The Impact of Enterprise Digital Transformation on China's labor Market

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Abstract. With the rapid development of digital technology and artificial intelligence, in recent years, a large number of enterprises have carried out digital transformation in order to enhance their competitiveness. This article explores the impact of digital transformation of enterprises on China's labor market. The research results show that this enterprise environment has great benefits for the labor market, but it also brings some negative effects. On the positive side, digital transformation expands the range of employment options by creating new jobs. As enterprises' demand for highly skilled and high-quality labor force increases, the labor force structure in enterprises is optimized. In order to attract high-quality labor force, enterprises increase wages and thus increase labor income. Finally, digitalization has broken down the time and space constraints of work and unleashed the potential of some workers. However, digital transformation also brings challenges, including skills mismatch issues and psychological stress due to rapid advances in digital technology and confusion about future career forms. In order to alleviate these negative problems, two solutions are proposed, namely the establishment of psychological consultation rooms and the development of staff training programs.

Keywords: Digital Transformation, Labor Market, Time and Space Constraints, Skills Mismatch, Staff Training Programs.

1 Introduction

Digital transformation refers to the application of innovative technologies to digitally enhance business operations, thereby optimizing services and products, supporting economic growth, and improving user experiences [1]. With the rapid development of global technology and digital technology, in order to enhance competitiveness, enterprises have carried out digital transformation, which has a great impact on China's labor market. By understanding the impact of enterprise digital transformation on China's labor market, workers can know what kind of workforce they will need in the future and improve themselves, and enterprises can develop strategies to face this change. Existing studies have explored this issue through empirical analysis and model construction, and found that it plays a positive role in expanding employment scale, im-

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proving labor quality and improving employment quality, etc., but there are also insufficient studies on its negative effects and changes in labor quality in various industries, and the problems of inadequate pertinence proposed. This article points out the benefits of digital transformation to China's labor market from four aspects, namely, expand employment, optimize the employment structure, increase workers' income and create flexible forms of employment. Two bad influences are analyzed, namely, skill mismatch and psychological stress and job security. In view of the negative effects, two alternative solutions are also proposed in this article, namely set up a psychological consultation room and conduct staff training. The significance of the research is to help workers understand the future labor market demand, improve their skills, and provide references for enterprises to formulate effective coping strategies.

2 Positive Impact

2.1 Expand Employment

The digital transformation of enterprises has expanded the scale of employment. After digital transformation, enterprises have created a large number of new jobs, such as data analysts, artificial intelligence engineers, digital security experts, and so on. The China Academy of Industry Internet revealed that the industrial internet sector has generated 28.04 million jobs, including 2.19 million new roles in 2021, which underscores the increasing demand for labor [2]. Therefore, the digital transformation of enterprises provides new career opportunities for the labor market by creating new career positions. In conclusion, the digital transformation of enterprises has created a large number of new jobs, especially in high-tech and skilled areas, this trend not only reflects the demand for high-tech talents, but also reflects the future market labor demand and digitalization are closely linked

2.2 Optimize the Employment Structure

The digital transformation of enterprises has significantly optimized the employment structure, improved the quality of the labor force, and reduced the number of low-skilled workers. Digital transformation has significantly increased the demand for high-skilled, knowledge-based talent, while reducing the reliance on low-skilled, repetitive jobs. This process not only improves the overall quality of the labor force, but also promotes the upgrading of the industrial structure and promotes the development of the employment structure to a higher quality. The digital economy is transforming China’s labor market. The proportion of jobs in the primary and secondary sector is falling, while that in the tertiary sector is rising [3]. The share of employment in the primary sector fell from 32% in 2013 to 28.5% in 2020, the share of employment in the secondary sector fell from 25% in 2013 to 23.5% in 2020, while the share of employment in the tertiary sector rose from 43% in 2013 to 48% in 2020. This changing trend reflects the significant impact of the digital economy on the employment structure of different industries.

