Research on the Reconstruction of Human Resource Management Based on Computer Big Data and Artificial Intelligence Technology

Yitian Yuan\textsuperscript{*}

Yinxing Hospitality Management College of CUIT, China, 611743

\textsuperscript{*}E-mail: as1104196117@163.com

Abstract. Where a company performs proper human resource administration in the management process, it can create an excellent working atmosphere, mobilize the enthusiasm of employees, allow employees to exert their creativity in the process, increase work enthusiasm, improve the overall work efficiency, thus promoting the sustainable development of the enterprise. Therefore, the managers of enterprises should seize the opportunities in the era of big data, carry out appropriate human resource management by using artificial intelligence technology under computer science, and take specific measures to improve the work efficiency of employees.

Keywords: Big Data, Human Resource Management, Practice

In the process of management, companies can use big data and rely on artificial intelligence to collect human resource data and share these resources with other companies or enterprises, so that they can obtain more data and build a comprehensive model of the industry \textsuperscript{[1]}. According to the different scales and requirements of various enterprises, provide them with job information, and can analyze the future development status of the enterprise and the deficiencies in the development process through data to propose targeted countermeasures in a timely manner. In the era of big data, more and more new industries have emerged \textsuperscript{[2-4]}. If an enterprise would like to have enough motivation, it needs to have proper internal and external interactions, which shall be completed by the human resources department. Department managers should think from a global perspective, look at the functions of this department with new thinking, and establish a humanized personnel management system \textsuperscript{[5]}. In this process, we must pay attention to employees, and perform proper employee training and recruitment. In the process of employee management, we must carefully observe and grasp the working status of employees and the strength of employees and identify the insufficiency of employees in the work process. And propose targeted measures or praise. Let employees realize that they can realize their personal value in this enterprise. In this way, employees can also put the development goals of the enterprise and the personal...
development goals in the same place during the subtle process [6].

Human resource managers must also collect information properly, not only collecting external information, but also employee information is essential. Understanding employees' personal conditions and living conditions, communicating with employees, solving employees' difficulties in life so that they can work without serious worries, which also realizes humanized management. Managers must make good use of big data, classify this information, and perform proper employee evaluation and assessment. We should also pay attention to the development of new positions, be good at discovering the talents of employees, develop new posts and seek professional workers.

1. Proactively optimize human resource management mode

In the process of investigation and research, we can see that traditional human resource management is static information management. This management method has certain disadvantages. It cannot collect fragmented information and cannot integrate single-line information. This also gives data collection work. Bring some difficulties. In the context of big data, based on artificial intelligence, human resource management models must also be innovated to optimize specific management processes. In this process, capacity management is the key. We must carefully measure the characteristics of each employee, find out whether the employee can meet the needs of the job, and conduct talent training according to the job requirements. In the process of human resource management, talents occupy a core position, which directly affects the development of enterprises and technological innovation. Therefore, it is necessary to perform proper personnel training and to train excellent employees. It is essential to provide more opportunities for talents to develop their potential in the process and meet the development needs of enterprises. This will improve the professionalism and efficiency of employees.

2. Improve the quantity and quality of data accumulation

2.1. Expanding the scale of data

In the process of data accumulation, it is necessary to make a top-level design, utilize the information platform to integrate various types of information, and enter it into the data system, improve the automatic data integration and aggregation function, and implement machine entry as much as possible, reducing manual intervention. In this process, we must continuously expand the channels of data sources, accumulate more data and personnel information, and classify these data according to actual conditions. In recent years, the Internet has developed rapidly, and online information resources such as the Internet and external social media should also be recorded. In this way, more and more accurate data can be obtained in the process of human and resource management. It is also necessary to rationally use the Internet data for structural data classification, rely on artificial intelligence, classify the mashup data, and perform deep mining of information.

2.2. Improve data quality

Firstly, establish unified data standards and apply these standards to various platform systems. Secondly, the information verification method is used to verify and verify the data to ensure that the fragmented data is authentic and reliable. Thirdly, data maintenance is a long-term task. In the process of system monitoring and daily maintenance, data maintenance must be valued. Fourthly, to improve the quality
of data, we must establish a sound and reliable accountability mechanism. All departments must do a quality assessment before using the data, mine the source of the data, and rely on artificial intelligence to improve the authenticity and reliability of the data. Figure 1 is shown.

