

Research on the Development of High-Quality Employment of Students Under the Background of Digitalization of Economy

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Abstract. [Purpose] Based on the background of digital economy, the present study was envisaged to analyze the high-quality employment of students and demonstrate the mechanism of digital economy empowering the students' employment. Furthermore, the realization path of theoretical self-consistency and operationally feasible high-quality employment of students was explored and the theory of enriching the employment and talent training was discussed. [Methods] Based on the research needs, this study was employed as a prototype of related topics, and utilized qualitative and data analysis methods to comprehend typical platforms and related policies. [Conclusion] It was found that the digital economy played a vital role in empowering the high-quality employment of students. Further, this study discusses "the changes, theoretical analysis, challenges, developmental approach and practical examples" to cope with the practical opportunities and challenges. [Suggestions] Considering the employment as the starting point in the context of digital economy, the relevant theories such as empowerment effect, value creation combined and so on should be combined. The development of digital economy to empower employment can be achieved by encouraging independent technological innovation, amplifying the role of digital technology progress in creating employment, building an adaptive employment environment, and improving the employment security policies. Further, there is a need to strengthen the employment digital skills training mechanisms, optimize the resource allocation and implement the digital economy empowerment high-quality development decision, which can lay a theoretical foundation and empirical evidence for achieving fuller and higher-quality employment.

Keywords. Digital economy, Empowerment, Employment, Development way

1. Introduction

The connotation of changes in digital economy with the economic development and different stages has their own emphasis, and can impact on the employment. Jobs may be replaced by mechanization and artificial intelligence, creating a substitution effect (Frey, 2017). Studies have shown that the new round of technological revolution led by the digital economy has a huge impact and far-reaching impact on the labor market, while affecting the production and lifestyle, and the impact of these two types of innovation on the labor market is different (Trajtenberg, 2018). Development of the

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digital economy can significantly increase the production efficiency, reduce product prices and increase effective demand, which in turn increases the demand for labor by creating a compensatory effect. Additionally, the development of the digital economy has also created new occupations, bringing creative effects (Autor, 2019). [1-3]

The digital economy plays an important role in promoting economic transformation and high-quality development. On the one hand, the development of the digital economy affects the structural changes of the job market. On the other hand, under the background of digital economy, the society's requirements for training talent in colleges and universities have also undergone corresponding changes. Considering the actual situation of students in local institutions, it is particularly important to grasp the macro-employment situation. Therefore, it is crucial to integrate the research background of the digital economy into the whole process of high-quality employment path of the college students to meet the needs of the society. [4-5]

2. Changes in the employment situation in the context of the digital economy

To begin with, according to the Oxford University Online Gig Jobs Index, the information technology, multimedia, writing, and marketing services account for 48%, 24%, 15% and 13% of the jobs, respectively. In addition, according to the Bureau of Labor Statistics, 47% of online gig workers work in professional business services, education, and health services.

At the same time, according to the "Digital Economy Development Report of China (2022)", the scale of China's digital economy reached 45.5 trillion yuan, accounting for 39.8% of GDP. From the perspective of digital economy structure, recruitment positions in the field of digital industrialization accounts to 32.6% of the number of recruitments, thereby accounting to 24.2% of the total number of recruits.

Digital technology and the real economy continue to show a trend of deep integration. This drives the transformation of industrial structure and employment to people's livelihood and well-being, and also initiates an all-round "digital transformation". The digital economy has become the most dynamic part of economic growth and has profoundly reshaped the form of employment.

As described, with the dissemination of digitalization into various industries, new jobs are created along with the re-innovation of traditional jobs in the digital economy era.

The new jobs spawned by new formats of the digital economy and the new employment forms provide more inclusive employment opportunities for different groups like "online anchors, ride-hailing drivers, self-media, e-commerce entrepreneurs". These flexible employment groups constitute a huge foundation for new employment forms in the context of the digital economy. [6]

With the wide application of cutting-edge digital information technologies such as "big data, artificial intelligence (AI), cloud computing, Internet of Things (IoT), and blockchain", the role of the digital economy as a "stabilizer" and "accelerator" of China's national economy has been further highlighted.

