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Research Article

Talking about the Innovative Application of Big Data in Enterprise Human Resources Performance Management

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With the advent of the wave of big data, data has become an important information asset. With data information, we have the ability to gain insight into market conditions and strengthen management. The use of big data technology to conduct statistics, analysis, and mining of massive information can make information assets play a very high value in corporate strategy formulation and accurate decision-making. However, the traditional performance management concepts and management methods have not adapted to the development requirements of the times, and there are various drawbacks. This paper analyzes the impact of big data on enterprise performance management. Combining the key aspects of the company's performance in the old data era, a new method of company performance management and the subsequent innovative development path are proposed. Recognition frameworks, employee similarity, FCM, and other assessment formulas are emphasized. From the employee's work attitude, workability and appearance, and daily performance, combined with the calculation of employee benefits, the evaluation is more clear; after the implementation of the material reward experiment, the attendance rate increased by 16.3%. At the same time, the workload was gradually refined, from quantitative to qualitative, and sales increased by 28.6%, maximizing the advantages of human resources and promoting the sustainable development of the enterprise.

1. Introduction

At present, the essence of competition among Chinese enterprises is professional competition. If enterprises want to benefit from fierce competition, they must pay attention to quality and give full play to the positive role of competitiveness in enterprise development. Therefore, companies need to strengthen human resource management. Through human resource management, companies can select and hire skilled workers, manage effective positions, continue to play their full role and abilities, and create new impetus for the development of the company. As far as corporate personnel management is concerned, performance management is an effective way to manage companies. In particular, in the era of big data, companies are facing a large amount of data and resource management performance pressure when conducting employee management. Enterprises need to innovate human resource performance management based on big data properties. The research in this paper well uses the data fusion technology to realize the design of the enterprise human resource performance management innovation system. At this stage, there are many problems in the practice of human resource performance management. HR departments still apply traditional human resource management ideas and lack of innovation is the problem. Therefore, it is expected that the research can promote companies to make full use of big data fusion technology to better implement human resources. Performance management creates favorable conditions for the company's management and sustainable development.

1.1. Review of Literature. Under big data, the creation of creative resources for managing corporate human resource performance is conducive to the growth of the corporate culture. Due to the far-reaching impact of big data, most business departments are very aware of its applications. In the era of big data and information technology, the number of applications continues to grow. Therefore, if we innovate in human resource performance management based on this method and use appropriate technology, we can reduce the problems caused by face-to-face communication and improve work efficiency. In this way, network technology can become the normal state of communication between employees, employees and executives, and employees and customers and further promote the development of a good corporate culture. Liu S believes that the performance evaluation of human resource management is of great significance for improving the standard of food businesses, so the application of gray system theory should be studied in depth. He first discussed the difficulties of performance evaluation of human management level in food enterprises. Secondly, the basic theory of gray system theory is deeply studied, and the corresponding mathematical model is deeply analyzed. The performance evaluation index system of the human resource management level of food enterprises is constructed again, and a corresponding evaluation is carried out with a food enterprise as an example. The results show that the gray system theory is an effective tool to evaluate the human resource management level of food enterprises [1]. Banimelhem studied the link between HR practices in the UAE's healthcare sector and employees' willingness to leave. This quantitative study used structural formula modeling (SEM) technology and the Moment Structure Analysis (AMOS) as a suite of software to analyze data and study the impact of HR behavior on staff turnover and intentions in healthcare services in the United Arab Emirates. The results of the study show that the human resources management (HRM) practices (recruitment and selection, performance evaluation, salary, and career development) of the healthcare sector have a significant relationship with the willingness to leave. However, his research is restricted to the public sector in the UAE, and it is therefore recommended to include the inclusion of the private health provision [2]. Big data has transformed research in many areas, including the fields of business such as marketing, finance, accounting, and the management of the supply network. However, the debate on big data analytics in human capital management is largely focused on the selection of job candidates. Hamilton considers how to solve important strategic human capital issues through big data analysis so that HR can improve overall company performance. Hamilton has also researched new data sources that can help evaluate workforce performance in real time, helping to identify knowledge stars who contribute to company performance and help strengthen the company's abilities. But for big data analysis to be successful in HR, it also needs to address regulatory and behavioral challenges, including data privacy issues and the General Data Privacy Protection Regulation (GDPR) in Europe. Hamilton finally discussed how big data analysis can promote human resources and strategic changes throughout the organization [3]. The purpose of Vargas' research is to show the relationship between the drivers of building knowledge and human capital for development (HC). These learning studies have a huge impact on the functioning of the organization. To accomplish this, Vargas developed a new relationship theory model and tested the model based on experience. He used data from companies in the Spanish biotechnology industry to quantitatively test the model. The results show that there is a close relationship between HC and the driving factors of knowledge creation (redundancy, trust, and autonomy) [4]. The primary focus of HRM studies is on "strategic HRM," i.e., the influence of HRM on company behavior. Not only are the cumulative results of Brewster's discussion of "leading research orthodoxy" disappointing in terms of their external validity, but their practical value is also limited. In addition, not only did it fail in its narrow corporate performance-oriented agenda, but its agenda principles also led to serious employee dissatisfaction and failure to deal with pressing global issues. To assess the contribution of mainstream research orthodoxy, Brewster analyzed the 16 most cited journal articles in the field of human resource management. The survey results found that US-centered research is dominant, so the transnational universality of the dominant research orthodoxy is questionable. Using cross-sectional data means that long-term impact cannot be measured. Brewster observed a lack of consensus on how to implement human resource management and company performance. The practical significance shows that, in order for human resource management to realize its potential for government, media, or charity organizations, human resource management must give up its limited scope and single-dimensional source of inspiration. The author not only pointed out the shortcomings of the dominant research orthodoxy in HRM but also pointed out how HRM has become more "centralized" by seeking participants who contribute to major issues in the world [5]. Otoo examines the mediating role of employee competence in the relationship between human resource management (HRM) practices and organizational performance. The comprehensive research model is developed by combining the main factors in the existing literature. Data was collected from 600 employees in selected hotels through a questionnaire survey, and structural formula modeling was used to test the validity of the model and hypothesis. The reliability and validity of these dimensions are established through confirmatory factor analysis. The results show that some human resource management practices affect organizational performance by improving employee competence. The research further shows that employee competence plays a mediating role between HRM practice and organizational performance [6]. Robert M identifies the inhibitors that affect the implementation phase of management innovation over time and addresses how they have evolved [7]. Szabo and Csontos use an exploratory research approach through a multilayered case study of a machinery company (observations, document analysis, and interviews). Szabo and Csontos found that to achieve the expected efficiency gains, management innovation must precede technological

innovation. Tight interorganizational networks and change agents are also required to catalyze these processes [8].

