

Exploring the Innovative Path of Enterprise Human Resource Management from the Perspective of Digital Economy

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Abstract: The rapid development of digital economy is reshaping the human resource management mode of enterprises, making it transform to the direction of data-driven, intelligent and efficient. Based on the background of digital economy, this paper discusses the innovation path of enterprise human resource management, analyzes the digital practice of current enterprises in recruitment, performance management, salary incentive, training system and so on, and reveals the concrete application and effect of different types of enterprises in the digital transformation of human resource management through case studies of Internet enterprises and manufacturing enterprises. The study found that digital technologies such as big data, artificial intelligence and blockchain play a significant role in optimizing the efficiency of human resource management and improving employee experience. At the same time, enterprises also face challenges such as data security, management mode transformation and employee skill improvement in the implementation process. Therefore, this paper puts forward the innovation paths based on big data, such as precise recruitment of talents, intelligent performance appraisal, optimization of information management system, innovation of salary incentive mechanism and organizational culture reform, and analyzes its feasibility and application value. The research shows that enterprises should combine the industry characteristics, reasonable choice of digital transformation strategy, in order to enhance the scientific and competitiveness of human resource management, to achieve sustainable development of enterprises.

Key words: digital economy; human resource management; big data; artificial intelligence; enterprise innovation

Introduction

The rapid development of digital economy is profoundly changing the management mode and operation mode of enterprises. Driven by technologies such as artificial intelligence, big

data, cloud computing and blockchain, enterprises have gradually realized digital transformation, which not only optimizes production processes, but also greatly affects human resource management models. Traditional

human resource management mainly depends on manual experience and offline operation, which is difficult to meet the needs of enterprises for efficient, accurate and intelligent management in digital economy environment. Under this background, the digital transformation of human resource management has become the key to enhance the core competitiveness of enterprises.

1 The Theoretical Basis Of Digital Economy And Enterprise Human Resource Management

1. 1 The Connotation And Characteristics Of Digital Economy

Digital economy refers to the economic form that takes digital technology as the core driving force and realizes the innovation, optimization and upgrading of economic activities through the wide application of information and data resources. The concept of digital economy was first put forward by OECD (Organization for Economic Cooperation and Development). With the rapid development of information and communication technology, digital economy has become an important engine of global economic growth. Its core features include data-driven, intelligent development, network collaboration and shared economy. The development of digital economy has gone through the stage from Internet economy to mobile Internet economy, and then to today's intelligent economy driven by big data, artificial intelligence and blockchain. In this process, the enterprise's business model, organizational structure and management methods have undergone profound changes, especially in the field of human resources management is particularly significant^[1].

The application of digital technology, such

as big data, cloud computing, artificial intelligence and blockchain, provides brand-new tools and means for enterprise management. Big data technology can help enterprises accurately analyze talent market trends, optimize recruitment processes and improve the matching degree of talents and jobs. Cloud computing technology enables telecommuting, online collaboration and cross-regional human resource management to improve the operational efficiency of enterprises. The application of artificial intelligence, such as intelligent recruitment system and automatic performance appraisal system, can effectively reduce the repetitive work of human resource management and improve the accuracy and scientificity of management. Blockchain technology enhances data security and transparency in salary payment, contract management and other aspects through decentralization and tamper-proof characteristics. Therefore, the development of digital economy not only changes the business model of enterprises, but also promotes the transformation of human resource management mode to intelligent, digital and efficient direction^[2].

1. 2 Digital Transformation Of Human Resource Management In Enterprises

The traditional human resource management model is the core of human beings, mainly relying on experience and subjective judgment to make decisions, which has a strong human intervention. In this mode, the efficiency of talent recruitment, performance appraisal and salary management is low, and it is easy to be affected by human factors, so it is difficult to realize scientific and accurate management. The traditional human resource management mode is

limited in data application, and it is difficult to give full play to the advantages of information tools. With the rise of the digital economy, the enterprise's human resource management mode gradually to the data-driven and intelligent direction, in order to adapt to the new market environment and organizational needs^[3].

Digital economy brings challenges and opportunities to human resource management. On the one hand, enterprises need to upgrade the traditional management system comprehensively and introduce Digital tools and technologies, such as intelligent HR management system, remote collaboration platform and digital performance appraisal system, which puts forward higher requirements for the technical investment and management ability of enterprises. On the other hand, the digital reform brings higher management efficiency and more accurate talent management mode, which enables enterprises to optimize person-post matching based on data analysis, and improve the job satisfaction of employees and the operation efficiency of the organization. Big data technology can help enterprises establish talent pool, accurately predict talent demand and formulate personalized recruitment scheme through data mining and machine learning, reduce recruitment cost and improve job matching rate. At the same time, the performance management system driven by artificial intelligence can automatically track the performance of employees, and provide real-time feedback to ensure the fairness and transparency of performance appraisal^[4].

