The impact of the rise of AI on the labor market of delivery industry

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Abstract: The application of artificial intelligence technology can not only provide enterprises with efficient and accurate production tools, but also means that many work will be replaced by automation or new technologies and new forms of business, which will also have a great impact on the labor market. Although some jobs will be replaced by machinery, new industries and jobs will continue to emerge as artificial intelligence and automatic control technologies develop. This paper focuses on the adjustment of jobs, skill requirements and industrial structure. In this background, the effectiveness and feasibility of the relevant policies and measures, to reveal the rise of artificial intelligence technology, the development trend of labor market and the corresponding countermeasures, and carried on the further research, thus for the future development of the labor market and policy formulation, provide some reference and inspiration.

Key words: artificial intelligence; Labour market; employment opportunities; skills transformation; policy measures

1. Overview of artificial intelligence development

The development of artificial intelligence began in the 1950s, and has gone through different periods along with the continuous progress of science and technology. The first is the AI theory of "symbolism" in the 1950s and 1980s, which is an exploration of the AI theory. On this basis, a new solution is proposed, namely, a new solution is adopted. But while this approach works in something easy to understand, it works less effective when it deals with more complex problems. The second stage, from the 1980s to the early 20th century, was an era of connected artificial intelligence, in which AI realized the identification of information by imitating the neural network of the human brain and through the training of massive data. The experimental results show that the algorithm has good applications in computer vision, natural language processing, and sound recognition. The third level, what now is called "depth", is a way of extracting features from huge amounts of data. The application efficiency of deep learning in speech recognition, natural language processing and computer vision has been significantly improved by changing weights and introducing hierarchy structure.

2. The impact of AI technology on the labor market

2.1 Changes in employment opportunities

In a sense, this can also have an impact on the choice of work type. With the continuous development and popularization of artificial intelligence technology, people have found that computers have gradually replaced human jobs. For example, some jobs are replaced by automatic control technology and the robotic arm, for example, some work is done by the robotic arm. Take Amazon, the world's largest online retailer, which is gradually pushing its unmanned storage system. The system through the automatic storage system, sorting system and manipulator and other technologies, to achieve the efficient operation of the whole process. Compared with manual storage, the unmanned storage system has a low error rate, fast operation speed and high efficiency. The application of this technology can not only effectively reduce the labor costs, but also improve the management level of storage. The automatic completion of this work usually reduces the error rate and shortens the production cycle, thus increasing the efficiency of the work, while also increasing the stability and security of the system. Automatic techniques have more advantages in repetitive, single, low-tech work. In a sense, the trend of technology poses a challenge to some traditional career markets that have disappeared or are about to disappear. This development trend will profoundly affect the labor market, requiring people to have a new understanding and adaptation of work and work. As AI technology advances, many large industries will be hit hard, and nearly half of the work will be done automatically, according to a study released by the Massachusetts University of Technology. It can be seen that China's traditional career has undergone great changes. However, as AI technology continues to evolve, some new job opportunities have also emerged. In this case, when skilled jobs are replaced by AI and autonomous driving, new jobs are created. With the rise of artificial intelligence technology, intelligent manufacturing, intelligent logistics, unmanned driving and other emerging industries continue to emerge, putting forward higher requirements for the corresponding industries. In the process, AI has also brought many innovative jobs, such as robot packaging, video game design and so on. In addition, in some industries, such as medical care, accounting, finance, etc., due to the use of AI, people need to adjust their work, so as to improve the quality of their work. Meanwhile, it can also provide opportunities for the development and popularization of new jobs. For example, machine learning experts, data analysts, intelligent transportation engineers, etc., they have become the new profession of the future, and will be more and more valued in the market.

