The Application of Electronic Human Resource Management Systems (e-HRM) in HR Management

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Abstract. The rapid development of information technology has revolutionized human resource management (HRM) through the adoption of electronic human resource management systems (e-HRM). This paper explores the application, main functions, and impacts of e-HRM on enterprises. It highlights the significant improvements in HR management efficiency, reduction in administrative burdens, and enhancements in employee experience brought by e-HRM. Key functions such as recruitment and selection, performance management, training and development, compensation management, and employee relations are discussed in detail, demonstrating how e-HRM optimizes these processes. Additionally, the paper examines the positive effects of e-HRM on organizational change and innovation, as well as employee satisfaction and loyalty. The implementation challenges, including initial costs and adaptability issues, are also addressed. Future research directions are proposed, emphasizing the integration of emerging technologies like artificial intelligence and big data to further advance e-HRM systems. This study underscores the transformative impact of e-HRM in modern HR management and its potential for driving enterprise success.

Keywords: e-HRM; Training and Development; Organizational Innovation.

1. Introduction

With the rapid development of information technology, electronic human resource management systems (e-HRM) are increasingly being applied in enterprises. e-HRM optimizes and automates HR management processes through information technology, enhancing the efficiency and effectiveness of HR departments \cite{1}. Traditional HR management mainly focused on transactional tasks, but the introduction of e-HRM has not only freed HR managers’ time but also improved the overall level of enterprise management \cite{2}. This paper aims to review the current application status, main functions, and impact of e-HRM on enterprises, and to explore key findings in current research and future development directions.

The application status of e-HRM shows its profound impact on enterprise management. Marler and Fisher\cite{3} pointed out that the widespread adoption of e-HRM is due to its ability to significantly reduce the administrative burden of HR management, allowing HR personnel to focus on more strategic tasks. Stone and Dulebohn\cite{4} also emphasized that e-HRM not only improves HR management efficiency but also enhances employee experience. By automating and systematizing HR functions such as recruitment, performance management, training and development, and compensation management, e-HRM brings many advantages to enterprises.

However, the implementation of e-HRM also faces some challenges, including initial investment and maintenance costs, as well as the adaptability of employees and management. Kassim et al. \cite{5-8} found through empirical research that the application of e-HRM systems is positively correlated with overall enterprise performance. Future research should focus more on the application of emerging technologies (such as artificial intelligence and big data) in e-HRM to further enhance system intelligence and personalized services.

This paper will discuss in detail the main functions of e-HRM and its application in areas such as recruitment, performance management, training and development, compensation management, and employee relations. It will analyze the impact of e-HRM on enterprise management and propose future research directions and recommendations.
2. The Main Functions of e-HRM

2.1 Detailed Functions of e-HRM

As an application of information technology in the field of human resource management, electronic human resource management systems (e-HRM) have various functional modules aimed at optimizing and automating HR management processes to improve the efficiency and effectiveness of HR departments. This section will provide a detailed introduction to the main functions of e-HRM, including recruitment and selection, performance management, training and development, compensation management, and employee relations.

2.1.1 Recruitment and Selection

Recruitment and selection are critical aspects of human resource management, directly related to the talent pool and competitiveness of an enterprise. e-HRM systems provide convenient and efficient recruitment channels through online recruitment platforms, making the recruitment process faster and more transparent. Recruitment platforms usually include the following functions.

Enterprises can post job information in the e-HRM system, including job titles, descriptions, and requirements. Job information can be published on internal websites or external recruitment websites to attract more applicants. The e-HRM acts as an Resume Management platform as well. Recruitment platforms can help enterprises manage a large number of applicants' resumes, including collection, storage, screening, and classification. The resume management module enables enterprises to quickly find candidates who meet job requirements, improving recruitment efficiency.

The e-HRM system can assist enterprises in scheduling interview times and locations and sending interview invitations to candidates. The interview scheduling module usually includes calendar management, email notifications, and interview evaluations, helping enterprises organize the interview process more scientifically. Once a candidate is selected, the e-HRM system can help generate offer letters and employment contracts, and record employee onboarding information. The hiring management module usually includes document management, process approval, and data import functions, helping enterprises standardize and simplify the hiring process.

