

# Response Mechanism of Human Resource Management Digital Technology Based on Employee's Perspective: Model Construction and Management Suggestion

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**Abstract:** With the rapid development of information technology, digital human resource management (DHRM) has become an important direction of enterprise management innovation. Based on related literature research, this study defines the connotation of digital human resource management. Based on the perspective of employees, from the four dimensions of cognitive, emotional experience, adaptation, and resistance, this study expounds that digital technology in improving the positive role of human resource management efficiency has not yet been fully utilized to build the digital response mechanism based on employee perspective of human resource management model. The research suggests that the relationship between organizational quantitative calculation and employee personal value proposition should be properly handled well, and the relationship between organization monitoring and employee privacy protection should be maintained.

**Keywords:** Human resource management digital technology; Cognition; Emotional experience; Adaptation; Resistance

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## 1. Introduction

The party's 20th annual report points out that the people should accelerate the development of the digital economy and promote the deep integration of the digital economy and the real economy. According to the Research Report on The Development of China's Digital Economy 2023, in 2022, the scale of China's digital economy reached 50.2 trillion yuan, with a year-on-year nominal growth of 10.3%. The proportion of the digital economy in GDP is equivalent to the proportion of the secondary industry in the national economy, reaching 41.5%. With the development of the digital economy, the organizational structure and management mode of enterprises are undergoing digital transformation. The working mode of employees and the way of managing employees have changed, and digital human resource management has become the focus of practical and academic attention.

However, while organizations embrace digital technology, digital technology also brings unprecedented challenges to enterprises. On the one hand, the object of organization and management is no longer only the employees in the enterprise, but a complex system composed of powerful and intelligent digital technology and employees empowered by digital technology <sup>[1]</sup>. On the other hand, the actual effect of digital technology in improving the effectiveness of organizational human resource management still needs more data support. The existing human resource management research does not widely verify the positive role of digital technology in human resource practice and even indicates a series of negative consequences such as reducing training satisfaction, damaging employee job motivation, and increasing employee turnover tendency <sup>[2-5]</sup>. Based on the systematic analysis of digital human resource management, this paper will explore, from the perspective of employees, the influence mechanism of digital technology on human resource management on employees and the impact on the performance of employees.

## **2. Review of the relevant literature**

### **2.1. Connotation of digital human resource management**

Primer believes that digital human resource management is a new management mode based on advanced software and high-speed hardware, which can change the management and behavior mode of traditional human resource services <sup>[6]</sup>. Lawler emphasizes the important role of digital HR management in improving employee satisfaction and loyalty <sup>[7]</sup>. Jin Juan pointed out that digital human resource management is the use of modern information technology and communication means to digitize the processing of each link of human resources, to achieve more efficient, accurate, and personalized management <sup>[8]</sup>. This includes but is not limited to staff recruitment, training, performance management, compensation management, and other aspects.

To sum up, the scholars mainly explain digital human resource management based on the perspective of technology, function perspective, and the comprehensive technology-function perspective. In this study, digital human resource management refers to the use of modern digital technology, such as cloud computing, big data, artificial intelligence, and so on, in the traditional human resource management process innovation and optimization, to improve the efficiency and accuracy of human resource management, makes the organization can better understand and cope with the employee needs, develop more effective human resource strategy. It can be seen that digital technology is the basis and premise of digital human resource management (DHRM), and it is also its most significant feature.

### **2.2. Digital technology of human resource management**

With the rapid development of the information age, digital technology has brought great changes to the practice of human resource management (HRM). Still, scholars also found that the positive role of digital technology in improving the efficiency of human resource management has not been fully utilized, attributing to the one-way communication and de-personalized practice of human resource managers in the application of digital technology <sup>[2, 9]</sup>. It can be seen that researchers also need to examine the human resource management digital technology from the perspective of employees. Technology, as a structural feature, is not static but emerges in the process of human use of technology <sup>[10]</sup>. Hence, it is meaningless to escape the objective attributes of human behavior and intentionality <sup>[11]</sup>. Only from the perspective of employees and paying attention to employees' cognition, emotional experience, adaptation, and resistance to technology can digital technology play a more active role <sup>[12]</sup>.

