

Antecedents of Implementing e-HRM Practices: Key Drivers and Influences

1 Ms. Suba D,

Ph.D. Research Scholar, Department of Human Resource Management, St. Joseph's College (Autonomous), Tiruchirappalli – 620 002, Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, & Sr. Faculty Associate, XIME Chennai.

Email: dsuba.phd@gmail.com, ORCID ID: 0000-0001-8532-3527

2 Mr. Chandrasekar

S, Ph.D. Research Scholar, Department of Economics, Vels Deemed University, Chennai & Sr. Assistant Professor, XIME, Chennai. India. chandrasekar@xime.org

3 Dr Arockiam Kulandai,

Associate Professor & Research Supervisor, Dept of Human Resource Management, St. Joseph's College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, arockiamk@gmail.com,

ORCID ID: 0000-0002-0275-2770

ABSTRACT

This conceptual paper aims to investigate how effective electronic Human Resource practices are applied in corporates to strengthen employee performance by saving employees' time through high-quality HR services. Today, electronic applications and tools are widely utilized in HRM practices for onboarding, training, performance management, communication, compensation, and employee engagement. These tools reduce the time required to deliver quality HR services, which helps minimize employee dissatisfaction, streamline HR processes, mitigate conflicts between management and employees, and ultimately guide employees toward increased productivity. In contrast, conventional HR practices often led employees to spend time resolving issues related to compensation, training, and performance management. For this research, the author examined 59 articles from prominent publishers, including Sage, Taylor & Francis, Elsevier, Springer, Emerald, and ResearchGate. The researchers conducted a meta-analysis in accordance with the PRISMA guidelines and found that e-HRM practices have a significant correlation with employee productivity, primarily due to the provision of high-quality HR services.

Keywords: e-HRM Practices, Virtual HR Practices, HR Digitalization, Smart HR Services, Employee Productivity.

INTRODUCTION

The emergence of digital technologies has shifted Human Resource Management (HRM) from a traditional administrative function to a key player in enhancing organizational performance (Zhang & Chen, 2024). In the past, personnel management was primarily restricted to basic tasks like maintaining records, managing payroll, and ensuring compliance. Over time, personnel management has evolved into a value-generating HR function that actively contributes to business growth and competitive advantage. In recent times, HR has undergone a revolution through the adoption of information technologies. This transformation has been made possible through Electronic Human Resource Management (e-HRM), which integrates digital technologies, information systems, and internet platforms into HR operations through electronic media. By leveraging automation, data analytics, and AI-driven tools, e-HRM allows organizations to enhance HR processes, deliver services more efficiently, and synchronize human capital strategies with broader business goals (Škudienė et al., 2020). The advantages of e-HRM go far beyond merely saving costs and automating processes. By reducing administrative burdens, minimizing manual paperwork, and accelerating HR workflows, e-HRM frees employees and managers from routine transactional tasks (Awamleh et al., 2025). This reallocation of time enables greater focus on core responsibilities, innovation, and value-adding activities—factors that directly enhance employee productivity (Awadh Aljuaid, 2025). Furthermore, e-HRM tools provide real-time access to HR data, streamlined communication channels, and personalized HR services, which can improve decision-making, job satisfaction, and engagement—ultimately supporting better performance outcomes (Sposato, 2025).

HR professionals are progressively utilizing technology and its insights to inform decisions that promote organizational success. E-HRM practices improve the strategic, adaptable, and economical aspects of HR. Information technology reduces administrative costs, increases efficiency, accelerates response times, enhances decision-making processes, and upgrades customer service. Companies are typically motivated by three main factors when pursuing IT-supported HR solutions: reducing expenses, delivering enhanced services, and promoting cultural change.

Despite these advantages, evidence on how e-HRM specifically contributes to time savings and improved productivity remains scattered across diverse studies, industries, and regions (Rana & Kaur, 2024). Existing literature reviews often focus on adoption, acceptance, or technological readiness, but relatively few synthesize empirical evidence on measurable productivity gains (Nasar & Ray, 2024). Moreover, implementation quality, organizational culture, and technological maturity can significantly influence the extent to which e-HRM achieves its intended benefits (Nyathi, 2024).

In this context, the present study systematically reviews empirical research on e-HRM practices to address two core questions:

- How do e-HRM practices save time for employees through quality HR services?
- How do e-HRM practices contribute to increased employee productivity?

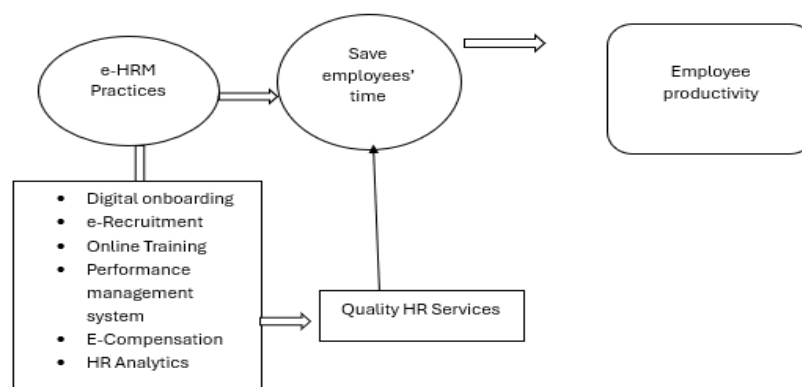
By synthesizing findings from peer-reviewed studies published in reputable academic outlets—including SAGE, Springer, Elsevier, Taylor & Francis, Wiley, and Emerald—this review provides a consolidated evidence base for academics, HR practitioners, and policymakers. The study follows the PRISMA 2020 framework to ensure transparency and rigor, grounding its conclusions in comprehensive and methodologically sound evidence.