2. Plan for Rational Utilization of Human Resources

Literature analysis method: big data and "cloud computing" are hot topics in the current social sciences. Big data and human resource management are also deeply concerned by people in the industry. A large number of experts and scholars have extensively discussed this topic and have achieved considerable results. In the early stage of this research, I collected and read a lot of information about big data and its technology and human resources performance management through the Internet, related books, related literature, etc., had a wide understanding of the related concepts of big data and human resources performance management, summarize and analyze the previous research results, and accumulate abundant data for this research. Case analysis method: there are many related theories such as big data and human resource performance management. However, they must be introduced into practice to really play a role. Through the research and analysis of typical cases, this paper analyzes the current management status of the company and finds out the main problems of its human resources performance management. The performance management is innovated and optimized to achieve the purpose of improving the management level of the company.

2.1. Developing the Talents of Employees and Enhancing the Effectiveness of Cooperation between Members. If the overall quality of employees can meet the requirements of the business, business development will be carried out smoothly; otherwise, business development will be hindered. In order to build the complete quality of employees and business development to complement each other and develop simultaneously, the following tripartite work needs to be carried out, strengthen ideological and political education, emphasize concept learning, and guide employees to solid "four sobrieties," that is, hard-working business acumen, unacceptable anxiety, sense of collaboration, and new creativity. "Business is getting harder and harder to maintain;" if a company wants to continue to thrive in a highly competitive environment, it must have strong professional ethics, overcome challenges, and move forward boldly. "If there is no long-term anxiety, there must be urgency" which refers to the feeling of anxiety. If a company loses its sense of anxiety, it can only be arrogant; anxiety will cause people to focus on self-improvement, self-improvement, innovation, and development. The power of an individual is destined to be small. When the smaller forces unite into a unified group, its power becomes infinite until it becomes feasible and invincible. The ability of employees is limited. When most employees move to one place, it will have a significant impact on the team. Only by continuously improving the innovation ability of the enterprise and building an innovative enterprise can the economic viability of the enterprise be improved and the rapid development of the enterprise can be promoted.

To realize the effective integration of employee information, consider the identification framework. The recognition frame is usually represented by the mathematical symbol θ. The recognition frame is a complete set, which needs to contain all the known and wanted-to-know possibilities for a certain problem. Its structure depends on people's cognitive scope and knowledge level, and its structure needs to meet the following.

First, for a decision problem, any proposition about the decision is a subset of θ, and the elements are mutually exclusive. Therefore, the selection of the recognition framework should be rich enough to satisfy that any proposition we consider can correspond to a subset of θ; second, the introduction of data fusion and key technology research. Since the subsets are mutually exclusive, set the number of elements to n, and denote θ as

$$\theta = \{1, 2, \ldots, \theta_n\}. \tag{1}$$

When θ contains N elements, there are at most 2^n subsets in subset A, and the finite set formed by these 2^n subsets is the power set of θ, which is the hypothesis space formed by the recognition framework, denoted as

$$2\theta = \{\varphi, \{\theta_1\}, \{\theta_{,2}\}, \ldots \{\theta_1, \theta_2\}, \{\theta_1, \theta_3\} \ldots, \{\theta_1, \theta_2, \theta_3\}, \ldots \theta. \tag{2}$$

Among them, φ represents the empty set. Any subset A of the recognition framework corresponds to a proposition, which can be interpreted as follows: the answer to the question is in A, and the recognition framework is established:

$$\theta = \{1, 2, 3, 4, 5, 6\}. \tag{3}$$

Each subset A in the power set represents a proposition, which may be a hypothetical answer [9].

The basic possibility of allocation also has a significant impact on the data results.

The abbreviation of the Basic Probability Assignment function is BPA. BPA expresses the degree of trust of the evidence to the proposition. In evidence theory, whether the basic probability assignment is reasonable has a great influence on the result of the evidence combination.

The function $m(x)$ on the recognition frame θ is a mapping of $2\theta \longrightarrow [0, 1]$, and A is any subset of θ, denoted as $A \subseteq 2^\theta$, if the function $m(x)$ satisfies the following condition:

$$\begin{cases} m(\varphi) = 0, \\ \sum\limits_{A \subseteq 2^\theta} m(A) = 1. \end{cases} \tag{4}$$

At the same time, consider the use of the Belief Function: setting $A \subseteq 2\theta$ is any subset of the recognition frame θ, and the sum of the basic confidences corresponding to all the subsets in A is called the trust function Bel (A), namely:

$$\begin{aligned} &Bel\colon 2^\theta \longrightarrow [0, 1], \\ &Bel(A) = \sum_{B \subseteq A} m(B). \end{aligned} \tag{5}$$

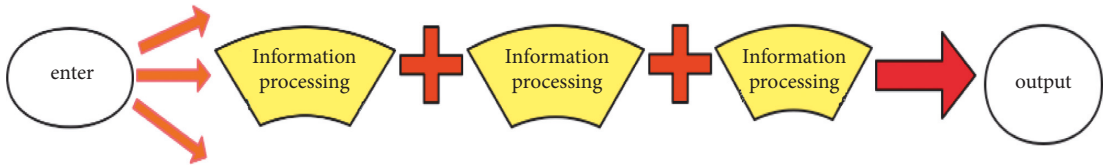

Figure 1: Information input integration analysis output flow chart.