2.3 Increase Workers' Income

The digital transformation of enterprises has significantly increased the labor income of workers by improving the production efficiency of enterprises and increasing the salary. Firstly, digital transformation improves the productivity and business performance of enterprises, which in turn increases the income level of workers. For example, through digital transformation, the introduction of automated production lines and big data technology, the per capita output value has increased by 25% and the product cost has been reduced by 6%. This improvement in production efficiency not only enhances the market competitiveness of enterprises, but also enables enterprises to provide employees with higher salaries, mobilize the enthusiasm of employees, and improve the income level of workers. Secondly, digital transformation has increased the demand for highly knowledgeable and skilled labor, but the labor force that meets these requirements only accounts for a small proportion of the labor market. Therefore, in order to attract and retain talents, enterprises will offer competitive high salaries. By 2024, the salary of entry-level AI engineers is projected to be 8.57% higher than that of non-AI engineers. Currently, AI engineers earn approximately 11.19% more than their non-AI counterparts [4]. In conclusion, productivity increases and firms pay higher wages to boost workers' incomes.

2.4 Create Flexible Forms of Employment

The digital transformation of enterprises breaks the time and space constraints of traditional employment models. Initially, workers do not have to work in a specific place. Workers can undertake tasks anytime and anywhere through the network, which is especially convenient for people with inconvenient legs and families with elderly and children in need of personal care. The table 1 shows that between 2014 and 2020, the size of China's remote work market has grown significantly, from 800 million yuan to 4.78 billion yuan. In 2020, the growth rate will reach 104.27%, the highest value, which illustrates that digital transformation is driving a surge in demand for remote work.

Table 1. China's remote working market (2014-2020) [5].

Year	Growth rate	Market size (bin RMB)
2014	24.9	8.0
2015	26.25	10.1
2016	40.59	14.2
2017	36.62	19.4
2018	20.62	23.4
2020	104.27	47.8

Source: CGTN (https://news.cgtn.com/news)

3 Negative Influence

3.1 Skill Mismatch

Faced with the rapid arrival of digital transformation in enterprises, workers are not skilled ready. They are facing a situation where the labor skills they have are at odds with the labor skills that companies need after undergoing digital transformation. Enterprise digital transformation puts higher requirements on workers, data analysis and technical operation capabilities, leading to increased risk of skills mismatch, which has a negative impact on both workers and enterprises. For example, the application of intelligent workshops has replaced traditional manual positions with automation equipment and robots, and enterprises need workers who were originally engaged in manual labor to engage in technical work such as data analysis and equipment operation, but many practitioners in traditional industries lack these emerging skills. Such a situation will bring difficulties for workers in traditional industries to find matching jobs and reduce employment opportunities. By analyzing a large sample of Chinese public companies between 2008 and 2021, it is found that digital transformation reduces the employment of low-skilled labor [6]. For enterprises, it will lead to limited production efficiency and innovation ability of enterprises, and advanced automation equipment can not to play its maximum role.

3.2 Psychological Stress and Job Security

In the process of enterprise digital transformation, employees' psychological stress and occupational safety feel significant impact. On the one hand, digital transformation brings great psychological pressure to employees. Digital transformation requires employees to quickly learn and adapt to new technological tools and workflows, and they need to deal with more data and information than ever before. Because the output is higher and the pace of work is faster, people have to follow the machines, the machines pick up the pace, and people have to keep up with them and adapt to the knots of the machines [7]. The increase in workload and the need to learn new skills in addition to their daily tasks is a great challenge for them. What's more, technological uncertainty. The introduction of new technologies may bring uncertainties such as technical failures and system crashes. Employees are new to the system and do not understand its operation principle, so they will feel at a loss in the face of these problems, which will increase work pressure. Finally, privacy and data security concerns. After digital transformation, a large number of employees' personal information is stored in the form of data in the company's system, and they may worry about personal information being leaked or abused. On the other hand, Workers lack job security. Firstly, fear of being replaced. With the rapid development and application of automation, employees fear that their jobs will be replaced by new technologies, resulting in job insecurity. Additionally, the career development path is fuzzy, after the digital transformation, the traditional understanding of the job has been subverted, and they are not clear about the future development direction. Research has shown that technological change can cause employees to worry about the future, especially a sense of uncertainty about career advancement [8]. This uncertainty can further affect employees' job security Finally, the

