Structural Integration and Optimization of Human Resource Management Under the Background of Artificial Intelligence

Linqiang Zhang[1,a], Chang Wang[1]

m15170456008@163.com[a]

Nanchang Institute of Technology, Nanchang, Jiangxi Province, 330044, China[1]

Abstract: In order to improve human resource management models from the basis of artificial intelligence, this project conducts research on the use of big data and artificial intelligence in human resource management. in the context of the rapid development of intellectual technology. Using Company G as an example, the problem of human resource management and why the above problems occur is studied through a combination of structural analysis, qualitative methods and more. After a lot of analysis, we can get the results of three things that happen in the company's human resources management: recruitment, human resources planning and performance management.

Keywords: Artificial Intelligence, Human Resource Management, Structural Integration and Optimization, Big Data, Qualitative Methods, Management Issues, Performance Management, Recruitment.

1 INTRODUCTION

Artificial Intelligence technology has brought new growth points over time. Recruiting skills continue to improve and change in the direction of digitalization. Optimizing the organization's structure and seeing the perception of employees show the steps of enterprise reform and change. In this process, if the internal human management of the company is difficult to follow the pace of development and meet the new goals of the enterprise, it will be difficult for us to be profitable and easy. technology development. In reality, it is still affected by problems such as poor screening, poor job and job comparison, and superficiality of traditional recruitment technology [1].

2 METHOD

2.1 Definition of Basic Concepts

For business, human resources are complex and require us to plan and coordinate. Therefore, human resource management is to determine the direction of the company's future goals, to achieve sustainable development, and to provide opportunities for all employees to use their strength. Therefore, this type of management is important for businesses [2-3].

BDEDM 2023, January 06-08, Changsha, People's Republic of China

DOI 10.4108/eai.6-1-2023.2330277

The main concept of artificial intelligence is that the machine is able to learn and be intelligent. This learning ability refers to the ability to practice an action that can be explained. The term "artificial intelligence" was first coined by John at a conference at Dartmouth College [4]. Artificial intelligence is a complex group that encompasses many things. It is a science and technology that people hope to achieve many tasks by controlling machines such as knowledge, analysis, and work. His intelligence has three aspects: knowledge, imagination, and calculation [5].

2.2 Human Resource Structure Analysis of the Company A

In 2018, the number of employees in Company A has reached 1210. At present, Company A needs to adopt the team management mode, that is, employee area and products. Only in this way, the dual leadership in business can realize the sharing of human products and services between departments, maximize the utilization of equipment and other resources and enterprise resources according to different human resources strategies. The composition of human resources of Company A is shown in Table 1 [6-7].

Table 1 Composition of human resources of Company A

Enterprise employee category	Number of employees (person)	Proportion (%)
Enterprise general staff	912	75.4
General management staff of the enterprise	188	15.5
Skilled staff	47	3.9
Senior management staff	63	5.2

At present, employees of Company A generally have college education or above, managers have bachelor's education, and technicians have master's education. Most people have doctorates. See Table 2 for details [8].

Table 2 Human resource structure of Company A

Employee category	Educational background below junior college (number and proportion)	College degree (number and proportion)	Bachelor degree (number and proportion)	Master degree (number and proportion)	Doctor degree (number)
Production line staff	603/49.8%	212/17.5%	111/9.2%	0/0	0
General management staff	0/0	76/6.3%	104/8.6%	12/1%	0
Skilled staff	0/0	0/0	11/0.9%	20/1.7%	3
Senior management staff	0/0	0/0	40/3.3%	12/1 %	5
Total	603/49.8%	288/23.8%	266/22%	42/3.7%	8

2.3 Problems and Causes of Company as Recruitment

The recruitment method of Company A is too traditional. Nowadays, the advent of information technology and the information age can provide more employment opportunities. However, the company's recruitment method is still traditional, many shortcomings. First, many candidates do not accept return letters [9]. Second, it is difficult to work with many different documents. Third, despite high labor costs and low productivity [10].