Bel (A) is also called the reliability or confidence function of the event A value, which represents the confidence that the evidence is correct A; the trust value of the empty set is 0 [10]. The trust function is an estimate of the lower limit of the degree of trust in the imagination, so the trust function is sometimes called the lower limit function or the confidence function. It is easy to find the following definition:

$$\begin{aligned} \text{Bel}(\varphi) &= m(\varphi) = 0, \\ \text{Bel}(\theta) &= \sum_{B \subseteq \theta} m(B) = 1. \end{aligned} \tag{6}$$

Using a variety of big data fusion methods is more effective in the integration of employee information and the analysis and utilization of personnel and maximizes the value of personnel, as shown in Figure 1.

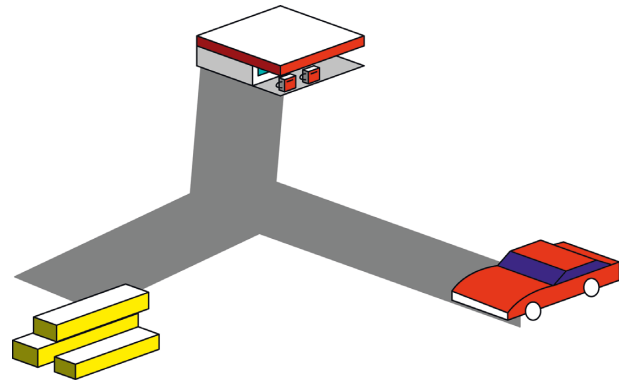

Figure 2: Employee incentives are like refueling cars and gold bullion rewards.

2.2. Coordinating the Corporate Management Mechanism to Realize the Great Optimization of the Corporate Human Resource Performance System. The personnel performance management of the business department evaluates the performance of each employee by formulating a unique evaluation system [11, 12]. Performance management aims to ensure the achievement of work goals. In the process of implementing employee performance management, corporate departments must go through several steps, such as setting performance goals and implementing performance models. In order to improve work efficiency and optimize the income distribution system, the personnel performance management of the business department should adhere to the following basic principles: (1) based on good management, conduct comprehensive performance planning and performance management for related departments; (2) strategies and policies applicable to all employees; (3) to give full play to the role of motivation, not only to motivate employees at the spiritual level but also to make employees feel tangible and substantial returns [13], as shown in Figure 2.

2.3. Management Talents Are Effective and the Evaluation Model Is Scientific and Objective. Improving and perfecting the staff appraisal system for performance is of great relevance in enhancing the scientific level of team management, effectively stimulating the initiative and creativity of staff and creating a new situation at work [14]. From this perspective, the following aspects of the performance appraisal system should be noted.

The standards of performance appraisal should reflect the specific characteristics of the department and position. There are significant variations between the various departments and positions in the company, and different performance appraisal standards need to be established to reflect or adapt to this difference. The appraisal standards match the department functions and job requirements and can reflect the differences in the positions and positions of employees. The different requirements of work tasks enable the performance evaluation and comparison of different job levels, different departments, and different types of staff to be achieved [15, 16]. Based on the evolution of the big data era, existing corporate human resource performance management should pay more attention to improving and enriching relevant database information to ensure that data resources are more accessible and more effective. The characteristics of innovative thinking and management strategies are shown in Figure 3.

Obtaining comprehensive decision-making requires a method to calculate the comprehensive influence of multiple pieces of evidence on each hypothesis in the identification framework and obtain the comprehensive trust level that makes the hypothesis valid under the action of multiple pieces of evidence [17]. BPA is the basis of the trust function and likelihood function. In practical applications, it often appears that for the same assumption or problem, the evidence comes from different data sources, so two or more different BPAs will be obtained. Therefore, in the future, the likelihood function and trust function can be better used to measure the credibility of the proposition. We need a synthesis rule that combines BPA from different data sources [18].

(1) Two evidence functions synthesize a certain proposition A. For all $A \subseteq \theta$, proposition A is for two mass functions $n_1, n_{2,}$ on θ on the same recognition frame, and their Dempster composition rule is

