

# Research on the Digital Development of Human Resource Management in Large Enterprises in the Post-epidemic Period

Xiaoqi Xu\*

\* Corresponding author: Xiaoqixv\_joy@stu.zzu.edu.cn

Zhengzhou University, School of Tourism Management,  
No. 100 Kexue Avenue Fengyang street High tech Zone Zhengzhou City Henan Province, China

**Abstract.** The epidemic of Covid-19 has brought a significant impact on China's economic development, resulting in negative GDP growth. China has effectively controlled the spread of Covid-19, and gradually entered the post-epidemic period. However, the traces left by the epidemic have not been completely eliminated, people gradually adapt to the online office. In order to improve the efficiency of human resource management, digital reform is imperative. Therefore, this paper adopts the method of STAR Principle to study the characteristics, difficulties and solutions of human resource management in large-scale enterprises under the background of the epidemic situation. Besides, this paper further discusses Sany company through case analysis, the necessity, problems, and development trend of digitalization reform of human resource management in large-scale enterprises in the post-epidemic era are pointed out. Finally, it is clear that digital reform is the general trend of human resource management development.

**Keywords-**Human resource management; Digitization; Reform; Post epidemic period;

## 1. INTRODUCTION

### 1.1 Background

In 2020, the sudden outbreak of COVID-19, as a world public health event, once forced the Chinese economy to stop production and business, even disrupting the Chinese economy's established order [1]. Although the COVID-19 epidemic did not change the basic pattern of China's economy and industrial development process, according to the statistics of the National Bureau of Statistics, the gross domestic product (GDP) in the first quarter of 2019 was ¥21,71683 billion, but in the first quarter of 2020, the outbreak of the epidemic dropped it to ¥20,5727 billion, a year-on-year decrease of 5.27% [2]. The new crown epidemic has had an impact on China's economy. In 2021, China entered the post-epidemic era gradually, and the GDP rose to ¥24931.01 billion in the first quarter. The impact of the epidemic on China's economy and society is obvious, and people are getting used to taking their temperature. According to the Aimei Industry Upscaling Center data report, 59.4% of employees returned to work after the epidemic stabilized, of which 47.0% still chose to work online at home, and only 12.4% chose to work offline [3]. This situation has also brought new challenges to Human Resource Management. Moreover, large enterprises require a large labor force, covering a wide range of business content, and the corresponding internal management is also more complex. Therefore, under the epidemic situation, large enterprises' human resource management

efficiency directly affects the operation and development of themselves, and digital reform has become a necessary way. The digital human resource trend, which uses SMAC technology to improve human resource efficiency, has emerged from the data analysis etc. to up-grade all aspects of the traditional human resources management transformation. Obviously, under the post-epidemic era background, the human resources digitization reform will become the key factor of the enterprises to enhance the competitive power. Therefore, this paper focuses on the research of human resources digital upgrading in large enterprises.

## 1.2 Literature Review

With the development of science and technology, traditional human resource management is difficult to adapt to the business development of enterprises. Many scholars have studied this kind of problem. In this aspect, through logical analysis, Han found that some traditional enterprises in China focus their work on improving service quality and profitability, and pay very little attention to human resource management [4]. Moreover, through case analysis, Fang argued that due to the lack of attention to human resources, talented people are more willing to flow into foreign enterprises, where human resources management is mature and has a first-class integration process. Thus the talent market has been robbed beach, a large number of posts cannot get high-quality personnel supply [5].

Based on these circumstances, the work of human resource management has been forced to make adjustments. However, due to the influence of various factors, certain shortcomings and deficiencies are still exposed in work. Through case analysis, Miao stated that there are still some problems in the reforming enterprises, which are limited by the complexity of the staff composition in the organization, and lead to the heavy management task and slow running process [6].

It can be seen that simple adjustments cannot improve the root causes of human resource management. The profound changes brought about by the digitalization of human resources are affecting the company's development. And in a sense, it can solve the above-mentioned remaining problems from the root. With the help of literature review, Fei *et al.* summarized the background of digital human resource management. They found that the enterprises after the upgrading of digital human resource management can integrate the talent strategy into the enterprise management strategy so as to optimize and improve the enterprise human resource and reconstruct the organization [7]. In addition, Lin redefined the growth paradigm of human resource management by analysing the positive effects of human resource digitization, which is a new ecological management mode of "big platform + small front end". And this kind of mode builds various resources of enterprise value chain with separated personnel and information sharing [8].