### **3. Construction of response mechanism model of human resource management digital technology based on employee perspective**

#### **3.1. Cognition**

Employees' cognition of digital technology is a comprehensive process, and the result of this cognitive effect is manifested in multiple aspects, including fair perception, job motivation, and satisfaction.

##### **3.1.1. Fair perception**

Fair perception refers to employees' cognition of fairness in job distribution, treatment, promotion opportunities, and other aspects of the digital work environment. Employees assess whether they are treated fairly, have equal opportunity to participate and contribute, and whether they can benefit from digital technology. Bies and Moag noted that equitable perception plays a key role in employees' work attitudes and behavior <sup>[13]</sup>. They argue that their job satisfaction, organizational commitment, and performance improve when they think they are treated fairly in their work environment. In the digital work environment, this perception of fairness is equally important, because employees need to feel that they are treated fairly and have opportunities in the use and promotion of digital technology.

##### **3.1.2. Work motivation**

Arnaud and Chandon's questionnaires found that the breadth of digital monitoring systems (monitoring systems extensiveness) impaired their intrinsic motivation to work by negatively affecting the perceived autonomous supportive environment (autonomy-supportive environment) <sup>[14]</sup>. According to the social information processing theory, the focus of digital monitoring (workload or work quality) is a social clue, suggesting that the organization pays more attention to performance. Through the experiment, the researchers found that job opportunities were stronger when employees realized that their work output, rather than their work quality, was monitored by digital technology.

##### **3.1.3. Satisfaction**

Stanton and Julian found that employees who realized their work quality was monitored were more task-satisfied than situations where work quality was not monitored <sup>[15]</sup>. Carlson et al. derived according to the work resource-demand model and found that digital monitoring increased employees' turnover tendency by reducing employee satisfaction <sup>[16]</sup>. The empirical study by Jeske and Santuzzi verified the negative relationship between different forms of digital monitoring, telephone monitoring, and network chat record monitoring and employee job satisfaction <sup>[17]</sup>.

#### **3.2. Emotional experience**

Emotional experience refers to employees' feelings about the role of human resource management digital technology in interpersonal communication, network infringement, and other aspects. These feelings can affect their work experience and interpersonal relationships.

Scholars believe that information communication technologies make communication more structured <sup>[18]</sup>. They convey fewer interpersonal cues, expressions, and non-verbal hints, and reduce the richness of communication <sup>[19]</sup>. The research found that this interpersonal communication is not conducive to the development of lasting emotional connections between individuals, because ICT communication cannot pass interpersonal clues, employees in the organization will therefore develop more task-oriented tool contact, such as the cognitive sharing between members, rather than emotional contact such as team cohesion <sup>[20-21]</sup>. This communication model also reduces emotional support and empathy in interpersonal relationships and triggers more social suppression (social

undermining)<sup>[22]</sup>. What's more, the popularity of digital technology also encourages technology abuse, which causes various problems for employees<sup>[23]</sup>. For example, Park's research showed that mail communication makes everyone less vulnerable to the constraints of civilized communication specification, and the lack of expression, tone, and non-verbal clues also makes communication difficult to clarify misunderstandings in communication, making everyone feel that the communication is uncivilized, and the perceived uncivilized communication will further cause emotional and physiological tension<sup>[24]</sup>.

### **3.3. Employees' adaptation to digital technology can be divided into active adaptation and passive adaptation.**

Active adaptation means that employees will proactively make new behavioral choices according to the new environmental structure. Compared to face-to-face communication, in a digital communication environment, employees can more selectively express their commendable characteristics and impression management, and even shape a self with "thousand faces"<sup>[25]</sup>. When employees know that they are in a "panoramic prison" where they are constantly being watched, their motivation for self-presentation may be stronger, and they will selectively show their organizational norms.