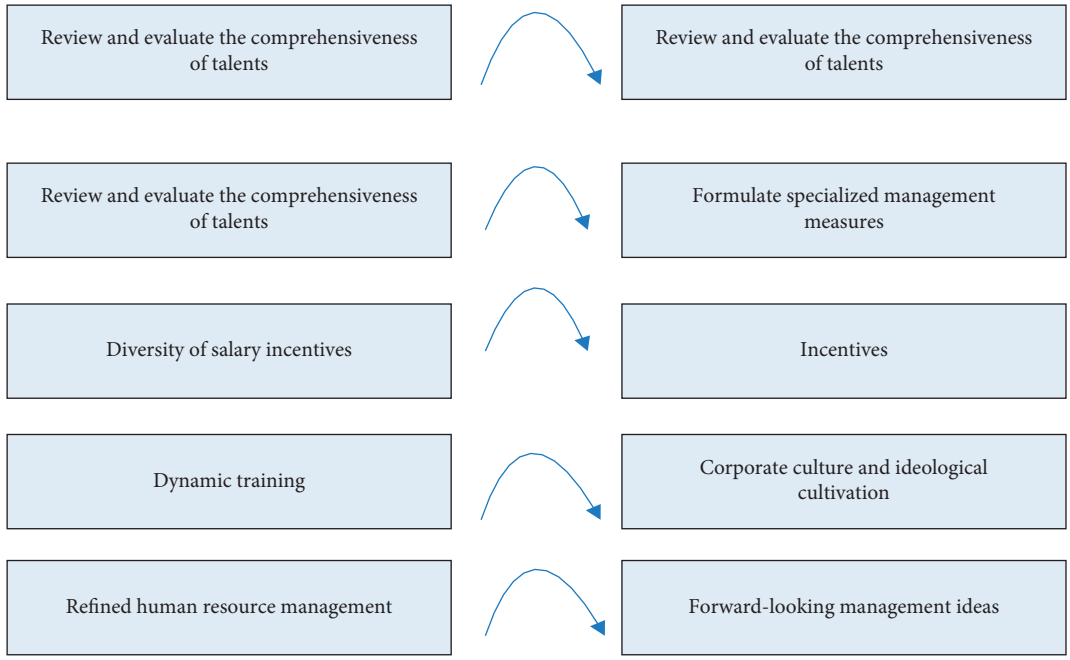

Figure 3: Framework diagram of innovative thinking and management strategy of employee human resource management.

$$n_1 \oplus n_2(A) = \frac{1}{k} \sum_{B \cap C = \theta} n_1 B \bullet n_2(C). \tag{7}$$

Among them, the symbol $\square$ represents the orthogonal sum [19]. In order to make the sum of the mass functions 1, K is the normalization constant:

$$K = \sum_{B \cap C \neq \theta} n_1(B) \bullet n_2(C) = 1 - \sum_{B \cap C = \varphi} n_1(B) \bullet n_2(C). \tag{8}$$

If $K = 1$, it means that the two pieces of evidence have a strong conflict, so there is no orthogonal sum; if $K \neq 1$, then the orthogonal sum of the BPA of the two pieces of evidence forms a new distribution function; if $K^{-1} = 0$, it is considered that n_1, n_2, is contradictory and there is no joint basic probability distribution function [17].

(2) Combination of multiple pieces of evidence. For all $A \subseteq \theta$, when it is necessary to process a limited number of mass functions $n_1, n_2, \ldots, n_m$ from multiple sources of evidence on the recognition framework θ, the same method can be used to orthogonally sum multiple basic probability distribution functions into a basic trust function. The Dempster composition rule is

$$\begin{aligned}(n_1 \oplus n_2 \oplus \cdots \oplus n_m)(A) &= \frac{1}{K} \sum A_1 \cap A_2 \ldots \cap A_m \\ &= {}_A n_1(A_1) \bullet n_2(A_2) \ldots n_m(A_m).\end{aligned} \tag{9}$$

Among them, normalized to a constant K is

$$\begin{aligned}K &= \sum_{A_1 \cap A_2 \cap \ldots \cap A_m \neq 0} n_1(A_1) \cdot n_2(A_2) \ldots n_m(A_m) \\ &= 1 - \sum A_1 \cap A_2 \cap \ldots \cap A_m = {}_\varphi n_1(A_1) \cdot n_2(A_2) \ldots n_m(A_n).\end{aligned} \tag{10}$$

In summary, the statistics of personnel data will be more accurate [20].

3. Specific Data Information of Experimental Research

3.1. Application of Big Data Technology. At present, people engaged in human resource performance management need to master a large amount of data as a whole. They can use the technology integration analysis in the era of big data to study the basic characteristics of a single TCP connection and the flow characteristics calculated in a 2-second window. We analyze and effectively use these technologies to apply to employee data collection and integration analysis [21, 22], as shown in Tables 1 and 2.

And it is necessary to update the actual content of performance management and also to update the management practice methods, effectively improve the creativity of all employees in performance management, and conduct accurate and basic information collection on business data [23]. Therefore, in this process, the company must update its database in time, not only to store and understand all the information related to the company's employees but also to make a paper record. There are also job types. In order to ensure that the company's employee office system is complete, when a problem occurs, the paper type of the document can be used to inquire in time to ensure the integrity of the work. In the era of big data, enterprise management can

Table 1: Basic characteristics of a single TCP connection.

Serial number	Field name	Describe	Value
1	Duration	Duration unit second	[0, 58329]
2	Protpcpl_type	Agreement type	TCP, UDP, ICMP
3	Service	Network service type of the target host	HTTP, Tel ent70 kinds
4	Src_bytes	Data volume from origin address to purpose of destination address	[0, 1379963888]
5	Dst_bytes	Amount of data from the origin address to the destination address	[0.1309937401]
6	Flag	The connection status is correct or incorrect	"OTH,".REJ'11 kinds
7	Land	If the source address and destination address of the data connection are a unified host or port, take 1; if it is other conditions, take 0	{0, 1}
8	Wrong_fragment	Number of faulty segments	{0, 37}
9	Urgent	Number of urgent data packets	{0, 14}

Table 2: Flow characteristics calculated in a time window of 2 seconds (Table 2 is reproduced from Bing Zhang et al. 2018 [under the Creative CommonslAttribution License/public domain]).

Serial number	Field name	Describe	Value
10	Count	The number of connections with the same target host as the current connection	[0, 511]
11	Srv_count	The number of connections with the same service as the current connection	[0, 511]
12	Serror_rate	The percentage of connections that have an "SYN" error in the connections that have the same target host as the current connection	[0.00, 1.00]
13	Srv_serror_rate	The percentage of connections that have "SYN" errors among connections that have the same service as the current connection	[0.00, 1.00]

borrow more advanced ways to build enterprise organizational structure, so as to achieve the effect of promoting human resource management [24]. As shown in Figure 4, the data layer uses SQL data mapping and SQL database.

In the era of big data, companies need to pay more attention to the human resources department, adjust the time management model, and speed up the pace. The personnel management system can store and record all the data components such as the workability of employees so that outsiders can know the information at any time. The interconnected system makes it easier for companies to navigate. Whether they are employees in other regions or even abroad, the system will restore employee information, which is convenient for real-time monitoring of the company and employee management [22]. Starting from the second layer, employees can understand their own data and the data of others through the system itself. When many employees see the difference between themselves and others, they will have comparative psychology, and they will work harder to diversify their choices. Estimation technology is quick and simple; the decision-making process is transparent; it creates an actively collaborative experience rather than adversarial.