In order to realize the reform of human resource digitization, Su and Liao used the simulation analysis method to simulate and analyse whether human resource management work is suitable for online and how to operate through the construction of human resource management platform. And finally, the specific digital feasibility and specific platform development scheme are determined [9]. Li proposed the Enterprise Resources Planning (ERP) integrated scientific management software system to realize Su's research, and elaborated the digital work method of human resource management through network and integrated processing [10].

The above literature demonstrates the problems of traditional human resource management, the loopholes after adjustment, the impact of digital upgrading, and how to transform. However, they only analyse the application and influence of the development trend of digital human resource management in enterprises, and do not discuss it with examples, lack of empirical support such as data. Therefore, this paper will take the digital human resource management as the main body, through case analysis, literature review, comparative analysis, combined with data for its development research.

## **2. IMPACT OF EPIDEMIC SITUATION ON HUMAN RESOURCE MODEL**

### **2.1 Challenges under epidemic conditions**

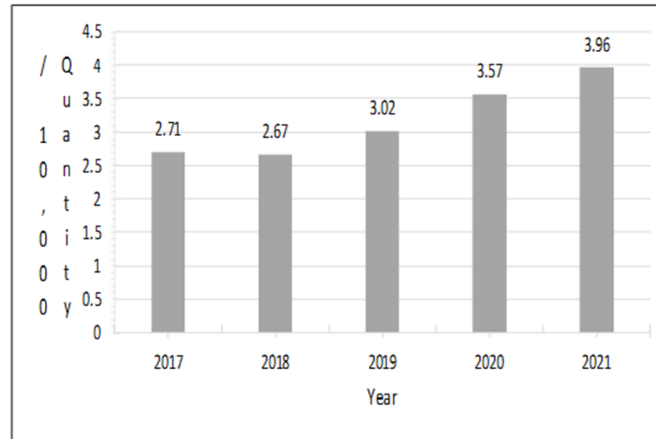
The new crown epidemic of 2020 has slowed the pace of economic restructuring, while the long-term fundamentals of the economy remain positive, in the short term, it will lead to greater reliance on policy guidance [11]. This situation also forces the human resources management of enterprises to adjust. At the same time, with the emergence of new technologies such as artificial intelligence, coupled with the impact of the epidemic, various industries have experienced major adjustments, changes and development one after another. Therefore the human resource service industry also faces the new development opportunity and the new challenge.

#### *1) The boundaries are blurred, and barriers to Human Resource work may fade away*

As the boundary of the human resource service industry is constantly broken through, expanded, extended and improved, the human resource service industry, as an independent industry, emerges as the times require, and gradually integrates with other industries. The boundary of enterprise human resource management is becoming more and more blurred, and even cross-border is not limited to internal management affairs, but market-oriented.

#### *2) With the development of externally related enterprises, the survival pressure of internal human resource management departments increases*

After the promulgation and implementation of the Provisional Regulations on human resources market in 2018, the market access of human resources was further relaxed. Moreover, this supporting policy also enhances the endogenous development power of the human resources management industry. Fig.1 is shown below. It can be seen from the figure that the number of relevant service institutions gradually increased after the epidemic. Combined with demand determinism, it can be known that the increase in the number of related institutions is due to the demand of enterprises for external service. In other words, the external specific human resource management service enterprise has more market competitiveness than the internal human resources department in some aspects.



**Figure 1.** Changes of the number of various human resource service agencies in China from 2017 to 2021.

### 3) *Serious brain drain*

According to the data of 51 job Center, the average salary of 27 popular cities in the first quarter of 2020 decreased slightly compared with the previous quarter [12]. Normally, in the first quarter, when enterprises pay year-end bonus, employee income should have increased significantly over the previous quarter. However, due to the epidemic, enterprises have stopped production, and most employees' income in February and March was greatly affected. This situation hedges the growth brought by year-end bonus, resulting in a decline in overall income compared with the previous quarter. Considering their own interests, employees are more likely to leave their current positions. Therefore, more high-level management talents were released and flowed into the human resource market, resulting in more job vacancies after the epidemic.