2.2 Changes in skill requirements

The rise of technology in the era of artificial intelligence is also changing the skill requirements of professional personnel, and some new employment opportunities. At the same time, it has also put forward new tests to the requirements of the labor market in the express delivery industry. These emerging industries require employed workers to have more knowledge and skills. Therefore, it becomes critical to consider the redesign of the education and training systems. First, education needs to pay more attention to the improvement of practical skills and knowledge. In the traditional education model, students usually receive pure theoretical education, and with the emergence of new

technologies, students need to acquire practical skills and knowledge from education. Schools should pay more attention to the teaching of practical skills and knowledge to strengthen students' practical ability. For example, in emerging industries, students can conduct a lot of practices, build projects and experiments based on real data and actual application scenarios, to further understand the application, advantages, disadvantages, and limitations of AI. At the same time, students should also learn how to apply the knowledge learned to the real production and service environment, and develop the skills related to the work scenarios. Secondly, for the youth employment group, revisiting their career choices and learning new skills is crucial to obtaining excellent employment opportunities in the era of artificial intelligence. In terms of the education system of higher vocational colleges, it should be strengthened to open the majors of artificial intelligence and automation technology, so as to inject more practical skilled talents into the artificial intelligence technology industry in the future.At the same time, the state can support the training courses of talents in the emerging intelligent industries through fiscal policies and other forms of support, so as to help people adapt to the rapidly developing and changing market demand. In addition, some new education models, such as distance education and online education, can also be explored to provide a flexible learning platform for the majority of workers and improve their competitiveness in the work market. For undergraduate education, the emerging field of intelligence is a newly developed field and should receive more attention and support. For example, training students will be able to learn higher levels of AI and automation technology skills, as well as the background and operations of related industries, to prepare them for employment. Help students to understand more practical knowledge and skills, cultivate students' teamwork ability, innovation ability. In addition to school education and training, companies also need to take responsibility for developing their employees' skills. Due to the development of artificial intelligence technology and automation technology, many enterprises are looking for a workforce of different skills, and some new technologies may even lead to rapid changes in the face, job description and organizational structure of the enterprise. Therefore, companies need to rethink ways to develop and attract talent to avoid declining productivity due to skill bottlenecks or employee turnover. Companies can find more realistic solutions to the talent problem, such as finding people with these new skills or training to improve employees. In addition, enterprises can also provide more learning resources and opportunities to help employees master new technologies and skills to adapt to the changing needs of the work scenario.

3 The application of AI in labour market — take logistic as example

Artificial intelligence is widely used in warehousing, distribution, loading, unloading and handing.

3.1 Storage

The use of artificial intelligence and big data technology can help enterprises select the near-best enterprise location based on multiple factors, such as manufacturers, suppliers, construction costs, geographical location, and transportation convenience. Compared with manual site selection, intelligent site selection has significant advantages such as cost saving, accurate positioning, high efficiency and accuracy, so as to save costs and improve profits. Many e-commerce enterprises at home and abroad have established unmanned warehouses to realize the intelligent sorting of goods or parcels. When the parcels are put into storage, their storage, packaging, sorting, warehousing and other processes to achieve the maximum intelligent and unmanned. At present, our country many logistics companies unmanned warehouse operation has been on the right track, good momentum of development, but want to catch up with the world first-class logistics enterprises, there is a long way to go, no warehouse to achieve efficiency, performance, cost optimization, must have goods perception, obstacles to avoid, self diagnosis, independent decision-making ability, many enterprises only development speed without considering the cost of practice, the profitability of unmanned warehouse hidden dangers.

3.2 Distribution

The development of e-commerce in China will bring the contradiction between the rapid growth of the demand for distribution capacity and the continuous reduction of the social working-age labor force, and unmanned distribution will be the most effective means to solve this contradiction. Unmanned delivery car this special "Courier" in the end plays an increasingly important role in the distribution, compared with artificial distribution has significant advantages, it can according to different delivery address route, reasonable planning to pedestrians and obstacles can respond quickly and avoid, at the destination, users will receive manual distribution car notification, people through the extraction code or face recognition can quickly get their package. Express transportation is given priority to with small batch and high frequency, this is the current drone technology has strong use, drones have many incomparable advantages of traditional distribution form, it not only high efficiency, detection and maintenance cost is low, and can deal with harsh geographical environment, ignore the terrain, can climb mountains, across rivers, can choose the shortest flight route, high altitude transport relatively traditional mode of transportation, have strong transport freedom. Although drones has many advantages, but there is no denying that for now, there are still many problems to overcome, such as drones restricted by severe weather, life problems lead to a long time operation, first investment cost is higher, limited cargo weight, etc., these are all need drones in one by one in the process of development.

