

Analysis of Talent Management in the Artificial Intelligence Era

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ABSTRACT

Artificial intelligence is one of the core technologies in the information age, and it plays a more and more important role in organizational management. Human resource management is an important part of organization management, artificial intelligence in which the application is more and more common. This paper combs the development process of human resource management in the era of artificial intelligence, explores the future development trend of human resource management and the transformation of human resource management mode, and analyzes the inspiration of talent management with artificial intelligence technology in the Marriott Hotel, Facebook, Zoomi and other enterprises. It is concluded that human resource management is changing to intelligent talent management with the help of artificial intelligence, big data and Internet technology. It also provides suggestions on talent management and operation for the organization from five aspects of intelligent and accurate selection, intelligent training and development, intelligent retention, intelligent utilization and intelligent talent pool, so as to help the organization improve the level of talent management and drive the development of the organization.

Keywords: *artificial intelligence; intelligent talent management; talent empowerment*

1. INTRODUCTION

With the rapid development of artificial intelligence, big data, cloud computing, the Internet and Internet of things, borderless organizations have emerged. The traditional human resource management mode can no longer meet the development requirements of modern organizations, but it also provides opportunities and challenges for the reform of China's human resource management system. Human resource management itself is very complicated work, the traditional management mode is not only inefficient but also difficult to achieve the desired management objectives.[1]For example, Traditional management methods can't objectively and reasonably collect the deep-seated data of talents' personality, can't analyze and process the data resources such as the matching status between talents and posts, and the matching status between talents and their superiors and subordinates, and can't realize the accurate scientific management of talent selection, utilization, Training and development, retention, Talent Pool. These are not only not conducive to the long-term development of organizations and talents, but also to a certain extent, the enthusiasm of talent work. Talent is the most valuable resource for an organization to obtain long-term development. Therefore, it is worth exploring how to manage talent scientifically and promote the reform of human resource management system in the era of artificial intelligence.

2. DEVELOPMENT TREND OF HUMAN RESOURCE MANAGEMENT IN THE ERA OF ARTIFICIAL INTELLIGENCE

With the continuous penetration of intelligent technology in enterprise production and management, the demand of human resource workers for intelligent human resource management is also increasingly urgent. In 1954, Peter F. Drucker proposed the concept of "human resources". [2]In 1958, E.Wight Balkke published the book human resource function, which elaborated on the issue of human resource management as a general function of management. [3]At this time, human resource management began to change from the first stage of personnel management to the second stage of human resource management. In 1993, the school of labor and personnel of Renmin University of China took the lead in changing the major of personnel management into that of human resource management. China began to shift from personnel management to human resource management, and experienced a period of rapid development, innovation and reform. Table 1 below summarizes the four stages of the development of human resource management.

Table 1. Human resources management development four phases

Phase I	Personnel management	The work content of the department is single, including daily attendance, payroll, separation, retirement, retirement and other procedures
Phase II	Human resources management	Taking "work" as the core, starting to establish modules such as recruitment, training, compensation, performance and so on, the relationship between the modules also presents a state of independence from each other
Phase III	Strategic human resources management	Human resources department becomes the strategic partner of business department, its goal is to support the realization of company strategy. The business scope of human resources management has increased to organizational design, recruitment management, etc., and has become the central department to enhance employee satisfaction and professionalism.
Phase IV	Talent management	Human resources management is seen as a whole and is no longer fragmented into modules. Its goal is to achieve a continuous supply of talent in the development of the company, and the business focus of the human resources department is to attract, recruit, develop, manage and retain talent, and to strengthen the strategic position of human resources

With the arrival of artificial intelligence era, the development of human resource management moves towards the third and fourth stage and presents two trends, one is the transformation of enterprise from human resource management view to talent operation view; the other is the tool of enterprise development.

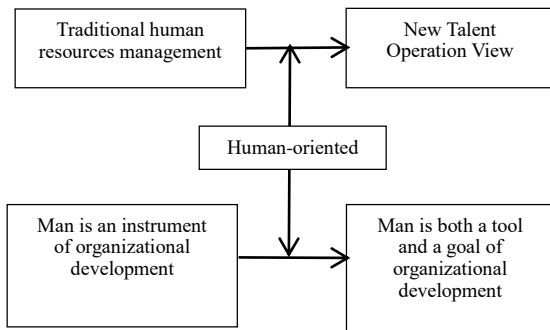


Figure 1. Future trends in human resources management

The development of artificial intelligence technology provides technical support for human resource management from the third stage to the fourth stage. The application of artificial intelligence technology in human resource management can be traced back to the late 1960s. The first generation of human resource management system was born, and the computer was used to replace the time-consuming and error-prone salary calculation. The second-generation human resource management system appeared in the late 1970s. It designed the non-financial

human resource information and the historical information of salary, and also had the primary function of report generation and data analysis. Brooks(1991) put forward three levels of artificial intelligence application: basic support level, platform architecture level and technical level, which lays a foundation for the application of artificial intelligence in human resource management module. [4]The third generation of human resources management systems emerged in the late 1990s, Almost all human resources-related data will be collected and managed in this generation of HRMS databases, More powerful report generation tools, data analysis tools and information sharing implementation. The rapid development of artificial intelligence in the 21st century has led to more systems for human resource management, Such as human resources management information system (HRMIS), intelligent decision-making system (IDSS) and so on. Jia et al.(2018) proposed the conceptual model of "AIHRM" (artificial intelligence human resource management), i.e., artificial intelligence can be combined with six modules of human resource management to form six "AIMHRM" systems: intelligent decision help system, intelligent evaluation system, human-machine interaction system, intelligent training system, consulting system and intelligent incentive system.[5]

