitution effect" leads to a reduction in employment opportunities. Firstly, industrial robots are replacing human workers as they effectively substitute for manual labor in various procedural and repetitive tasks. Secondly, artificial intelligence has the potential to surpass human cognitive abilities and profoundly impact traditional industries, offering a broader scope and enhanced efficiency. On the other hand, the digital economy's "creation effect" contributes to an amplified employment scale. Firstly, the digitization of industries leads to a significant expansion in overall employment. The rapid growth of digital sectors such as electronic information manufacturing, software enterprises, and the Internet has resulted in an increased demand for labor. Secondly, the digital economy has given rise to innovative forms of employment. The widespread adoption of new digital communication technologies like the Internet and 5G has completely transformed people's work and lifestyle patterns while also fostering numerous emerging industries and models such as e-commerce platforms, e-sports, webcasting with merchandise integration, express delivery services, etc., thereby directly or indirectly generating more job opportunities.

The empirical research indicates that the continuous enhancement of new infrastructure construction, the elevation of regional talent concentration level, and the augmentation of regional financial support will further advance the development of regional digital economy. Consequently, this will lead to an escalated impact on employment scale.

2.4. Impact of the development of the digital economy on the structure of employment

Firstly, development of the digital economy has instigated transformations in the industrial structure. Factors of production will shift massively from the primary sector to manufacturing and eventually to services. Consequently, there is a natural reallocation of the labor force towards industries with higher returns. Secondly, the advancement of digital technology will drive a transformation in the skill landscape, leading to changes in its structure. This progress will result in the displacement and marginalization of middle and low-skilled labor, while simultaneously increasing the demand for highly skilled workers. Individuals with higher education possess a comparative advantage in adapting to and leveraging digital innovation and application. At the same time, low-skilled workers are compelled to proactively pursue higher education or enhance their skills to meet market demands. Thirdly, the digital economy has given rise to novel employment patterns. The development of the digital economy has led to the emergence of innovative flexible employment models, which have become a crucial means to alleviate labor market tensions and mitigate structural and frictional unemployment.

Empirical studies have demonstrated that digital industrialization, industrial digitization, and digital infrastructure development have exerted distinct impacts on the employment's industrial structure, industry structure, and skill structure. Overall, the advancement of the digital economy has facilitated workforce transition towards secondary and tertiary sectors as well as high-end industries while augmenting employment opportunities for highly skilled individuals.

2.5. Impact of the development of the digital economy on the quality of employment

Firstly, the development of the digital economy has a profound impact on the income level of the labor force. Advancements in digital technology have the potential to significantly enhance productivity across various industries and reduce enterprise production costs, thereby fostering overall income growth for the labor force. Furthermore, the digital economy has the potential to significantly augment labor income by fostering employment opportunities within the industry. This phenomenon particularly benefits individuals from low-income backgrounds, as there exists a positive linear correlation between income level and job satisfaction. Thirdly, the emergence of a new labor relationship has resulted in the inadequate protection of workers' rights and interests. The remuneration system for labor under the new employment model has undergone significant changes, thereby diminishing the economic subordination inherent in traditional labor relationships, consequently impacting job satisfaction among the workforce.

The empirical research demonstrates that digital industrialization, industrial digitization, digital infrastructure construction and digital environment can improve the employment environment, increase the employability of workers, raise their income and enhance job security measures, and ultimately contributes to an overall enhancement in employment quality.^[3]

3. Proposals for countermeasures for the employment of university students

Science and technology constitute the primary productive force, while talent serves as the foremost resource. Innovation acts as the driving force behind progress. College students are invaluable human capital in achieving Chinese-style modernization. Therefore, it is imperative for the state, society, and educational institutions to synergize their efforts. In light of the digital economy's development, continuous expansion of the digital industry's scope should be pursued alongside enhancing college students' education quality and strengthening employment guidance measures. Additionally, college students must enhance their comprehensive abilities and proactively embrace both challenges and opportunities arising from digital economic advancements.

3.1. Country level

The development of the digital economy should fully leverage the advantages of big data and diverse application scenarios, facilitating the profound integration of digital technology with the real economy. This integration empowers the transformation and upgrading of traditional industries, fosters emerging sectors and novel business models, while continuously enhancing, optimizing, and expanding China's digital economy.

Firstly, it is imperative to enhance research on key core technologies and expedite the development of new infrastructure. We should fully leverage the advantages of the mega-market, enhance our foundational research and development capabilities in digital technology, engage in a battle for key core technologies, and expedite the establishment of a comprehensive digital information infrastructure centered around 5G networks, national integrated data center systems, and the national industrial internet. Secondly, it is imperative to promote the integrated development of the digital economy and the real economy, fostering the growth of digital industries in key sectors. The country needs to grasp the trajectory of digitization, networking, and intelligence to propel the digitization of manufacturing, service, agriculture, and other industries. We also should facilitate profound integration between Internet technology, big data analytics, and artificial intelligence with various sectors while nurturing a plethora of large and medium-sized enterprises endowed with international competitiveness. Thirdly, the government must enhance the governance framework of the digital economy and actively engage in international collaboration pertaining to the digital economy. It is imperative to enhance legislation, regulations, and policy systems, modernize China's governance capacity for the digital economy, elevate levels of external openness, and further align with global advancements in the field of digital economy.