The application of the recruitment and selection module can help enterprises quickly find suitable talents, improve recruitment efficiency and success rates, thereby enhancing the competitiveness and innovation capabilities of the enterprise.

2.1.2 Performance Management

Performance management is a core aspect of enterprise management, directly related to employees' work performance and enterprise performance goals. The e-HRM system achieves comprehensive and intelligent performance management through online performance evaluation tools. The performance management module usually includes the following functions.

Goal Setting: Employees and managers can set personal and team performance goals in the e-HRM system, clarifying work priorities and expected outcomes. The goal-setting module usually includes goal formulation, tracking, and evaluation functions, helping enterprises establish a clear performance goal system.

Performance Evaluation: The e-HRM system can quantitatively and qualitatively evaluate employees' performance based on set performance indicators and evaluation criteria. The performance evaluation module usually includes evaluation form design, evaluation process management, and result analysis functions, helping enterprises objectively and fairly assess employees' work performance.

Feedback and Improvement: After performance evaluation, the e-HRM system can generate performance reports and personal development plans, providing immediate feedback and improvement suggestions to employees. The feedback and improvement module usually includes performance report generation, feedback communication, and personal development planning functions, helping enterprises enhance employees' work motivation and development potential.
The application of the performance management module can help enterprises establish a scientific performance management system, improve employees' work efficiency and satisfaction, and promote continuous development and innovation capabilities of the enterprise.

2.1.3 Training and Development

Training and development are important aspects of enterprise management, directly related to employees' career development and the talent pool of the enterprise. The e-HRM system achieves personalized and intelligent training and development through online training platforms. The training and development module usually includes the following functions.

The e-HRM system can provide a variety of online training courses, covering technical training, management training, and soft skills training in multiple fields. The course management module usually includes course publishing, booking, and evaluation functions, helping enterprises meet employees' learning needs and development expectations. Employees can engage in online learning at any time and place through the e-HRM system, flexibly arranging learning time and content. The online learning module usually includes a learning resource library, learning progress tracking, and learning achievement certification functions, helping employees enhance self-learning abilities and knowledge levels. After training, the e-HRM system can evaluate and provide feedback on employees' training outcomes.

2.2 The Impact of e-HRM on Enterprise Management

The application of electronic human resource management systems (e-HRM) in enterprise management has brought many positive impacts, covering various aspects of the organization and playing an important role in improving management efficiency and promoting employee development.

2.2.1 Improving Management Efficiency

The application of e-HRM systems has significantly improved enterprise management efficiency. Traditional HR management often relies on cumbersome manual operations and paper documents, prone to inaccuracies and lack of transparency. e-HRM systems achieve automation and digitization of HR management processes through information technology, greatly improving management efficiency and accuracy.

e-HRM systems can reduce the administrative burden of HR management. For example, traditional recruitment processes require a lot of manpower for tasks such as posting job information, screening resumes, and arranging interviews. e-HRM systems can automate and systematize these processes through online recruitment platforms, saving HR managers time and effort, allowing them to focus more on strategic tasks. e-HRM systems enhance data processing accuracy and consistency. Traditional HR management often faces issues of inaccurate information and redundant data, which can lead to management decision errors. e-HRM systems centralize and update data in real-time through information technology, ensuring data accuracy and consistency, providing reliable support for management decisions.

<table>
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<tr>
<th>Table 1. e-HRM Implementation Before and After Comparison of Employee Work Efficiency</th>
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<tr>
<td>Indicator</td>
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<td>Average Recruitment Cycle (days)</td>
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<tr>
<td>Monthly Training Course Completion Rate (%)</td>
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<tr>
<td>Performance Evaluation Cycle (months)</td>
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<tr>
<td>Monthly Payroll Processing Time (days)</td>
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<td>Average Employee Work Time Utilization Rate (%)</td>
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Table 1 shows the data comparison of several key indicators before and after the implementation of e-HRM systems. It can be seen that in terms of recruitment cycle, training course completion rate,
performance evaluation cycle, payroll processing time, and employee work time utilization rate, the implementation of e-HRM systems has achieved significant results, greatly improving employee work efficiency and enterprise management effectiveness.

2.2.2 Promoting Organizational Change and Innovation

The application of e-HRM (electronic Human Resource Management) systems has significantly promoted organizational change and innovation within enterprises. Traditional human resource management often confines itself to routine transactional work, making it difficult to support strategic development and transformation. In contrast, e-HRM systems provide comprehensive HR management functions, offering critical support for strategic planning and organizational transformation.

