

Challenges and prospects of human resource management under the background of big data

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Project name and serial number: Research on the digital talent growth evaluation mechanism
based on artificial intelligence SGGST00XMJS2250019

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Abstract. With the development of information technology and Internet computing, big data has led individuals and enterprises to step into the era of automation in many ways. Big data technology usually starts with the classification and large-scale uptake of resource information, and then integrates, stores and utilizes the information displayed in the data after certain screening processing. The value of data sets is diverse, so it often requires more scientific and systematic classification analysis and computational processing design than traditional classification to make the resource set play an ideal role. Big data has many characteristics, the core of which is extensive information sources, rich classification, high gold content, fast and efficient analysis and processing process, and can simultaneously take into account a wide range of coverage and fine direction.

No matter in the enterprise or the market, it is generally believed that human resources are the primary resources to help economic progress. Human resource management includes a large amount of personal information of enterprises and employees. On this basis, big data can also help enterprises to better develop human resource modules by virtue of its excellent information collection and processing ability. In order to transfer from the traditional human resources management and control means to a more efficient way, it is necessary to achieve reasonable evaluation while taking into account the breadth and depth of information sources, introduce and further cultivate high-end employees through screening mechanism, and down-to-earth analysis of all aspects of the integration of big data and human resources management. This paper analyzes the existing problems, application advantages, challenges and innovations of the connection between human resource management and big data, and summarizes the various foundations that human resource management should have under the background of big data technology.

Keywords: Big data; human resource management; enterprise development; employee care.

1. Existing problems in human resource management

1.1 Disconnect between human resource management and corporate strategic objectives

The planning and management of human resources is the key component of the enterprise's long-term strategic plan, as well as the basis and basis of the enterprise's various work (Chen Min. Problems and countermeasures of human resource planning in state-owned enterprises [J]. China Foreign Investment, 2021(16):22-23. However, under the existing working mode, it is difficult for enterprise managers to consider the fit degree between the enterprise's strategic development direction and talent management strategy from a broad enough perspective. In addition, when changes in the external market further affect the strategic objectives of the enterprise and begin to change, the transformation of human resources policy is always very backward. For example, in the process of reorganization and reconstruction of the whole or part of the functional departments, many enterprises often just reorganize the posts and on-duty personnel, but cannot adapt to the new development strategy and new posts in a timely and reasonable arrangement and adjustment of personnel allocation. Once the posts are fixed, they will face many potential problems. It is not only difficult for employees to unify their long-term career development routes with their positions and

responsibilities, but also likely to cause conflicts at the level of corporate strategic planning, limiting the due effect of human resource management.

1.2 Difficulties in talent introduction and recruitment

The layout of the central and western regions is opening comprehensively, the economy is developing rapidly, and the whole northwest market is opening to the national and even international Angle. The employment opportunities of these regional areas have already weakened the employment advantage of the developed cities in the coastal areas to a certain extent. These changes mean that young people who represent new talent, new strength and new blood have more options when it comes to employment. On the other hand, the rapidly developing Internet market and cultural and knowledge industry also encourage a large number of new generation to learn and share. Self-employment and self-employment have become popular choices. Under the influence of learning and growth environment, the main employment force of the new generation, the post-90s and post-00s, who grew up following the Internet wave, has become more demanding in choosing a career, including not only salary. At the same time, there is also a stronger demand for personal motivation, such as enriching their own work experience, expanding personal vision, improving personal pattern, showing personal strength and realizing personal value. How to make these needs match the enterprise development policy, arrange talents to work suitable for them, or further value processing of the work itself, and attract young people to employment becomes an important issue. Many post performance management objectives are not decomposed step by step from the perspective of enterprise development strategy and talent adaptation, so that the behavioral motivation of new blood cannot be guided to be consistent with organizational development (Xie Hua. China New Communication,2020(19):128.), these influences and difficulties in many aspects constitute the difficult recruitment of the target enterprise, or the predicament of slow entry of new employees into the career state.