2.4 Problems and Causes of Human Resource Development Planning of Company A

Company A's business grew rapidly and its profit doubled between 2017 and 2019. However, the rapid development of the economy brought problems. The shortage of human resources is increasing [11]. The workforce is now under pressure due to delays in recruitment and training. To improve jobs and create new jobs, it is necessary to increase the number of employees. These difficulties then hinder the development of A, the internal knowledge of traditional production, the material and the need for intellectual skills reduce the demand for work, and the work patterns of skilled workers are also changing. If artificial intelligence destroys the human brain, it will change many jobs and in the long run, the work of traditional business will decrease. Therefore, the best work will be promoted for the talented people [12-13].

3 RESULTS AND ANALYSIS

Now, even though Company A is following the current development, there are still problems that need to be solved.

Company A is still at a low level in human resource management, especially in labor management, which is still common. The use of traditional methods will cause us to face the problems of the next period of inflation [14]. In order to avoid this problem, we should start from this aspect now, apply big data to performance management, realize the integration and optimization of resources, and improve work efficiency, including the following aspects:

First, the company can create a quality management system for this problem, access data, and use the system as a communication platform for matrix management problems, which yes, regional leaders and business leaders. At the same time, the difference is that managers in different industries manage their own work and make different kinds of employees. At the same time, employees communicate directly with the work team to improve communication and provide quick feedback and corrections [15].

Second, the company can establish a management system for this problem and optimize the system configuration in the system. This system only uses big data to collect all the digital information of the employees of the company, establish a database, use appropriate models to analyze employees' work ability and work style behavior, and turn the results of data into data that can measure employees' performance. The establishment of the system takes into account the principles of comprehensiveness, comprehensiveness and scientificity, and solves the problem of imperfect indicators of the company. The assessment results are also fair.

Third, the company can establish a performance management system for this problem, analyze the data of employees, improve the evaluation efficiency, save human resources and reduce the

pressure of human resources departments on talent selection, which allows the human resources team to focus on resource allocation and planning [16].

To improve the company's internal talent, it means that the company can use the existing human resources more effectively, reducing the inefficiency of recruiting more employees frequency, and save a lot of money on human costs. During the development of the human resources system of Company A, a lot of information was collected, the information was processed and distributed. By classifying, processing and summarizing these information data through artificial intelligence technology, human resources departments can have a clearer understanding of talent training and development, making it more reasonable and scientific [17].

Company A can use a combination of big data and artificial intelligence to process additional data and use it to evaluate employee performance. Although based on the results of these evaluations, people and jobs can be improved, the evaluation of employee integrity, the identification of potential employees, the employee turnover, etc. can be used in conjunction with real events. This can have a positive impact on the company's employees in terms of retention, training and development[18].

This plan will automatically generate the results of the company's quarterly evaluation for Q1-Q4 and provide suggestions for the development of employees at the same time. Through this application, all employees can understand the work feedback at any stage in time and use the improvement plan provided by the human resource management system. nature to develop training plans and subsequent development. Figure 1 [19-20].

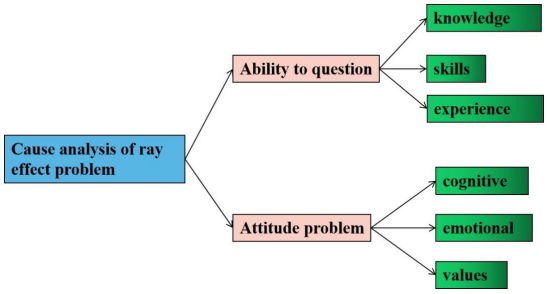

Figure 1. Training, development and improvement measures plan

4 CONCLUSION

This article uses a combination of analysis and performance and various methods to explore the problems and make people management, focusing on the use of human skills resources in the business, set the specific process of application in the business, and take the company as an example. Accordingly, this document rationalizes the problems of human resource management, helps the managers of enterprises to ensure the competitiveness of big data, improve management resources in business, promote economic development, and promote development. The skills of the units are a competitive advantage of the company.

Acknowledgement: Science and Technology Research Project of 2021 Education Department of Jiangxi Province

Research on the challenges and opportunities of human resource management in the era of artificial intelligence no. GJJ212119

REFERENCES

[1] Xu, D. , & Xiao, X. . (2020). Influence of the development of vr technology on enterprise human resource management in the era of artificial intelligence. IEEE Access, PP(99), 1-1.