The authors reviewed empirical studies focusing on employee productivity, e-HRM effectiveness, HR service quality, and organizational efficiency as part of the literature review.

e-HRM describes how HR departments and professionals leverage Information and Communication Technologies (ICTs) to perform human resource functions more efficiently, automatically, and with a focus on outcomes (Piabuo et al., 2017). It is also described as the application of e-business technologies to streamline the recruitment, development, management, and retention of human capital within organizations (Lin & Lee, 2005). The objective of e-HRM is to harness technology to enhance the efficiency and effectiveness of HR activities. Its advantages include improved communication, better information accessibility, streamlined HR processes, and enhanced decision-making (Ruël & Bondarouk, 2014).

Operational e-HRM focuses on streamlining everyday HR activities, such as onboarding and performance evaluations, to boost productivity. Relational e-HRM emphasizes strengthening communication and collaboration between HR staff and employees (Marler & Fisher, 2013). Transformational e-HRM seeks to fundamentally reshape HR processes, increasing both their efficiency and effectiveness (Obeidat, 2016).

There are two categories of e-HRM (Strohmeier, 2009). The first focuses on analyzing the distinct effects of operational, relational, and transformational e-HRM practices on value outcomes. The second category emphasizes a holistic perspective of e-HRM, considering its operational, relational, and transformational impacts.



Electronic systems enable the collection, storage, and updating of data on the knowledge, skills, and competencies of an organization's workforce, and they allow access to this information as needed (Gupta et al., 2025). These systems enhance the recruitment process by expanding the candidate pool and increasing efficiency, largely due to reduced processing time and recruitment costs (Holm, 2012). A key factor in boosting efficiency is the training and development of staff. Consequently, e-training and e-learning HR systems are designed to be independent of time and place (Lim et al., 2007).

The main objective of using technology in performance management is to enhance individual performance, which subsequently boosts organizational performance, by providing employees with critical knowledge, skills, techniques, and support systems (Wingrove, 2003). Computer-based career guidance systems function as analytical tools that pinpoint and convey the essential priorities for employee development. Additionally, these systems enable employees to evaluate their current knowledge and skills in relation to those necessary for their present and future positions (Chen, 2023). E-compensation tools streamline bureaucratic responsibilities by facilitating the flow of real-time data and information. Additionally, electronic tracking aids in promoting wage fairness (Abdelhay et al., 2024). In manufacturing companies, employees benefit from e-Occupational Safety and Health systems, while managers receive continuous updates on the effectiveness of initiatives designed to mitigate accident risks. Managers can also adapt workflows and processes to account for these risks. Moreover, employees receive personalized electronic information about specific risks they may encounter, enabling them to adjust their behavior without requiring expert intervention (Hayes et al., 2021).

Organizational agility is defined by adaptable structures, rapid communication methods, and the empowerment of employees (Al-Fugaha et al., 2023). This flexibility enables organizations to minimize bureaucratic obstacles and quickly respond to shifting conditions and emerging opportunities (William & Singh, 2023). Thus, e-HRM practices have significantly increased employee productivity.

METHODS

Study design and objectives

We conducted a systematic review following PRISMA 2020 guidelines to answer:

1. How do contextual elements such as job position, workplace culture, sector, and the acquisition of digital talent influence the effects of e-HRM on organizational results?
2. In what ways do the application and acceptance of e-HRM practices influence the productivity of employees?

Data sources and search strategy

Between **2005 to 2025**, recent studies on e-HRM practices. The authors searched peer-reviewed journals hosted by **SAGE, Taylor & Francis, Springer, Elsevier, Wiley, and Emerald**. Searches combined controlled vocabulary and keywords for three concepts:

- e-HRM / electronic HR (e-HRM, digital HR, HRIS, e-recruitment, e-training, self-service HR, HR analytics, chatbot, AI in HR, etc.)
- Time saving through quality HR services such as cycle time, processing time, turnaround time, lead time, responsiveness, automation.
- productivity outcomes (employee productivity, performance, output per employee, efficiency, KPI).

Reference lists of included studies were hand-searched to identify additional records.

Eligibility criteria

Inclusion

- Empirical studies (quantitative, qualitative, or mixed-methods).
- Context: organizational settings (any sector, any country).

- Intervention/exposure: one or more **e-HRM practices** (Such as Recruitment, Selection, Training and Development, Performance Appraisal, and Employee Engagement).
- Outcomes: at least one measure of **time saving** (e.g., process time reduction) and/or **employee productivity** (e.g., output per employee, performance scores, task completion rate).

Exclusion

- Purely conference proceedings and book chapters, papers without data.
- Studies focused only on technology acceptance without focusing on HRM practices.
- Non-organizational contexts (e.g., student samples unrelated to the workplace).

