

Electronic Human Resource Management: A Contemporary Review of Organizational and Employee Performance

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Abstract: The purpose of this study is to review and examine the effect of EHRM on organizational and employee performances. Furthermore, a literature review was conducted using a narrative approach, drawing on peer-reviewed studies, most of which were published between 2014 and 2026. The manuscript was identified using key academic databases relevant to the study and then analyzed using thematic synthesis. E-HRM can help increase organizational performance by improving HR effectiveness, operational effectiveness, transparency in HR decision-making, employee productivity, job satisfaction, job engagement, and employee commitment. Elements of leadership support, organizational readiness, employees' digital competence, and data governance are important for successful implementation. Resistance to change, digital incompetence, digital stress, and privacy concerns are still to be tackled. New technologies are revolutionizing HR in the digital age, such as AI, HR analytics, cloud-based solutions, and blockchain. E-HRM needs to be more aligned with the business objectives, offer workers more opportunities to develop digital skills, and implement more advanced cybersecurity policies and responsible AI governance. The critical review is original because it brings together studies on organizational and employee performance, implementation factors, new technologies, problems, recommendations, and future research on E-HRM.

Keywords: Electronic Human Resource Management; Organizational Performance; Employee Performance; Digital Transformation; Literature Review.

Introduction

The rapid development of digital technologies and the pace of digital transformation have transformed how organizations manage their human resources, shifting from traditional administrative practices to integrated, technology-enabled strategic practices (El Garem, 2026). With the surge of organizations undergoing digital transformation, Electronic Human Resource Management (E-HRM) has become a crucial tool in optimizing HR management, enriching employee experiences, and boosting organizational competitiveness (Alqarni et al., 2023; Bhardwaj et al., 2025; Bindra et al., 2025). E-HRM is the process of planning, implementing, and using web-based technologies and information systems in HR policies, practices, and services that help organizations implement strategic decisions and streamline HR functions (De Alwis et al., 2022). E-HRM differs from HRM in that it uses digital technologies, employee self-service, and cloud-based systems, along with sophisticated analytics, to enhance communication, information sharing, and the management of employee resources across organizational levels (Maqueira Marín et al., 2022). The global, technological, remote, and hybrid work environment, along with growing demands for agility, has played a major role in the spread of E-HRM. Globalization, technology, telecommuting, and organizational agility are significant factors in the proliferation of E-HRM. Organizations are therefore spending large amounts of money on digital HR solutions to streamline their administrative processes, boost talent acquisition and employee development, improve HR performance management, and enable evidence-based HR decision-making (Roul et al., 2025).

Modern innovations such as artificial intelligence (AI), machine learning, predictive analytics, cloud computing, blockchain, and mobile human resource management (HRM) applications have also added new dimensions to E-HRM, enhancing its capabilities through personalization, intelligent decision-making, and data-driven HR planning (O'Brien et al., 2025).

There has been a significant increase in research on E-HRM over the last decade across various organizational and national settings. Best practice in E-HRM implementation has been repeatedly shown to have a positive impact on organizational achievement in the following ways: it increases HR efficiency, operational effectiveness, service quality, organizational agility, and strategic decision making, and decreases administration costs (Bag et al., 2022; Bondarouk et al., 2017). The individual-level studies revealed that increased productivity, job satisfaction, employee engagement, organizational commitment, effective communication, and knowledge sharing are connected to E-HRM (Alshibly & Alzubi, 2022; EL GUENUNI et al.; Martin & Reddington, 2010). But these benefits vary across a range of situational factors, including organizational preparedness, technological infrastructure, leadership enablers, employees' digital competence, and organizational culture (Maier et al., 2013).

Although E-HRM research has been flourishing, the available evidence remains scattered. Previous research has focused on a specific element of E-HRM, such as the use of technology, HR effectiveness, strategic HRM, or organizational outcomes, with less focus on the impact of E-HRM on both the organizational and employee outcomes from the same paradigm (Chapano et al., 2023). Moreover, in the last few years, advances in AI, HR analytics, cloud-based HR-enabling systems, and Digital workplace technologies have changed E-HRM practices more than many previous reviews have examined, necessitating a fresh synthesis of the current evidence that reflects the changing digital HR environment.

