

# Research on Enterprise Human Resource Performance Management Innovation in the Era of Big Data

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**Abstract.** With the rapid development of Internet information technology, big data has become an important feature of today's era. Under the background of the big data era, the popularity of the Internet, the development of artificial intelligence and the application of information technology help to tap the potential of employees, optimize the enterprise organizational structure and realize the informatization and systematization of enterprise human resource performance management, so as to improve the work efficiency of enterprise human resource performance management and help enterprises achieve strategic objectives. The traditional human resource performance appraisal methods have some problems, such as strong subjectivity, low intelligence, insufficient application of performance management achievements and so on. Based on the era background of big data, this paper explores the innovation path, influence mode and application methods of enterprise human resource performance management, so as to further promote the development of research in relevant fields and provide reference for the practical application of enterprise management in improving evaluation methods, designing evaluation system, optimizing the key links and so on.

**Keywords:** Big Data Era; Human Resources; Performance Management.

## 1. Introduction

Big data is a data set that cannot be captured, managed and processed by conventional software tools within a certain time range. It is a massive, high growth rate and diversified information asset that needs a new processing mode to have stronger decision-making power, insight and process optimization ability. In recent years, the word big data has been mentioned more and more. The application of big data is of great significance in the fields of public welfare, social security, urban transportation, comprehensive urban planning and operation and so on[1].

There are some problems in the traditional human resource performance management of Chinese enterprises, such as strong subjectivity, single evaluator, fragmented assessment data information and so on[2], hindering the effective development of enterprise performance management. In the era of big data, information technology can optimize the data analysis framework[3], improve performance management methods, and greatly innovate the thinking, mode, means and carrier of enterprise human resources performance management.

Based on the background of big data era and combined with the current situation, this paper analyzes the impact of big data era on enterprise human resource performance management and the innovation path of enterprise human resource performance management under the background of big data, so as to provide reference for effectively improving the performance level of enterprise personnel.

## 2. Impact of Big Data Era on Enterprise Human Resource Performance Management

### 2.1 Tap the Potential of Employees and Improve Their Interactive Ability

In the development of enterprises, the value discovery and application of employees are very significant. In the era of big data, human resources can fully tap the potential of employees and lay a solid foundation for the future development of enterprises. Through research on employees' work performance and in-depth analysis, big data can more comprehensively and systematically summarize employees' personalized characteristics, explore scientific management methods to mobilize

employees' enthusiasm, formulate more efficient performance management system, strengthen employees' cohesion, enhance employees' work enthusiasm and improve enterprises' operation efficiency [4].

## **2.2 Optimize the Organizational Structure and Form a Good Corporate Culture**

In the era of big data, the enterprise organizational structure will tend to be flat under the influence of modern network technology media. The existence of human resource management system also makes it possible for employees to contact across departments, levels and regions, which greatly improves the efficiency and quality of information transmission. At the same time, through the analysis and application of key information for human resource performance management, enterprises play the role of lubricant in team communication, help effectively solve various disputes in work, promote the establishment of good, harmonious and open relationship between enterprise leaders and employees, and promote the formation of good organizational structure and employee culture.

## **2.3 Ensure the Fairness of Performance Appraisal and Meet the Development Needs of Employees**

In the enterprise human resource performance management, the issue of fairness is one of the most concerned issues of employees. Through the statistics, analysis and processing of various data information through big data technology, we can effectively avoid unfair and controversial problems caused by people's subjective judgment, and ensure the fairness of performance appraisal. And in this fair and just enterprise atmosphere, it is conducive to form good competition among employees and meet the actual needs of employee development.

## **2.4 Help Establish and Improve an Efficient Talent Management Model**

With the support of information technology, big data can digitize some non-quantitative information. By exploring the relationship between data, enterprises can accurately locate the daily work characteristics of employees, realize efficient ways of human resource performance management, make relevant management departments get rid of cumbersome daily affairs, improve performance management schemes from a strategic perspective, and improve the efficiency of human management of enterprises, It is conducive for decision-makers to formulate reasonable talent strategy decision-making schemes for enterprises, promote enterprises to form a performance-oriented corporate culture, and realize the sustainable and healthy development of human resource performance.