3.2. Reasonably Choose the Main Body of Performance Appraisal. The resources for performance appraisal are multifaceted, and the core part of the evaluation should be multifaceted. It is important to check the detection target to avoid confusion, interaction, and influence. At present, human resource management performance evaluation lacks specific performance in the evaluation process, resulting in significant differences in operation management. To manage employee performance, many companies still use the old-fashioned method, using the evaluation method of the leader or manager, and adding many questions to get the evaluation result. At the same time, the true impact of this evaluation is irrelevant, and it has nothing to do with improving performance management performance. Generally speaking, the person being assessed and their leaders, colleagues, and subordinates should be investigated. Other evaluation topics can also be determined in combination with the specific standards of different positions. When the situation of two employees is very similar, how to divide their rank. For example, the project department has increased the satisfaction review of unit construction and the evaluation of the units participating in the project, the evaluation of employee performance, and the comprehensive evaluation of employee performance, professional ethics, and professional standards. And due to the processing and analysis of performance data, many top corporate auditors did not conduct in-depth research. They do not have a complete understanding of database organization. Employees should be able to score and evaluate leaders participating in the evaluation to promote outstanding elected leaders. As shown in Figure 5, the ABC of the Administration Department and the DEF Management Department of the Sales Department show the scores.

The employees can be evaluated from the following aspects as shown in Table 3.

The working attitude of the employees is generally good, but the work effect of the project is still uneven, including the need for more control over attendance.

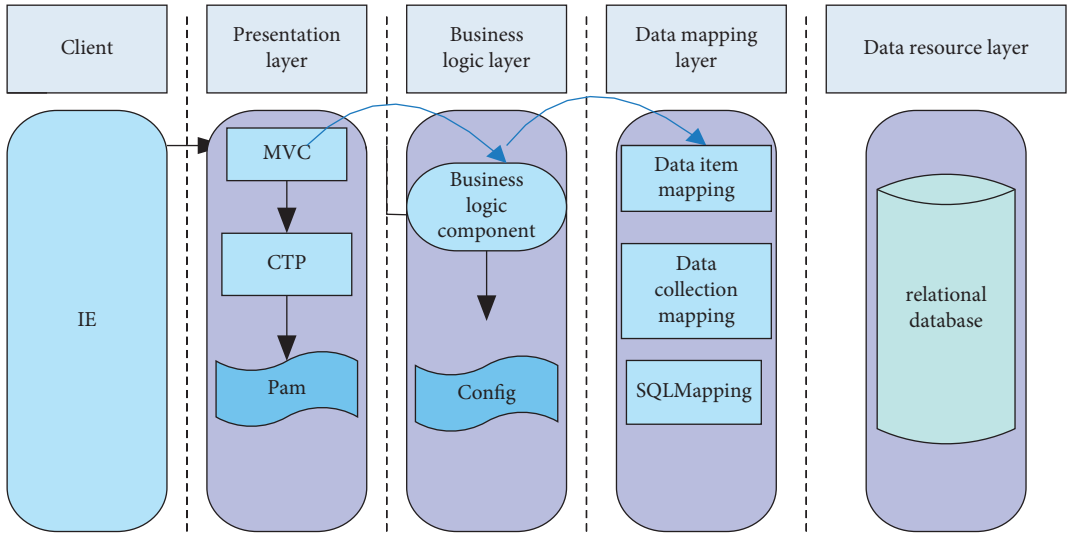

Figure 4: Architecture design diagram of each level of the application system.

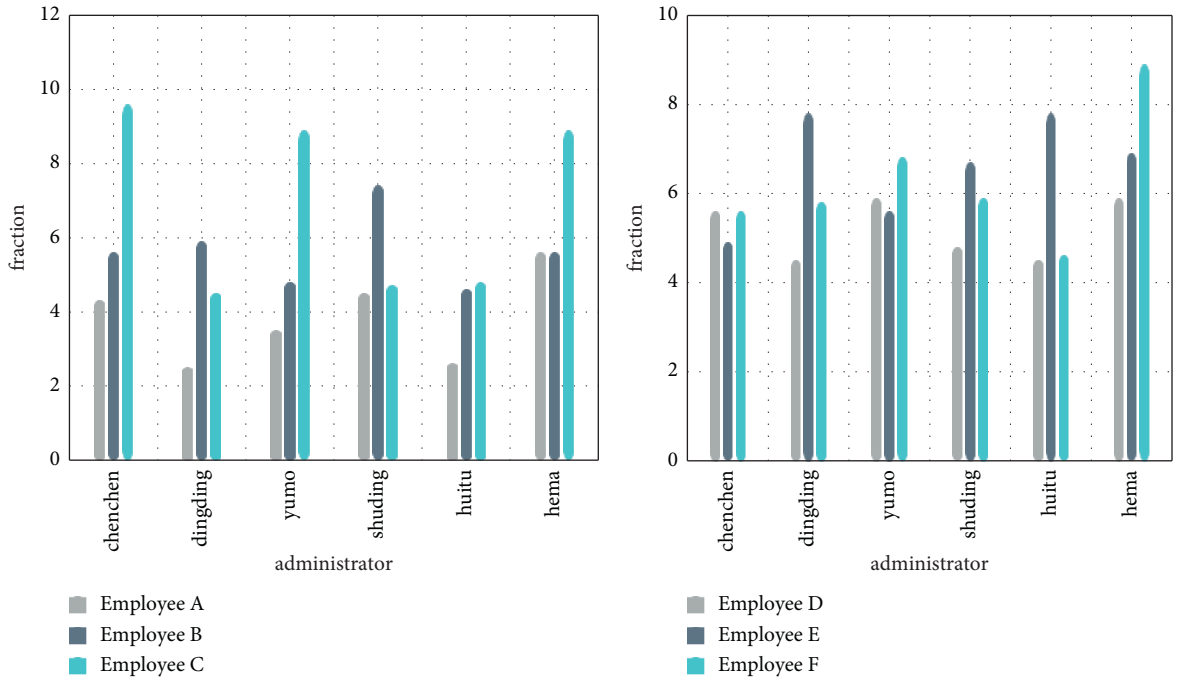

Figure 5: Anonymous evaluation of leaders by employees of the Administration Department and Sales Department.