**Figure 1.** Improving data quality content

### 2.3. Enable derived data

In the process of investigation and research, we can find that big data management is continuously deepening and developing in a deep direction. In this process, the derived data is used more often than the source data. Derived data is recalculated and reused based on the original data. Faced with such a development situation, we need to define the calculation logic, ensure the statistical scope, carry out standardized specifications, and perform proper data storage. For example, a simple calculation of the recruitment rate is shown in formula (1), so that the process of using data can also call at any time.

\[
R = \frac{N}{M} \times 100\% \quad (1)
\]

Where \( R \) is the recruitment rate, the number of successful applicants is \( N \), and the total number of applicants is \( M \)

### 3. Optimization of evaluation indicators and model algorithms

In the process of big data management, the mechanism of the biochemical section was proposed, and to a certain extent, "no distinction, no vote" was realized. Based on the current situation, the assessment and evaluation index models for cadres still require further verification and improvement, and many problems have yet to be solved. In the face of this situation, we can use big data for human resource management to perform predictive analysis, data mining, and visual analysis, and propose targeted solutions to specific situations. The specific content is shown in Figure 2.
Firstly, the correlation with the data is identified to perform a backward deduction of the index. Human resource management based on big data, with the help of various machine learning algorithms, such as random forest models, Bayesian classifiers, and so on. Compared with artificial intelligence, artificial intelligence can discover the potential value of data in a short period of time, find related data, and perform importance analysis to find relevant relationships, thereby inferring indicators. Secondly, we call it phased delivery, dynamic modeling. Change the traditional small data algorithm, use simple big data algorithms to derive derived data, solve small problems in stages, and deliver results in stages. This sequence-reversible dynamic algorithm can give full play to the advantages of big data, excavate favorable values in a large amount of data, and help human resources to recruit, deploy, and evaluate various tasks.

4. Explore smart predictions and strategic insights

In the process of big data human resource management, not only simply collect, store, and summarize data, but also make judgments and predictions in a large amount of data, so as to grasp the current status of human resources, understand the dynamic change trend, identify problems in the human resource management, predicting future development trends, and provide a real basis for judgment.

We can take the analysis of data in the process of human resources management as an initial stage, then using big data for human resource management opens another new stage. The results can be used in strategic planning, and the obtained data can be strengthened. The data is no longer used only in assessment and evaluation, but also in organizational decision-making and planning management. In this process, the strengths of human resources management can be fully leveraged to explore the potential of employees to a certain extent, carry out personnel training, meet the needs of employees, and improve the enthusiasm of employees. In addition, the use of big data for human resource management can improve overall work efficiency and improve the effectiveness of the entire enterprise. It also directly affects the company's strategic decisions and future development trends.

In the process of human resource management, we can also use intelligent prediction to change the traditional ex-post evaluation model. Intelligent prediction can be applied in the process of risk
prevention, prediction, and comprehensive judgment. It can also perform data analysis according to the current situation, understand the trend of human resources, and perform job matching based on the characteristics of employees. Anticipate training needs before talent training, plan training programs and content, and conduct talent training. Through data surveys and analysis of cadres' personal growth and work trends, the selection process can be carried out smoothly. This kind of data prediction can connect the personal growth of employees with the development of the enterprise, and facilitate the selection of employees.

5. Concluding remarks

In the era of big data, companies need to pay attention to the internal and external development environments and make relevant strategic decisions to survive; pay attention to the significance of human resource management, change the traditional human resource management model, conduct big data management, maximize the advantages of human resource management, tap talents, and provide more robust data for enterprises. In this way, enterprises can keep up with the trend of the times and accept challenges bravely in the development process, improve the competitiveness of enterprises in market competition, and promote the sustainable development of enterprises.

References

[1] Ebert, Tobias, Eichstaedt, Johannes C, Lee, Neil. Big Data, artificial intelligence and the geography of entrepreneurship in the United States[J]. Social Science Electronic Publishing, 2018,1(4):23-41.

[2] Zhenjing CHENG, Haibo LI, Qiulan HUANG. Research on elastic resource management for multi-queue under cloud computing environment[J]. Journal of Physics Conference, 2017, 898(9):92-100.

[3] Kibria, Mirza Golam, Nguyen, Kien, Villardi, Gabriel Porto. Big Data Analytics, Machine Learning and Artificial Intelligence in Next-Generation Wireless Networks[J]. IEEE Access, 2017, 4(99):1-12.

[4] Baumeister J, Grzegorz J. Nalepa (editors, Baumeister J , et al. at the 32nd German Conference on Artificial Intelligence[J]. Lecture Notes in Computer Science, 2017, 56(2):32-39.

[5] Lion A , Gette P , Meyer C , et al. Effect of cognitive challenge on the postural control of patients with ACL reconstruction under visual and surface perturbations[J]. Gait & Posture, 2017, 60(2):251-262.

[6] Steve Fleetwood, Anthony Hesketh. HRM-performance research: Under-theorized and lacking explanatory power[J]. International Journal of Human Resource Management, 2006, 17(12):1977-1993.