Research on the Application of Big Data in Enterprise Human Resource Management

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Abstract. The 21st century is the era of big data (hereinafter referred to as BD), the amount of data is large, which is closely related to people's life. In the process of enterprise development, BD has been widely used in enterprise human resource (hereinafter referred to as HR) management. HR management is the core driving force of enterprise development, which requires continuous improvement of management level. Only by improving the management level of HRs can enterprises achieve stable development. Therefore, enterprises must strengthen the application of information system BD in HRs, which will promote the efficiency and quality of enterprise operation and management. HR management is the focus and key of enterprise management, which plays an important role in the sustainable development of enterprises and the improvement of economic benefits. Based on BD technology, we can help HR management break through the existing level, which will further improve the efficiency and quality of implementation.

Keywords: Big Data, HR Management, Application

1. Introduction
BD is a set of data, which can’t be captured, managed and processed by conventional software tools. BD is a kind of information asset with high growth rate and diversification. There are many applications of BD in enterprise HR management, and its feasibility is mainly reflected [1]. First, the HR management department of an enterprise designs a large number of contents and data, such as employee files, training records, salary, performance appraisal, etc. Second, in the era of network and multimedia, BD can provide a talent base for enterprise HR management [2]. The purpose of HRs management is to realize the comprehensive development and utilization of HRs through management methods, which will better meet the needs of the organization. In the current stage of HR management, enterprises will collect all aspects of data of employees, such as post setting, employee basic information, personnel flow, etc., which is the basis of BD development [3]. BD is not only the amount of data, but also the maximization of the value of data information. The basic characteristics of BD include large amount, diversity, authenticity, high speed and low value density. In the enterprise HR management, through strengthening management, enterprises can further excavate various data in HR management, which will build a good foundation for BD platform.
2. Typical application of BD in HR management

The application scope of BD in HR management is gradually expanding, which has played a huge role in many aspects, as shown in Figure 1.

![Figure 1. Typical application of BD in HR management.](image)

2.1. Supporting HR decision making

HR decision-making runs through the whole process of enterprise HR management, whether it is the confirmation of HR planning and post responsibility, or a new round of personnel recruitment or adjustment of employees' salary and welfare, HR decision-making is needed. BD technology has greatly promoted the development of HR business intelligence, which can help HR managers make scientific decisions\(^4\). Hr-bi is a system that uses business intelligence to process HR data and provide decision support. This system collects all personnel, business and policy related data of an enterprise. With its powerful statistical and analytical functions, BD can provide decision-making suggestions for enterprise recruitment, training, performance evaluation and other affairs, which will promote the transformation of HR decision-making from "experience + intuition" mode to "fact + data" mode. Therefore, BD can better support business development\(^5\).

2.2. Forecast enterprise personnel demand

Economic globalization makes the world economic environment change rapidly, and enterprises are facing new opportunities and challenges at any time. Therefore, the uncertainty of enterprise development is increasing, which will make it difficult for enterprises to predict business development direction and personnel demand. Once the main business changes, enterprises will face a huge talent gap, which will lead to missed development opportunities. The application of BD has effectively improved this situation. On the one hand, through BD technology, enterprises can effectively analyze the future industry trend, which enables enterprises to change business focus according to their own strategic objectives. Through BD, enterprises can clarify the medium and long-term talent demand, which will do a good job in talent reserve. On the other hand, through the analysis of job information in the past years, the HRs department can get the trend of personnel supply and demand, which will predict the personnel demand in the short term. Through recruitment, job transfer and other strategies, enterprises can balance the supply and demand of personnel\(^6\).

2.3. Assist enterprise recruitment

As the strategic position is constantly improving, the importance is increasingly prominent. Enterprises usually cooperate with recruitment websites to attract job seekers. Therefore, the recruitment website collects a large number of job seekers and recruitment unit information. The enterprises can quickly screen out the most suitable job seekers, which will improve the recruitment efficiency. In recent years, social network recruitment has become a new development trend, which truly reflects the job seekers' interests, values, relationships, etc., such as street network, Linken, etc. Therefore, BD can help enterprises to recruit\(^7\).
2.4. Improve the accuracy of talent assessment
Talent evaluation is an important part of personnel selection in enterprises. Therefore, the accuracy of evaluation determines the quality of human capital. Through data modeling and analysis, enterprises can comprehensively analyze the professional skills, educational background, personality characteristics, turnover reasons and other factors of employees. Through BD, enterprises can better judge the turnover intention of employees, which will better select, promote and retain the best talents. Therefore, the richer the data, the higher the accuracy of the assessment. Strong enterprises usually build their own evaluation center. By hiring data experts to lead the model, enterprises can build and evaluate the model, which will provide the accuracy of enterprise evaluation. Therefore, BD improves the accuracy of talent evaluation.