This review is intended to address these gaps and gather the latest research on E-HRM, pinpointing the most prominent studies on HRM that consider the impact of E-HRM on organizational and employee performance. This review is not an overview of the individual studies, but rather a synthesis of the available evidence to illustrate patterns and commonalities in success factors for implementation, emerging technologies, ethical and organizational issues, and future research needs across a variety of organizations and geographic locations. Thematic synthesis is employed to create a knowledge base on the value of E-HRM and its effects on employee outcomes, and to gain insights into the contexts in which E-HRM initiatives are more successful.

This review is an extensive synthesis of current evidence that has not been exclusively explored from either an E-HRM adoption, HR-digitalization, or an organizational outcome perspective, but rather combines all aspects of organizational performance, employee performance, the success factors of implementing HRM, the new technologies used in HRM, ethical issues, and future research directions of HRM in a unified conceptual framework. This new perspective will expand the current literature on E-HRM and offer theoretical insights and practical guidance for researchers, HR practitioners, organizational managers, and policymakers seeking to leverage digital HR technologies to improve organizational performance and employee effectiveness.

Methodology

The present review has followed a structured approach to the literature and synthesized it into a 'narrative' account of how Electronic Human Resource Management (E-HRM) affects organizational performance, with particular focus on employees. This study will not be a systematic literature review, but will summarise, critically synthesize, analyze, and appraise the literature and identify overarching research themes, emerging trends, and potential future research activities where the need is to provide a general overview of a heterogeneous research area, such as E-HRM, in terms of context, methods, and theoretical approaches, a structured narrative review can be helpful (Strohmeier, 2007).

The literature search was conducted using the major academic search databases: Scopus, Web of Science, ScienceDirect, Emerald Insight, SpringerLink, Taylor & Francis Online, Wiley Online Library, and Google Scholar. Peer-reviewed journal articles published from 2014 to 2026 were the primary sources for the research, and in some cases, seminal articles were used to provide the theoretical and conceptual background of EHRM. The following keywords were part of the search: Electronic Human Resource Management (E-HRM), Digital Human Resource Management, HR digitalization, organizational performance, employee performance, HR effectiveness, employee satisfaction, employee productivity, and digital transformation.

Empirical studies, review articles, and conceptual papers were the most preferred papers. Conference abstracts and editorials, dissertations, book reviews, and other publications in languages other than English were excluded to ensure the quality, relevance, and consistency of the evidence reviewed. The critical analysis and summary of selected studies were organized into the following categories: conceptual foundations, organizational performance, employee performance, critical success factors, implementation challenges, emerging technology trends, and future research directions. This thematic synthesis was intended to provide a concise summary of the current literature in E-HRM, identify key knowledge gaps, and offer future research directions.

Conceptual Foundations of Electronic Human Resource Management (E-HRM)