3. TALENT MANAGEMENT AND ORGANIZATIONAL EMPOWERMENT

With the wide application of intelligent technology in human resource management, the integration, analysis and processing of all aspects of talent management data are realized, which provides a guarantee for accurate talent management, as shown in Fig. 2 below. Let the organization's selection, education, employment, retention, storage of great changes, promote the growth and development of the organization.

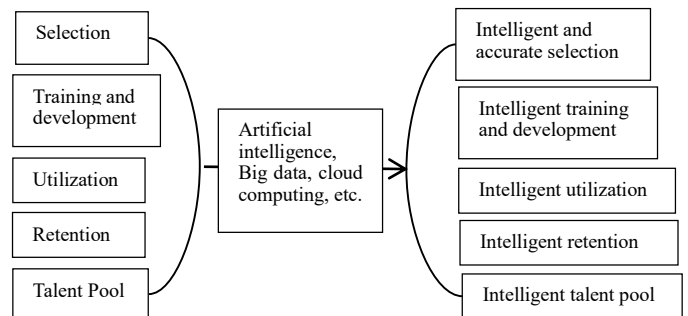


Figure 2. Intelligent Transformation of Human Resource Management

3.1. Intelligent and accurate selection

When introducing talents, organizations need to consider what kind of talents they want to attract? Or what talent is best suited to the culture and goals of the Organization.

Artificial intelligence and other related technologies such as virtual reality (VR) can provide 360-degree video to show people the real feelings in the work and the working environment of the enterprise, which helps enterprises to show their own culture. Can help enterprises to establish a better image, reflect the most real corporate ecology. Different channels are suitable for different industries, even different positions in the same enterprise. Data analysis can find the best recruitment channels and save the cost of enterprise recruitment. Only use valuable resources to reach out to people who are suitable for the enterprise or who want to attract.[6]For example, the Marriott Hotel has the largest recruitment page on Facebook, like people showing their workplace, arousing people's desire for job search and encouraging users to search and find jobs. Artificial intelligence technology and big data use a variety of data sources such as enterprise data, employee history data, social media data, etc., when matching, screening and evaluating talents, to predict the behavior and personality characteristics of candidates, and to accurately identify and evaluate the most suitable talents according to the skills required by the position. Eliminate guesswork in recruitment.

3.2. Intelligent Education

3.2.1. Intelligence Training

Big data and artificial intelligence provide individualized learning for organizations to cultivate talents. In particular, machine learning technology can provide effective course recommendation and effective learning map. By matching employees' social groups, interests, development goals and level positions, relevant data can be explored and collated. The organization can identify the difficulties encountered by employees and areas that need special emphasis. This can improve the effectiveness of talent, so that employees in their spare time to learn and develop the direction and resources. If the analysis company Zoomi use artificial intelligence tools to analyze the behavior, performance, participation and understanding of each employee to improve the learning content and create a unique personal learning experience for employees. The big data and prediction function in artificial intelligence can make a more perfect training system according to the needs of the organization, and can simulate the learning scene by AR(augmented reality) and VR(virtual reality) to improve the learning effect of the trainees.

3.2.2. Talent empowerment

The development of talents promotes the development of organizations. How to give full play to the potential of human beings and realize the value of talents? The construction and application of talent empowerment system is an effective attempt. In human resource

management, self-empowerment in the organization is self-driven, self-motivation and self-sublimation of individual talents, while empowerment to others is the flattening of the organization driven by decentralization, which endows the organization with the idea of open and innovative talents from top to bottom, the momentum of enterprising, the power of independent decision-making, the attitude of active work, brave and positive action, and the atmosphere of happy mood, so as to give full play to the personal talents and potential. Therefore, talent self-empowerment, organizational internal empowerment, organizational external empowerment trinity, as shown in Fig. 3 below, constitute the overall organizational talent empowerment system.

