

Analysis on the Development path of the Integration of Artificial Intelligence and High-tech Industry in Shaanxi Province

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Abstract: This paper analyzes on the problems in the process of the integration of artificial intelligence and high-tech industry based on the present situation of artificial intelligence in our province, and puts forward some practical suggestions to promote the better integration of artificial intelligence and high-tech industry in our region.

With the rapid development of science and technology in our country, a variety of new technologies regularly emerge, among which artificial intelligence has a significant advantage. Artificial intelligence is a part of computer science. It tries to study the connotation of accurate intelligence and develop a new intelligent machine which can make consistent with human behavior. The research contents of artificial intelligence mainly include a robot, language recognition, image recognition, natural language processing, and professional system. The development of artificial intelligence represents the progress of modern information technology in our country, and it is a strategic science and technology industry which can improve the core competitiveness of the country. At the same time, the high-tech industry, as the representative of innovative technology, plays a significant role in promoting the development of the national economy.

In recent years, Shaanxi Province has invested a lot of money in artificial intelligence research and development and commercial development and has achieved remarkable effects. The report of the 19th National Congress of the Communist Party of China (CPC) put forward "speeding up the construction of a powerful manufacturing country and speeding up the development of advanced manufacturing industry, promoting the deep integration of the Internet, big data, artificial intelligence and the real economy", made clear the strategic decision to promote the deep integration of artificial intelligence and high-tech industries. Since then, a series of directive documents have been further emphasized to encourage the deep integration of artificial intelligence and high-tech industries, to speed up the construction of strong technical and innovative power. At present, the combination and development of artificial intelligence and high-tech industry in Shaanxi Province are still in the primary stage, and it is still a complex project to promote the combination of these better. The main challenges are the specialization and comprehensive implementation of artificial intelligence, the in-depth innovation of high-tech industry and the training of high-quality personnel. What is essential is that Shaanxi Province still lacks the integrated development innovation model, the core scientific research technology and the high-tech industrial enterprises that lead the integration and development of the two. Therefore, under the

background of economic globalization and the rapid improvement of China's economic conditions, Shaanxi Province should take the express train for the development of high-end artificial intelligence science and technology to enhance the economic benefits of high-tech industries, to realize the integration and development of artificial intelligence and high-tech industry as soon as possible.

1. The Development trend of Artificial Intelligence and Shaanxi Province

1.1. Artificial Intelligence presents a New Development trend

In recent years, the research and development of artificial intelligence technology in the world have been breaking through the limitations, and it has been more and more widely used in various commercial and high-tech industries. There is a new development trend of artificial intelligence. First of all, big data have become the main route for the development of artificial intelligence. For example, the newly developed robot can think and learn like human beings, and can also make correct judgments in complex environments. Secondly, artificial intelligence technology gradually broke away from the research and development stage of the laboratory and entered the phase of industrialization. There are mature industrial products in image and speech recognition, prediction analysis and so on. At the same time, it has also derived a variety of different industries to promote the development of the economy in many aspects. Artificial intelligence is also developing in a more adaptive direction. For instance, there are artificial intelligence applications in both the service industry and the manufacturing industry.

1.2. Outstanding advantages of developing artificial Intelligence in Shaanxi Province

To start, the artificial intelligence technology in our province tends to grow in various directions. As a new industry, artificial intelligence (AI) has changed the present situation that the new sector only has advantages in a specific field in the past, and makes the emerging industry tend to develop in many aspects. The development of artificial intelligence in our province is on a par with the technology research and development in developed countries, and in some parts, it has even caught up with and overtaken the developed countries. Apart from that, the benefits of artificial intelligence in our province are apparent. In the field of artificial intelligence core technology development, developed countries have advantages and capabilities that China cannot surpass in a short period. However, as the most populous country in the world, China has more users of mobile communications and more downloads in the mobile phone application market, so the high-tech industry is relatively developed. Therefore, the artificial intelligence market in our country has enormous potential.

2. The effect of Integration and Development of Artificial Intelligence and High-tech Industry

2.1. Effectively improving production efficiency and Economic benefit of High-tech Industry

Since the reform and opening up 30 years ago, China has grown the economic benefits of most industries by relying on the appropriate management changes in the introduced advanced technology. However, with the development of high-tech industry, the equipment, process and management ability of each sector has reached a very high level, and there is very little room for implementation to continue to rely on the original method and conditions to improve economic efficiency. In recent years, the new generation of technology represented by artificial intelligence has made remarkable achievements in the operation of the high-tech industry. It provides technical

support for the automation of equipment, and then dramatically improves the efficiency and economic benefits of the industry, for example.

2.2. Effectively alleviating the pressure of rising human costs and making up for the shortcomings of social workers

In recent years, the aging of the population in our province is becoming more and more dangerous, and the supply of young labor force is becoming less and less, which leads to the stagnation of China's industry, so it has not entered the ranks of developed countries. Our province put artificial intelligence into the general manufacturing industry over the years, to replace the majority of workers in many jobs, alleviating the current situation of a labor shortage. At the same time, even though the contemporary enterprise management ability is becoming more and more humanized and controllable, the human labor force will have emotional fluctuations, passive idling, and so on in the process of work. In contrast, artificial intelligence robots will not have this situation, and the fineness of the work and the quality of the product will also be improved.