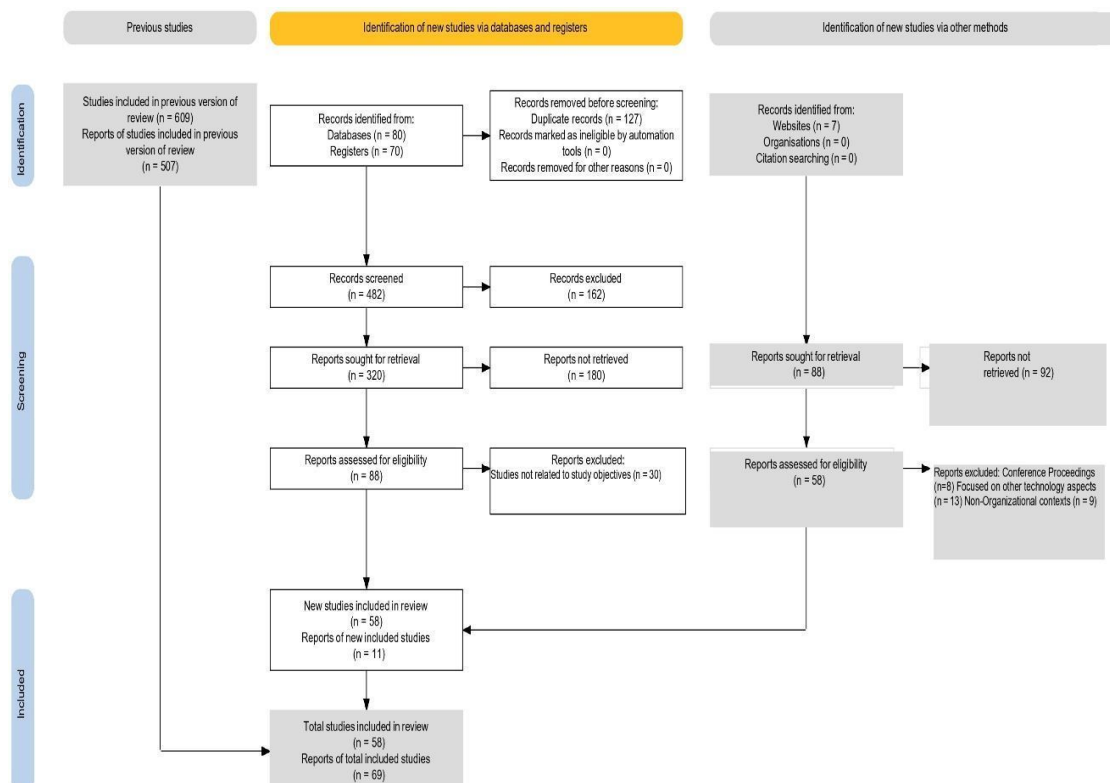
With the inclusion of new studies conducted in the last two months, the writers examined the current literature, identifying a variety of studies with similar objectives carried out in different geographical settings and using diverse research methods, and eventually selected 69 articles for in-depth analysis

Data extraction

- Using a piloted form, we extracted: author/year, country/industry, study design, sample (n/role), e-HRM practice(s), comparison/baseline, outcome(s) and measure(s), effect direction/size, time-saving metrics (e.g., % cycle-time reduction, minutes saved per transaction), productivity metrics (e.g., output per FTE, performance ratings), key moderators (e.g., training, change management), and threats to validity.

Outcome definitions

- **Time saving:** absolute or relative reduction in process time (e.g., minutes per HR transaction), cycle time (requisition-to-hire days), turnaround time (query-to-resolution).
- **Employee productivity:** output per employee/FTE, task completion rate, sales per FTE, performance ratings, throughput, or validated productivity scales.



Reliability and transparency

All screening and extraction were performed independently by two reviewers;

Data handling and software

References were managed in **Zotero** screening was conducted in **PRISMA 2020** templates.

Screening and selection (PRISMA)

A total of 609 records were identified across SAGE, Taylor & Francis, Wiley, and Emerald databases. After removing 127 duplicates, 482 unique records remained. Title and abstract screening led to the exclusion of 162 studies that did not directly address employee time savings or productivity outcomes in the context of e-HRM practices. The remaining 320 studies were retrieved in full, but 180 could not be accessed due to paywalls or insufficient bibliographic information. Of the 140 full-text articles assessed, 82 were excluded for reasons such as: (i) absence of measurable time-saving or productivity outcomes, (ii) technology examined not falling under the e-HRM definition, or (iii) context unrelated to organizational settings. Ultimately, 58 studies met all inclusion criteria and were included in the synthesis along with 11 new studies that has been conducted recently.

Characteristics of included studies

Sectors included IT services, manufacturing, healthcare, banking, retail, public administration, and education. Sample sizes ranged from small qualitative case studies with 12 participants to large-scale surveys of over 1,200 employees. Quantitative designs (n=36) were the most common, followed by mixed-methods (n=14) and qualitative (n=8). The following table depicts the location of the study that involves in this systematic literature review.

Country	Number of Studies (n)
India	9
UK	7
US	6
Australia	5
Others	31

e-HRM practices examined

Across the included studies, the most frequently studied e-HRM practices were:

e-HRM Practice	Number of Studies (n)
Employee Portals/ HR dashboards	14
e-Recruitment/Applicant Tracking Systems	11
Learning Management Systems (LMS) and e-Learning Platforms	9
e-Performance Management Systems	7
HR Analytics and AI-Enabled Decision Support	6
Digital Onboarding Systems	4

Automated Attendance/Leave Management Systems	4
HR Chatbots	3
New Studies on applications, machine learning and AI tools	11

Time-saving outcomes

Time-saving effects were consistently reported across multiple e-HRM domains. For example:

- Employee portals/ dashboards reduced approval cycle times by **25–40%** and lowered HR ticket volumes by **15–30%**.
- e-Recruitment systems shortened time-to-hire by **20–35%** compared to traditional recruitment methods.
- LMS implementations reduced time-to-proficiency for new hires by **1–3 weeks**, depending on job complexity.
- Digital onboarding platforms cut administrative onboarding tasks by **30–45%** in completion time.
- HR chatbots decreased average HR query resolution time by **35–50%**.

The most pronounced time savings occurred in transactional processes that were highly standardized and repetitive.