# **3. Innovation Path of Enterprise Human Resource Performance Management under the Background of Big Data**

## **3.1 Expand Data Collection Sources**

The data of human resource performance management should include three aspects: the first is the objective basic data to record the enterprise's human resource situation, and the second is the dynamic data to record the enterprise's human resource changes, and the third is the analysis data to record the human resource quality situation.

Objective basic data of enterprise human resources, including gender, age, education, position, work experience, etc. of performance evaluation objects. These data reflect the basic situation of enterprise human resources at this stage. Enterprises can update the changes of employees in real time on the database system and understand the basic information of employees in time. Enterprises can generate basic human resources data reports every month to facilitate enterprise decision-makers to compare them horizontally or vertically, so as to understand the current situation of basic human resources data.

**Table 1.** Types of Human resources performance management data

The Data Type	Main indicators
Objective basic data	The gender, age, education background, position and work experience of the performance appraisal object
Dynamic data on human resource dynamics	Recruitment completion rate, human resource change rate, recruitment cycle, staff turnover rate of each group (including core staff and basic staff, etc.), staff turnover rate of each branch or the enterprise, etc.
Analysis of human resource quality data	Time utilization, attendance, ROI on human capital investment, average cost of human resources, employee satisfaction, etc.

Dynamic data of enterprise HR changes, including enterprise recruitment completion rate, HR change rate, recruitment cycle, employee turnover rate of each group (including core employees and basic employees), employee turnover rate of each branch or the enterprise, etc. These dynamic data can reflect the competitiveness and vitality of enterprises in a period of time.

Analysis data of human resources quality, including man- hour utilization rate, attendance rate, return on human capital investment, average cost of human resources, employee satisfaction, etc. This kind of analysis needs to mine the internal relationship between data. Combined with other data, we can mine the deep-seated reasons behind various events of the enterprise and predict the development trend of future events of the enterprise.

### 3.2 Innovate Human Resource Performance Management Model

#### 3.2.1 Improve Performance Evaluation Methods

Enterprises can adopt comprehensive performance evaluation methods to replace behavior oriented and result oriented performance evaluation methods. Comprehensive evaluation methods include synthetic evaluation method, graphical evaluation scale method, evaluation center method, objectives and key results method and so on[5]. They have the characteristics of wide applicability. Enterprises can choose and design appropriate performance evaluation methods according to their own situation. At the same time, the enterprise can also use the evaluation form to conduct personalized evaluation on employees, and find out the scheme to improve performance through data processing and analyses according to the characteristics of each employee.

#### 3.2.2 Reasonably Design the Performance Evaluation Index System and Related Systems

By listing the elements related to the evaluation job, the enterprises can establish and improve the performance evaluation index system, set different classifications according to the index characteristics, invite experts to evaluate the grade of each index element, finally determine the performance evaluation index system and give weights based on the opinions of various expert judges. At the same time, setting and applying key performance indicators (KPIs), which are at the core or important position in the performance appraisal index system, can better reflect objective problems and affect other variables. Through this method, we can detect the implementation effect of performance management decisions, judge the realization of the enterprise's macro strategic objectives, and use these indicators to control, supervise and feedback the enterprise's human resource performance management in different dimensions before, during and after the event.