Passive adaptation means that employees will passively evolve with the participation of digital technology in organizational life and become more deskilled. In the face of increasingly standardized and quantitative training and assessment in human resource management, as well as increasingly powerful algorithm recommendation and restriction tools, employees and human resource managers have a trend of declining skills, and "dehumanization" management seems to be getting prominent<sup>[26-27]</sup>. Taking the algorithmic recommendation (algorithm recommending) measure in human resource management as an example, it serves as a means of organizational guidance to encourage employees to make more choices that the organization expects in the workplace<sup>[26]</sup>. As a result, employees rely less and less on their intuition and professional judgment to make decisions, but rather on the results of machine algorithms, even if they cannot fully understand the specific mechanism behind the algorithm<sup>[26]</sup>. For example, the Uber platform calculates whether the driver is driving abnormally based on their data records, such as braking and acceleration, and tells the Uber driver when they need to stop and take a rest<sup>[28]</sup>. Raisch and Krakowski point out that digital technology greatly improves the automation process in an organization, which not only makes employees more skilled (de-skill) and decentralized responsibilities, but also makes managers give way to machines in many management tasks, and may cause unemployment and social inequality<sup>[29]</sup>. Scholars believe that the automation of management decisions will also lead to the phenomenon of manager disintermediation<sup>[26]</sup>. As the transmission of vertical information is becoming more and more convenient, the middle managers responsible for communicating and conveying information are gradually reduced, and the organizational level is thus becoming more and more flat<sup>[30]</sup>. These consequences all threaten the long-term growth and development and value realization of employees and managers and bring great hidden dangers to the cultivation and development of talents.

### **3.4. Resistance**

Resistance refers to a series of negative, resistant, or uncooperative behaviors taken by employees in the face of their values, habits, or beliefs. This resistance may be manifested as a privacy game, direct resistance, avoidance, and even manipulation of the algorithm.

#### **3.4.1. Privacy game**

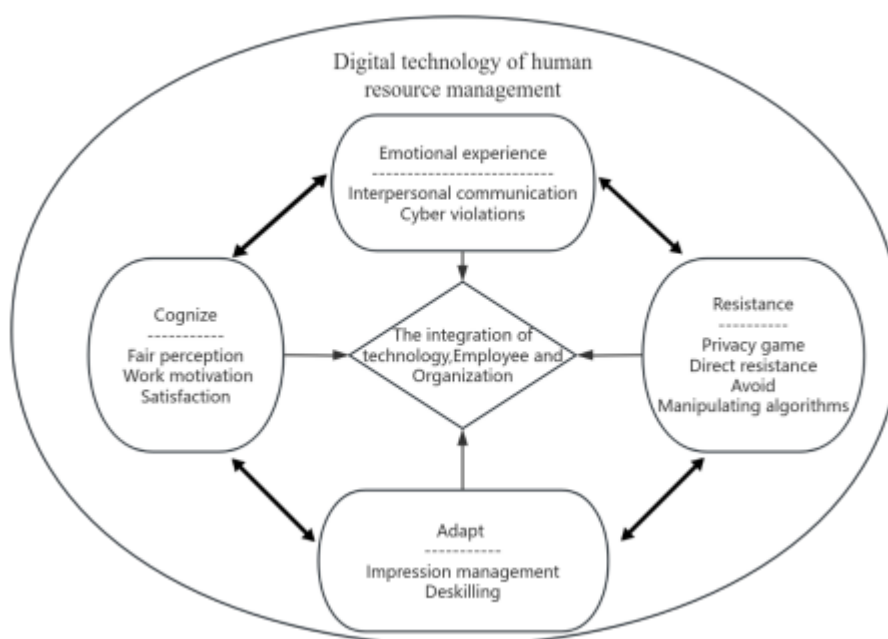
The strong nature of algorithmic monitoring will undoubtedly cause problems of ethics, privacy, and autonomy, and bring all kinds of negative feelings and behavioral results to employees. But at this time, the employees are

not in a completely passive and resigned position. For example, some scholars believe that people always have the choice and initiative in front of technology, and employees can also choose how to deal with and even resist digital technology [31–33]. Bhaven et al. described the picture of George Orville in analogy to the invasion of employee privacy in 1984 [34]. Bhaven et al. believe that employees are always sharing information based on the advantages and disadvantages, because disclosure may lose control of information, but will make the employee-employer relationship more valuable [34]. The privacy violation in the organization may cause employees to be hostile, but having as much information as possible is beneficial for the organization to make better decisions. However, as Acquisti et al. said, although privacy demand is a common need, individuals’ judgment of the privacy category and their privacy preferences are highly context-dependent [35]. Therefore, Bhaven et al. proposed that in the game between organization and employee privacy, personal personality traits, privacy preference, organizational culture, and norms will affect the balance of advantages and disadvantages between the two sides respectively [34].