3.3. Employee Differences. For how two similar employees can distinguish their differences, the similarity measurement can be considered. The similarity measurement is a measurement of the similarity between two objects in a clustering result. There are two measurement methods: the degree of dissimilarity expressed by the distance between objects and the similarity expressed by the correlation with the object.

Commonly used similarity measurement methods include Euclidean distance, Manhattan distance, and other calculation distance measurement methods, cosine similarity, correlation coefficient method, and other similarity measurement methods. At present, a denoising method based on Euclidean distance is commonly used. This method determines whether certain data belongs to noise data by setting a Euclidean distance threshold. The Euclidean distance can be calculated by the following formula:

$$d(x, v_i) = \sqrt{(x - v_i)^T (x + v_i)}. \tag{11}$$

Cosine similarity is also a common similarity measurement method. This method uses the cosine value formed between two samples as a measure of similarity. Therefore, cosine similarity pays more attention to the difference in direction. Its calculation formula is as follows:

Table 3: A hundred-point evaluation is carried out on the aspects of work attitude, workability, and appearance of employees.

Name	Work attitude	Work attitude	Daily behavior	Attendance	Manner and behavior
Dingding	95	90	90	88	52
Chongchong	81	99	56	22	20
Junjun	100	100	52	42	85
Zhouzhou	26	60	96	98	71
Qingqing	90	80	53	52	65

$$\theta = \operatorname{sim}(X, Y) = \cos\theta \frac{\overrightarrow{x}\,\overrightarrow{y}}{|x||y|} = \frac{\sum_{i=1}^{n} x_i y_i}{\sqrt{\sum_{i=1}^{n} x_i^2}\sqrt{\sum_{i=1}^{n} y_i^2}}. \quad (12)$$

The value range of cosine similarity is [−1, 1]. According to the definition of cosine value, when the cosine value is larger, the angle between them is smaller, and the two samples are more similar in this direction. On the contrary, it is the opposite, which is "cosine similarity."

But it only cares about the absolute distance between two objects, and it treats the differences between different attributes equally and cannot reflect some requirements in practical applications. In order to avoid the possible misjudgment of the method, this paper will use the cosine value of the angle between the point and the cluster center to weigh the Euclidean distance based on the cosine similarity. Assuming that the cluster center of a cluster after clustering is v_j, for any point $x_t^{(j)}$ in this cluster, the weighted Euclidean distance is

$$d_v\left(y_t, v_j\right) = \operatorname{sim}\left(y_t^{(j)}, v_j\right) \cdot \sqrt{\left(y_t^{(j)} - v_j\right)^t \left(y_t^{(j)} + v_j\right)}. \quad (13)$$

where $t = |v_j|$, $|v_j|$ represents the number of samples in a cluster with v_j as the cluster center, and $y_t^{(j)}$ represents all sample points in the cluster where the cluster center v_j is located.

The following describes the improved denoising algorithm based on the FCM algorithm.

First, set a Euclidean distance b as the threshold. Generally, b is the uniform value $\int$ of the weighted Euclidean distance from all sample points in the cluster to the cluster center. After the target denoising data is clustered,

$$d_v\left(y_t, v_j\right) \rangle b. \quad (14)$$

The sample point is a noise point, and delete it, when

$$d_v\left(y_t, v_j\right) \langle b. \quad (15)$$

Then, leave the sample:

$$\int = \frac{\sum_1^k \sum_1^t \mathrm{d}v\left(y_t^{(i)}, v_i\right)}{n}. \quad (16)$$

For the value of the number c of cluster centers, there is a method called the Elbow Method, which can provide a reference.

A variety of methods can integrate the sales staff information as shown in Table 4.

If you want to make the difference between the employees' work in the first half of the year more obvious, it can follow Figure 6 as usual.

The information integration of the same administrative staff is shown in Figure 7.

All the above information is integrated to get the company's annual income and the benefits generated by employees. Statistical evidence refers to the evidence obtained through statistical experiments. A set of evidence is determined by the statistical probability model $\{B_a | a \in \theta$. The given element a, B_a is a probability density function, and there are two assumptions. The first hypothesis is that the observation y determines a likelihood function that satisfies

$$Bl(a) = C \cdot B_a(y), \forall_a \in \theta. \quad (17)$$

The second assumption is that the likelihood function satisfies consistency; that is, for any focal element A_i in the recognition frame θ, there will always be $\mathrm{m}(A_i) > 0$ and $\sum_{i=1}^{\mathrm{r}} \mathrm{m}(A_i)$. Under these two assumptions, the likelihood function is obtained:

$$BI(A) = \frac{\max\{B_O(X): o \in A\}}{\max\{B_o(x): o \in \theta\}}. \quad (18)$$

Suppose $\theta^0 = \{o^{(1)}, o^{(2)}, \ldots, o^{(N)}\}$ is an ordered set of θ, which satisfies $B_O^i B_o^j$, $\forall 1 \le i < j \le N$. The corresponding basic probability distribution function is

$$m_x(A) = \begin{cases} \dfrac{B_O^{(K)}(X) - B_O^{(K+1)}(X)}{B_O^{(1)}(X)}, \forall A = \left\{O^{(1)}, O^{(2)}, \ldots, O(k)\right\}, 1 \le k \le N-1 \\ \dfrac{B_O^{(N)}(x)}{B_O^{(1)}(x)}, A = \theta = \theta^0 \end{cases}. \quad (19)$$

Based on the above algorithm, calculating the employees' annual income for the company from 2013 to 2021 is shown in Figure 8.