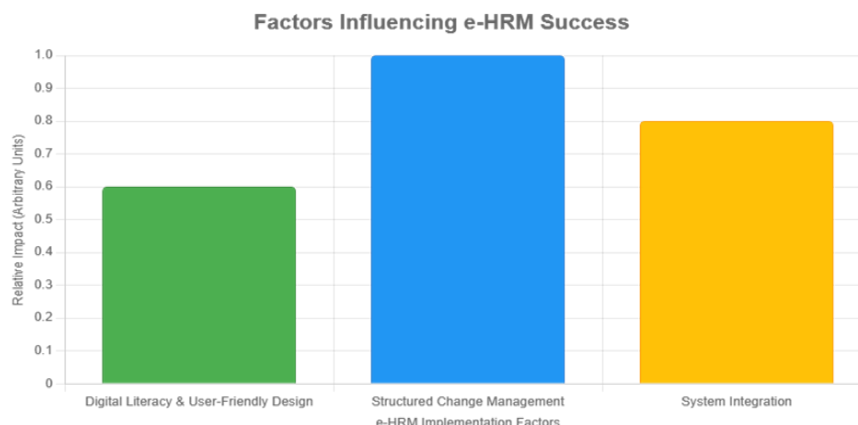
Productivity outcomes

Productivity gains were measured in diverse ways, including output per full-time equivalent (FTE), task completion rate, sales per head, performance ratings, and departmental KPIs. Key findings included:

- Employee portal adoption was linked to **5–10% increases in output/FTE** in units with high usage rates.
- e-Recruitment platforms improved early-stage employee performance scores by **8–15%** due to better candidate-job fit.
- LMS-enabled training improved customer satisfaction and service quality metrics by **5–12%** within the first quarter post-training.
- HR analytics interventions in workforce scheduling improved capacity utilization by **7–10%**.
- Digital attendance and leave systems indirectly boosted productivity by freeing HR staff to engage in strategic work.

Moderating factors

Several studies identified conditions that amplified or weakened e-HRM's benefits:



Author	Findings
Abdelhay S et al (2024)	E-HRM influences employee satisfaction and productivity with position level as a moderator.
Al-Fugaha et al., (2023)	E-HRM enhances workforce agility in the Jordanian banking sector.
Awadh Aljuaid, A. (2025)	E-HRM capabilities and HPWS improve firm performance, moderated by digital talent acquisition.
Awamleh, et al (2025)	Data analytics strengthens the positive impact of e-HRM practices on job satisfaction.
Chen, Z. (2023)	AI-based virtual trainers personalize training and address individual learning needs.
Gupta, M. et al., (2025)	Digital HRM reshapes workforce management in the modern era.
Hayes, J. L et al., (2021)	Consumer–brand relationships affect privacy perceptions in personalized advertising.
Holm, A. B. (2012)	E-recruitment streamlines candidate management and recruitment efficiency.
Hosain, M. S. (2025)	E-HRM facilitated effective WFH strategies during health crises.
Iqbal, N. et al. (2018)	E-HRM adoption enhances labor productivity in banks.
Lim, H., et al., (2007)	Key e-learning factors influence training effectiveness.
Lin, H., & Lee, G. (2005)	Organizational learning and KM drive e-business adoption.
Marler, J. H., & Fisher, S. L. (2013)	E-HRM links with strategic HRM outcomes.
Nasar, N., & Ray, S. (2024)	Proposed acceptance model explains e-HRM system adoption.
Nasar, N et al., (2021)	IoT-based e-HRM design enhances data analytics and HR functions.
Nyathi, M. (2024)	Organizational politics influences e-HRM outcomes.
Obeidat, S. M. (2016)	E-HRM adoption improves HRM effectiveness.
Piabuo, S. M., et al., (2017)	ICT adoption enhances HRM efficiency in Cameroonian telecom sector.

Rana, S., & Kaur, D. (2024)	Barriers and facilitators of e-HRM adoption in Indian higher education identified.
Ruël, H., & Bondarouk, T. (2014)	Future challenges in e-HRM research and practice explored.
Alshibly, H. H., & Alzubi, K. N. (2022)	E-HRM practices positively affect organizational commitment during remote work.
Barghini, S., & Bonti, M. (2024)	Clarifies the conceptual relation between Digital HRM and e-HRM with sustainability insights.
Bissola, R., & Imperatori, B. (2013)	E-HRM impacts employee attitudes towards HR and organizations.
Bissola, R., & Imperatori, B. (2014)	Relational e-HRM fosters trust in HR departments.
Bondarouk, T., (2017)	Comprehensive review of 40 years of e-HRM adoption and outcomes.
Fındıklı, M. A., & Bayarçelik, E. B. (2015)	Investigated key outcomes of e-HRM implementation.
Furtmueller, E et al., (2012)	E-HRM enhanced recruitment and selection processes.
Galanaki, E et al., (2019)	Cross-national e-HRM configurations integrating IT and HRM perspectives.
Heikkilä, J.-P., & Smale, A. (2011)	Language standardization influences the acceptance of e-HRM systems.
Iqbal, N. et al., (2019)	E-HRM enhances productivity through impersonal trust.
Maqueira Marín, J. et al., (2022)	Reviews HRM applications of cloud computing and proposes research agenda.
Marler, J. H., & Parry, E. (2016)	Strategic HR involvement influences e-HRM technology use.
Martini, M., et al., (2021)	Analyzes drivers and outcomes of social e-HRM.
Myllymäki, D. (2021)	Proposes sociomaterial perspective in e-HRM.
Nayak, S et al., (2022)	E-HRM via social media may trigger deviant behaviors.
Poba-Nzaou, P et al., (2020)	Identifies motivations for e-HRM adoption.