1. 3 Relevant Theoretical Basis

The reform of enterprise human resource

management under the background of digital economy can be analyzed from many theoretical perspectives. Human capital theory emphasizes that human resources is one of the most important factors of production, enterprises should improve the knowledge and skills of employees through education, training and management, in order to enhance organizational competitiveness. Under the environment of digital economy, the value of human capital becomes more prominent. Enterprises need to improve the career development ability of employees and promote the efficient allocation of human capital through digital means. Enterprises can use online training platform and intelligent learning system to provide personalized career development path for employees, so as to improve the professional accomplishment and adaptability of employees.

The theory of organizational change management provides theoretical support for enterprises to innovate human resource management in the context of digital economy. The theory holds that enterprises in the face of technological change and market environment change, the need for the corresponding organizational adjustment, in order to improve the management efficiency and market adaptability. The rapid development of digital economy requires enterprises to carry out deep reform in human resource management, improve the flexibility and response speed of organizations by introducing flat management mode, enhancing cross-department cooperation and promoting telecommuting. Enterprises in the process of change, the need to pay attention to the adjustment of organizational structure, the optimization of management mode and the

improvement of employee adaptability, in order to ensure the smooth progress of the change^[5].

2 Analysis On The Status Quo And Problems Of Enterprise Human Resource Management Under The Background Of Digital Economy

2. 1 The Current Situation Of Digital Human Resource Management In Enterprises

With the promotion of digital economy, enterprise human resource management is undergoing profound digital transformation. The application of intelligent recruitment and big data analysis enables enterprises to select and manage talents more accurately. The traditional recruitment method relies on manual screening of resumes, which is inefficient and subjective, while the current recruitment system based on artificial intelligence and big data can automatically screen the most suitable job seekers by matching the job demand and candidate skills through algorithms. Intelligent resume screening systems can quickly analyze a candidate's education, career experience, skill level, and even predict candidate suitability based on past recruitment data. This not only improves the recruitment efficiency, but also reduces the employment cost of enterprises and improves the accuracy of talent management. The rise of new recruitment methods such as social media recruitment, video interview and online assessment has further promoted the intelligent management of human resources.

2. 2 Analysis Of Existing Problems

Although the digitalization of enterprise human resource management has made

remarkable achievements, it still faces many challenges. Data security and privacy protection are the important issues that enterprises must face in the process of implementing digital human resource management. As companies increasingly rely on digital systems for human resources management, a large number of employees' personal information-including payroll, attendance, performance, career development records, and more-is stored in the cloud or in corporate databases, increasing the risk of data breaches and cyber attacks. When some companies use artificial intelligence and big data for talent screening, they may cause legal and ethical controversy due to algorithm bias or data abuse. Therefore, how to ensure the security and compliance of employees' personal information while improving the management efficiency has become the key issue in the process of enterprise digital transformation.

3 Innovation Path Of Enterprise Human Resource Management In The Perspective Of Digital Economy

3. 1 Precise Recruitment And Selection Of Talents Based On Big Data

In the era of digital economy, the demand of enterprises for high-quality talents is becoming stronger and stronger, while the traditional recruitment methods often have some problems such as asymmetric information, low screening efficiency and low job matching degree. With the help of artificial intelligence and big data technology, enterprises can accurately capture the dynamics of talent market and realize efficient talent recruitment and selection. Big data analysis technology can obtain candidate information from multiple channels such as mass resumes, job-seeking

platforms, social media, etc., and intelligently match based on job requirements to reduce the time and cost of manual screening. By analyzing resume content through natural language processing (NLP), companies can more accurately assess whether a candidate's skills and work experience meet the job requirements. Machine learning algorithm can predict the optimal candidate portrait of different posts based on the past recruitment data of enterprises, so as to improve the scientificity of recruitment decision.

The combination of online assessment and social media recruitment has become an important innovative way for enterprises to select talents. The online evaluation system helps enterprises to comprehensively understand candidates' abilities, personality traits and professional tendencies by means of cognitive test, situation simulation and psychological assessment, so as to improve the accuracy of recruitment. Social media platforms (e.g. LinkedIn, Pulse) have become an important channel for enterprises to acquire talents. Through Social networks analysis, enterprises can discover potential talents and understand candidate's career interests and matching degree through social interaction. At the same time, enterprises can use artificial intelligence to automatically screen candidates' social media data, analyze their professional background, skill tags and industry influence, and help enterprises quickly find talents who meet their needs.