The flexible employment volume of digital platform consists of nearly 39 million people, accounting for more than 21% of the total number of flexible employment in the country. Thus, digital employment plays a pivotal role in increasing the total number of employment and improving the quality of employment. [7]

2.1. Blurring of the traditional working mode boundaries

Deloitte's Global Human Capital Trends 2023 shows that over the past century, people have been dominated by a mechanical mindset based on a survey of tens of thousands of business and HR leaders in 105 countries and supplemented by interviews with executives from leading organizations. "Boundaries" form the natural rules for everything – so that work is broken down into well-defined processes, positions are categorized within the organization, and office activities are limited to the workplace. Recent reports suggest that these "boundaries" are disappearing and the work patterns are changing at an alarming rate leading to insufficient support for digital environment.

The new format requires organizations and employees to respond to the challenges presented by the digital economy in different ways. There is a need of a rational scientific thinking process to deal with the business and workforce strategies, and treat each new problem as a new experiment from which the practitioners can learn, adapt and improve. The top priority for organizations and employees is to understand the fundamentals of the new business and transform their work patterns to find their way in today's "borderless world".

2.2. Breaking restrictions of the traditional employment time and space

In context of the digital economy, information technology has broken the traditional stable bundled employment relationship, making the working hours, work locations, work content and employment periods of the workers more flexible. The supply and demand relationship in the human resources market is becoming more flexible, and the choice of employment and entrepreneurship is more independent.

The trend also shows that on the basis of the blurring of the boundaries of traditional working models, organizations and employees also need to develop a decentralized development trend. Digitalization enables workers to transcend the limitations of time and space, obtain job opportunities from a distance, and gradually eliminate the boundaries of employment and entrepreneurship. This can lay a theoretical foundation for exploring new employment development paths.

2.3. Increased flexibility of employment relationships

The research on the development of digital economy to empower employment is based on the theoretical premise that "the new format blurs the original boundaries of the organization, the restrictions in the traditional employment time and space are broken, and the employment relationship is more flexible." According to the 2023 Global Human Capital Trends Survey, 59% of respondents believe it is important to rethink their mindset in the next 2-4 years, which is twice as high as before the pandemic.

As new technologies are introduced in the workplace, the boundaries between the human and technical independence are disappearing, and new technologies are not only automating and expanding the capacity, but also improving the team performance. In addition, forward-thinking organizations are exploring the role of technology to leverage the unique strengths of humans and optimize their ability to do their jobs. Advances in digital and virtual technologies and the rise of the metaverse are redefining the workplace, making the concept no longer limited to a physical space and increasingly flexible in employment styles.

3. Challenges for employment in the context of the digital economy

3.1. Substitution effect

The development of the digital economy will replace the labor and other factors of production by digital products on a large scale, thereby replace, destroy and squeeze out traditional or existing jobs for a period of time. Especially some repetitive and procedural jobs will be more affected. At present, the substitution of digital technology for employment has appeared in some industries; however, the field of future replacement is wider and deeper.

As the system based on the AI technology continues to grow and evolve, it will fundamentally change the nature of work, affecting various fields to varying degrees, and some creative jobs are also at risk of being replaced on a large scale. For example, the emergence of ChatGPT, which makes workers in many industries feel on the verge of risk. The report entitled "How AI chatbot ChatGPT affects job employment" states that with gig work and digital transformation, more skills-intensive jobs will be replaced by artificial intelligence like ChatGPT.

3.2. Structural problems in employment

Although digital technology has promoted industrial transformation and employment iteration and brought new employment opportunities, since the unemployed workers face the limitation of their education level, skill level and technical training cycle requirements, it is difficult to master the knowledge quality and ability required for the development of digital technology for a while.

Coupled with the differences in technical requirements between the industries, it is difficult for some workers to break through the threshold of the industry, and may get accompanied by prominent friction and structural unemployment problems. In such a scenario, even if an individual changes his jobs, he can only work in the life service industry with relatively low skill level requirements, and it is difficult to enter high-quality positions.