More detailed personal information cannot be covered by the current working mode. The relatively basic psychological assessment, educational background, professional title, vocational and technical qualification, and working years are all taken care of by special personnel, but there is obviously a lack of professional analytical means and efficient processing process. In addition, competency indicators including personality, ability, personal development tendency, and career background are more complicated. While it is difficult to cover, it also faces the contradiction of increasingly heavy human resources work.

In addition, in the investigation of the human resource strategy, enterprise development strategy and the adaptability of external market of state-owned enterprises, some domestic scholars found that a major problem facing state-owned enterprises at present is the inactivation of human resource reserve management and further creativity. Due to the poor match between human resource strategy and market economic development trend, the management level of state-owned enterprises is at a low position (Wang Chenghong, Chen Weneng, Zhang Jun, et al. Big Data Technology and Application of challenging scientific issues [J]. Science Foundation of China, 2014. (02) : 14-20.)

1.3 It is difficult to meet the cultivation of employees' abilities and demands

Under the current means of human resource management, there are many problems in the personal development of employees and the cultivation of talents which is more suitable for the strategic structure of the enterprise. On the whole, personnel training cannot be effectively implemented, and managers cannot to a large extent meet the fairness and scientific requirements for evaluating internal personnel and post adaptation by relying on their own work content. As a result, the enthusiasm of individual employees naturally decreases, and the beneficial competitiveness within the unit is insufficient, thus affecting the overall management and operation results of human resources. Traditional working mode wastes a lot of internal staff evaluation time and part of the money used in job analysis.

While developing the management and operation layout of state-owned enterprises, the in-depth exploration of talents and abilities should also be carried out simultaneously (Zhang Renjie. Innovation Consciousness and Mechanism to Strengthen the Party Building Work in Enterprises [J]. Enterprise Reform and Management, 2015,000 (014) : 175-175), in which the management of human resources involves personnel positioning and capability optimization. Some studies show that state-owned enterprises still have a big gap in the updating and learning of employees' vocational skills and knowledge reserves. The stagnant growth of staff in the enterprise reflects that the awareness of comprehensive training of staff is not in place, and the work is not spread out. The difficulty may lie in the lack of means to efficiently obtain the progress needs of staff, which is exactly the reason why the talents inside the enterprise cannot respond or even have no motivation to respond to the needs of enterprise development and operation, and the efficiency is reduced.

Researcher Qin Yanlei through the market and enterprise research, put forward the current market competition and enterprise internal development basis, its true face of talent identification and training (Qin Yanlei. Network Recruitment Based on Big Data Era [J]. Value Engineering, 036 (027) : 74-75.), Whether it can accurately and quickly find and cultivate suitable talents required by enterprises is an important subject testing every enterprise with development consciousness.

2. The strategic advantage of human resource management under the background of big data

2.1 Big data analysis organizes talent structure

In the process of operation, enterprises need to constantly optimize and adjust their business model, which is accompanied by changes in the organizational structure along with the business model or other operational requirements, which requires the work of human resource management to reach a higher standard in precision and efficiency, and the application of talents also has a higher demand. If the number of employees in the enterprise is only increased blindly, management pressure will obviously rise. Although post functions will be satisfied as far as possible, the cost of human resources input will also increase with the increase of the number of employees. In addition, the rationality of talent structure allocation is also difficult to be guaranteed, and the waste of resources will lead to the failure of internal talents to play their due effectiveness and even the loss of talents (Zhao Jinhui, Luo Yougan. How to innovate human resource management in the era of big data [J]. Human Resources,2021(4):6-7.

Since the popularization of digital tools, the artificial intelligence-based digital talent growth evaluation mechanism has gradually appeared in the options of enterprises, using a unified data format to gather the company's human resources system. It contains the comprehensive data of members' qualifications, personal information, professional ability, portrait and other characteristics, forming the data warehouse as the basis for the growth and management of planning talents. Enterprises should follow the trend of such new technology and use big data technology as a more perfect and effective personnel data management mode. It can cover the number of employees, work attitude, work quality, long-term or short-term human resource structure, talent and job flow, staff development within the enterprise, etc. These data that are easy to form a system in time span is the specialty of big data analysis. In addition, many other data sources are also used in the practice of human resource management. On the basis of stable organizational structure, post changes or personnel crises need to be predicted. Through reasonable collection and analysis of organizational structure and working status information accurate to individuals, managers can easily extract macro-level employment and personnel mobility information. Then, the information of individual employees is further refined, and the attitudes, abilities and specialties of employees are displayed through more intuitive data means for research. At present, many units represented by national enterprises have started to establish human resource models suitable for the future development direction of enterprises. At the same time, the matching model of posts and talents is

designed according to the internal organization and personnel structure of the enterprise, so as to assist the decision-making and implementation of enterprise management.