3.4. Other Assessment Factors. However, it focuses on analyzing the company's annual accounts and company profits, rather than analyzing the problems in the data. Some seemingly irrelevant data are ignored, such as diet and work environment. In fact, if this information is integrated and analyzed, combined with the monthly sales of employees, it will have important reference value for the performance appraisal of employees, as shown in Figure 9.

This can accurately describe the current performance of employees and help companies develop human resource management and effective practices. Human resource management is part of the daily operations of an enterprise. The relationship between employees and leaders and communication can ensure that the results of performance management are fully implemented. However, company

Table 4: Workload analysis of sales staff and achievement target completion rate.

Name	Attendance (%)	Phone volume	Project objectives	Actual completion rate (%)
Peng Yuyan	99	80	Forty thousand	80
Chen Daoming	100	89	Sixty thousand	90
Hu Ge	96	119	Fifty thousand	120
William chan	100	146	Eighty thousand	109

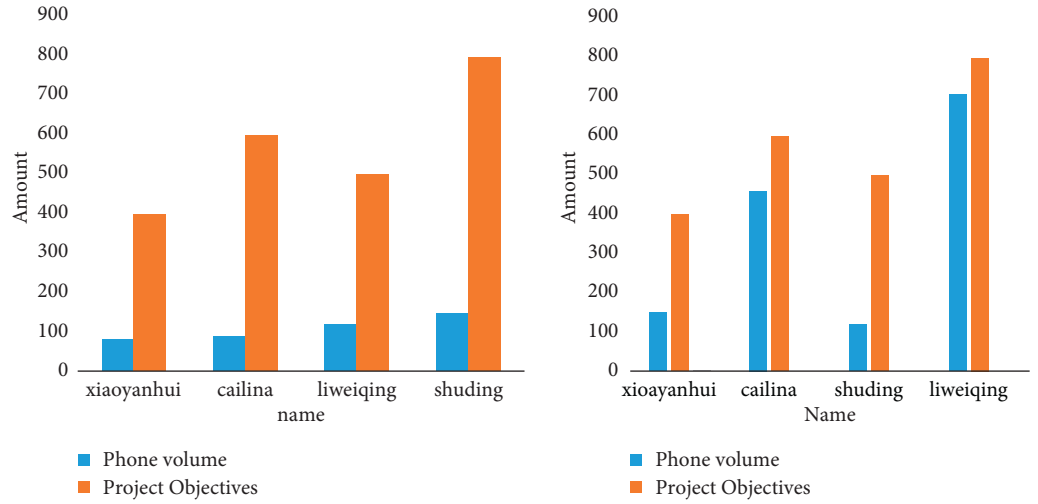

Figure 6: Comparative analysis of employees' performance before and after half a year.

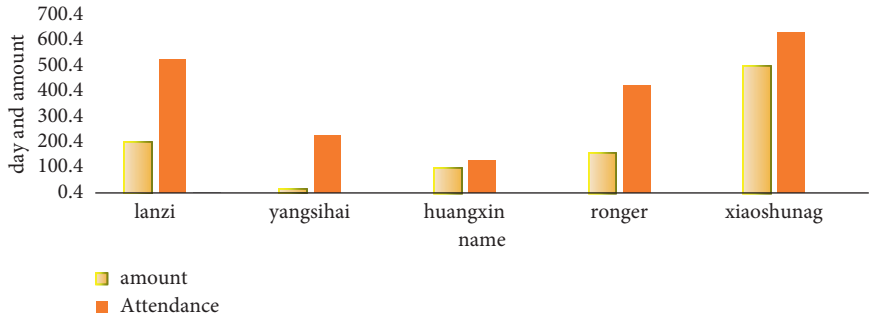

Figure 7: Work attendance of the Administration Department and the benefits generated.

managers' lack of understanding of employee performance management can easily lead to miscommunication between managers and ordinary employees. This will deprive the company of the opportunity to learn management and is not conducive to the development of the company.

4. Application of OA System in Performance Appraisal

4.1. OA System Analysis. Performance appraisal information must not only be connected to a computer to complete diagnostic calculations, nor is it a simple process of traditional diagnostic tools, but must reflect the performance appraisal level, strengthen daily performance collection, and use online tools to announce performance progress. The goal is to improve the transparency of evaluation, promote open, fair, and just evaluation, integrate the performance evaluation information system into the existing OA information management system, and effectively manage and quantify the use of scientific and modern technology. Figure 10 shows the performance comparison between the post-1980s and post-1990s and the post-1970s and zero-zero generations in recent years.

The second stage: OA system performance management is combined with all the company's goals in the execution system, plan execution system, daily operation, and various business systems so that automation is introduced into the system instead of becoming an independent distributed accounting system. At this time, performance management data and scores should be automatically generated, and performance should be presented efficiently and effectively.

Figure 8: The company's earnings in the past nine years.

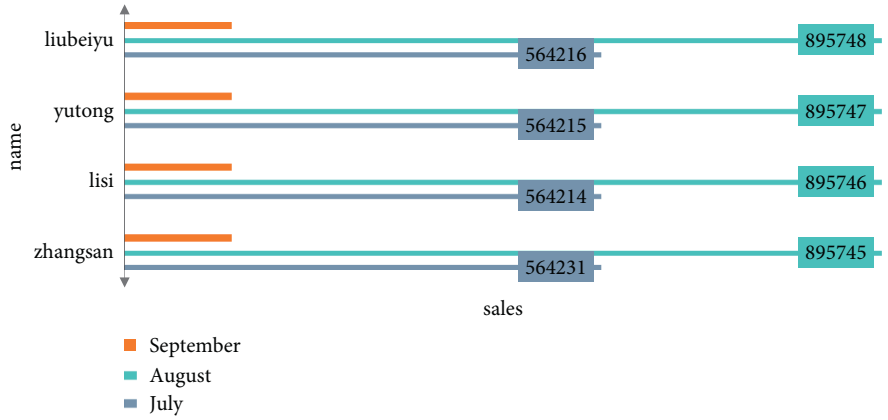

Figure 9: The benefits of employees to the company are detailed to the month.

