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Original Article (Qualitative)

Digital technologies on the evolution of human resource management practices and its consequences on employee outcomes with a data-driven theory approach

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Abstract

The present study aimed to qualitatively analyze the impact of digital technologies on the transformation of human resource management practices and its consequences on employee outcomes. This applicable and qualitative study was designed with a data-based theory approach using MAXQDA software, and data was collected through semi-structured interviews with managers, human resource experts, and employees with experience interacting with digital technologies. Data analysis was conducted in three stages of open, axial, and selective coding. The findings showed that causal factors including technology-driven leadership, managerial support for innovation, and data-driven decision-making culture play a key role in facilitating human resource transformation. Contextual factors including organizational learning culture and employees' digital literacy level provide the necessary context for the successful implementation of digital processes, while limited financial resources, administrative rules, and employee resistance act as intervening factors. Strategies such as digital employee empowerment, cross-functional collaboration, and technological infrastructure development improve employee productivity, satisfaction, and commitment. The study provides a comprehensive theoretical-practical framework that organizations can use to effectively and sustainably implement human resource management practices using digital technologies.

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Extended Abstract

Introduction

Technological developments in recent decades have transcended the traditional boundaries of organizations and shaped a new concept of the workplace and human resources. The emergence and spread of digital technologies such as artificial intelligence, big data, machine learning, the Internet of Things, digital platforms, smart human resource systems, and augmented reality have fundamentally transformed the structure and nature of human resource management (Chepkemoi et al., 2025). In the past, human resource management focused more on administrative and executive processes such as recruitment, payroll, performance appraisal, and training; however, in the digital age, this field has become a strategic and technology-driven platform that aims to create added value through the use of data, technology and organizational intelligence (Chen et al., 2024). The transformation of HRM practices in the digital age is significantly influenced by gaps in digital technologies. Resistance to change is one of the main obstacles that many organizations face (Dabić et al., 2023). This resistance is often due to a lack of understanding or fear of the unknown and can hinder the adoption of new systems and processes. In addition, the digital skills gap among employees is a major challenge for organizations that intend to fully exploit digital tools in HRM. This lack of skills can lead to inefficiencies in recruitment, training and performance management processes (Puspita, 2024). Data security and privacy concerns are also major challenges in integrating digital technologies with HRM (Abdollahzadeh Namini et al., 2024). Organizations need to find effective solutions to protect sensitive employee information while implementing digital solutions. On the other hand, the lack of clear implementation strategies is another problem that organizations struggle with. The absence of a clear framework can lead to inefficient use of technology and missed opportunities to improve HRM processes (Dyakiv et al., 2024). Financial constraints also limit organizations' ability to invest in digital technologies and training programs, exacerbating the challenges in modernizing HRM practices. In addition, cultural barriers play an important role in the successful adoption of digital technologies (Puspita et al., 2024). Organizational cultures that do not support innovation may become a barrier to digital transformation (Barišić et al., 2021). Consequently, although digital technologies offer valuable opportunities to improve HRM practices, gaps such as resistance to change, lack of digital skills, security concerns, lack of clear strategies, financial constraints, and cultural barriers need to be seriously addressed in order for digital transformation in HRM to be achieved effectively and sustainably (Fenech et al., 2019). Therefore, the research question is: what is the role of digital technologies on the transformation of HRM practices and its consequences on employee outcomes with a data-driven theory approach?

Theoretical Framework

Digital Technologies and the Transformation of Human Resource Management Practices

As one of the key factors of organizational transformation, digital technologies play a prominent role in changing human resource management practices. These technologies include human resource automation systems, data analysis software, online training platforms, and digital communication tools that enable the implementation of human resource processes with greater speed, accuracy, and transparency (Bennet et al., 2021).

The implementation of digital technologies enables traditional human resource processes such as recruitment, training, performance evaluation, and employee information management to be carried out automatically and intelligently. In addition to reducing human errors, the

automation of these processes allows for accurate data analysis and monitoring, and managers can make their decisions based on real evidence and organizational data. This feature facilitates the transformation of traditional decision-making to a data-driven decision-making culture and increases the speed of the organization's response to environmental changes and employee needs (Blanka et al., 2022).

Dowlatabadi (2025) studied “Analyzing the Impact of Digital Technologies on the Evolution of Human Resource Management Practices in the Digital Age”. The research method is applicable in terms of purpose and descriptive-survey in nature. The findings of the study show that digital technologies have an impact on the evolution of human resource management practices.