3. 2 Digital Performance Management And Employee Development

Traditional performance appraisal methods mostly adopt annual or quarterly evaluation mode, which has long evaluation cycle and

lagging feedback, so it is difficult to motivate employees effectively. Under the background of digital economy, enterprises can realize real-time assessment and dynamic adjustment with the help of intelligent performance management system, so as to improve the accuracy and fairness of assessment. Enterprises can introduce a data-driven performance management platform to dynamically adjust performance objectives by analyzing employees' work data, task completion and team cooperation, so as to make assessment more transparent and scientific. At the same time, artificial intelligence technology can predict the future performance of employees based on historical performance data, and provide personalized incentive scheme, so as to improve employees' work enthusiasm and organizational identity.

3. 3 The Optimization Of Human Resource Information Management System

With the development of digital economy, enterprises have imposed higher requirements onto human resource management system. The combination of ERP (Enterprise Resource Planning) and HRIS (Human Resource Information System) makes the human resource management of enterprises more systematic and efficient. ERP system can integrate the enterprise's financial, production, supply chain and other business data, and after docking with HRIS system, it can realize the deep integration of human resource management and the overall operation of the enterprise. Enterprises can through the HRIS system real-time monitoring of employee attendance, performance and training, and combine these data with the operation data in the ERP system, optimize the

allocation of human resources, improve the efficiency of organization and operation.

The promotion of digital office tools has further improved the convenience and collaborative efficiency of human resource management. Telecommuting, online collaboration, intelligent scheduling and other functions have become an important part of modern enterprise system. OA (Office Automation) system and remote collaboration tools (such as mail, enterprise WeChat, Trello, etc.) enable employees to manage work tasks and communicate with teams anytime and anywhere, improving cross-department and cross-regional collaboration capabilities. Intelligent scheduling system can automatically generate scheduling scheme based on historical data and employee workload, reduce the time cost of manual scheduling, improve management efficiency.

3. 4 Digital Salary Management And Incentive Mechanism Innovation

As an important part of enterprise human resource management, compensation management has ushered in new changes under the background of digital economy. Compensation management system based on blockchain technology can ensure the security and transparency of salary data. The decentralized and tamper-proof characteristics of blockchain enable enterprises to automatically execute salary payment through intelligent contracts and improve the fairness and efficiency of salary management. Blockchain technology can also be used for automatic settlement of performance bonuses, enabling enterprises to dynamically adjust compensation schemes and improve incentive effects according to real-time

performance data of employees.

The exploration of personalized welfare and flexible employment mode enables enterprises to provide compensation incentive schemes that are more in line with employees' needs. Enterprises can analyze employees' consumption habits, interests and preferences through data, and customize personalized welfare programs for them, such as flexible welfare points, health insurance, stock options, etc. At the same time, with the rise of flexible employment mode, enterprises can employ on demand according to project requirements, and adopt the way of paying salary according to performance to improve the flexibility of salary management. Intelligent salary management system can adjust the salary structure in real time according to the market situation and the financial situation of the enterprise, so that the enterprise salary system is more competitive.

3. 5 Corporate Culture And Organizational Change In The Era Of Digital Economy

Corporate culture plays an important role in the digital transformation. The construction of a new corporate culture to adapt to digital management needs to emphasize data-driven, agile innovation and open collaboration. Organizations can use data visualization tools to give employees real-time visibility into their operations and improve organizational transparency. At the same time, promote flat management, reduce decision-making levels, make information communication more efficient, and improve organizational flexibility and response speed. Enterprises should encourage a data-driven decision-making culture and cultivate the digital thinking of employees to

make them more adaptable to the intelligent management environment.

The adjustment of organizational structure and the exploration of flat management enable enterprises to better adapt to the management reform brought about by the digital economy. The traditional hierarchical management mode often leads to slow information transmission and long decision-making chain, while the flat management mode can shorten the management level and improve the response speed of enterprises. Many Internet companies adopt agile organizational structures that divide teams into smaller, cross-functional teams, enabling employees to collaborate more effectively. The popularity of remote office and virtual team makes the enterprise more flexible in organization and management, and improves the staff's work autonomy and innovation ability.

4 Case Study: Enterprise Practice Of Digital Human Resource Management

4.1 Case 1: Digital Human Resource Management Practice Of An Internet Enterprise

Under the background of digital economy, an Internet enterprise has comprehensively promoted the digital transformation of human resource management, especially in recruitment, performance management and training system.