[2] Duan, Y. , & Wu, S. . (2020). Research on ways to improve college students' sense of acquiring ideological and political courses under the background of artificial intelligence. Journal of Physics: Conference Series, 1575(1), 012131 (6pp).

[3] Wang, Y. , & Bai, X. . (2021). Research on optimization plan of enterprise employee training under the background of big data. Journal of Physics Conference Series, 1852(2), 022004.

[4] Song, W. , Wang, Y. , Huang, D. , Liotta, A. , & Perra, C. . (2020). Enhancement of underwater images with statistical model of background light and optimization of transmission map. IEEE Transactions on Broadcasting, PP(99), 1-17.

[5] Yan, N. . (2021). Optimization of development path of social sports construction under the background of internet. Journal of Physics Conference Series, 1744(4), 042219.

[6] Zhang, M. , Li, Z. , Fu, G. , & Zhang, M. . (2021). Dependency-based syntax-aware word representations. Artificial Intelligence, 292(4), 103427.

[7] Karampour, H. , Aryai, V. , Abbassi, R. , Abdussamie, N. , & Cook, D. . (2020). Reliability of multi-purpose offshore- facilities: present status and future direction in australia. Process Safety and Environmental Protection, 148(2035), 437.

[8] Gao, H. . (2021). Reform of college english teaching model under the background of artificial intelligence. Journal of Physics: Conference Series, 1744(4), 042161 (6pp).

[9] Wang, Z. , & Lin, Y. . (2020). Talent training model of auditing under the background of artificial intelligence. Journal of Physics: Conference Series, 1533(3), 032075 (4pp).

[10] Guo, W. , & Zhang, B. . (2020). Research on development strategy of news app under the background of artificial intelligence. IOP Conference Series: Materials Science and Engineering, 806(1), 012031 (5pp).

[11] Xu, H. . (2020). Application of artificial intelligence in computer network technology under the background of big data era. Journal of Physics: Conference Series, 1550(3), 032033 (4pp).

[12] Zhang, R. . (2021). Development of environmental art design system under the background of artificial intelligence. Journal of Physics: Conference Series, 1744(4), 042224 (6pp).

[13] Liu, J. . (2021). Research on the innovation of graduate educational administration management mode under the background of big data. Journal of Physics Conference Series, 1744(3), 032026.

[14] Qin, L. , & Mohamed, R. . (2020). Research on human resource management of international enterprises based on competency model under cross-cultural background. Test Engineering and Management, 83(July-August), 686-694.

[15] Kun-Fa, L. , Chen, H. N. , & Lu, Y. . (2020). Analysis of the status quo and trend of agricultural economic management under the background of big data. Journal of Physics: Conference Series, 1437(1), 012051 (8pp).

[16] X Xu, Li, L. , & Sharma, A. . (2021). Controlling messy errors in virtual reconstruction of random sports image capture points for complex systems. International Journal of Systems Assurance Engineering and Management(1).

[17] Bradha, M. & Balakrishnan, Nagaraj & Suvi, Suvitha & Arumanayagam, T. & .M, Rekha & Vivek, P. & Ajay, P. & Sangeetha, V. & Steephen, Ananth. (2021). Experimental, computational analysis of Butein and Lanceoletin for natural dye-sensitized solar cells and stabilizing efficiency by IoT. Environment, Development and Sustainability.

[18] Jc, A. , Jl, B. , Xin, L. B. , Wg, A. , Jing, Z. , & Fza, C. . (2021). Degradation of toluene in surface dielectric barrier discharge (SDBD) reactor with mesh electrode: Synergistic effect of UV and TiO 2 deposited on electrode.

[19] Huang, R., Zhang, S., Zhang, W., Yang, X. Progress of zinc oxide-based nanocomposites in the textile industry, IET Collaborative Intelligent Manufacturing, 2021, 3(3), pp. 281–289.

[20] Xie, H., Wang, Y., Gao, Z., Ganthia, B. & Truong, C. (2021). Research on frequency parameter detection of frequency shifted track circuit based on nonlinear algorithm. Nonlinear Engineering, 10(1), 592-599.