### 4) *It is difficult to guarantee the efficiency of employees*

In the absence of awareness of the epidemic and uncertain future development, employees are prone to panic. Once this kind of psychology occurs, the gradual deepening of employees' anxiety will affect the completion of their work. In addition, in the post epidemic era, some emotionally susceptible people in enterprises may have psychological abnormalities such as anxiety disorder and depression. In serious cases, it will also affect work efficiency, and even cause unstable events.

## 2.2 Solution strategy based on STAR Principle

From the perspective of organization and management, due to the epidemic's impact, the development environment of many enterprises is facing greater uncertainty. The "VUCA" era is further deepened, and the "black swan" and "grey rhinoceros" keep pace with each other. It is more difficult to predict the industry and regional competition accurately. Enterprises are faced with an uncertain environment, and only themselves can be determined. In the uncertainty, the human resource management of enterprises needs a lot of adjustment and reserve.

Thus, through literature research, combined with real enterprise cases, STAR Principle (Strategy, Technology, Action, Renewal) is used as a model to analyze the measures to promote the development of enterprise human resources.

*1) Strategy - determine management principles and means*

During the outbreak, companies allowed employees to work at home, defined their goals for working online, and worked in tandem with the division of labor among team members. Enterprises require and help employees to maintain self-control at home, grasp the three core elements of performance management at home: time + task + synergy. At the same time, the human resource department should adopt scientific management methods to ensure the quality of employees' work at home, such as process management through daily weekly report.

*2) Technology - use technology to assist management*

Facing the challenge of the epidemic to human resources, human resource departments should be good at using network technology platforms to build a digital human resources online management and control platform. In terms of policy upload and release, the company can release relevant information through various channels such as WeChat, to ensure that employees can timely understand and reach the relevant policies. In the aspect of providing humanistic care, enterprises can open an epidemic consultation hotline to answer and feedback employees' questions; In the aspect of remote office attendance management, enterprises can use cloud home health punch to make daily employee health statistics. Use the field or photo punch function of Cloud Home Mobile Check-in Light Application to realize home attendance and punch in. The punch-in data can be automatically transmitted to S-HR attendance management system.

*3) Action - focus on core talents*

As the 80-20 principle shows that 20% of talents create 80% of the value. Focusing on and managing core talents is a process of focus, which requires continuous, dynamic and systematic attention and adjustment of human resources in the uncertain process of development. The main task is to do a good job in defining and identifying core talents, and evaluate good core talents in four aspects.

*4) Renewal - enhance the organization's iterative flexibility*

After the epidemic, human resource management needs to pay more attention to the flexibility of the organization (flexibility refers to the flexibility of organizational response). Post-epidemic development must be in the process of adjustment. As long as there is an adjustment, it is necessary to meet the organization's response to the relevant adjustment requirements. In addition, the so-called "Flexibility" should not be measured in absolute terms, but should be based on the organization's own background and the pace of adjustment. Therefore, the flexibility that determines an organization's rapid adaptability should not be drastic. Because every adjustment and adaptation is an adjustment to the original organizational structure, value realization mode and reward distribution mechanism. Whether it is effective or not, depends on the understanding and acceptance of employees, especially core employees. When the impact of the epidemic situation is uncertain, it is an important work for managers to find out the bottom-line, prepare for rapid adaptation, so as to effectively adapt to future changes.

### **3. CASE STUDY OF LARGE ENTERPRISES**

#### **3.1 Characteristics and difficulties of enterprises at present**

##### *1) It's a comprehensive system with many restrictions*

The management system of large enterprises is generally sound, and the concepts of system, process and system will be formed earlier. It is also because of the sound of these systems that everyone's behaviour requirements are relatively clear, and the autonomy of employees is very limited. Especially in some enterprises with more management levels, it is more likely to buck passing and bureaucratism is more obvious.

