The Impact of Industrial Intelligence on the Employment Structure of China's Labor Force

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Abstract: This paper focuses on the impact of industrial intelligence on the employment structure of China's labor force. With the deep integration of advanced technologies such as artificial intelligence and industry, the labor market is affected, it is of great significance for personal development and social stability to clarify how industrial intelligentization affects employment structure. This paper summarizes the existing relevant research, clear the trend of employment structure changes, integration of countermeasures and suggestions, and put forward their own understanding of the problem and thinking.

1. Introduction

The rapid development of artificial intelligence technology in China has brought about great changes in people's lifestyle and the direction of social progress. The emergence of various intelligent products can not only improve people's quality of life, and it affects the demand for Labor involved in making and selling smart products. The development of artificial intelligence technology has promoted the promotion speed of industrial intelligence level in China, changed the employment structure of Chinese labor force, and this kind of change will have an important influence on the development and smooth operation of national economy. Understanding the changing characteristics of employment structure in the context of industrial intelligence is of great guiding significance for expanding and improving employment.

In the context of the Digital Revolution, a new round of industrial economy will be intelligent and manufacturing, service industry integration, cross-border linkage, and further promote the transformation of production patterns, industrial intelligence emerged. Unlike the previous industrial revolutions, when machines replaced workers' manual labor at the heart of the Digital Revolution, artificial intelligence systems replaced human mental labor at the heart, industrial intelligentization with intelligent manufacturing as its core is a new type and advanced stage of industrialization. "intelligent productivity of capital" has become the strategic commanding point of international competition[1].

2. Influence of Industrial Intelligentization on Labor Force

2.1 The Impact on the Employment Structure of Labor Force

The increasing importance and wide application of artificial intelligence technology have promoted the vigorous development of industrial intelligence in China. Based on the analysis framework of the core technical capability of intelligent manufacturing, Shi Yongle and Yan Liang [2] have verified the development practice of manufacturing in China, it is found that the development ability of intelligent manufacturing in China mainly focuses on the ability of digitalization of information and the ability of value-added of data, which depend on the new information technology such as artificial intelligence and big data. The rise of artificial intelligence technology has saved Labor time and labor cost, freed people from the concrete production process, but also caused a large number of workers unemployment, enriching the knowledge base of the working population also diverges the labor force[3]. Han Minchun [4] and others did not separate the

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negative and positive effects from the research, but decomposed the employment impact of the use of intelligent robots into the employment destruction effect, the employment creation effect and the employment crowding out effect, the equilibrium solution is obtained by constructing the model, and it is considered that the technical progress of industrial robots will increase the demand of related high-skilled Labor, but on the whole, the superposition of the three effects will bring a huge impact on the employment market.

But some scholars believe that Labor demand is still greater than supply, so do not worry about the unexpected "wave of unemployment. ". Sun Wenkai[5] and others estimated the transition of different employment status by using the formula decomposition method. The results show that although China has seen the substitution of conventional jobs in the past, the number of new jobs created has even exceeded the number of jobs replaced, which exaggerates employment. The prevalence of higher skill or educational attainment among the younger generation is the main reason for the rise in non-conventional knowledge work and provides the basis for the expansion of employment in general. Du Chuanzhong and Xu Bing[6] also share this view, arguing that technological progress will crowd out and replace Labor in the short run, but expand employment in the long run.

With the deepening of research, scholars have put forward new views. On the basis of data analysis, Cai Yuezhou and Chen Nan[7] point out that the substitution effect and suppression effect produced by Artificial Intelligence and automated propulsion process keep the total employment basically stable, but the structural impact can not be avoided, the middle-level posts are easy to be replaced, and the employment structure shows the trend of polarization. Qu Xiaobo and Cheng Jie [8] made a thorough analysis of the employment positions, and concluded that the changes in China's overall employment structure present an "upgrading" pattern, but the "polarization" of the changes in the employment structure of migrant workers in recent years needs attention. There will be a sharp drop in the number of middle-and low-level jobs, with the highest-paid and middle-and high-level jobs growing the most, and the potential risks of polarization will have a major impact on the skilled job market. On the basis of the research of "polarization" , some scholars not only analyzed the influence of industrial intelligentization on employment structure, but also added the interactive items of regional, cost of living and industrial intelligentization respectively, studying the interactive effects of these factors on the employment structure, the study found that industrial intelligence should not be separated from other influencing factors. Different regions have different levels of economic development, and the pace of industrial structure upgrading is not consistent, the living standard has the difference, these will cause the industrial intelligence to have the different degree influence to the employment structure. The results show that the high cost of living in the developed coastal areas of China will hinder the entry of low-skilled labor force, and the employment structure will be "unipolar" , while other areas will be "bipolar" With the rapid development of information and intelligence, it is bound to deepen the polarization phenomenon of the employment market, and even lead to social problems of unequal income distribution structure, endangering the long-term and stable development of society.

2.2 Employment Measures Facing the Impact of Intelligentization

Chen Mingsheng[9] divides human labor into six categories from creative, emotional, physical and mental dimensions, in which creative labor and emotional labor can not be replaced by artificial intelligence. Deng Xiang and Huang Zhi [10] through the empirical analysis of China's Industry Panel data from 2003 to 2016, the results show that AI technology has a greater impact on industries with high duplication of work and low creativity. HIGH-SKILLED, capital-rich people will benefit from the development of artificial intelligence, robotics and other technologies.

In short, most of the existing research supports the view that industrial intelligence has a positive impact on the highly skilled workforce, so for employment policy we can also start from the high-skilled labor force to moderate the impact of technological progress on the job market. Many existing studies have analyzed the impact of the development of intelligent technology from different perspectives, explored the contradiction between technological progress and the

employment market, and pointed out the Employment Direction under the background of industrial intelligence, agreeing that the development of intelligent technology has strengthened the market for high-skilled Labour, and that technological progress has given rise to new jobs that require high-level talents with core skills to be competent, if we want to weaken the impact of the development of artificial intelligence technology on the job market, we need to enrich the knowledge reserve of the labor force, upgrade its skill level, encourage innovation, and cultivate a high-quality labor force to optimize the job market, to achieve extensive and efficient human-computer cooperation[11].In recent years, the dual support of national policy and social development needs has resulted in a significant increase in the supply of high-quality labor force and an orderly upgrading of the employment structure.

3. Conclusion

Abundant scientific research is the foundation of this article. On the one hand, a large number of scholars have proved its importance by studying industrial intelligence and employment structure; on the other hand, by comparing the existing research, it is found that there are differences in its conclusions and research ideas, it's also realistic. The study began with the idea that industrial intelligence would lead to mass unemployment; as the study progressed, more scholars argued that technological progress would not lead to unemployment, but would create new jobs and promote high skilled employment; and finally, by combining this with reality, the research shows that industrial intelligence will lead China's employment structure to the two Poles.

By combing the existing research on the employment structure of labor force, we grasp the changing trend of the employment structure and excavate the deep-seated mechanism, so as to deal with the imbalance of labor supply and demand under the impact of industrial intelligence, do a good job in advance of social problems such as unemployment security. Under the background of industrial intelligence, it is of practical significance for each province to solve the problem of how to absorb the high-skilled labor force to drive the regional development. The recruitment of highly skilled personnel will effectively promote the upgrading and optimization of the employment structure, ensuring long-term social stability and well-being of the people.

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