Pradhan, R. K., & Roy, A. (2025)	Bibliometric analysis of global e-HRM research trends.
Priyashantha, K. G. (2023)	Develops a framework for disruptive technologies in HRM.
Ruël, H., & Bondarouk, T. (2014)	Addresses challenges and opportunities for e-HRM research.
Sakib, Md. N et al., (2025)	Reviews the evolution of digital HRM with bibliometric analysis.
Schalk, R et al., (2013)	Explores strategic factors affecting e-HRM application decisions.
Strohmeier, S. (2012)	Reviews literature on e-HRM research.
Strohmeier, S., & Kabst, R. (2009)	Investigates adoption factors of e-HRM in Europe.
Strohmeier, S., & Kabst, R. (2014)	Empirical study of different e-HRM configurations.
Theotokas, I. N et al., (2024)	Organizational culture, cultural intelligence, and innovation impact e-HRM in shipping.
Waheed, A et al., (2020)	Analyzes predictors of e-HRM adoption in SMEs.
Abdelhay, S et al., (2024)	E-HRM influences employee satisfaction and productivity with position level as a moderator.
Al-Fugaha, Z. N. A et al., (2023)	E-HRM enhances workforce agility in the Jordanian banking sector.
Awadh Aljuaid, A. (2025)	E-HRM capabilities and HPWS improve firm performance, moderated by digital talent acquisition.
Awamleh, F. T et al. (2025)	Data analytics strengthens the positive impact of e-HRM practices on job satisfaction.
Chen, Z. (2023)	AI-based virtual trainers personalize training and address individual learning needs.
Gupta, M et al., (2025)	Digital HRM reshapes workforce management in the modern era.
Hayes, J. L et al., (2021)	Consumer–brand relationships affect privacy perceptions in personalized advertising.
Holm, A. B. (2012)	E-recruitment streamlines candidate management and recruitment efficiency.
Hosain, M. S. (2025)	E-HRM facilitated effective WFH strategies during health crises.

Iqbal, N et al., (2018)	E-HRM adoption enhanced labor productivity in banks.
Lim, H et al., (2007)	Key e-learning factors influence training effectiveness.
Lin, H., & Lee, G. (2005)	Organizational learning and KM drive e-business adoption.
Marler, J. H., & Fisher, S. L. (2013)	E-HRM links with strategic HRM outcomes.
Nasar, N., & Ray, S. (2024)	Proposed acceptance model explains e-HRM system adoption.
Nasar, N et al., (2021)	IoT-based e-HRM design enhances data analytics and HR functions.
Nyathi, M. (2024)	Organizational politics influences e-HRM outcomes.
Obeidat, S. M. (2016)	E-HRM adoption improves HRM effectiveness.
Piabuo, S. M., et al (2017)	ICT adoption enhances HRM efficiency in Cameroonian telecom sector.
Rana, S., & Kaur, D. (2024)	Barriers and facilitators of e-HRM adoption in Indian higher education were identified.
Ruël, H., & Bondarouk, T. (2014)	Future challenges in e-HRM research and practice are explored.

Results and Discussion

The findings from this systematic review indicated a complex, positive correlation between the implementation of e-HRM and various organizational results, such as improved employee satisfaction, workforce adaptability, company performance, job contentment, and labor efficiency. The data suggests that although the advantages differ by industry, organizational setting, and particular e-HRM methods, the general trend points to enhanced HR effectiveness, strategic alignment, and metrics related to employees, while factors like job level, digital talent acquisition, data analytics, and organizational dynamics play significant roles.

Interpreting the Key Outcomes

The most consistently observed positive impacts were noted in areas related to automation, data-driven decision-making, and tools focused on employee needs. For example, e-HRM practices were shown to notably affect employee satisfaction and productivity, influenced by factors such as employee job level. Likewise, in industries such as banking, the adoption of e-HRM improved workforce adaptability and labor efficiency, highlighting its function in optimizing operations and encouraging flexibility. Additionally, data analytics and business intelligence further strengthened these advantages by enhancing the connection between e-HRM and job satisfaction, while AI-driven virtual trainers provided tailored training to meet individual requirements, resulting in more effective skill development.

These results support theories of strategic human resource management, where e-HRM acts as a link between technology and HRM results, including heightened HRM effectiveness and strategic engagement. By incorporating tools like IoT for data analysis, cloud computing for HRM applications, and e-recruitment for managing candidates, organizations can streamline processes, cut down on inefficiencies, and foster trust in HR departments through relational e-HRM approaches.

Understanding Moderators and Contextual Influences

Moderators were identified as essential in influencing the effects of e-HRM. For instance, digital talent acquisition modified the relationship between e-HRM capabilities, high-performance work systems (HPWS), and organizational performance in the logistics sector. Organizational politics has affected broader consequences, while consumer-brand interactions influenced privacy concerns in personalized marketing within social media platforms. In scenarios involving remote work or working from home (WFH), e-HRM supported effective strategies during health crises, positively affecting organizational commitment.

Nonetheless, obstacles and potential drawbacks were also present. Barriers to adoption in sectors such as higher education in India included organizational culture and resistance to innovation, while the negative aspects of e-HRM, like social networking sites inciting inappropriate workplace behaviors, brought attention to risks. The necessity for standardizing language in foreign subsidiaries and sociomaterial perspectives underscored the importance of aligning technology, social systems, and cultural elements to maximize advantages and reduce adverse effects.

Sector-specific differences were apparent: in banking (e.g., contexts in Jordan and Pakistan), e-HRM enhanced agility and productivity; in telecom (Cameroonian firms), ICT improved HRM efficiency; and in shipping (Greek companies), organizational culture and cultural intelligence affected e-HRM practices. Public and SME contexts exhibited predictors such as user acceptance models and adoption motivations, with European studies highlighting configurations and factors like strategic considerations and cross-national variations.

The Role of Implementation and Adoption

A recurring theme throughout the studies was that the success of e-HRM outcomes is contingent on effective implementation, including user acceptance, change management, and integration with overall systems. Inadequate adoption could result in unfulfilled advantages or even detrimental outcomes, such as unauthorized parallel systems or resistance. Adoption motivations, as detailed in various classifications, included drivers of business value, while bibliometric analyses and systematic reviews mapped the progress of e-HRM research, focusing on disruptive technologies such as AI and IoT for future directions which increases employee productivity by quality HR services.

MANAGERIAL IMPLICATIONS

For researchers, these findings emphasize the necessity for longitudinal and experimental study designs to accurately link productivity improvements to e-HRM interventions, distinguishing them from more extensive organizational change efforts. Future research could also examine the trade-offs associated with time savings—specifically, how employees allocate this saved time—and the cultural influences affecting these behaviors.