2.3. Improving the flexibility of production and realizing low-cost mass customization

The current market demand has become more diversified and personalized; the traditional model has been unable to meet the need of the market. To be able to complete the order demand at a lower cost is the high-tech industry and core competitiveness. The machinery, equipment and assembly lines of old industrial companies determine their small degree of flexibility, and once the existing production lines are adjusted, they have to spend a lot of workforce, material resources, and funds. In the face of this situation, many companies are unable to make reasonable product arrangements. Therefore, the application of artificial intelligence to process technology can significantly improve the flexibility of traditional industries, to meet the needs of low-cost mass customization.

2.4. Forecasting the market more accurately and matching supply and demand

Under the background of economic globalization, the renewal speed of the market is relatively fast. The use of artificial intelligence can realize the real-time monitoring of a large number of data, and self-learning and innovation according to the existing data, to mine valuable content and information in complex information, which is convenient for enterprises to grasp the trend of the market accurately. And through intelligent Internet technology to transmit useful information to different departments. Artificial intelligence (AI) has considerable accuracy in automatically matching the best production plan on the manufacturing assembly line of an enterprise, and has substantially exceeded the ability of human managers and traditional systems.

2.5. Promoting the transformation of high-tech industries

The application of artificial intelligence to high-tech industries can promote the positive integration of high-tech industries and other industries, such as the service industry. The application of artificial intelligence cannot only effectively reduce the cost of high-tech industry span to the service industry, but also create a new method of integration. For instants, the intelligent engineering service project launched by Komatsu Machinery Company in Japan has realized the way of drawing a three-dimensional map with a crewless aerial vehicle (UAV) and has improved the efficiency of construction. Therefore, all kinds of advanced equipment of artificial intelligence can provide the guarantee of transformation for the high-tech industry, and help it to maintain the effectiveness of services.

2.6. Improving quality Control ability of High-tech Industry

Quality control is an essential part of high-tech industry management, while artificial intelligence can improve the level of quality detection, thus effectively improving the qualified rate of products. For example, artificial intelligence machines are used in defect identification because of its visual resolution is much higher than that of human beings. Small product defects can be found, and the performance of the product can be improved.

3. Difficulties in the Integration of Artificial Intelligence and High-tech Industry in our Province

3.1. It is difficult to develop the Manufacturing Link data of the Deep Integration of Artificial Intelligence and High-tech Industry

The deep integration of artificial intelligence and high-tech industry needs to be based on a big data network, especially the consumption link, but also needs a large number of data to support the sale of products and after-sales service. And besides, consumer data, such as product preferences, suggestions, etc., should be classified and summarized promptly. Additionally, in the manufacturing process of the product also needs a large number of high-precision sensors. In the early and late maintenance needs to invest a lot of money and data collection. Even if the data is collected in real time, it is challenging for the data of its manufacturing line to be recognized by decision makers after artificial intelligence analysis. Besides, the lack of professional Internet technical support will make it challenging to ensure information security, which will hinder the deep integration of artificial intelligence and high-tech industries.

3.2. Lack of Artificial Intelligence and High-tech Industry in-depth Integration of Development and Innovation Model

Although the development of artificial intelligence to the field of commercial applications in China is at the forefront of the world, the exclusive rights of many core technologies are still in the hands of the United States, Japan, and other developed countries. Our country has to pay a lot of money for the use of these technologies, so there is no redundant technology to study the integration of artificial intelligence and high-tech innovation model. Therefore, our province has not yet formed a perfect model of deep integration of artificial intelligence and manufacturing industry, which is not conducive to further development.

3.3. Lack of professional compound talent

The severe shortage of compound talents is a common problem in the deep integration and development of artificial intelligence and high-tech industry all over the world. As far as experience is concerned, high-end artificial intelligence talents usually exist only in the computer industry, while the understanding of the concept of artificial intelligence by the personnel responsible for informatization in the mechanical industry department is still very inaccurate and incomplete. The existing talents are difficult to support the intelligent transformation and upgrading of manufacturing enterprises, which require our province to invest more funds in investing in compound talents.

4. Suggestions on promoting the Integration and Development of Artificial Intelligence and High-tech Industry in Shaanxi Province

Development of artificial intelligence technology roadmap for high-tech industries:

After the completion of the artificial intelligence technology roadmap of the high-tech industry, it is necessary to make appropriate adjustments according to the progress of technology and industry regularly, to provide support for the follow-up work. Set up by the provincial laboratory of artificial intelligence to study the underlying artificial intelligence technology and so on, to provide the most stable technical support for the development of high-tech residual liquid. Construct a more extensive database, create a global spiritual database, set research and development, processing, sales and other content in one of the robust database. Enterprises in high-tech industries are encouraged to carry out technological integration. Integrate their unique technologies to make a more significant smart industry. At the same time, it is necessary to strengthen the exchange of talents among enterprises and form an open and win-win high-tech industrialized system.

5. Conclusion

The speedy development of artificial intelligence makes us think of the integration of the rest of the high-tech industries in our province in an all-round and profound level, to promote the economic development of our region and even the whole country. However, there are still many problems in the current integration system. We should strengthen the innovation on the existing basis, according to the weaknesses mentioned in this paper to effectively rectify, to make artificial intelligence and high-tech industry better integration.

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