3.2. Social level

Social organizations play a crucial role as vital components of society, offering diverse public services and fostering social cohesion and interconnections. Moreover, they serve as micro-level implementers and managers of essential networked digital systems.

Firstly, we can enhance the channels for capital investment by leveraging the guiding role of financial resources and funds, while encouraging and directing social capital towards increased investments in digital 'new infrastructure'. This will foster a new landscape of collaborative participation and mutually beneficial cooperation among multiple stakeholders. Secondly, enterprises should leverage their respective advantages. Large enterprises are primarily responsible for infrastructure construction, maintenance and operation, cutting-edge core technology research and development, as well as providing large-scale system support services. Meanwhile, small and medium-sized enterprises have become important players in building a networked society within various subfields. Through mutual competition and cooperation, they can jointly form an enterprise ecological cluster to facilitate the construction of a digital society. Furthermore, it is imperative to effectively enhance employment prospects for university students. Enterprises play a pivotal role in addressing the issue of graduate unemployment, and the exponential growth of digital economy enterprises has significantly bolstered their capacity to absorb this demographic.

3.3. University level

As the primary driver of talent cultivation, higher education institutions should proactively align with the national development strategy of the digital economy, actively cater to societal needs, continuously enhance talent support mechanisms, and strategically coordinate the establishment of various disciplines and specialties in the digital field. This will enable the cultivation of innovative, application-oriented, and multidimensional talents.

Firstly, college specialization settings should be tailored to the adaptation of the digital economy industry. It is imperative to dynamically adjust college professional settings and teaching programs, with each discipline seeking breakthrough points that can seamlessly integrate digital knowledge and skills based on its unique characteristics. This will enhance the alignment between students' fundamental professional knowledge and the requirements of positions in the digital economy. Secondly, the integration of production, teaching, and research in colleges and universities should be comprehensively implemented. Establishing collaborative educational platforms involving government, enterprises, and schools across multiple disciplines is essential to foster interdisciplinary education. Thirdly, colleges and universities should enhance the career planning and employment service guidance for college students by providing them with comprehensive support in understanding the latest trends in digital economy development, future prospects, and effective employment strategies. Moreover, it is crucial to strengthen the collection and dissemination of employment information related to digital economy enterprises while fostering a mutually beneficial relationship between college students and these enterprises to achieve collaborative success.

3.4. At the level of university students

The employment of college students in the digital economy is confronted with challenges such as structural contradictions in supply and demand, as well as conservative notions regarding career choices. Addressing these challenges necessitates collaborative efforts from all sectors of society to actively transform college students' employment perspectives and enhance their employability.

Firstly, it is imperative to foster a culture of innovation and entrepreneurship among college students in the realm of digital economy. College students should enhance their cognitive, technical, and psychological aptitude for innovation and entrepreneurship, while proactively engaging in innovative ventures within the digital economy domain. Secondly, it is important to transform the employment mindset of college students. College students should abandon conventional notions such as "pursuing stability" and "guaranteed job security," instead actively harnessing their intellectual capabilities and youthful vigor to seize opportunities in digital advancement and realize their individual worth. Thirdly, it is necessary for college students to enhance their comprehensive abilities. They should proactively acquire digital skills, integrate them with their respective fields of study, identify digital competencies that align with their personal development goals, actively engage in the practical aspects of the digital economy, stay updated on employment and entrepreneurial opportunities within this domain, and continuously augment their core competitiveness.

4. Conclusions

The digital economy is intricately linked to the comprehensive development of a nation. The

government is committed to crafting a well-conceived blueprint and institutional framework for the advancement of the country's digital economy, with the ultimate goal of continually fostering a larger, stronger, and more robust digital economy industry. The exponential growth of the digital economy has profoundly transformed the modality of economic expansion, consistently amplified the magnitude of employment, continually reshaped the employment structure, consistently elevated the caliber of employment, and fostered the migration of labor towards the secondary, tertiary industries, and high-end sectors. The cultivation of digital literacy and skills among Chinese college students is essential for the consolidation of China's digital economy development, as they represent the most vital and invaluable human capital required for its economic progress. Institutions of higher education should strategically design the curricular structure for a multitude of digital disciplines, fostering innovative, application-oriented, and multidisciplinary talents. They should also vigorously integrate production, teaching, and research activities and continuously strive to enhance the caliber of undergraduate education. Simultaneously, it is imperative for universities to augment career planning and professional guidance for undergraduate students, further fostering their innovative spirit and propensity to initiate entrepreneurial ventures within the realm of digital economy. Chinese college students should actively modify their employment perspectives, capitalize on the opportunities presented by the digital development wave, enhance their employability, and ultimately realize their individual value.

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