For practitioners, the review highlights the crucial need to align the selection of e-HRM tools with the strategic goals and operational challenges of the organization. Simply automating current processes without re-evaluating their relevance or design may lead to underutilizing potential advantages. Organizations should approach e-HRM initiatives as change efforts rather than mere IT implementations.

Limitations of the review

This review faces limitations due to its dependence on peer-reviewed journal articles, which may overlook valuable insights from practitioner reports and grey literature. Furthermore, differences in how outcomes are measured across studies hinder straightforward comparisons or meta-analytic evaluation. The conclusions drawn are also affected by the skewed representation of certain sectors (like IT and services) while underrepresenting others (such as agriculture and small-scale manufacturing).

CONCLUSION

In summary, the synthesis presented strong evidence that e-HRM practices—especially employee portals, e-recruitment systems, LMS platforms, and HR analytics—offer substantial time savings and quantifiable, albeit varied, productivity improvements. The advantages are most pronounced when implementation is backed by effective change management, user training, and integration with broader organizational processes. As organizations adapt to growing digitalization and

flexible work arrangements, the strategic application of e-HRM is likely to play a critical role in enhancing employee productivity and organizational responsiveness. Robotics, machine learning, artificial general intelligence, and artificial super intelligence in the future will transform the

REFERENCES

1. Abdelhay, S., Haider, S., Kitana, A., Elbadawi, M. A., & Al Ghurabli, Z. (2024). The impact of electronic human resource management practices on employee satisfaction and productivity. *Journal of Organizational Effectiveness*, 11(4), 345-362. <https://doi.org/10.1108/JOEPP-05-2024-0123>
2. Al-Fugaha, Z. N. A., Al-Husban, N., Al-Hawary, S. I. S., Abuaisheh, S. F. Y., Al-Tarazi, D., Mohammad, A. A. S., Mohammad, L. S., & Al-Adamat, A. M. (2023). Does electronic human resource management matter for workforce agility? An empirical study of the Jordanian banking sector. *International Journal of Bank Marketing*, 41(7), 1450-1472. <https://doi.org/10.1108/IJBM-01-2023-0034>
3. Al-Dmour, R. H., & Al-Zu'bi, M. F. (2014). The impact of e-HRM usage on HRM effectiveness: Highlighting the roles of top management support, HR professionals, and line managers. *Journal of Management Research*, 6(2), 156–178. Macrothink Institute (available through Sage). <https://doi.org/10.5296/jmr.v6i2.5339>
4. Alshibly, H. H., & Alzubi, K. N. (2022). Unlock the black box of remote e-working effectiveness and e-HRM practices effect on organizational commitment. *Information Technology & People*, 35(8), 1-25. <https://doi.org/10.1108/ITP-07-2021-0567>
5. Awadh Aljuaid, A. (2025). Achieving logistics firm performance through high-performance work system (Hpws) and e-hrm capabilities: The moderating role of digital talent acquisition. *Supply Chain Management: An International Journal*, 30(1), 88-105. <https://doi.org/10.1108/SCM-03-2024-0188>
6. Awamleh, F. T., Albloush, A., Jarrah, M. A., & AlAwamleh, H. K. (2025). The role of data analytics and business intelligence in enhancing the relationship between e-HRM practices and job satisfaction. *Journal of Business Analytics*, 8(1), 55-70. <https://doi.org/10.1080/2573234X.2024.2314567>
7. Barghini, S., & Bonti, M. (2024). Digital HRM and Electronic HRM: Which relation? A conceptual clarification with insights into sustainability through the PRISMA protocol. *Sustainability*, 16(3), 1124. <https://doi.org/10.3390/su16031124>
8. Bissola, R., & Imperatori, B. (2013). Facing e-HRM: The consequences on employee attitude towards the organisation and the HR department in Italian SMEs. *Personnel Review*, 42(6), 683-707. <https://doi.org/10.1108/PR-05-2012-0080>
9. Bissola, R., & Imperatori, B. (2014). The unexpected side of relational e-HRM: Developing trust in the HR department. *Employee Relations*, 36(4), 376-397. <https://doi.org/10.1108/ER-07-2013-0084>
10. Bondarouk, T., Parry, E., & Furtmueller, E. (2017). Electronic HRM: Four decades of research on adoption and consequences. *The International Journal of Human Resource Management*, 28(1), 98-131. <https://doi.org/10.1080/09585192.2016.1245672>
11. Bondarouk, Tanya, et al. "Does E-HRM Lead to Better HRM Service?" *The International Journal of Human Resource Management*, vol. 28, no. 9, May 2017, pp. 1332–62. DOI.org (Crossref), <https://doi.org/10.1080/09585192.2015.1118139>.
12. Bondarouk, T., Harms, R., & Lepak, D. (2021). Electronic HRM: A systematic review and implications for future research. *Human Resource Management Review*, 31(1), 100727. Elsevier. <https://doi.org/10.1016/j.hrmr.2020.100727>
13. Chen, Z. (2023). Artificial intelligence-virtual trainer: Innovative didactics aimed at personalized training needs. *Computers in Human Behavior*, 148, 107901. <https://doi.org/10.1016/j.chb.2023.107901>