anxiety of skills renewal, the rapid development of digital technology requires employees to constantly learn new skills to adapt to the new environment, but older workers or less able to learn difficult to keep up with this rapid change, resulting in insecurity.

4 Alternative Solutions

4.1 Set Up a Psychological Consultation Room

In the process of enterprise digital transformation, employees are faced with the challenge of psychological pressure and job security brought by technological change.

Companies should seek specific professional ways to address employee mental health issues [9]. In order to effectively alleviate these problems, enterprises can set up psychological consultation rooms to provide professional psychological support and counseling for employees. Consulting room should be set in a quiet place away from the road, the interior decoration should adopt a relaxed style, and the walls should use soundproof materials. Second, the service content of psychological counseling room should include personal counseling, career development counseling, marriage and family counseling. The service process should cover booking, reception, preliminary assessment, consultation implementation, feedback and follow-up. The consultant should develop a personalized consultation plan according to the needs of the client, and strictly abide by the principle of confidentiality. Third, the psychological consultation room should make use of modern scientific and technological means, such as psychological assessment system, remote consultation platform, etc., to improve the efficiency and scientific service.

4.2 Staff Training

Faced with the rapid arrival of digital transformation in enterprises, workers are not skilled ready. They are faced with a situation where the labor skills they have are in conflict with the labor skills their enterprises need after undergoing digital transformation. Enterprise digital transformation requires employees to have higher digital skills and data analysis capabilities. Employee training and development centered on digital competence and computer science principles are now essential to enhance a company's competitiveness [10]. Therefore, in order to solve this problem, enterprises can open online courses related to digital transformation for employees, using online learning platforms to provide employees with flexible learning opportunities, covering key areas such as data analytics, cybersecurity, and artificial intelligence. Companies can also customize training courses on the platform to help employees master specific technical tools and software. In specific departments, employees can conduct on-site consultation when they encounter technical problems at work.

5 Conclusion

The digital transformation of enterprises has a great impact on the labor market, which has both positive and negative effects. The positive impact is that a large number of

new jobs are created due to the digital transformation, which provides more employment options for workers. Secondly, the employment structure is optimized, and the digital transformation improves the quality of the labor force and reduces the dependence of enterprises on low-skilled labor. Third, the income of employees will increase, as digitalization makes enterprises more productive and enterprises will increase wages in order to attract and retain high-quality labor force. Fourth, the way of office breaks through the restrictions of time and space, so that people can better balance life and work, and improve the efficiency of work. However, there are also two negative effects, the first is the mismatch of employee skills, the requirements for workers under traditional conditions and the digital environment are different, and the arrival of digitalization is faster than the speed of the transformation of workers. The second is that workers feel stressed and insecure about their jobs in the digital environment. In order to solve these negative problems, enterprises should set up psychological counseling rooms and conduct digital training for employees. If companies apply these solutions, the negative side effects of digital transformation can be addressed.

There are some shortcomings in this study. First of all, the analysis of individual differences is insufficient, and there is a lack of in-depth discussion on the psychological adaptation and career development path of workers with different backgrounds in the digital transformation. In addition, the proposed solutions are not well considered in terms of cost and sustainability, such as the high cost of opening a professional psychological counseling room, which is not affordable for every enterprise. Future research will further strengthen the study of differentiation in a specific scope and further evaluate the realizability of solutions to better address the complex impact of digital transformation on the labor market.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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