##### *2) Big platform but small task*

Large-scale enterprises have more abundant capital. It is easier for them to get the favour of policies, and is also the object that all kinds of suppliers are chasing after. Employees may have more opportunities to participate in various high-level forums, have more opportunities to see all kinds of cutting-edge ideas and talk. Large enterprises also pay more attention to human training and development, and have the opportunity to improve their ability. However, people in large enterprises pay more attention to some details because of their clear division of labour and minimal areas of responsibility. This kind of meticulous work is a test for individuals, but the improvement of ability is limited.

##### *3) The management is rich but the mode is lagging behind*

In the current stage of human resource management, some enterprises still follow the traditional mode. They don't formulate a new human resource management system in combination with the actual situation of their own development. The fixed working mode and boring work content lead to low enthusiasm of employees. It is not conducive to create a good corporate culture and working atmosphere.

#### **3.2 Case analysis**

##### *1) Existing problems*

Based on the above problems of digital office in large enterprises, Sany Heavy Industry will be taken as a typical case of online office during the epidemic period.

The biggest challenge of the epidemic to Sany's human resources is the management of digital office. Sany has more than 50% of its employees working from home. How to support such a large number of employees to smoothly carry out telecommuting without any warning has become the biggest challenge for the human resources department. The existing problems include the following aspects: first, it is difficult for enterprises to understand the real working conditions of employees at home. The work content of their work at home is not clear, and the workload is not reasonable; Secondly, it is difficult to judge what jobs for employees to do at home, who are saturated and who are unsatisfied; In addition, when employees leave the organization they used to work in, they will lack a sense of belonging to a certain extent; The third is the reduction of collaborative efficiency. A large number of meetings is not the best solution, but it is also a necessary communication process. Especially when it is necessary to contact the employees of various departments, work collaboration becomes very critical;

Secondly, it is difficult to guarantee information security. Suppose employees have the ability to connect to the enterprise office system. In that case, there will be a certain possibility of information leakage, especially the R&D employees, whose personal computers have stored the company's key information.

## *2) Improvement method*

In the face of these challenges, Sany Group has made full use of the existing digital platform to deal with. In Sany's overall digital solution of human resources, the framework of Kingdee IT platform. At the same time, the HR data in s-HR system is integrated with OA, finance and self-built system to form an integrated business platform. Together with the cloud home mobile portal, the overall support of the Sany human resources digital staffs.

### (1) Digital platform, multi scene details to support staff Telecommuting

Sany Group ensures the effective implementation of a series of demands of enterprise employees in digital office through the construction of a digital platform. For example, in terms of policy uploading and releasing, Sany Group releases relevant information through various channels such as cloud home announcement, so as to ensure that employees can timely understand and manage the policies [13].

### (2) Hardware upgrade

Through the introduction and upgrading of digital-related technology, Sany Group ensures that the digital technology advantages can be fully developed to better meet the requirements of human resources management during the epidemic. Taking personnel file management as an example. As an important part of human resource management, the combination of digitalization and personnel file management can effectively improve the level of retrieval and use of file information.

### (3) Improving the comprehensive quality of management personnel

In this regard, Sany Group has further strengthened the training and assessment of management personnel. It has continuously enhanced the level of awareness of human resources digital management among managers so that the managers can grasp the key tasks of management and clarify the focus of work. It is also necessary to carry out the assessment of the effectiveness of managers to assess their work to ensure their participation.

## **4. RESEARCH ON THE DEVELOPMENT OF POST EPIDEMIC ERA**

### **4.1 Necessity of digital reform**

Combined with the above discussion, it has been found that the outbreak of human resource management brings certain challenges. The source of these problems lies in the lack of independence of human resource (HR) management within large enterprises. It is because Human Resource Departments do not have a clear positioning, there is no self-definition and uniqueness. In a word, they lost their competitiveness, thus facing huge pressures for survival. On the other hand, due to the HR department's lack of independence, they are only a subsidiary department for the enterprise, and there is no promotion space compared with the independent HR consulting companies, thus leading to the loss of talent resources, finally caused the post

work. Therefore, the reform of the human resources department is imperative. The digital reform, to a certain extent, can enhance the independence of the HR department, improve the executive power of the Department, and then enhance its competitiveness.

