Analysis on Human Resource Management of Real Estate Enterprises in the Era of Big Data

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Abstract: With the rapid development of information technology, the ability of data collection, processing and analysis has become the key element of enterprise competition. As a typical asset-oriented industry, real estate enterprises face many challenges in human resources (HR) management, including efficient recruitment, scientific evaluation of performance and reasonable allocation of HR, etc. Firstly, this paper analyzes the influence of big data era on HR management of real estate enterprises. Then, this paper discusses the application of big data in cost control of real estate enterprises in detail. Through big data analysis, enterprises can more accurately predict project costs, optimize supply chain management, reduce procurement costs and improve operational efficiency. The article also discusses the application of big data in HR optimization and deployment of real estate enterprises. Through big data analysis, enterprises can more accurately predict talent demand and achieve accurate recruitment; Scientifically evaluate employee performance and provide personalized training programs; Formulate targeted incentive and retention strategies to improve employee satisfaction and loyalty. Finally, the empirical research part of this paper takes a well-known real estate enterprise in China as an example, and analyzes the changes in cost control and HR optimization of enterprises before and after the application of big data through quantitative and qualitative methods. The results show that the application of big data technology has significantly improved the operational efficiency and cost control effect of enterprises, and provided strong support for real estate enterprises to cope with market competition. The research in this paper provides useful reference and enlightenment for HR management of real estate enterprises in the era of big data.

1. Introduction

With the rapid development of information technology, the era of big data has quietly arrived, which has had a far-reaching impact on all walks of life [1-2]. In this era, the ability of data collection, processing and analysis has become the new focus of enterprise competition. Especially for real estate enterprises, the introduction of big data technology has not only changed the traditional business model, but also brought new challenges and opportunities for human resources (HR) management.

As a typical asset-heavy industry, the operation and management of real estate enterprises involve a lot of data and complicated processes [3]. In terms of HR management, how to recruit suitable talents efficiently, how to scientifically evaluate employees' job performance, and how to rationally allocate HR to achieve cost control and benefit maximization have always been the focus of enterprises [4-5]. The rise of big data technology provides a new perspective and method for real estate enterprises to solve these problems.

The purpose of this paper is to explore how real estate enterprises in the era of big data can use advanced technical means to realize cost control and reasonable optimization and deployment of HR. Through in-depth analysis of the application of big data in HR management, this paper hopes to provide useful reference and enlightenment for real estate enterprises to cope with the increasingly fierce market competition.

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2. The influence of big data era on HR management of real estate enterprises

With the continuous development and application of big data technology, HR management of real estate enterprises is undergoing unprecedented changes. Big data has not only changed the traditional HR management mode, but also brought more efficient and accurate management methods to real estate enterprises.

First of all, the introduction of big data technology enables real estate enterprises to understand employees more comprehensively and deeply. By collecting and analyzing various data of employees at work, such as working hours, work efficiency, work quality, etc., enterprises can more accurately evaluate employees' work performance and potential, thus providing scientific basis for the optimal allocation of HR [6]. Secondly, the utilization of big data in recruitment processes is becoming more prevalent. Unlike conventional recruitment techniques that depend on the expertise and instincts of HR managers, companies can now assess a candidate's personality traits, capabilities, and future potential with greater precision by analyzing their social media activity and online behavior patterns. This results in enhanced accuracy and productivity in recruitment efforts [7]. In addition, big data also provides new possibilities for employee training of real estate enterprises. By collecting and analyzing the data of employees' study and work, enterprises can provide more personalized training programs for employees, improve the training effect, and then improve the overall quality and work efficiency of employees.

The advent of the big data era has notably enhanced various aspects of human resource management within real estate companies. Leveraging big data analysis enables these businesses to manage their HR more systematically and with increased precision, thereby elevating their operational effectiveness and market competitiveness. Nevertheless, this technological shift also introduces certain challenges, including those related to data security and privacy safeguards, which necessitate ongoing exploration and refinement by corporations in their practical applications.

3. The application of big data in cost control of real estate enterprises

In the realm of real estate business operations, effective in the realm of real estate business operations, effective pivotal component, and and the integration of big data technology presents corporations with innovative methodologies for enhanced cost oversight.

The role of big data analysis in forecasting project costs is significant. Through the aggregation and assessment of historical project information, market trends, and diverse economic measures, companies gain the capability to anticipate the expenses associated with new projects with heightened precision. Compared with traditional empirical estimation, this data-based prediction method has higher accuracy and reliability. It can help enterprises to have a clear understanding of the cost before the project starts, so as to make more reasonable investment decisions.

Big data has also played a significant role in optimizing supply chain management [8-9]. Real estate enterprises usually involve a lot of material procurement, including building materials, equipment and facilities. Through big data analysis, enterprises can monitor the dynamics of the supply chain in real time, understand the fluctuation of market prices, and predict the demand for materials, so as to arrange the procurement plan more accurately. This will not only help to reduce procurement costs, but also reduce inventory backlog and capital occupation, and improve the operational efficiency of enterprises.