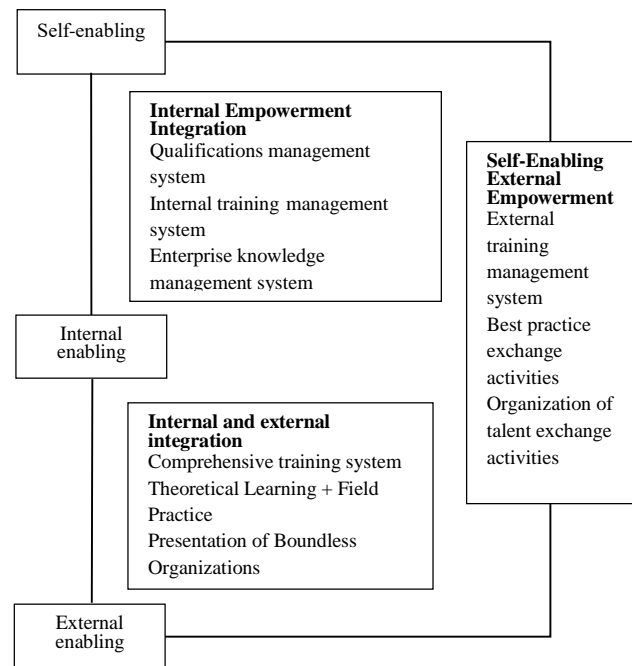


Figure 3. Organizational talent empowerment chart

In today's increasingly accelerated and deepened organizational change, talent self-empowerment is the leading, enterprise internal empowerment is auxiliary, enterprise external empowerment is supplementary, trinity. Organize talents through practice, study; re-practice, re-study. Learning and practice merge, layers of progressive, spiral rise.

3.3. Intelligent personnel

The premise of employing people is to know people, and the mismatch of people in the organization is often caused by the deviation of knowledge.[7] The personality and fitness of the employee are as important as the skill when the job is matched. The likes of social software can expose a person's personality traits and hobbies, such as Google's ability to predict behavior, intelligence, and personality traits through employee profiles and online activities.

Therefore, data analysis and artificial intelligence technology can analyze potential candidates in a few minutes to match specific data points in application forms or personal data to match the position to the right person. In addition to hiring offline full-time employees to work in a fixed place, companies can also use virtual employees. In the modern society with rich data and close connections, more and more enterprises and applications are moving towards the cloud, and even the work of some industries is moving towards the cloud. It is more and easier for enterprises to hire remote employees, which greatly saves the daily expenses of enterprises. For example, some online education providers use virtual teachers to work, law firms outsource processing documents and so on.

3.4. Intelligent retention

Happy employees are efficient employees; the root of retaining employees is to keep employees happy and happy at work. A study by Warwick University (University of Warwick) found that happiness increases productivity by 12 percent. How to make employees happy at work is one of the key factors to improve employee retention rate, and artificial intelligence technology will play a great role in improving employee happiness. Such artificial intelligence robot, can communicate with employees, help employees relieve stress, improve their happiness and work efficiency. Employee retention rate is also related to employee satisfaction, the high degree of engagement satisfaction employees will not easily leave. For many enterprises, the ability to accurately predict when employees can switch jobs is a powerful weapon to hold employees. Based on the AI model, the employee turnover rate of the enterprise is analyzed to find out those who may want to leave the enterprise, to avoid the situation of long-term vacancies of brain drain, or to take timely measures to reverse the situation and retain the staff. It can also arrange all the factors that affect the turnover of enterprise personnel, establish the corresponding evaluation model, predict the turnover tendency of enterprise employees, and help enterprises to reduce the business losses caused by staff turnover. In addition to employee happiness and satisfaction, pay attention to fairness is also an important factor affecting employee turnover rate. Guided by the principle of compensation design (external competitiveness, ministry fairness and incentive), big data based artificial intelligence can cover the salary level of a large number of equivalent positions, fully respond to factors including urban GDP and consumption level, so that the compensation system can effectively balance the market industry compensation data and the actual needs of enterprise management. Artificial intelligence uses these data to analyze the correlation between salary and position grade by establishing mathematical model, so as to set up enterprise salary grade and salary standard more reasonably; at the same time, through the more scientific data comparison and calculation, Pay equity can be realized.

3.5. Intelligent talent reserve

The construction of talent pool is the inevitable demand of optimizing human resource management and one of the important resources for organizational development. [8]Therefore, the establishment of a talent pool, and the number of reserves in the pool and the number of key positions of talent reserves are directly related to the external competitiveness of enterprises. The establishment of organizational talent pool is only limited to the internal reserve of the organization, resulting in no one to store. Establish a digital talent pool, connect with the third party intelligent talent storage system, extend the organization talent storage to the outside of the organization, absorb talents from all over the world, and analyze and classify talents through cloud intelligent evaluation technology tools. The system can quickly select the most suitable person according to demand.

4. CONCLUSION

Organizational talent management can never be separated from the talent "selection, education, use, retention, storage". With the acceleration of the aging trend, the organization needs to activate the existing human resources, accurately identify and comb the existing talent situation in the organization, artificial intelligence can assist human resources workers through data analysis, accurate positioning to find suitable candidates and potential training objects, so that outstanding talents stand out, which provides practical application for the combination of the two. The construction of organizational talent empowerment can help the organization to carry out accurate talent management, which will greatly help managers to succeed in talent management, and then change the organization's talent management operation ecology and improve the level of talent management. Drive organizational development. Managers will also use the intelligent application of talent management to quickly and professionally understand talent management and master the application of talent management in management practice, improve the level of good team, and maximize the value of management.

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