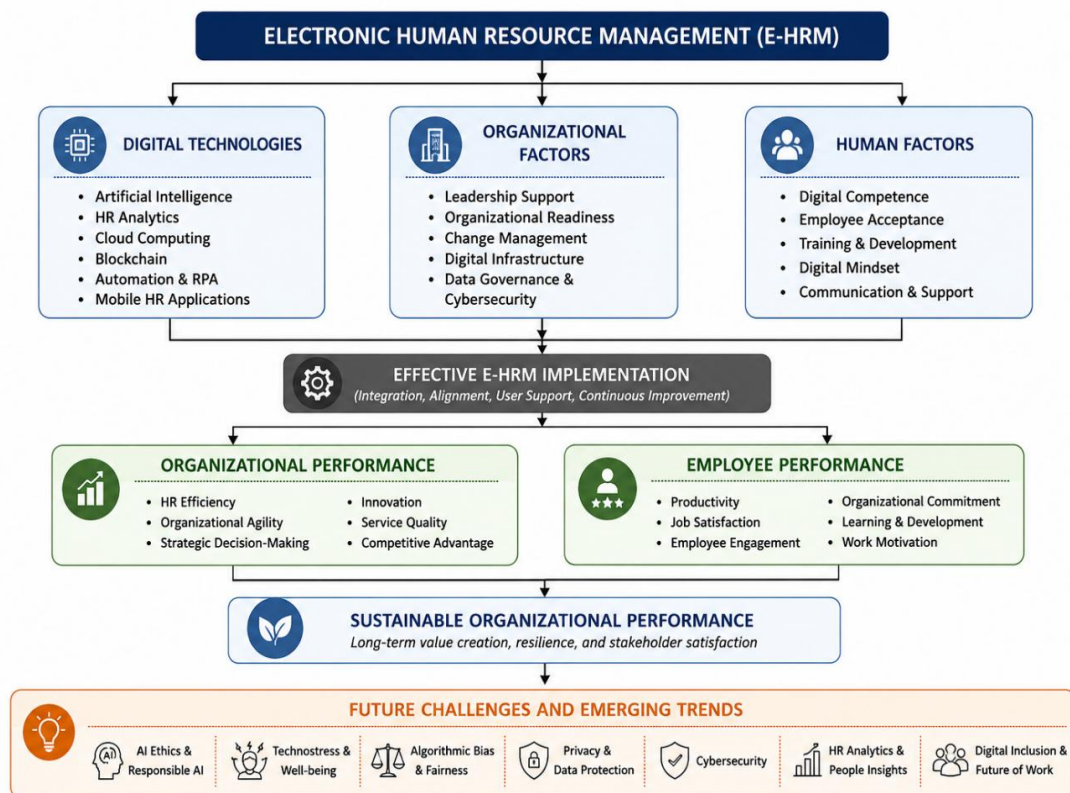
Electronic Human Resource Management (E-HRM) is now considered a strategic approach that combines information and communication technologies (ICTs) with human resources management (HRM) to improve HR service value, organizational effectiveness, and strategic decision-making. Unlike traditional HRM, E-HRM embraces web-based applications, enterprise resource planning (ERP) applications, cloud computing, and online platforms to automate and facilitate HR functions, including recruitment, selection, training, performance evaluation, remuneration, and communication between workers (Kambur & Yildirim, 2023; Masum, 2017). The transformation of E-HRM is a process that “embarks on digital transformation” of organizations, meaning that technology itself is becoming not only an operational tool but also a strategic capability that organizations use to become competitive and generate long-term value (Sinha et al., 2026).

The concept of E-HRM has evolved significantly over the last 20 years. Initial investigations focused on E-HRM as an administrative innovation to enhance HR efficiency and reduce operational costs (Parry, 2011). More recent studies, however, acknowledge that E-HRM is a strategic organizational capability that promotes knowledge transfer, evidence-based decision making, employee engagement, and agility and organizational innovation (Alqarni et al., 2023). This is a shift in HR from administration to business partners that drive value in the organization through digital technologies.

The study is based on several theoretical perspectives that underpin an understanding of E-HRM and its organizational outcomes. The Resource-Based View (RBV) focuses on how well organizations leverage valuable, rare, inimitable, and non-substitutable resources to create sustainable competitive advantage (Barney & Arikan, 2005). E-HRM systems are organizational resources and tools that contribute to human resource development, decision-making, and organizational performance. (Rana & Kaur, 2024) argue that the successful implementation of E-HRM relies on three factors – technology readiness, organizational characteristics, and the environment, such as competitive pressures and regulatory support – collectively known as the TOE model. Moreover, based on Social Exchange Theory (SET), digital HR systems that are fair, efficient, and supportive of employees are more likely to elicit higher commitment, engagement, and job performance (Reader et al., 2017). All of these theoretical constructs imply that the implementation of E-HRM is just as dependent on the organization's readiness as on technological capabilities, and that employees' behavioral reactions, namely attitudes, will affect organizational and employee performance.