3.3. Need for improvisation of the employment security policy

Firstly, the integration of systems is not fully in place, and the transfer and connection between the systems is not smooth enough. Some flexible employment personnel, new personnel and other groups are not included in the social security.

Secondly, the overall level of social security needs to be improved, the pressure of balance regional income and expenditure contradictions is greater, and the differences in treatment between the urban and rural areas, regions and groups are not reasonable. There is a situation of "leakage, withdrawal and termination of insurance", and the basic security led and managed by the government is "monopolized", while the supplementary security borne by market entities and social forces is not sufficiently developed.

Finally, there is still a certain gap between the social security public service capacity and the needs of the people, and there is a risk of "bottoming" in some local social security funds. However, the regulatory measures for non-compliance or incomplete compliance with respect to the labor relations still need to be improved.

3.4. Digital literacy issues

Under the impact of digitalization, countries are generally facing the problem of shortage of digital skills and widening digital skills gap. According to the study, 57% of companies in EU countries find it difficult to fill positions as information and communication technology (ICT) specialists. China's digital talents are also facing a serious imbalance between the supply and demand. There is currently no systematic discipline setting and only a few schools have related majors. Thus, the digital talent training system is not perfect.

At present, various new jobs in the new format continue to emerge, but most of them are in the exploration stage in terms of occupational standards, training systems, development paths, etc., and emerging occupations have not yet been included in the occupational directory. As a result, many practitioners in the digital economy face a rough path through skill development, and the motivation and willingness to upgrade their corresponding skills are insufficient. [8]

3.5. Misallocation of employment resources

Digital technology has promoted rapid changes in the industrial structure and employment structure, bringing about an increasingly prominent mismatch between the human resources and industrial development. Especially in the development of the digital economy, the excessive concentration of capital and talents to enterprises in some industries has caused an imbalance of the sectoral development. It is necessary to plan a layout under a standardized orderly guidance. The younger generation has grown up in the Internet era and has a stronger ability to learn new technologies, is often more suitable for jobs related to the digital economy. [9]

Under the digital economy, the employment quality of workers has differentiated characteristics, and the difference in employment quality is more reflected in the "employability" of employees. This "employability" comes more from the feedback on the workers' digital literacy. While the employment compensation effect is permissible for high-skilled workers, it may be more manifested as a crowding out effect for the low-skilled groups. As a result, the phenomenon of "the strong gets stronger and the weak gets weaker" appears, thereby widening the income gap between the workers. In particular, some people with flexible employment generate a fragmented and low income though they obtain their income through flexible employment.

4. Development of digital economy by empowering employment

4.1. Amplifying role of digital technological progress in creating employment

Although the rapid development of the information technology has a replacement effect on some labor-intensive positions, due to the improvement of labor productivity, the emergence of new economic forms, and the emergence of new occupational positions, it will show a strong compensatory effect on employment. It is generally believed that with a better independent and unique technological innovation, its diffusion can be conducive it is to technological development and economic growth, and then drive employment growth.

4.2. Building an adaptive employment environment

Firstly, digital technology has led to the development of new employment forms there is a need to pay close attention to the changes in the employment environment and adjust the employment and other management rules in a timely manner. In addition, the industry-university-research cooperation mechanism conducive to digital technology innovation should be established and improved.

Secondly, a lifelong vocational education system should be established and the matching of personnel skills training with the needs of new jobs should be promoted. In addition, a benign interaction between technological innovation and job creation should be formed.

Thirdly, the breakthrough of the core technology of "stuck neck" should be focused. Through digital technology innovation, we can drive the development of the new formats and models of the real economy, and indirectly promote the improvement of employment level.

