Research on the Path of Manufacturing Human Resources Management of Realizing Artificial Intelligence Process

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Abstract. With the advent of the artificial intelligence process, the development of the manufacturing industry has entered a new level, especially artificial intelligence technology has made a huge contribution to the human resource management of the manufacturing industry. This article mainly analyzes the human resource management of the manufacturing industry in the artificial intelligence process. It also studied new ways to promote the reform of human resource management in the manufacturing industry.

Keywords: Artificial Intelligence Process, Manufacturing Industry, Human Resource Management

1. Introduction

In recent years, China and Germany have cooperated closely in industrial manufacturing, especially after the German government issued the Industry 4.0 strategy in 2013, our country also formulated the strategic goal of "Made in China 2025". It can be seen that the country attaches great importance to the revitalization and development of the manufacturing industry. So we need to activate human resource management, this can promote the transformation and upgrading of our country's manufacturing industry and strive to become one of the world's manufacturing powers [1].

2. The current development status of human resource management in China's manufacturing industry

If we want to join the ranks of manufacturing powers, we must first realize that the talent strategy is always the primary development strategy. Whether human resources are sufficiently tapped and utilized, this will affect the strategic goal of "Made in China 2025". We must be soberly aware that
there are still many shortcomings in manufacturing human resource management under artificial intelligence.

2.1. The overall educational level of manufacturing employees is not high

The quality of manufacturing employees is not high, there are not enough cutting-edge technical talents, and the reserve cadres for R&D are insufficient. These are all unfavorable factors affecting the development of our country's manufacturing industry. Our country’s manufacturing enterprises vary in size. Small and medium-sized enterprises pay attention to the use of talents, and large-scale enterprises pay attention to talent training, and their investment in talent training and education is uneven [2].

2.2. Salary levels are generally low

In foreign commodity markets, we can always see products with "MADE IN CHINA" inadvertently. From the perspective of the world, China is a gathering place for OEM products. Low-end technology and cheap labor have become a major manufacturing country in China. However, we cannot blindly rely on labor-intensive and low-value-added human resources. Since the reform and opening up, people's living standards have been significantly improved, economic income has risen to varying degrees, and the average annual income of manufacturing employees has also continued to increase. However, the industry's salary levels are generally low, and companies cannot effectively attract and retain talents.

2.3. Practitioners are highly mobile and have low professional loyalty

Through the survey, it is found that the prosperity and development of the manufacturing industry has created a surge in demand for labor. With the problems of an aging society and the gradual transfer of rural surplus labor to cities and towns, labor supply is not the highest point. At the same time, there has also been a phenomenon of increasing national education levels, "a shortage of skilled workers," and a shortage of migrant workers [3]. This reflects that people are no longer willing to be cheap labor. Poor working environment and high labor intensity are the reasons for the high mobility of manufacturing employees and low professional loyalty.

2.4. It is still very difficult to improve innovation-driven capabilities

The innovation of science and technology cannot be separated from the innovation driven by human capital. It is urgent for China's manufacturing industry to cultivate innovative talents. Compared with the United States, Germany, Japan and other countries, we will find that our country is in a relatively backward position in terms of human-driven innovation. If we want to improve our innovation-driven capabilities, we must fully grasp the development and management of human resources in the manufacturing industry, and attach importance to employee training.

In the process of artificial intelligence, the development trend of the manufacturing industry has continuously improved the requirements of human resource management, such as the organizational structure, process management, personnel training, training and incentives of manufacturing enterprises. As shown in Table 1, the internal improvement of manufacturing enterprises [4].
### Table 1. Upgrading within the manufacturing company

| Improve content | detailed |
|-----------------|----------|
| Lean internal operations | The requirements for the professionalization of personnel in the manufacturing industry are high, and the ability of personnel to learn new technologies and master new skills is continuously improved; at the same time, companies are required to establish learning organizations to strengthen their ability to integrate, reserve, and apply new knowledge. |
| Integrated supply chain management | It is required to rationalize the organizational structure and scientific process management of the manufacturing industry, so as to support the maximum value of all links in the manufacturing enterprise value chain, and ultimately maximize the overall benefits of the enterprise |
| Globalization | The expansion of the layout of marketing outlets in the manufacturing industry requires sufficient reserves and training of various types of talents; at the same time, the management and control of remote outlets puts forward requirements for organizational management and control methods and capabilities |
| Division of labor is more professional and detailed | The industry division of labor tends to be meticulous and professional, which inevitably puts forward more stringent requirements on the efficiency of all aspects of the company's internal operations |
| CRM for customer management | The trend of the manufacturing industry's profit focus shifting to the market and customers requires companies to pay more attention to customer needs and respond quickly and accurately |

3. **Realize the new trend of human resource management in the manufacturing industry in the process of artificial intelligence**

The human capital management model of the manufacturing industry will reduce the time requirements of administrative management and transactional work through information systems, shared service centers and other means [5]. Therefore, we will focus on human capital management and create shareholder value through effective management. Figure 1 shows the evolution of human resource management in the manufacturing industry.
Figure 1. The Evolution of Human Resource Management in Manufacturing

In the process of realizing artificial intelligence, the country has deeply promoted the supply-side structural reforms and implemented the innovation-driven development strategy. Focusing on the key construction of the “Belt and Road”, the level of internationalization of China’s manufacturing has continued to improve [6].