Furthermore, big data also holds a significant role in budget management, risk mitigation, and financial strategy. By examining both historical and real-time datasets, organizations are equipped to devise more evidence-based and judicious budgetary strategies, ensuring the optimal allocation and utilization of financial resources [10]. At the same time, big data analysis can also help enterprises find potential risk points in time, such as market fluctuations and policy changes, so as to take corresponding measures to reduce operational risks. In terms of capital operation, big data can provide more comprehensive market information and data support to help enterprises make more informed investment decisions and improve the efficiency of capital use.

The application of big data in cost control of real estate enterprises is multifaceted, which not only

improves the accuracy and efficiency of cost management, but also brings more business opportunities and competitive advantages to enterprises. With the continuous progress of technology and the expansion of application scenarios, big data will play a more important role in the operation of real estate enterprises.

4. The application of big data in HR optimization and deployment of real estate enterprises

In real estate enterprises, the optimization and deployment of HR is very important to improve organizational efficiency and employee satisfaction. The application of big data technology provides enterprises with more scientific and accurate HR management tools.

Big data is widely used in talent demand analysis. Enterprises can accurately predict the talent demand in the future by analyzing historical post data, project demand and market dynamics. This prediction based on big data can not only help enterprises to plan their recruitment plans in advance, but also ensure that the recruited talents are more in line with the future development strategy of enterprises. Through precise recruitment, enterprises can greatly improve the efficiency and quality of recruitment and reduce unnecessary manpower and time costs.

Big data analysis also plays an important role in employee performance evaluation. Traditional performance evaluation often relies on subjective evaluation and limited quantitative indicators, while the application of big data technology makes performance evaluation more comprehensive and objective. By analyzing multi-dimensional information such as employees' work data, project completion and customer feedback, enterprises can evaluate employees' performance more accurately. This data-based evaluation method not only improves the accuracy of evaluation, but also provides more personalized training and development planning for employees. Enterprises can tailor training plans according to employees' performance data and career development goals to help employees improve their professional skills and professionalism.

Big data also provides strong support for enterprises to formulate employee motivation and retention strategies. By analyzing information such as employees' job performance, satisfaction survey data and turnover rate, enterprises can have a deeper understanding of employees' needs and expectations [11]. Based on these data, enterprises can formulate more targeted incentive measures, such as providing more competitive salary and benefits, creating better career development opportunities, etc., in order to enhance employees' sense of belonging and loyalty. At the same time, big data can also help enterprises find the risk points of employee turnover in time, so as to adopt corresponding retention strategies and reduce the brain drain rate.

Big data has played an important role in HR optimization and deployment of real estate enterprises. By using big data to analyze talent demand, evaluate employee performance and formulate incentive and retention strategies, enterprises can manage HR more scientifically and accurately, thus improving organizational efficiency and employee satisfaction.

5. Empirical research

The empirical research chooses a well-known domestic real estate enterprise as the empirical research object. In recent years, the company has actively explored the application of big data technology in HR management, which has certain representativeness and research value. This study comprehensively understands the application of big data in HR management by interviewing the head of HR department, consulting internal documents and reports, and collecting relevant data publicly disclosed by enterprises. The collected data were analyzed by combining quantitative and qualitative methods. Quantitative analysis mainly focuses on the specific numerical changes of cost control and HR optimization, while qualitative analysis focuses on the changes of enterprise management mode and employee satisfaction before and after the application of big data.

After the application of big data, the project cost of this enterprise has been effectively controlled. Compared with before application, the cost saving rate of the enterprise has been significantly improved, and the profit rate of the project has also increased. The cost control effect is shown in Table 1.

Table 1 Cost control effect

Indicator	Before big data application	After the application of big data	Rate of change
Average Project Cost (Ten Thousand Yuan)	1000	850	-15%
Cost Saving Rate (%)	5%	18%	+13%
Project Profit Margin (%)	10%	15%	+5%
Material Purchasing Cost (Ten Thousand Yuan/Project)	200	160	-20%
Labor Cost (Ten Thousand Yuan/Project)	300	270	-10%
Other Operating Costs (Ten Thousand Yuan/Project)	500	420	-16%
Overall Cost Control Effectiveness Index	1.0	0.85	-15%

Table 2 HR optimization results

Indicator	Before big data application	After the application of big data
Employee Satisfaction (Out of 10)	6.8	8.5
Employee Turnover Rate (%)	10%	6%
Recruitment Cycle (Days)	45	30
Training Cost (Ten Thousand Yuan/Year)	100	80
Training Effectiveness Evaluation (Out of 10)	7.5	9.0
HR Allocation Efficiency Index	0.7	0.9

With the support of big data technology, HR management of enterprises is more scientific and efficient. Employee satisfaction has been significantly improved, and the turnover rate has decreased. In addition, the overall operational efficiency of the enterprise has also been improved. The results of HR optimization are shown in Table 2 and Figure 1.