Ramos et al., (2024) studied “Digital Transformation in Human Resources: A Comprehensive Bibliometric Analysis of Evolution”. This study conducted a systematic review of the literature using the methodology of Zupik and Chater (2015). This approach allows for tracking intellectual developments, identifying key contributors, and drawing conceptual frameworks in the field of digital transformation in the workplace, and as a result, provides a comprehensive overview of the subject. This research reveals key trends in the literature related to digital transformation and personnel management, identifies influential researchers, and outlines the intellectual structure of this field.

Research Methodology

This research is of an applicable type and qualitative in nature, with an exploratory-explanatory approach based on grounded theory. Its main goal is to identify and explain the relationships between digital technologies, the evolution of human resource management practices, and its consequences on employee outcomes. The statistical population of the research included managers, experts, and human resource employees of organizations that interact with digital human resource management systems. Purposive sampling was conducted to include individuals who have direct experience with digital technologies and new human resource management practices, and the number of participants reached 15 based on theoretical saturation. Data were collected through semi-structured interviews that included questions about employees' experience with digital technologies, human resource management practices, and their effects on employee performance, commitment, and satisfaction. This method allowed for free and detailed expression of views and was not limited to predetermined options. Data analysis was conducted using an open, axial, and selective coding process; first, the initial concepts were extracted, then the relationships between the main concepts and categories were identified, and finally the central phenomenon for the development of the theory was identified. To increase the validity and reliability of the data, the feedback of experts and participants was taken into account in verifying the results, and field notes were recorded accurately. Also, the use of qualitative analysis software such as MAXQDA helped to organize and systematically analyze the data.

Research findings

The research findings showed that digital technologies, by strengthening technology-driven leadership and data-driven decision-making, cause a significant transformation in human resource management practices. Organizational learning culture and employee digital literacy, as contextual factors, facilitate the successful implementation of digital processes, while structural limitations and employee resistance can play a deterrent role. Finally, digital empowerment strategies and the development of technological infrastructure lead to improved employee productivity, satisfaction, and commitment.

Discussion and Conclusion

The present study was designed to investigate the impact of digital technologies on the transformation of human resource management practices and its consequences on employee performance and satisfaction. This applicable and qualitative study was conducted using a grounded theory approach and MAXQDA software, and data was collected through semi-structured interviews with managers, human resource experts, and employees with experience interacting with digital technologies. The results show that technology-driven leadership, managerial support for innovation, and a culture of data-driven decision-making act as the main drivers of technology adoption and improvement of human resource processes. These factors motivate employees, increase technology adoption, and improve data-driven decision-making. The findings of the study are in line with the studies of Dowlatabadi (2025) and Gupta (2024); these studies also emphasize the vital role of management and support for innovation in facilitating the adoption of digital technologies and its direct impact on the success of digital transformation.

Digital transformation and the integration of technology with HR processes form the core of this research and include the digitization of training, assessment, recruitment and automation of personnel processes. These findings are consistent with the studies of Ramos et al. (2024) and Nasiri et al. (2023), which show that digital transformation includes antecedents, processes and direct consequences on employee performance. Digitization of processes improves efficiency, reduces errors and increases accuracy in decision-making and creates significant added value for the organization.

Contextual factors such as learning culture, organizational adaptability and the level of digital literacy of employees also play an effective role in the success of digital transformation. Organizations that have a learning and flexible culture accept digital changes more easily, and continuous training and support from colleagues reduce resistance to technology. These results are consistent with the studies of Goudarzi et al. (2023) and Puspita (2024) and show that developing digital skills and promoting a learning culture are critical prerequisites for the successful implementation of new technologies.

However, intervening factors such as limited financial resources, administrative rules and regulations, and employee resistance can reduce the success of digital transformation. Budget constraints and lack of supportive policies slow down the implementation of digital processes; and employee resistance due to fear of job changes or reductions is a significant challenge. Smart management of these barriers by creating motivation, training, and organizational support is essential for the success of digital transformation, and the findings of Gupta (2024) are in line.

Organizational strategies, including employee digital empowerment, cross-functional collaboration, and the development of technological infrastructure, provide the basis for the full exploitation of technologies. Implementing continuous training programs, creating joint technology and HR teams, and implementing intelligent decision-making systems increase the speed and accuracy of process execution, facilitate the adoption of new technologies, and improve employee experience. This is consistent with the findings of Gupta (2024) and Zisis & Polydoros (2024), which show that effective organizational strategies are a determining factor in the success of digital transformation.

Finally, the consequences of transformation include increased productivity and speed of action, improved employee experience, and enhanced organizational satisfaction and commitment. Successful digitalization and the use of related strategies reduce the cost and time of processes, faster access to HR services, and increase employee motivation and

belonging. The research findings confirm that integrating technology with HR practices creates significant added value, and, as in the studies of Nasiri et al. (2023) and Bagheri et al. (2023), digital transformation can have positive and sustainable effects on organizational performance and employee experience.