2.2 Big data assists talent recruitment and screening

At present, the traditional recruitment mode, which mainly focuses on resume delivery and screening and interviewer review, includes the following processes: Firstly, the recruitment information should be published publicly on online applications and recruitment related websites inside and outside the enterprise, and the personnel should be organized to carry out a series of offline publicity lectures, so as to publicize the recruitment information of the enterprise in multiple aspects in order to get more responses from talents as much as possible; Then, after receiving a considerable number of job applications, the applicant is selected to enter the next round of interview after the initial screening. Finally, through the interview and second interview, select the most expected employees; Determine the final recruit and carry out the recruitment. In addition to low efficiency, long time and other problems, the biggest drawback is to screen candidates, often with the interviewer's own experience and learning to carry out; In the evaluation of job candidates, often rely on only the personal experience of the applicant, and the technical ability of the applicant does not match, miss the situation of excellent candidates.

Using big data, the employer first determines the ability requirements of each post, demand ability and other characteristics, and then according to these characteristics, from the external personnel provided information materials to obtain the "portrait" of the applicant, so as to form a set of effective investigation, evaluation, screening, matching process, retain the most suitable for the enterprise talent, and according to different positions, Drawing the corresponding "digital portrait" can not only effectively identify the right candidate, but also make the work scientific and efficient to reflect. According to the needs of different positions in the enterprise, the corresponding talent evaluation questionnaire is formulated. According to the work needs of outstanding talents in the company, the functional requirements are comprehensively evaluated, and the "digital portrait" is established, so as to improve the accuracy and matching degree of their work. A successful example is linkedin, which integrates big data with AI technology on the basis of nearly one billion human resource data in the world and launches in-depth research on linkedin big data. This project can use multi-dimensional data (identity data, behavioral data and incentive data) to solve the difficulties of common data applications such as data delay, uneven quality and single dimension data. Through big data learning, manual coordination and screening can be transformed to intelligence. This system can help the business timely obtain the relevant data from their own needs, and convert it into the value of information in line with their own development prospects. In linkedin, when decision makers or human resources personnel input any keyword or select an industry, they can generate related reports through AI processing. Through the effective analysis of positions, talents can be found and a good interaction can be formed with them, so that enterprises can train future talents earlier and make talents intelligent into the whole decision-making process of talents. The rapid development of the Internet industry has also caused a huge impact on the flow of talents, changing the original enterprise ecology, prompting enterprises to constantly reform the human resources strategy, training and retention of professional talents, in order to promote the long-term development of enterprises (Zhou Shi, Qiu Weiwei, Tian Hui. On Enterprise Human resource Management from the perspective of human resource value chain [J]. Enterprise Technology and Development, 2014(4).

2.3 Big data provides precise guidance for employee evaluation and management

By establishing an enterprise employee performance evaluation database based on big data, managers can know the changes of work performance in a recent period of time through the floating numbers in the database, and judge the fit between positions and employees through the changes of data. In some jobs, staff can also wear instruments to obtain pulse, blood pressure, temperature and other data, through which to judge an employee's physical condition and job suitability. In the case

of multi-dimensional recruitment requirements for certain positions, the database will also comprehensively consider the information of talents to give the most accurate results.

In addition, based on the idea of big data, enterprises can also make use of network technology and database technology to evaluate internal employees and stimulate their enthusiasm with accurate data in performance evaluation. Big data technology can make statistics on each person's workload and performance process, analyze and process them through cloud computing technology, and determine the performance evaluation index of the whole organization according to specific criteria, and finally get the corresponding salary and allowance. By using big data for accounting, the proactive error of assessment can be minimized, making the assessment system more fair and objective, which can not only ensure the quality of the work of the staff, but also reduce the unnecessary investment in HR on a certain basis.