3.1. The construction of learning organization is the eternal theme of organizational innovation and development

The revolutionary period's progress comes from people's yearning for a better work and life. Only with this as motivation can we motivate people to learn and progress. The rise and development of manufacturing is no exception. In the process of achieving artificial intelligence, the ability and quality of practitioners affect the speed of the process. Therefore, building a learning organization cannot be a slogan, and only solid progress can meet the new requirements of future work.

3.2. New adjustments in job demand

Technology has changed production and life, and it has made manual operations more efficient and safer. However, we should be aware that some traditional jobs will be impacted by intelligence and information technology, and the number of labor requirements will be greatly reduced. At the same time, the requirements for positions are getting higher and higher, and they need to have operating software and the ability to create inventions [7].

3.3. Improving manufacturing efficiency is the new goal of optimizing the allocation of human resources in the future

Rising labor costs have to make manufacturing companies consider how to expand the return on investment of labor costs. Therefore, we must effectively integrate human, financial, material and information resources, and then give full play to performance appraisal management and incentive
mechanisms. In this way, we can create a corporate culture embedded in employees' hearts and encourage them to achieve high-efficiency output.

3.4. Integrate a new generation of artificial intelligence technology, develop intelligent products, and form an intelligent manufacturing industry system

"China's new generation of artificial intelligence development plan" pointed out: "our country's new generation of intelligent technology led the coordinated development of intelligent manufacturing technology, industry, and application." We can see that, from technology to product to system, we need to study network interconnection technology for smart manufacturing big data and the overall technology of smart manufacturing system. Then, intelligence and data will also be widely used in enterprise personnel recruitment, human resource planning, employee training, performance and compensation. The company's human resource management methods will undergo major changes, and the work methods of employees will also undergo major changes [8]. Therefore, employees must quickly adapt to new changes and create new performance.

4. Realize a new path to promote the reform of human resource management in the manufacturing industry in the process of artificial intelligence

4.1. Build a learning organization

Manufacturing companies not only need to complete their own transformation and upgrading, but also help their employees to achieve transformation and upgrading. By building a learning organization, enterprises and employees form a community with a shared future. Then the two sides jointly resist the unpredictable market economic environment. We must arm our minds with knowledge and build a world-class knowledge-intensive enterprise. The strategic goal of "Made in China 2025" requires enterprise human resource management to change the function of pure personnel management in the past. We should encourage enterprises and universities to jointly train students and employees, and establish vocational education enterprise order classes and on-the-job training classes.

4.2. Create a corporate culture of innovation and development

In the past, traditional manufacturing companies emphasized paternalistic management, and the incentives for innovation were not enough. Processing with supplied materials and OEM production cannot stimulate employees' sense of innovation. Therefore, in order to achieve the goal of "Made in China 2025", it is necessary to integrate innovative awareness and innovative thinking, and then create a group of outstanding employees, who are good at discovering problems in production, they are business experts who solve problems at work. Within the enterprise, we must form a corporate culture in which everyone loves to create inventions, and where innovative ideas are embedded in many links such as design, research and development, production and processing [9].

4.3. Strengthen continuous follow-up performance management

At present, many companies no longer simply monitor the completion of the annual work performance of employees, but use information technology to realize communication between managers and ordinary employees. In this way, it is possible to achieve a comprehensive inspection of the work completion status of employees during working hours. This kind of performance management
strengthens the real-time nature, it enables employees' difficult problems and improper operations to be corrected and guided in a timely manner, which is conducive to improving work performance.

4.4. Establish an intelligent Internet human resource management system

Manufacturing companies must integrate internal and external resources, and then rationally allocate the different modules of human resource management with various resources. The value chain system formed in this way can help the company's human resources and production, logistics, sales, and customer service to cooperate well [10]. Through digital and intelligent application management, labor costs are reduced and work efficiency is improved.

5. Conclusion

In summary, with the modern enterprise management system becomes more and more complete, the human resource management of manufacturing enterprises has become the top priority of business management. With the help of information technology and network technology, we must establish a sound human resource management information system, which can fundamentally improve the quality of human resource performance management of high-tech manufacturing enterprises.

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