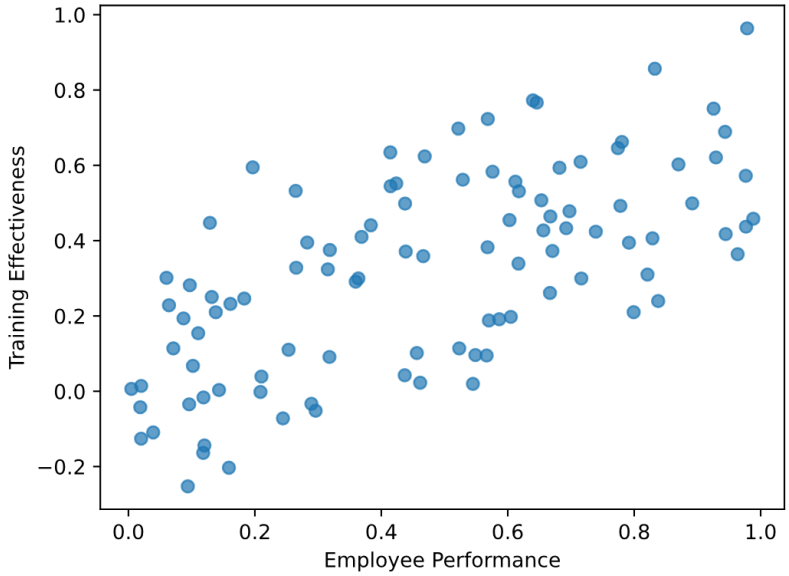

Figure 1 The relationship between employee performance and training effect

On the whole, individuals with higher employee performance often show better training effects. This may be because high-performance employees have strong learning ability and adaptability, so they can absorb and master the training content more quickly. But it also shows the existence of individual differences and nonlinear relationships. This suggests that when training employees, it is necessary to consider the characteristics and needs of different employees, as well as the effectiveness of training contents and methods, in order to maximize the overall performance and training effect of employees.

The empirical findings presented above demonstrate that big data technology significantly enhances human resource management within real estate companies, contributing to improved operational efficiency and a heightened competitive edge. Consequently, real estate businesses ought to proactively investigate the potential of big data technology in HR management as a means to refine cost management and optimize human resources.

6. Conclusion

Big data has also played a significant role in cost control. Through big data analysis, enterprises can predict the cost of new projects more accurately, monitor the dynamics of supply chain in real time, optimize procurement plans, reduce procurement costs and inventory backlog, and improve the operational efficiency of enterprises. In addition, big data also plays an important role in budget management, risk prevention and capital operation, helping enterprises to make more informed investment decisions and improve the efficiency of capital use. The application of big data technology helps to improve employee satisfaction and reduce turnover rate. Through big data analysis, enterprises can have a deeper understanding of employees' needs and expectations, formulate more targeted incentives and improve employees' sense of belonging and loyalty. At the same time, big data can also help enterprises find the risk points of employee turnover in time and adopt corresponding retention strategies to reduce the brain drain rate. The HR management of real estate enterprises in the era of big data is undergoing profound changes. Big data technology provides enterprises with more efficient and accurate management tools, which helps to enhance their competitiveness and sustainable development capabilities. Therefore, real estate enterprises should actively explore the application of big data technology in HR management to cope with the increasingly fierce market competition.

References

[1] Liu, S. (2021). Human resource management of internet enterprises based on big data mobile information system. Mobile Information Systems, 2021(5), 1-9.

[2] Pratono, A. H. , Prima, D. A. , Sinaga, N. F. N. T. , Permatasari, A. , & Han, L. (2020). Crowdfunding in digital humanities: some evidence from indonesian social enterprises. Aslib Journal of Information Management, 72(2), 287-303.

[3] Zhang, H. H. (2018). Research on the regional project management model of construction enterprise. Journal of Railway Engineering Society, 35(6), 100-103.

[4] Voronina, E. V. , Reutov, V. E. , Yarosh, O. B. , & Khalezin, S. V. (2018). Formation of a science-based real estate services market management mechanism. Materials science forum, 931(2), 1172-1177.

[5] Xiaoling, M. (2018). Analysis of practice and innovation model of human resource management in resort hotel. International Journal for Engineering Modelling, 31(1), 201-206.

[6] Wang, L. , Zeng, J. , Strohmaier, D. , Salam, S. , & Shahzad, K. (2019). Toward a service-innovation ecosystem of enterprises in china. Human Systems Management, 38(3), 279-295.

[7] Zaichenko, S. (2018). The human resource dimension of science-based technology transfer: lessons from russian rtos and innovative enterprises. Journal of Technology Transfer, 43(2), 368-388.

[8] Fedotova, M. A. , Tikhonov, A. I. , & Novikov, S. V. (2018). Estimating the effectiveness of personnel management at aviation enterprises. Russian Engineering Research, 38(6), 466-468.

[9] Novikov, S. V. , & Milovanov, P. D. (2020). Management of high-tech enterprises on the basis of innovative digital technologies. Russian Engineering Research, 40(12), 1109-1111.

[10] Mironova, O. A. , & Chekmareva, G. I. (2020). To the question of the application of generational approach in the management of marketing activities of enterprises. Management Science, 9(4), 53-62.

[11] Abdulraheem, A. S. , Zeebaree, S. R. M. , & Abdulazeez, A. M. (2020). Design and implementation of electronic human resource management system for duhok polytechnic university. Technology Reports of Kansai University, 62(4), 1407-1420.