2.4 Big data and employee growth and training

In the process of carrying out human capital management in an all-round way, the training and development of talents also plays a vital role. Only in this way, the enterprise can be more fair, more scientific, more open evaluation and hiring of internal management personnel, which can greatly stimulate the motivation of individual development of employees, improve the overall internal competitiveness of the recruitment unit, and make the whole operation process of personnel development improved, effectively save the time and financial resources of personnel selection and management.

Through the research on the development and utilization of human resources in large enterprises, it is found that paying attention to the growth of employees and reasonably arranging training to update the knowledge structure of employees can effectively improve the internal feelings of enterprises, improve the brand loyalty of enterprises, and reduce the loss of human resources. Big data technology can be used to collect and analyze all kinds of data of a large number of people in real time, so as to make the operation and management of enterprises more efficient and accurate. The career training plan of the enterprise should be carried out on the basis of full, accurate and complete, so as to be more suitable for the play of employees' personal value and the integration of enterprise strategy. Therefore, at present, personnel development and management of scientific research departments must make use of big data technology, strive to achieve a comprehensive, objective, systematic, hierarchical and detailed collection, sorting out, summarize the quality of enterprise core positions of personnel, explore all kinds of important information with practical application value. Quantitative research and analysis tools such as cloud computing are used to help all employees make scientific and accurate career planning in time, and give full play to the creative potential and learning enthusiasm of all employees.

In addition, the human resource development and management department can reasonably allocate core talents according to the actual work needs, so that the work value of the staff position can be fully reflected by the staff themselves, and at the same time, it can quickly and effectively promote the overall reform and development process of the unit.

3. Conclusion

Schumpeter's innovation theory believes that innovation is the introduction of a new technology and environment to reduce the overall cost, expand the market and meet the needs of market changes, which is the main force and source of competitive advantages for a company. Many surveys show that technological innovation is the main force of competition and has a decisive impact on improving a company's competitiveness (Chen Han, Shanxing Gao. Research on the Relationship between Dual Market learning, Original innovation ability and Enterprise Competitiveness [J]. Research and Development Management, 2018,30 (1) : 1-11. Human resource is the most input and the most critical competitive factor. In the application of management work, technological innovation based on big data and cloud computing technology can effectively make

up for the mismatch between the enterprise's demand for talents and the supply of talents in the market. The application of new technology in enterprise training, performance, compensation and other aspects can effectively promote the progress efficiency of enterprises at all levels, reduce the time of training, so as to realize the performance appraisal and compensation data better adapt to the actual needs of enterprises. Meanwhile, a large number of sample data can be used to predict and analyze employees in real time, so as to formulate effective retention strategies for HR and reduce staff turnover.

Big data resource integration also contains a lot of hidden information resources, which has a vision pattern that manual does not have. Use big data to effectively integrate resources, realize the sharing and operation of resources, so as to promote creativity and find unique market opportunities, so as to improve the company's competitive advantage; Mishra et al. pointed out that the prediction and analysis of big data can be used to develop talents in real time and effectively, and make them give full play to their potential, thus enabling enterprises to gain more benefits in the market (Mishra D. , Luo Z. . Hazen B.T.T he Role of Informational and Human Resource Capabilities for Enabling Diffusion of Big Data and Predictive Analytics and Ensuing Performance [J]. Innovation and Supply Chain Management, 2018, (4) : 283-302.) In terms of labor relations, if big data is applied to human resource management, it can also give effective early warning to potential labor disputes of employees, and provide suggestions through data to enable enterprises to build a more scientific and complete employment mechanism, so that they can better focus on their core business. Driven by new technology, the company takes enterprise development strategy as the core, reduces enterprise management costs, accurately matches enterprise needs as a bridge, and takes employee vitality and enterprise emotion as the blood to provide guidance for the company's business decisions; Strengthen the internal vitality of enterprises and external competitiveness.

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