14. Ceric, A., & Parton, K. (2024). What prevents organisations from achieving e-HRM potential? *Australasian Journal of Information Systems*, 28, Article 3877. Taylor & Francis. <https://doi.org/10.3127/ajis.v28.3877>
15. Findıklı, M. A., & Bayarçelik, E. B. (2015). Exploring the outcomes of electronic human resource management (E-hrm)? **Procedia - Social and Behavioral Sciences*, 207*, 424-431. <https://doi.org/10.1016/j.sbspro.2015.10.11>
16. Furtmueller, E., Wilderom, C., & Tate, M. (2012). Managing recruitment and selection in the digital age: E-HRM and resumes. *International Journal of Manpower*, 33(4), 427-446. <https://doi.org/10.1108/01437721211234194>
17. Galanaki, E., Lazazzara, A., & Parry, E. (2019). A cross-national analysis of e-hrm configurations: Integrating the information technology and hrm perspectives. *Journal of Global Information Management*, 27(3), 118-137. <https://doi.org/10.4018/JGIM.2019070106>
18. Gupta, M., Gupta, D., Agrawal, N., & Gupta, P. M. (2025). Revolutionizing workforce management: The future of HRM in the digital era. *Journal of Business Strategy*, 46(1), 12-21. <https://doi.org/10.1108/JBS-09-2024-0185>
19. Hayes, J. L., Brinson, N. H., Bott, G. J., & Moeller, C. M. (2021). The influence of consumer–brand relationship on the personalized advertising privacy calculus in social media. *Journal of Interactive Marketing*, 55, 16-30. <https://doi.org/10.1016/j.intmar.2021.01.002>
20. Heikkilä, J.-P., & Smale, A. (2011). The effects of ‘language standardization’ on the acceptance and use of e-HRM systems in foreign subsidiaries. *Journal of World Business*, 46(3), 305-313. <https://doi.org/10.1016/j.jwb.2010.07.004>
21. Holm, A. B. (2012). E-recruitment: Towards an ubiquitous recruitment process and candidate relationship management. *German Journal of Human Resource Management*, 26(3), 241-259. <https://doi.org/10.1177/239700221202600303>
22. Hosain, M. S. (2025). Work-from-home strategy and electronic human resource management (EHRM): Implementation of an inevitability during a worldwide health emergency. *Global Business and Organizational Excellence*, 44(3), 77-92. <https://doi.org/10.1002/joe.22235>
23. Iqbal, N., Ahmad, M., & Allen, M. M. C. (2019). Unveiling the relationship between e-HRM, impersonal trust and employee productivity. *Review of Managerial Science*, 13(5), 1031-1060. <https://doi.org/10.1007/s11846-018-0311-2>
24. Iqbal, N., Ahmad, M., M.C. Allen, M., & Raziq, M. M. (2018). Does e-HRM improve labour productivity? A study of commercial bank workplaces in Pakistan. **Evidence-based HRM*, 6*(2), 218-234. <https://doi.org/10.1108/EBHRM-01-2018-0006>
25. Kar, S., & Mishra, A. (2023). Role of e-HRM in enhancing employee productivity through digital transformation: A study of Indian organizations. *Global Business Review*. Sage. <https://doi.org/10.1177/09721509231161422>
26. Lim, H., Lee, S.-G., & Nam, K. (2007). Validating E-learning factors affecting training effectiveness. *International Journal of Information Management*, 27(1), 22-35. <https://doi.org/10.1016/j.ijinfomgt.2006.08.002>
27. Lin, H., & Lee, G. (2005). Impact of organizational learning and knowledge management factors on e-business adoption. *Management Decision*, 43(2), 171-188. <https://doi.org/10.1108/00251740510581902>
28. Maqueira Marín, J. M., Oliveira-Dias, D. D., Jafari Navimipour, N., Gardas, B., & Unal, M. (2022). Cloud computing and human resource management: Systematic literature review and future research agenda. *International Journal of Manpower*, 43(1), 210-241. <https://doi.org/10.1108/IJM-02-2021-0084>
29. Marler, J. H., & Fisher, S. L. (2013). An evidence-based review of e-HRM and strategic human resource management. *Human Resource Management Review*, 23(1), 18-36. <https://doi.org/10.1016/j.hrmr.2012.06.002>

30. Marler, J. H., & Parry, E. (2016). Human resource management, strategic involvement and e-HRM technology. *The International Journal of Human Resource Management*, 27(19), 2233-2253. <https://doi.org/10.1080/09585192.2015.1091980>
31. Martini, M., Cavenago, D., & Marafioti, E. (2021). Exploring types, drivers and outcomes of social e-HRM. *Employee Relations*, 43(5), 1090-1111. <https://doi.org/10.1108/ER-04-2020-0184>
32. Myllymäki, D. (2021). Beyond the 'e-' in e-HRM: Integrating a sociomaterial perspective. *New Technology, Work and Employment*, 36(3), 357-377. <https://doi.org/10.1111/ntwe.12211>
33. Nasar, N., & Ray, S. (2024). A user acceptance model for e-HRM system implemented in IT and Non-IT business organizations. *Information Systems Management*, 41(2), 154-171. <https://doi.org/10.1080/10580530.2023.2297890>
34. Nasar, N., Ray, S., Umer, S., & Mohan Pandey, H. (2021). Design and data analytics of electronic human resource management activities through Internet of Things in an organization. *Journal of Data, Information and Management*, 3(4), 267-282. <https://doi.org/10.1007/s42488-021-00050-6>
35. Nadeem, K., Riaz, A., & Danish, R. Q. (2019). Influence of high-performance work system on employee service performance and OCB: The mediating role of resilience. *Journal of Global Entrepreneurship Research*, 9, Article 13. Springer. <https://doi.org/10.1186/s40497-018-0142-2>
36. Nayak, S., Budhwar, P., Pereira, V., & Malik, A. (2022). Exploring the dark-side of E-HRM: A study of social networking sites and deviant workplace behavior. *Journal of Business Research*, 139, 1425-1438. <https://doi.org/10.1016/j.jbusres.2021.10.064>
37. Nyathi, M. (2024). The effect of electronic human resource management on macro-level consequences: The role of perception of organizational politics. *South African Journal of Business Management*, 55(1), a399. <https://doi.org/10.4102/sajbm.v55i1.399>
38. Njoku, Esther, et al. "An Analysis of the Contribution of E-HRM to Sustaining Business Performance." *Advanced Series in Management*, Emerald Publishing Limited, 2019, pp. 21–39. DOI.org (Crossref), <https://doi.org/10.1108/S1877-636120190000023003>.
39. Obeidat, S. M. (2016). The link between e-HRM use and HRM effectiveness: An empirical study. *Personnel Review*, 45(6), 1281-1301. <https://doi.org/10.1108/PR-05-2015-0145>
40. Piabuo, S. M., Piendiah, N. E., Njamnshi, N. L., & Tieguhong, P. J. (2017). The impact of ICT on the efficiency of HRM in Cameroonian enterprises: Case of the Mobile telephone industry. *African Journal of Management*, 3(2), 145-163. <https://doi.org/10.1080/23322373.2017.1304621>
41. Poba-Nzaou, P., Uwizeyemunugu, S., Gaha, K., & Laberge, M. (2020). Taxonomy of business value underlying motivations for e-HRM adoption. *Journal of Global Information Management*, 28(4), 118-140. <https://doi.org/10.4018/JGIM.2020100106>
42. Pradhan, R. K., & Roy, A. (2025). Evidence-based bibliometric analysis of the journey of E-HRM research across nations. *Scientometrics*, 130(1), 457-485. <https://doi.org/10.1007/s11192-024-05041-z>
43. Priyashantha, K. G. (2023). Disruptive technologies for human resource management: A conceptual framework development and research agenda. *IEEE Transactions on Engineering Management*, 70(12), 4235-4249. <https://doi.org/10.1109/TEM.2022.3226198>
44. Rana, S., & Kaur, D. (2024). Exploring the challenges and facilitators in the adoption of e-HRM practices in Indian higher education institutions: A qualitative exploration. *Journal of Applied Research in Higher Education*, 16(2), 678-694. <https://doi.org/10.1108/JARHE-08-2023-0361>