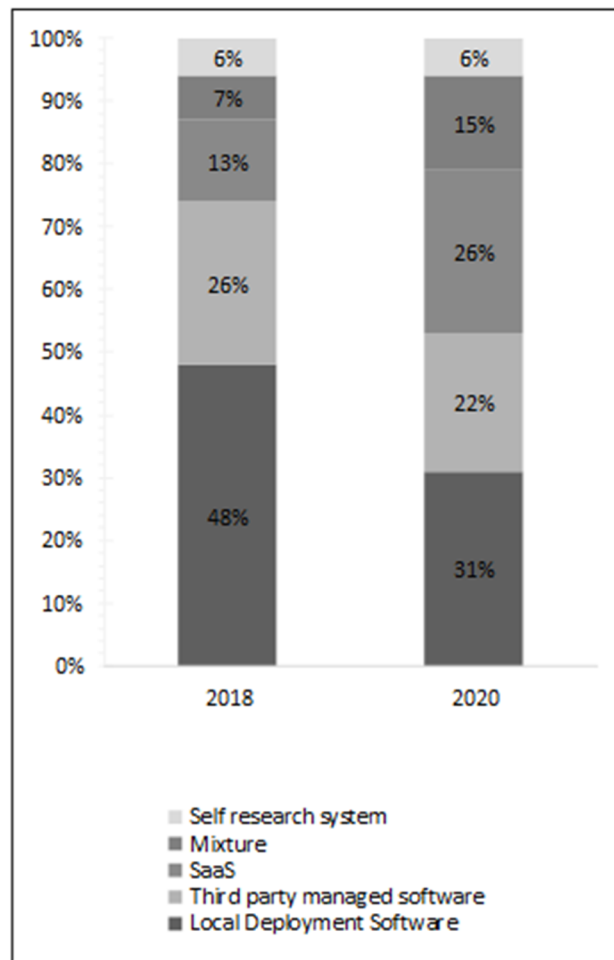
#### **4.2 Current situation of digital reform**

##### *1) The reform is still focused on the basic personnel management*

According to the report, the HR system coverage rate of large enterprises with more than 500 employees in China is 68.8% [14]. In recent years there has been a gradual shift from local deployment to more specialized third-party platforms, which is shown in Fig.2. This data is positive. But the information application modules of these enterprises are mainly focused on the personnel management module, only 18.2% of enterprises recognized the value of intelligent office.

In other words, in China, although nearly 69 enterprises in every 100 large enterprises can achieve digital human resource management, only 12 of them have a positive attitude towards this kind of upgrading. However, on the one hand, the survey shows that these 12 recognized enterprises only support the digital transformation and upgrading of personnel management. This kind of support is one-sided. Besides it may be resulted from the satisfaction of the liberation of labor force and the reduction of labor cost by science and technology, which does not fully represent the real recognition of enterprises. On the other hand, the remaining 57 enterprises choose to carry out digital transformation and upgrading when they are not sensitive to digital transformation. To a certain extent, their innovation is just a kind of herd behaviour. Combined with the SMART Principle, it can be found that these enterprises only follow up timely, but they do not match well in the other four dimensions. In other words, there is no essential difference between their reform and the traditional enterprise reform mode, which is still an invalid behaviour.





**Figure 2.** Application mode of enterprise human resource technology.

*2) There are three challenges in the transformation of enterprises*

According to the survey of relevant institutions, the challenges of large-scale enterprises not carrying out or difficult to carry out the digital transformation of human resources mainly lie in the following three points. 37.5% of enterprises reflect that the maturity of internal management is low, 35.5% of enterprises feedback that the cost of reform is high, and 27.7% of enterprises feedback that they do not have suitable products to cooperate with the reform. In order to meet these challenges, on the one hand, HR managers need to improve the management level within the enterprise, on the other hand, also put forward higher requirements for service providers.

*3) Most enterprises recognize the value of human resource digital management*

According to the survey, more than 70% of the participating enterprises believe that digital technology can create value for basic personnel management and human resource data analysis

[14]. However, compared with the current digital reform process, it can be found that there is still a certain gap between the willingness of large-scale enterprise human resources digital transformation and the reality.