Table 1 Internet enterprise digital human resource management practice measures

Territory	Digital Practice Measures
talent recruitment	AI resume screening, online assessment, social media recruitment, intelligent matching recommendation
performance management	Data-driven performance evaluation, real-time feedback mechanism and intelligent performance appraisal system

staff training	Online learning platform, personalized training path, VR/AR training application
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It can be seen from Table 1 that the Internet enterprise has widely applied artificial intelligence, big data and online learning technology in human resource management, improving the intelligent level of management. This not only improves the accuracy and efficiency of recruitment, but also enhances the fairness of performance management and the personalization of employee training, which helps to promote the digital transformation of enterprises.

4.2 Case 2: A Manufacturing Enterprise's Intelligent Human Resource Management System

Compared with Internet enterprises, traditional manufacturing industries face greater challenges in the process of digital transformation. However, a manufacturing company has successfully used digital technology to optimize its human resource management system, especially in terms of employee attendance, productivity monitoring and skills training.

Table 2 manufacturing enterprise intelligent human resource management measures

Territory	Digital Practice Measures
employee attendance	IoT attendance system, automated payroll calculation, intelligent working hour management
production management	Intelligent sensors monitor production data and big data optimize production scheduling
skill training	VR training simulation, intelligent course recommendation and skill development tracking system

It can be seen from Table 2 that the manufacturing enterprise makes full use of Internet of Things, big data and virtual reality technology in human resource management,

making attendance management more efficient, production scheduling more accurate and employee training more intelligent. These measures have significantly improved the operational efficiency of enterprises, optimized the allocation of human resources, and provided reference experience for the digital transformation of manufacturing industry.

4. 3 Case Study Summary

Through the case study of Internet enterprises and manufacturing enterprises, we can find that different types of enterprises have different emphasis on digital human resource management. Internet enterprises are more inclined to use artificial intelligence and big data to optimize recruitment, performance appraisal and training system, while manufacturing enterprises pay more attention to intelligent upgrading of production management, attendance management and skills training.

Table 3 Comparison of Digital Human Resource Management of Enterprises in Different Industries

Type Of Enterprise	Digital Recruitment	Performance Management	Staff Training	Production Management	Attendance Management
Internet enterprises	AI screening resumes, social media recruitment	Intelligent performance appraisal, data feedback	Online learning, personalized career development	-	-
Manufacturing enterprises	-	-	VR skill training and intelligent training system	Production data monitoring, intelligent scheduling	IoT attendance and automatic salary calculation

As can be seen from Table 3, Internet enterprises invest more digital resources in recruitment and performance management of human resource management, while

manufacturing enterprises are more inclined to optimize production management and attendance management. This shows that enterprises in the digital human resource management, the need to combine the characteristics of the industry, to choose the most appropriate management model and Digital tools. No matter Internet enterprises or manufacturing enterprises, they can improve management efficiency through digital technology, realize intelligence and refinement of human resource management, so as to enhance the competitiveness of enterprises and promote the sustainable development of enterprises.

5 Conclusion

The rapid development of digital economy is profoundly changing the mode and method of enterprise human resource management, which makes it gradually transform from traditional personnel management to digitalization and intelligence. Under this background, enterprises begin to widely apply big data, artificial intelligence, cloud computing, blockchain and other technologies to optimize recruitment process, improve accuracy of performance management, enhance flexibility of employee training, and promote transparency of compensation management. These changes not only improve the efficiency of human resource management, but also enhance the competitiveness of enterprises in the market, but also promote the organizational structure to the direction of flat, flexible adjustment, in order to better adapt to the challenges and opportunities brought about by the digital economy.

References

- [1]Zhao X ,Weng Z .Digital dividend or divide: The digital economy and urban entrepreneurial activity[J].Socio-Economic Planning Sciences,2024,24-53.
- [2]Gao F ,He Z .Digital economy, land resource misallocation and urban carbon emissions in Chinese resource-based cities[J].Resources Policy,2024,320-354.
- [3]Yang J ,Fricker P ,Jung A .From intangible to tangible: The role of big data and machine learning in walkability studies[J].Computers, Environment and Urban Systems,2024,105-120.
- [4]Lui R .Deus Ex Machina? The Rise of Artificial Intelligence in Toxicology.[J].Chemical research in toxicology,2024,145-152.
- [5]Hu L ,Zhang Y .Optimisation Path of Human Resource Performance Management in Universities Based on Big Data in the Era of Digital Economy[J].Applied Mathematics and Nonlinear Sciences,2024,91-120.