There are three functional dimensions of E-HRM in the literature: operational, relational, and transformational E-HRM (Strohmeier & Kabst, 2014). The purpose of operational eHRM is to automate manual human resource tasks such as payroll processing, attendance management, and employee data management. Relational E-HRM is applicable to HR processes related to employee/manager relationships, such as recruitment, training, performance management, and internal communication. With Transformational E-HRM, HR can be more directly involved in organizational strategy, innovation, and long-term performance, including talent management, succession planning, workforce analytics, and organizational change initiatives (Muzaffar et al., 2024).

AI, predictive HR analytics, cloud computing, the blockchain, mobile HR apps, and generative AI have further revolutionized E-HRM in recent years. By leveraging these technologies, organizations can gain better insights into their talent needs and implement proactive strategies, all while enhancing their agility, improving employee experiences, and supporting evidence-based strategic HR decisions (McIver et al., 2018). The conceptual framework was formulated based on the literature review and is illustrated in Figure 1, which summarizes the main technological, organizational, and human issues that can affect the successful implementation of E-HRM and provides examples of how these issues affect both organizational and staff performance. In addition, the framework identifies emerging technologies and current implementation issues that are likely to have the greatest impact on the future development of E-HRM and serves as an analytical roadmap for the subsequent parts of this review.



Source: Developed by the authors based on the reviewed literature.

Figure 1. Conceptual Framework of Electronic Human Resource Management (E-HRM): Drivers, Implementation, and Performance Outcomes

Discussion and Theoretical Insights

E-HRM and Organizational Performance

With the advent of Electronic Human Resource Management (E-HRM), it has become evident that it is a strategic organizational capability to go beyond the automation of routine human resource management activities. Different organizational contexts, as per the research conducted in recent days, highlight that E-HRM has a positive effect on organizational performance in terms of improving operational efficiency, decreasing administrative costs of an organization, improving HR service quality, and supporting decision-making based on evidence (Bag et al., 2022; Rahman et al., 2018; William & Singh, 2023).

The literature also suggests that complementing organizational capabilities and skills enhances the association between E-HRM and organizational performance. Based on the published literature, the empirical studies suggest that organizational agility, knowledge management, HR service quality, and sustainable competitive advantage are important mechanisms that enable the positive impact of digital HR practices on organizational outcomes (Alqarni et al., 2023; Balouch et al., 2026; Mahmoud et al., 2025). The implications of these results are that the advantages of E-HRM do not materialize solely in the use of technology, but also in organizations' capacity to embed and align digital HR processes and practices with other organizational processes and capabilities.

However, digital adoption and creating an adequate implementation strategy may not yield sufficient performance gains in organizations lacking in digital capability or with under-resourced implementation efforts (Alwali et al., 2025). Moreover, obstacles to implementation, including resistance to change, ineffective system integration, lack of managerial support, and ineffective change management practices, could affect the strategic benefits of E-HRM. The results of this research highlight that for technology to improve organizational performance, it needs to be paired with complementary organizational skills, effective leadership, and employee readiness to embrace digital transformation.

The literature review found that E-HRM, when combined with appropriate technological, organizational, and human capacities, is a strategic tool for enhancing organizational performance. These organizational gains are well established, but it is equally crucial to recognize the effects of E-HRM on individual employee outcomes, as these will ultimately determine how much organizations will actually get out of digital HR transformation. Thus, the next section looks into the association between EHRM and employee performance.

E-HRM and Employee Performance

Employee performance is identified as one of the key success factors after implementing E-HRM (Nyathi & Kekwaletswe, 2024). In reality, the empirical studies demonstrate that E-HRM can positively affect employee productivity because of its benefits, such as process efficiency, communication, accessibility of HR service, continuous learning, performance management, and career planning (Al Shobaki et al., 2017; Fındıklı & beyza Bayarçelik, 2015). It eliminates administrative processes and allows staff to access HR-related information and self-service applications in a timely manner, enabling them to do their jobs more efficiently and better align with the organization's goals. From these empirical findings, it seems that E-HRM can help improve employee performance through creating a more responsive, collaborative, and digitally supported workplace.

Overall, these findings indicate that E-HRM enhances employees' performance competence by improving their task performance and attitudes towards work, thereby increasing organizational efficiency (Bhatti & Alqasa, 2025; Subrahmanyam, 2025).