4.3. Improving employment security policies

Initially, the relevant policies and regulations for a flexible employment should be introduced to effectively guide the different employment groups. A full play to the cross-regional characteristics of digital technology should be introduced, and an active provision should be made for more digital economy career positions for personnel in areas with weak digital industrialization and industrial digitalization foundation. [10]

Subsequently, the social security system for flexible employment should be improved. There is a need to provide social security subsidies to flexible workers, and strive to solve the difficulties faced by flexible employees in transferring accounts and compensating risks, so as to provide a sound social security system for flexible employees. [11]

Finally, the mechanism of action of establishing an "automatic stabilizer" for digital skills training should be explored. For the skilled unemployed people, due to skill-biased technological progress, a relief mechanism should be automatically activated when they apply for unemployment, and the dynamic intervention must be carried out to ensure that the flexible employment population does not fall into difficulties due to short-term unemployment. [12]

4.4. Strengthening training mechanisms for digital skills for employment

To meet the needs of high-quality development and the employment needs of workers, the establishment of a linkage mechanism for "employment and enrollment plans should be promoted. In addition, the talent training, funding allocation, college settings, and professional adjustments should be furnished". The development of modern vocational education should be accelerated, and the development of technical education characteristics should be encouraged and supported. Furthermore, the school-enterprise cooperation and integration of engineering and learning should be promoted, and vocational quality training and skills training should be strengthened.

There is a need to comprehensively implement the lifelong vocational skills training system, so that vocational skills training runs through the whole process of workers from study to work. A deep implementation of the "Skills China Action" and the employment skills foundation project should be focused. The training aspect should

be strengthened and evaluation of new generation skilled talents such as digital skills should be carried out. Also, the large-scale special training for enterprise employees and key groups should be undertaken.

4.5. Optimization of resource allocation

Firstly, enterprises are the main body of the market economy, and "small and medium-sized" enterprises are the main force of "stable employment". At present, 70% of the world's employment population is mainly solved by "small and medium-sized" enterprises, and "small and medium-sized micro" enterprises contribute 85% of the jobs. In the era of digital economy, it is necessary to promote the high-quality development of small and medium-sized enterprises through digital technology and foster its role as a stabilizer of employment.

Secondly, the small and medium-sized enterprises should be supported to strengthen the digital infrastructure construction. The promotion of digital applications should be encouraged, and the digital transformation and upgrading should be adopted. In addition, technological innovation of small and medium-sized enterprises should be promoted, the investment in technical resources and elements through the establishment of special investments should be increased, and the digital and intelligent development of small and medium-sized enterprises should be promoted. Further, the digital technology should be used to reshape the form of enterprises, improve the operational efficiency, and the employment structure should be improved. [13]

Finally, through "job adaptation + job incentive feature" the enterprises should be helped to improve the efficiency of human resource allocation. Through full incentives, employees can maintain the enthusiasm for the position, and the employee's work table should possess a clear measurement, including the degree of work adaptability of the personnel in the post, the acceptance of employee training, and regular recording and measurement with the help of digital management methods to improve the efficiency of human resource allocation.

5. Practical examples of digitalization-enabled employment

5.1. Digital employment cockpit

- Through the one-screen presentation of basic information, the active delivery of the reminder information and accurate matching of job information should be done. Creation of an online "smart hub" can reduce the pressure on the grassroots with the reform and innovation of new formats and new models.
- Through handheld office optimization of basic services, an integration of the resources can be achieved. This can carry out efficient services and high-quality employment agencies that can provide high-quality services, activate offline "service ends", lead the promotion of breakthrough innovation with demonstration, and make the services more efficient.
- Through information exchange, real-time monitoring of employment data and successful experience promotion throughout the province, wisdom truly realizes the "multi-cross collaboration" that can promote the digital reforms with points and areas, so that the masses perceive a stronger sense of gain.

5.2. One-stop flexible employment recruitment service platform

- A one-stop flexible employment recruitment service platform was launched to provide the enterprises with one-stop SaaS services for flexible employment, thereby breaking the inherent problems of the industry such as "difficulty in paying salaries and delaying wages". This can greatly improve the stability of employees to 80%.
- With the blessing of SaaS system and the escort of professional team, the one-stop services for flexible employment can be created, so that employing enterprises and service providers can obtain a full range of service guarantees.
- At the same time, the service process is standardized to ensure reasonable business compliance and provide safe and reliable services. This can effectively help the enterprises to improve the employment efficiency, maintain organizational flexibility, and provide flexible employment channels.

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