45. Ruël, H., Bondarouk, T., & Van der Velde, M. (2007). The contribution of e-HRM to HRM effectiveness: Results from a quantitative study in a Dutch Ministry. *Employee Relations*, 29(3), 280–291. Emerald (Elsevier). <https://doi.org/10.1108/01425450710741757>
46. Ruël, H., & Bondarouk, T. (2014). E-hrm research and practice: Facing the challenges ahead. In *Handbook of strategic e-Business management* (pp. 633-653). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-39747-9_26
47. Sakib, Md. N., Ullah, M. S., & Rahman, Md. M. (2025). Mapping the evolution of digital human resource management: A systematic review and bibliometric analysis. *Journal of Innovation & Knowledge*, 10(1), 100456. <https://doi.org/10.1016/j.jik.2024.100456>
48. Schalk, R., Timmerman, V., & den Heuvel, S. van. (2013). How strategic considerations influence decision making on e-HRM applications. *Human Resource Management Review*, 23(1), 84-96. <https://doi.org/10.1016/j.hrmr.2012.06.007>
49. Strohmeier, S. (2012). Assembling a big mosaic – a review of recent books on electronic human resource management (E-hrm). *Human Resource Management Journal*, 22(4), 446-457. <https://doi.org/10.1111/1748-8583.12002>
50. Strohmeier, S., & Kabst, R. (2009). Organizational adoption of e-HRM in Europe: An empirical exploration of major adoption factors. *Journal of Managerial Psychology*, 24(6), 482-501. <https://doi.org/10.1108/02683940910974099>
51. Strohmeier, S., & Kabst, R. (2014). Configurations of e-HRM – an empirical exploration. *Employee Relations*, 36(4), 333-353. <https://doi.org/10.1108/ER-07-2013-0082>
52. Strohmeier, S. (2020). Digital human resource management: A conceptual clarification. *German Journal of Human Resource Management*, 34(3), 345–365. SAGE. <https://doi.org/10.1177/2397002220902838>
53. Theotokas, I. N., Lagoudis, I. N., Syntychaki, A., & Prosilias, J. (2024). Factors affecting E-HRM practices in Greek shipping management companies. *Maritime Policy & Management*, 51(2), 245-262. <https://doi.org/10.1080/03088839.2023.2216874>
54. Voermans, M., & van Veldhoven, M. (2007). Attitude towards e-HRM: An empirical study at Philips. *Personnel Review*, 36(6), 887–904. Emerald (available through Springer). <https://doi.org/10.1108/00483480710822418>
55. Vanhala, S., & Ahteela, R. (2019). The effect of HRM practices on impersonal trust. *Management Research Review*, 42(1), 71–88. Emerald (via Elsevier distribution). <https://doi.org/10.1108/MRR-09-2017-0336>
56. Waheed, A., Xiaoming, M., Waheed, S., Ahmad, N., & Tian, S. T. (2020). E-HRM implementation, adoption and its predictors: A case of small and medium enterprises of Pakistan. *International Journal of Information Technology and Management*, 19(2/3), 162-180. <https://doi.org/10.1504/IJITM.2020.106217>
57. Wiblen, S. (2016). Framing the usefulness of eHRM in talent management: A case study of talent identification in a professional services firm. *Canadian Journal of Administrative Sciences*, 33(2), 95–107. Wiley. <https://doi.org/10.1002/cjas.1378>
58. Yusoff, Y. M., & Ramayah, T. (2012). Electronic human resource management (e-HRM) and organizational performance: The mediating role of employee engagement. *Asia Pacific Journal of Management*, 29(4), 1037–1055. Springer. <https://doi.org/10.1007/s10490-011-9277-8>
59. Zhou, Y., Cheng, Y., Zou, Y., & Liu, G. (2022). e-HRM: A meta-analysis of the antecedents, consequences, and cross-national moderators. *Human Resource Management Review*, 32(4), Article 100862. Elsevier. <https://doi.org/10.1016/j.hrmr.2021.100862>