3.3 Handling, unloading and handling

In order to improve the loading and unloading efficiency, save labor cost and reduce the work intensity of workers, the express industry has put forward the intelligent loading and handling system, highly automated equipment can achieve the synchronous and instant delivery of goods loading and unloading. With the increasing demand for express delivery, the automatic guidance transport vehicle has been more and more widely used in China. This kind of intelligent machine, which can be controlled by computers or laid electromagnetic track, has the characteristics of high work efficiency, good safety performance, strong flexibility, easy operation and so on. Multi-AGV path planning method plays an important role in improving the structure of logistics transportation system, reducing the logistics transportation cost and

improving the operation efficiency of the system, so it has great application value in warehousing and logistics. Intelligent delivery loading and unloading has solved many practical problems in the express delivery industry and improved the loading and unloading efficiency and the quality of express delivery. However, in the current development situation, compared with the intelligent loading and unloading technology in Europe and America, Japan and other developed countries, we needs to continue to make efforts to make it more stable and mature.

4. Artificial intelligence causes the re-division of labor between man and machine, which is easy to deepen the self-alienation of workers

The application of artificial intelligence will intensify the competition between capital, accelerate the economic structure changes and the metabolism of industry sectors, leading to the bankruptcy of some business operators and become unemployed. With the iterative improvement of intelligence, the employment creation effect and substitution effect of artificial intelligence may expand, which will lead to the new division of man and labor. Intelligent machines occupy the "territory" that originally belonged to workers, and the number of front-line workers who were originally engaged in basic work has decreased sharply, and the content, scope and form of their work have produced drastic changes, aggravating the occupational mobility and employment instability.

The capitalization of the machine operation will inevitably lead to the machine "personification" and "machine", under the capital control of the intelligent machine out, alternative workers, obviously not what Marx said the free and comprehensive development of people, but the capital logic, is completely exploited after the victims of intelligent machine development. The abandonment of alienation and the realization of free labor described by Marx were based on the premise of the stable nature of individual labor society. At that time, machines and means of production were no longer subject to capital, but belonged to the joint workers, and the products of labor were no longer opposed to the laborers, but controlled by the laborers. To realize this shift requires sufficient social conditions, the production process of scientific and labor time generally reduce the lack of one cannot, self alienation and eliminate alienation is not different road, the development of the machine and use is the important way to eliminate alienation, because intelligent machine can improve production efficiency, reduce labor intensity, give people more free development space, the key lies in the machine of production, only belonging to the whole society can truly achieve the purpose of eliminating alienation.

5. Take capital governance as the starting point to alleviate the employment substitution effect of artificial intelligence

The employment creation effect and employment substitution effect of artificial intelligence exist at the same time and develop together, and the dominant position is often related to the degree of intelligence, application scope and application form at that time. While paying attention to the creation of new jobs, new occupations and new fields of intelligent economy, we cannot ignore the huge substitution effect brought by it, because it is closely related to social stability and people's living conditions. As far as the express delivery industry is concerned, express delivery companies should strengthen the intelligent training of employees, so that employees can upgrade their skills to better achieve man-machine collaboration, or after they can engage in creative labor through their improved skills. The difference in talent between individuals is actually far less than imagined; these very different talents, which seem to distinguish the adults of various professions, are more the result of the division of labor. There is no provision that a person can only be engaged in a career in his life, sometimes bound by the division of labor is also their own. In addition, for those with objective reasons such as age, body plus weak learning ability, the government improve the social welfare security system, reduce the life pressure is particularly important, the government should encourage workers to cultivate innovation ability and the concept of lifelong learning, establish and improve the employment personnel social security mechanism, help the unemployed again employment, vigorously develop the emergence of artificial intelligence of intelligent economy and related industrial chain and industry clusters, in order to create more jobs. Should strengthen the regulation of artificial intelligence application, prevent the scale unemployment caused by blind abuse of artificial intelligence, correctly examine the use of artificial intelligence technology, not because of its employment substitution effect and excessive fear of psychological, after all, talent is to know the world, transform the world, promote the historical development and social progress.

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