While the aforementioned findings are favorable, there are also several challenges in implementing HRM. But many issues with HRM implementation have also been noted in the literature. However, relying too heavily on digital HR tools can lead to technostress, technology anxiety (TA), and consumer resistance to digital tools among users with lower digital competencies (Makowska-Tłomak & Bedyńska, 2026). Furthermore, the widespread use of electronic monitoring and the introduction of artificial intelligence-based performance management systems could result in employees being monitored, employee autonomy being lost, and problems with privacy, transparency, and algorithmic fairness.

Critical Success Factors for Effective E-HRM

To implement E-HRM, there is a need for the successful integration of human, technological, and organizational capabilities. According to the literature, top management support, organizational preparedness, technological infrastructure, and digital competence of the employees, as well as the strategic alignment, are significant factors (Rahman et al., 2018). Furthermore, companies that have the company objective in mind are more likely to enhance HR efficiency, improve decision-making, and boost overall company performance in digital HR than companies that view digital HR as a technology investment (L'Écuyer & Raymond, 2023).

The significance of Employee Capabilities and Organizational Culture was another theme stressed in the literature. The empirical findings indicate that training of employees, usability, organizational culture, and sound change management are influential factors on the acceptance of the technology, employee engagement, and system use (Nyamboga, 2025).

With companies adopting AI in their processes, it is important to ensure it is used in the right and responsible manner, especially in HR and predictive HR analysis. However, with the growing adoption of these human resource tools and predictive HR analytics by companies, it is increasingly important to ensure they are handled ethically and in a socially responsible manner. Furthermore, with the growing use of AI tools by HR teams and the rise of predictive HR analytics, recent studies emphasize the importance of ethical governance and responsible use of technology. The need for transparency, accountability, explainability, and fairness in algorithmic decision-making is more urgent than ever to win employees' trust and sustain the company's legitimacy. Hence, a set of governance frameworks to monitor the applications of AI in HR decision-making, decrease algorithmic bias, guarantee the privacy of employees, and ensure the effective oversight of crucial HR decisions by humans is needed (Amoako et al., 2023).

Challenges and Barriers to E-HRM Adoption

The literature clearly indicates that, despite the numerous positive outcomes of Electronic Human Resource Management (E-HRM) for the organization, obstacles can hinder its effective implementation. The common issues that are reported are resistance to organizational change, lack of technological infrastructure, lack of financial resources, lack of digital competencies, weak managerial support, and lack of organizational readiness. This might be especially acute in developing countries, where organizations may have fewer resources, lower digital maturity, and less access to institutional support. The overall advice of all these studies is that to be successful in implementing E-HRM, it is necessary to not only invest in technology, but also prepare the organization, have a leadership position, and keep developing human resource capabilities (William & Singh, 2023).

New technologies have brought about more organizational and moral problems. The use of AI in HR has raised issues of algorithmic bias, transparency, explainability, and fairness in HR decision-making, particularly regarding AI recruitment and performance assessment tools, as well as HR analytics. Similarly, other challenges arising from personal data privacy, work ethics, cybersecurity, and the

ethical use of digital tracking and HR cloud applications are also connected to the ubiquity of these systems (Amoako et al., 2022).

Emerging Trends in E-HRM

With the ever-changing pace of digital technology development and HR emerging as a key driver of organizational change, the future of Electronic Human Resource Management (E-HRM) is being shaped. In the modern world, companies are deploying AI, Generative AI, predictive HR analytics, cloud computing, blockchain, mobile HR applications, and intelligent automation in tasks related to HR to improve HR decision-making and workforce management. This will help enhance HR functions, making them more proactive, strategic, and evidence-based through data-driven recruitment, personalized learning and development, predictive workforce planning, automation of administrative functions, and increased employee self-service (Nyamboga, 2025).

Alongside technological advances, the trend towards employee experience, digital well-being, responsible data governance, and ethical AI is rising. Digital platforms have increased in HR and are now imperative to facilitate a hybrid work style, lifelong learning, real-time working, and customized employee services, as well as focusing on transparency, cybersecurity, and employee (Iqbal, 2026).