### 3.4.2. Directly resist, avoid, or manipulate the algorithm

Kellogg et al. summarize the three possible countermeasures that employees can take against digital control, and call it algorithmic activism (algoactivism) [26]. First, employees can take an uncooperative attitude to obstruct the organization’s data collection or ignore algorithm recommendations. For example, Uber drivers occasionally quit the Uber software to carry passengers nearby or avoid long-distance orders. Second, employees can reverse engineer and decode the operation mechanism of the algorithm, to “do their best” and selectively express themselves. Third, employees can also “exploit loopholes” and reach private agreements with customers to jointly counter the organization’s control. This is shown by Taobao merchants creating good reviews to earn cash back from the review program. Because digital tools reduce face-to-face communication and evaluation between managers and employees, once employees successfully crack and manipulate the algorithm, the data obtained by the organization will be distorted, and employees will get a lot of benefits. In the various games between managers and employees through digital technology, how to effectively ensure the fairness and reasonable rights and interests of both sides will be a difficult problem that researchers and managers need to face together [12].

Based on the above analysis, the following response mechanism model of the digital employee human resource management technology is constructed, as shown in **Figure 1**.



**Figure 1.** Response mechanism model of the digital technology of the employee human resource management

## **4. Study conclusions and management recommendations**

### **4.1. Study conclusions**

Although this study proposes the response mechanism model of HRM digital technology based on employee perspective and deeply analyzes how HRM digital technology affects employees' cognition, emotional experience, behavior attitude, and performance, there are still some limitations that cannot be ignored.

First, above all, although the theoretical model provides us with a framework, the real practical application needs to be verified through extensive data collection and analysis. This means that future studies need to design more rigorous and operational empirical studies to verify the predictive and explanatory power of the model.

Second, the effect of individual differences on employee response. For example, employees with different personality types may respond differently to the application strategy of the same HRM digital technology, and employees with different work experiences may also perceive and respond differently to this. Therefore, future studies can further introduce individual difference variables, such as personality, work experience, educational background, and so on, to more comprehensively explore the impact of HRM digital technology on employees.

Finally, this study focuses on the general impact of HR digital technology on employees but ignores the differences in different cultural and industry contexts. Different cultures and industries may have their own unique HRM practices, which may have different effects on employees. Therefore, future studies can be validated and revised for models in different cultural and industry contexts to more accurately reflect the practical effects of HRM digital technology applications in different environments.

### **4.2. Management suggestions**

As mentioned above, academic research has not only failed to show that digital technology is effective in human resource management practice but it can be seen that these practices have caused negative perception and even resistance of employees in different aspects <sup>[2, 12]</sup>. How to promote the deep integration and common development of digital technology and employees and organizations needs continuous exploration and research by the practical and academic circles. The author gives the following management suggestions from a theoretical perspective.

#### **4.2.1. Handle the relationship between organizational and quantitative calculation and employees' personal value proposition**

First, the organization needs to ensure that employees understand the purpose, function, and advantages of the application of human resource management digital technology, especially the algorithm involving the allocation of employees, which should be given reasonable explanations.

The second is to establish an offline employee feedback mechanism, regularly evaluate the practicality, ease of use, and satisfaction of the digital tool, and continuously improve and optimize according to the feedback.

Third, pay attention to the diversified and personalized expression of employees, and effectively integrate employee goals and organizational goals.

#### **4.2.2. Handle the relationship between organizational monitoring and employee privacy protection well**

In the "panoramic prison" shaped by digital monitoring means, managers master a large amount of employee information at a small management cost and conduct comprehensive and immediate supervision, guidance, and restriction on employees. However, while improving the effectiveness of monitoring, organizations should protect employees' privacy and respect their independence.

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## Disclosure statement

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