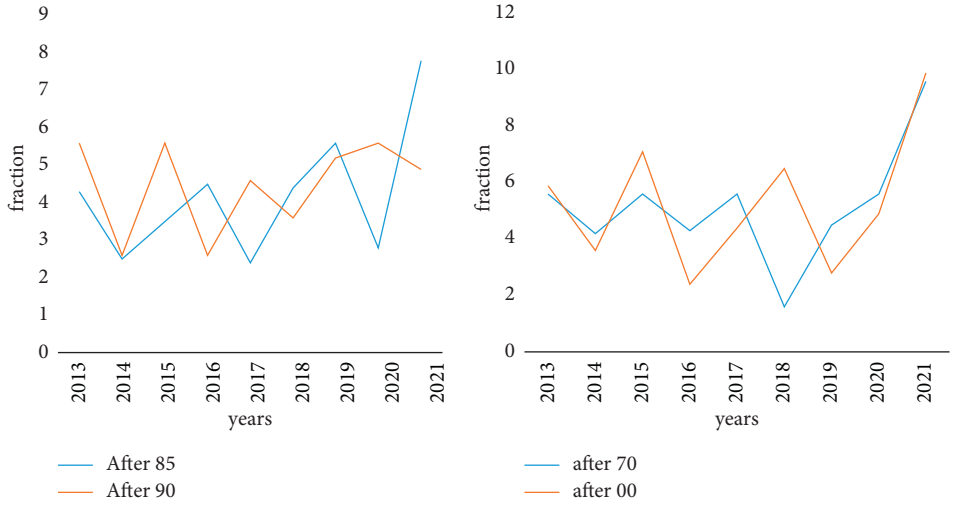

Figure 10: In recent years, the performance appraisal competitions of the post-1980s and post-1990s, and the post-1970s and post-2000s, encourage each other. The first stage: OA system performance management exists as an independent module, and relevant data can be displayed for scoring and evaluation.

Table 5: Project details and completion rate.

Serial number	Table name	Probability
1	Employee information form	100%
2	Project information Sheet	95% (Part of the information to be verified)
3	Attendance information form	99.3%
4	Log information table	89%

The best stage: OA system performance management can help realize the amoeba management style; that is, each subject can achieve organizational goals through self-motivation, self-efficacy, and organizational goals, as shown in Table 5.

The transaction volume of the project needs to change from quantity to qualitative change and reserve enough quantity, which requires employees to exert their own internal drive.

4.2. Value Analysis of Performance Appraisal Results. In terms of performance improvement, starting with performance appraisal results can improve performance appraisal results; in terms of rewards and punishments, performance appraisal results can be used as the basis for target bonus distribution, senior selection, and final elimination. In addition, for recruitment and dismissal, the results of a performance appraisal must be thoroughly analyzed. The same standard, first of all, is whether the best employees can be promoted and join them to judge their potential together. Newly recruited employees are arranged to require data analysis based on the comprehensive evaluation results of training and development. High-quality employees may become potential targets and top seeds for environmentally focused training and development. Moreover, the performance appraisal results can only reflect the unilateral ability of the employee and cannot explain the overall ability of the employee in many aspects.

5. Discussion

All employees are the executors of performance appraisal. Only when all employees fully participate in the implementation of performance appraisal can they combine personal career development planning with work goals and improve personal creativity and workability. By formulating performance appraisal standards, it is possible to develop high-level and lower-level interactions, allowing employees to fully participate. Based on extensive feedback hearings, department employees formulate performance appraisal standards and perform work analysis below to ensure that the organization's goals are achieved. Employee recognition and participation are increased by exchanging information and opinions. No matter how scientific and complicated the performance appraisal system is, if employees do not accept it, it will be put aside and will not work.

In the context of big data, innovative human resource management work in innovative companies is conducive to the development of employee equity and corporate benefits. Because the development of good performance and excellent business is inseparable from efficient and professional system management, and performance is one of the issues that every business person is very concerned about. Only by satisfying the special interests of employees and ensuring the fairness of business management and benefit distribution can employees devote more time and energy to the company, create a sense of company identity, and improve the management level of the company's employees.

6. Conclusion

In the aspect of performance feedback, the performance results are applied in many aspects to the recruitment, training, compensation, and labor relations management of human resources. A competency model is established, staff career planning is designed, and so on. Make human resource management more systematic and comprehensive. The design of the system should be simple and easy to implement. The testing requirements for general functions and other general functions can be indicated by thick lines. In principle, other points systems can be used without considering any errors or omissions to ensure eligibility. However, as an important performance indicator, it should be evaluated according to the importance of the component, and the value of the audit point should be set reasonably to show the focus of the evaluation. In addition, the human resources performance management information system has powerful computing and processing capabilities, replacing the manual data processing mode of the original performance team, which not only greatly reduces the work pressure of the performance team of the human resources department but also avoids human interference factors and reduces the error rate. It has been lowered to a lower level, making the assessment results more accurate and objective. The limitations of this study are reflected in the technical limitations, and the study is particularly suitable for development in the decision-making field. The article does not discuss the cost of building a performance management information system based on big data technology, which is divorced from the reality of the enterprise to a certain extent, and further research is needed on the cost and future benefits of the performance management information system.

Data Availability

No data were used to support this study.

Disclosure

The authors confirm that the content of the manuscript has not been published or submitted for publication elsewhere.

Conflicts of Interest

There are no potential conflicts of interest in our paper.

Authors' Contributions

All authors have seen the manuscript and approved to submit it to your journal.

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