Research Gaps and Future Research Directions

While there has been considerable research interest and the field of Electronic Human Resource Management (E-HRM) has grown significantly in the last ten years, important knowledge gaps remain. The existing studies have examined the direct effects of E-HRM on organizational and employee performance, using cross-sectional designs in a single-country setting. As a result, the understanding of value creation processes in E-HRM is still limited, and findings on how contextual factors, such as organizational culture, digital maturity, leadership, organizational size, and institutional environment, impact E-HRM effectiveness are still nascent (Ghosh et al., 2024; Poulouse et al., 2025). Therefore, further studies on the implementation of E-HRM and its long-term outcomes in organizations need to be conducted using a longitudinal, multi-level, and cross-country comparative design to gain a more comprehensive understanding of E-HRM implementation and its long-term organizational outcomes.

The integration of new digital technologies into HRM remains an area of ongoing research. Whereas the influence of AI, Generative AI, Predictive HR Analytics, Blockchain, and Cloud-based HR applications on algorithmic fairness, explainability, employee privacy, digital surveillance, cybersecurity, organizational trust, and well-being is heavily debated, and there is limited empirical evidence to support these debates (Huong & Thi Hue, 2026). With the increasing prevalence of AI-powered HR applications, future research might explore how to balance technological advancement with ethical governance, transparency, and responsible AI use.

Theoretically, there is still considerable segregation in the literature, as many studies are based on a single theory. Complementary approaches such as the Resource-Based View (RBV), the Technology–Organization–Environment (TOE) model, the Social Exchange Theory (SET), and the Dynamic Capability Theory should be incorporated into future research to provide a more comprehensive understanding of E-HRM adoption, implementation, and performance outcomes. More theoretical integration would enhance understanding of how organizational, technological, and human factors interact to create a successful digital HR transformation.

Future research on E-HRM needs to shift from considering whether digital HR technologies are beneficial to organizational outcomes to how, why, and when they can create sustainable value. This type of study will not only support the advancement of theoretical models and theories but also guide organizations looking to thrive in the dynamic digital HR environment.

Synthesis of Contemporary Research on Electronic Human Resource Management (E-HRM)

Table 1. Synthesis of Contemporary Research on Electronic Human Resource Management (E-HRM)

Theme	Key Findings	Representative Studies	Research Limitations	Future Research Priorities
Conceptual Foundations	E-HRM has evolved from an operational HR tool to a strategic organizational capability.	(Bondarouk et al., 2017; Marler & Parry, 2016; Shahreki et al., 2026)	Limited theoretical integration.	Develop integrated conceptual frameworks incorporating AI, digital transformation, and strategic management perspectives.
E-HRM and Organizational Performance	Improves operational efficiency, HR effectiveness, organizational agility, innovation, and strategic decision-making.	(Alqarni et al., 2023; Nyamboga, 2025; Vadithe et al., 2026)	Evidence is predominantly cross-sectional and context-specific.	Conduct longitudinal, cross-industry, and cross-country comparative studies.
E-HRM and Employee Performance	Enhances employee productivity, engagement, satisfaction, commitment, learning, and knowledge sharing.	(Alrifae et al., 2026; Nyathi & Kekwaletswe, 2024; Shahreki et al., 2026)	Limited evidence on employee well-being, technostress, and long-term behavioral outcomes.	Examine psychological, behavioral, and well-being outcomes using longitudinal research designs.
Critical Success Factors	Leadership support, organizational readiness, digital competence, training, cybersecurity, and ethical governance facilitate successful implementation.	(Al Maaazmi et al., 2024; Alwazrah et al., 2025; Krinsky, 2026)	Limited understanding of interactions among technological, organizational, and human factors.	Develop integrated implementation and governance models for digital HR transformation.
Challenges and Barriers	Resistance to change, privacy concerns, technostress, employee surveillance, cybersecurity risks, and algorithmic bias hinder implementation.	(Fu et al., 2026; Ghamghami, 2024; Subrahmanyam, 2026)	Ethical AI governance and digital inclusion remain underexplored.	Investigate the adoption of responsible AI, digital inclusion, and ethical governance frameworks.
Emerging Trends	AI, Generative AI, HR analytics, blockchain, cloud computing, mobile HR applications, and intelligent automation are transforming HR practices.	(Bastone, 2026; de Villiers et al., 2025; Tenderis)	Limited empirical evidence on long-term organizational impacts.	Evaluate the sustainability, effectiveness, and organizational impact of emerging HR technologies.
Research Gaps	Existing research is dominated by cross-sectional, single-country studies with limited theoretical integration and insufficient attention to the ethical implications of AI-enabled E-HRM.	(Dimri et al., 2026; Rahman, 2025; Yin & Wang, 2026)	Lack of longitudinal, comparative, multi-level, and mixed-method evidence.	Promote interdisciplinary, longitudinal, and theory-driven research integrating RBV, TOE, SET, and Dynamic Capability Theory.