#### **4.3 Prospect of digital reform**

Through organizational evolution, mechanism innovation, talent development and data intelligence, digital human resource management can help global enterprises reconstruct the organizational capabilities. Besides, with the generation of machine processing data analysis and insight, human resource professionals can focus on what they are best at: cooperation with people [15]. This will strengthen the value orientation of HR in the organization and reshape the value proposition of talents.

### **5. CONCLUSION**

In the context of the post epidemic era, the application of digital management mode and technology in human resource management can promote the continuous organizational reform, innovation and transformation of enterprises. In the process of human resource management of enterprises, the effective use of digital technology can provide a steady stream of power for the development of enterprises, attract high-quality talents and inject fresh elements into enterprises. In a word, the development of human resource management is inseparable from digital reform.

### **REFERENCES**

- [1] Yan Hai .(2020). Understanding China's economy in the post epidemic Era. *Romantic Generation* (27),58. doi: CNKI: SUN:FLYD.0.(2020-27-032)
- [2] National Bureau of Statistics. Retrieved June 1 2021, from <https://data.stats.gov.cn/easyquery.htm?cn=C01&zb=A0201&sj=2020>.
- [3] IMedia Industry Upgrading Research Center. Investigation report on the behavior of home office in Chinese new year 2020. Retrieved February 10 2020, from <https://www.iimedia.cn/c400/68775.html>.2020-02-10.
- [4] Yaodong Han. (2021). Research on the form and new exploration of human resource management in the digital age. *China Circulation Economy* (02), 139-141. doi:10.16834/j.cnki.issn1009-5292.(2021.02.045)
- [5] Feng Fang. (2015). Discussion on the forms and new exploration of human resource management in the digital era. *Market modernization* (05),132-133. doi:10.14013/j.cnki.scxdh.(2015.05.083)
- [6] Jianli Miao.(2020). The application of digitization in human resource management. *National circulation economy* (22),112-114. doi:10.16834/j.cnki.issn1009-5292.(2020)
- [7] Zhengyv Fei, Peiguang Huang & Peng Zhu. (2021). On the digital transformation of human resource management in Enterprises. *Journal of Wuxi Vocational and Technical College of Commerce* (01),44-48. doi:10.13659/j.cnki.wxxy.(2021.01.007)
- [8] Xiujun Lin. (2019). The construction of new ecological model of human resource management in sharing digital era. *Journal of Xinxiang University* (10),16-20. doi:CNKI:SUN:PYDX.0.(2019-10-005)

- [9] Xiaogang Su & Gang Liao. (2012). Construction of human resource management platform in military hospital under Digital Condition. Chinese PLA Journal of hospital management (07),619-620. doi:10.16770/j.cnki.1008-9985.(2012.07.028)
- [10] Xin Li.(2006). Digitalization of enterprise human resource management and application of ERP. China Science and technology information (08),230-231. doi: CNKI: SUN: XXJK.0. (2006-08-139)
- [11] Know-HR. 2020 has a hard start. Where will human resource management go. Retrieved March 26 2020, from <https://new.qq.com/omn/20200914/20200914A0EPDQ00.html>.
- [12] Mingyang Zhang. Salary survey report of 51job in the first quarter: the salary of enterprise employees decreased slightly month on month under the epidemic situation. SinoScience. Retrieved April 1 2020, from [http://science.china.com.cn/2020-04/01/content\\_41109170.htm](http://science.china.com.cn/2020-04/01/content_41109170.htm).2020-04-01.
- [13] Sany Group. Sany group: human resource management practice in epidemic period. Retrieved February 19 2020, from <http://www.ccw.com.cn/action/action/2020-02-19/11948.html>.2020-02-19.
- [14] Shanghai Foreign Service Data Technology Co., Ltd. Research Report on the current situation and trend of human resources digital transformation in small and medium sized enterprises. Retrieved February 2021, from <https://www.baogaoting.com/info/35245>.
- [15] Yolanda. The future of human analysis: what is the future of digital HR. Retrieved March 2 2021, from <https://zhuanlan.zhihu.com/p/115886768>.