E-HRM systems facilitate the optimization and adjustment of organizational structures. Traditional organizational structures tend to be rigid and complex, struggling to adapt to market changes and competitive challenges. E-HRM systems enable enterprises to achieve flexible adjustments in organizational structures, including personnel allocation and job settings, thereby enhancing adaptability and competitiveness.

Besides, e-HRM systems foster innovation and optimization in management models. Traditional management models often overly rely on manual operations and paper documents, leading to inefficiencies and difficulty in adapting to rapidly changing market environments. Through information technology, e-HRM systems automate and digitize management processes, introducing new possibilities for management models, including real-time monitoring and intelligent analysis.

It can enhancing Employee Satisfaction and Loyalty as well. The application of e-HRM systems enhances employee job satisfaction and loyalty. Employees are the most valuable resource for enterprises, and their satisfaction and loyalty are directly related to organizational stability and development. E-HRM systems provide personalized services and support to meet diverse employee needs, improving their work experience and satisfaction, as shown in Table 2.

It is also an efficient Employee Self-Service Platform, e-HRM systems offer convenient and efficient employee self-service platforms. Traditional HR management often requires employees to handle various matters through manual consultations or by filling out paper forms, which is inefficient and prone to errors. E-HRM systems provide online self-service platforms, enabling employees to handle various information at any time and place.

<table>
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<th>Table 2. Employee Satisfaction Survey Comparison</th>
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<td>Survey Item</td>
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<tr>
<td>Work Environment</td>
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<td>Compensation and Benefits</td>
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<td>Training and Development</td>
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<td>Performance Evaluation</td>
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<td>Corporate Culture</td>
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Table 2 shows a comparison of employee satisfaction survey results before and after the implementation of the e-HRM system. It can be seen that satisfaction in areas such as work environment, compensation and benefits, training and development, performance evaluation, and corporate culture has significantly improved, indicating that the implementation of the e-HRM system has positively impacted employee work experience and satisfaction.

2.3 Challenges and Future Development Directions of e-HRM

Despite the numerous advantages brought by e-HRM systems, their implementation also faces some challenges[9]. Firstly, the initial investment and maintenance costs of the system are relatively
high, which may pose a burden for small and medium-sized enterprises. Secondly, both employees and management need to adapt to the new system, requiring adequate training.

The initial investment and maintenance costs of e-HRM systems are high, which may be a significant challenge for small and medium-sized enterprises. Companies need to invest substantial funds in hardware, software, and human resources to ensure the smooth implementation and operation of the e-HRM system. Noe et al. [5] suggest that to reduce implementation costs, companies can choose to implement e-HRM systems gradually, starting with the most basic functions and then expanding to more functional modules.

Both employees and management need to adapt to the new system, requiring sufficient training. Dessler points out that when implementing e-HRM systems, companies need to provide adequate training and technical support to ensure that employees can proficiently use the new system. Through training and support, companies can help employees overcome resistance to the new system, enhancing their proficiency and satisfaction with its use.

2.3.1 Future Development Directions

Future research should focus more on the application of emerging technologies in e-HRM to further enhance the intelligence and personalization of the system. The application of artificial intelligence and big data technologies can help companies better predict and manage human resource needs, improving the scientific and precision of HR management. Lepak suggest that by introducing artificial intelligence and big data analysis technologies, e-HRM systems can achieve more intelligent and personalized HR management services, enhancing enterprise management levels and competitiveness[10].

3. Conclusion

The application of electronic human resource management systems (e-HRM) in HR management has significantly improved the efficiency and effectiveness of enterprise human resource management. By automating and systematizing HR functions such as recruitment, performance management, training and development, compensation management, and employee relations, e-HRM brings numerous advantages to enterprises. Despite some implementation challenges, through reasonable planning and execution, enterprises can fully utilize e-HRM systems to enhance management levels and competitiveness.

Future research should focus more on the application of emerging technologies in e-HRM to further enhance system intelligence and personalized services. Through continuous innovation and optimization, e-HRM systems will play a greater role in enterprise human resource management, aiding companies in achieving sustainable development.

References