Table 1 summarizes the principal themes emerging from the reviewed literature, including key findings, representative studies, existing research limitations, and future research priorities.

Practical Implications

There are several implications for future leaders, HR, technology suppliers, and even policymakers of organizations that would like to benefit most from Electronic Human Resource Management (E-HRM) towards their strategic objectives. E-HRM is not merely a technological project, but it is also a component of a business strategy and human resource development of organizational units (Rahman, 2026).

It is advisable to promote and invest in continuous training, technical support, and learning to enhance the digital competence of the employees and make sure that they are using systems and technologies appropriately (Donmez & Donmez, 2026). To successfully use digital tools in HR talent acquisition and recruitment, workforce planning, performance management, employee development and growth, and evidence-based decision-making, HR managers need to adopt cutting-edge technologies, including predictive HR analytics and AI-based decision-making support.

The managers should have the right governance measures to help them integrate AI-driven HR tools into the organization's decision-making process in a transparent, accountable, fair, and human way. Responsible innovation can be complemented with AI, controlling the results of algorithms, guaranteeing the privacy of employee information, and allowing routine AI-based analysis of HR activities, which, in their turn, can help minimize bias, enhance legitimacy, and foster responsible innovation (Bhatkulkar, 2026). The contributions of technology players and HR software developers cannot be ignored in the successful implementation of E-HRM (Rahman, 2026).

Finally, the national policy should promote and support the widespread adoption of E-HRM by investing in national digital infrastructure, enhancing workforce digital skills, and creating policies that facilitate the safe, responsible, and ethical use of HR technologies. Collaborating to create the workforce of the future and to encourage sustainable digital transformation in organizations will require the cooperation of government, education, industry, and professional organizations.

All the above practical suggestions indicate that, in addition to technological development, strategic management, workforce readiness, responsible governance practices, and an enabling institutional environment are also needed for the success of E-HRM. With the help of human-centric management principles, technological innovations can enable organizations to optimize the returns this digital HR transformation offers the organization and its employees.

Conclusion

From merely an administrative HR support tool to a strategic capability of an organization, Electronic Human Resource Management (E-HRM) has progressed, supporting organizational transformation towards digitalization and its effectiveness. This review highlights the latest evidence on how E-HRM can contribute to overall organizational efficiency, the quality of HR services, evidence-based decision-making, and further enhance the organization's agility. E-HRM offers numerous advantages for the employee, such as greater productivity, satisfaction, engagement, organizational commitment, and ongoing learning, all of which result from technology-driven HR services that are easily accessible and transparent.

Finally, the review illustrates that investing in technology is an important consideration, but not the only one: other aspects are equally significant, including leadership commitment, organizational readiness, employees' digital skills, change management, and data governance. According to the findings, the implementation of e-HRM should be balanced, as it involves technological innovation, ethical governance, human-focused management, and continuous organizational learning.

This review has a number of limitations. It primarily emphasizes English-language peer-reviewed publications and does not constitute a formal, systematic review or meta-analysis. Hence, it is possible that other relevant studies have been published in other languages, in grey literature, and/or are recent and not yet captured.

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