#### 3.2.3 Make Full Use of Internet Technology to Implement 360 Degree Performance Appraisal Management Method

360-degree performance appraisal management method is a full perspective appraisal method, generally referring to the person to be evaluated, such as the superior and the subordinate of the employee, colleagues and customers (generally including internal customers and external customers) as well as the appraisee himself. The appraisee will conduct a 360-degree all-round evaluation of the employees from a full perspective. Then, it helps the employees improve their own work behavior through feedback. The traditional 360-degree performance evaluation management method has many

defects, such as it is difficult to ensure the objectivity and impartiality of the evaluation results, unable to conduct feedback interviews and so on. In order to avoid the defects of traditional method, the 360-degree evaluation combined with internet big data application gradually replacing the traditional method, so as to simplify the performance evaluation with the advantages of the big data era. The human resources performance evaluation system needs to keep pace with the organization and business process of the enterprise to ensure the timeliness of delivery in the internal information transmission of the enterprise, so as to enhance the communication within the enterprise and other stakeholders.

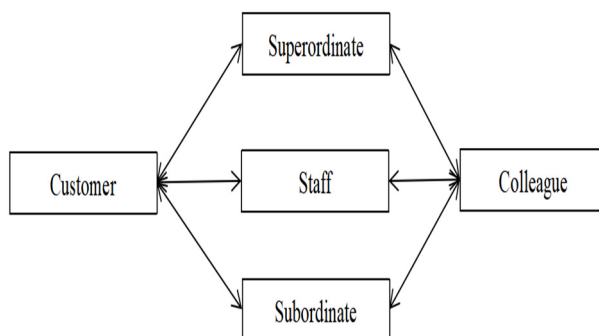


Figure 1. 360 degree assessment method

### 3.3 Construct a Systematic and Scientific Personnel Performance Management System

The basic framework of enterprise human resource performance management system consists of performance plan, performance management, performance evaluation, performance feedback and performance promotion. In the process of human resource management, enterprises should formulate scientific performance management objectives and measurement indicators, communicate fully with employees, and reasonably decompose objectives. In the process of plan management, enterprises should update the management concept, reasonably analyze the current situation of human resources, and formulate targeted plan objectives. It is essential for managers to make full use of big data information resources and data analysis technology in all links, implement job responsibilities, build performance responsibility system, improve performance operation mechanism and evaluation indicators, and promote overall performance improvement. Enterprises can establish internal information network platform, through which employees can understand the content and results of performance assessment, and exchange feedback on performance assessment on the platform. Big data technology should be used to realize the transformation of assessment content and criteria from fuzzy to precise, assessment methods from simple to complex, assessment subjects from single to multiple, assessment procedure information from top-down to multi-interactive, and effectively build a virtuous cycle system of enterprise personnel performance management in the era of big data.

### 3.4 Optimize the Key Links of Enterprise Human Resource Management and Development

Enterprise human resources development and management should set up the development of key links in the node such as staff recruitment, staff training, process management, performance management, feedback evaluation, so as to make the human resources development step by step in each link to maintain a high degree of unity and fundamentally achieve the innovation of the enterprise human resources performance management work, and lay the solid talent base for the development of enterprises. Human resource managers should jump out of the frame of thinking and actively apply big data to make human resources play a greater value. The human resource management department of an enterprise should be able to understand the employment requirements and standards of various departments, and recruit qualified talents based on the development of the

enterprise and the macro background of the industry market. In the recruitment process, it is necessary to understand the information of candidates from various aspects, and organize relevant training for employees before they enter the job, so as to help employees adapt to the job as soon as possible and improve the level of performance management and the core competitiveness of the enterprise [6].

#### 4. Conclusion

In the context of the big data era, Internet information technology has expanded the sources of enterprise assessment data collection, improved performance management methods, greatly innovated the thinking, mode, means and carrier of enterprise human resources performance management and overcome the limitations of traditional human resource performance management. In order to promote the long-term development of enterprise human resource performance management in the era of big data, it is necessary to establish an information management system suitable for the enterprise, cultivate compound talents, apply the human resource management system to serve enterprise performance management, control and supervision, and vigorously promote the realization of the effective integration of talents, information technology and management system. In the era of big data, human resource performance management is facing fundamental changes, which is both an opportunity and a challenge for enterprises. Enterprise human resource performance management needs to change in both macro and micro aspects, adapt to the national system adjustment, actively accept the challenges of the era of big data and build its own unique competitiveness.

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