3. Obstacles of BD application in HR

3.1. Lack of BD thinking consciousness
Although BD has been applied to HR management. However, there are still some HR managers who will be limited to the previous work mode and concept, which will lead to the lack of BD thinking consciousness in enterprises. According to the survey results, the main problem is lacking of BD thinking consciousness, accounting for 71.8%. The second is Low employee awareness, accounting for 64.7%. Details are shown in Figure 2.

![Figure 2. Lack of BD thinking consciousness.](image)

3.2. Lack of BD analysis skills
BD analysis and processing requires professional technical capabilities, such as information engineering, statistics, enterprise management, etc., which puts forward higher requirements and standards for HR management personnel. According to the survey results, the main problem is lacking of BD analysis skills, accounting for 64.1%. The second is Imperfect management system, accounting for 57.7%. Details are shown in Figure 3.

![Figure 3. Lack of BD analysis skills.](image)
4. Suggestions on the application of BD in enterprise HR management

4.1. Improve the professional quality of employees
In the context of BD, talent is the most critical content in the development of enterprises, which is an important aspect to reflect the competitiveness of enterprises. Therefore, we should apply BD technology to HR management of enterprises, which needs to improve the comprehensive information technology ability of professionals. By improving the professional quality of employees, we can meet the development needs of the new era. On the one hand, enterprises should pay attention to the training of enterprise management personnel, which will implement the personnel training mechanism and training content of HR management staff. Through BD, enterprises can achieve comprehensive quality training. On the other hand, we should pay attention to the actual situation of enterprises, which will gradually improve the HR management mechanism, including salary mechanism, incentive mechanism and so on. By actively introducing the professionalization of BD talents, we can effectively supplement fresh blood for enterprise management, which will improve the business level and comprehensive quality of the team in an all-round way.

4.2. Building information platform
By giving full play to the role of BD technology in enterprise HR management, the company can build information platform for Jiaqing enterprises, which will give full play to the advantages of modern information technology. By implementing the functions of the corresponding information platform, we can continuously improve the corresponding hardware and software conditions, which will gradually improve the data and information of HR management. By giving full play to the advantages of BD technology, we can share database information, which will achieve all-round data protection and improve the efficiency of HR management. At the same time, the enterprise should start from its own characteristics, which will implement the HR management and development strategic objectives. By strengthening the construction of data information platform, we can serve HR management from all aspects, which will better reflect the advantages of enterprise information development.

4.3. Establish perfect application system
Combined with the HR management of enterprises, we should pay attention to the perfection of the application system, which will fully guarantee the application of BD technology. Through BD technology, enterprises can realize the specification and guidance of BD technology application. Combined with the development requirements of enterprises and HR management, enterprises can focus on the construction of application system, which will comprehensively improve the operation of information system update and maintenance. Through BD technology, enterprises can ensure that the system has strong innovation ability. At the same time, enterprises should actively think about optimization and adjustment, which can comprehensively strengthen the application level of BD technology in HR management.

4.4. Enhance staff awareness
Enterprise employees need to recognize the advantages of BD information technology in HR management from multiple perspectives, which will provide support for the application of BD technology. By ensuring the application of BD, enterprises can effectively reduce costs. On the one hand, enterprises should fully realize the importance of BD for HR management. By strengthening the corresponding publicity role, enterprises can help employees understand the application of BD technology, which will effectively reduce the resistance in the application process of BD. On the other hand, enterprises should actively absorb employees' opinions on BD application, which will and can actively integrate them into the informatization construction process of HR management. Through targeted improvement of BD application level, enterprises will achieve the expected level of HR management.
4.5. Set up enterprise big data management center
BD is a broad concept, which is scattered in various business departments and application systems of enterprises. If enterprises want to deeply explore the potential value of big data, they must process and analyze the scattered data. Therefore, modern enterprises should set up big data management center inside, which will realize the scientific collection of all kinds of HR management information. Combined with modern data analysis technology, we can provide scientific data support for enterprise daily operation decision. At the same time, for the enterprise HR management, enterprises can implement monitoring and forecasting, which will realize the scientific allocation of enterprise HRs. Enterprises need to improve and optimize the labor quota standard on the basis of scientific planning and prediction of HRs. By strengthening the effective docking of internal and external platforms, enterprises will achieve accurate matching of talents and automatic identification and search.

5. Conclusion
In order to further ensure the level of modern HR management of enterprises, enterprises should pay attention to its information construction, which will strengthen the application ability of BD technology. At the same time, enterprises should pay attention to the role of BD technology in enterprise HR management, which can continuously improve the comprehensive competitiveness of enterprises.

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