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# DIGITAL HUMAN RESOURCE MANAGEMENT (HRM): A REVIEW OF TECHNOLOGIES, APPLICATIONS, AND OUTCOMES

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## ABSTRACT

*The paper aims to investigate and observe the digital transformation process in the context of human resource management. This will be achieved via a systematic literature review to identify drivers, patterns, and impacts of digitalization in HRM. This study employs an integrative research design that combines an extensive literature review with qualitative content analysis as Data triangulation. Data triangulation was used to increase the data's reliability and explore the subject matter. The report analyses publication patterns, major technologies, impacts, areas of implementation, findings, limitations, and future research directions on the selected papers. This study will provide academicians and policymakers with vital insights to facilitate their journey towards digital transformation, along with potential risks and impacts of Digital Human Resource Management (DHRM). This review represents key papers that combine the findings of studies in digital transformation and HRM. It will assist researchers in identifying and addressing future research directions. The literature's findings can be valuable for advancing HRM practices, as conventional procedures are progressively substituted by innovative digital means of overseeing and directing organizational capital resources.*

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**KEYWORDS:** Digital, HRM, Transformation, HR, Technology, Conventional HRM..

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## 1. INTRODUCTION

The digital age has led to a global consensus on digital transformation, with technologies like 5G, cloud computing, big data, artificial intelligence, IoT, and blockchain driving businesses to adapt to the rapidly changing environment work (Yu & Jinajun, 2020). The wave of this digital transformation impacted right from consumer behaviour, service evaluation and experience, making a fundamental element of today's corporate strategy (Heavin & Power, 2018). Human Resource Management (HRM) at the same time, even equal or more important for the firm. Digital transformation of HR is crucial to remain competitive and adapt to a dynamic business environment (Lal 2015). Today's organizations are stressing importance to adjust with the digitalization of HR for achieving organizational success (Sikki et al. 2024; Kapitanov et al. 2021).

Digital HR refers to integrating digital technologies with HR, such as HRIS, data analytics, cloud computing, social media and other tools that enable automated HR processes and practices (Strohmeier 2020; Verhoef et al. 2021). HR automation leads organizations to achieve higher efficiency, cost reduction, improved employee performance, data-driven decision making and overall organizational performance (Jani et al. 2021; Strohmeier 2020; Verhoef et al. 2021). It significantly impacted HR functions and related processes, meaning that right from recruitment to any issues of human resource development. Digital transformation touches nearly all human resources (HR) functions, including recruitment, salary administration, performance evaluation, workforce management, and training. (Nachit & Okar, 2020). Managers and researchers must know the essential human resource practices required in the industry 4.0 environment and digital transformation (Nicolás-Agustín et al., 2021). Digital technologies have enhanced service quality for stakeholders, increased efficiency and productivity, and saved time in any sector today. Due to the integration of digitalization HR activities, HR is now more accessible and faster than before. Digital HRM is now shaping HR strategies (Mosca, 2020).

Prior studies have utilized SLR (Systematic Literature Review) to ascertain several aspects of implementing digital technology in Human Resource Management (HRM). These previous review articles have covered the adoption of digital technologies in HR separately, such as Disruptive technology (Priyashantha et al., 2022), e-HRM (Bondarouk et al., 2016), cloud computing (Ziebell et al., 2019), Analytics of social media (Ruparel et al., 2020), Artificial intelligence (Nawaz et al., 2024; Vrontis et al., 2021), HR analytics (Wang et al., 2024; Marler & Boudreau, 2016) and Robotics (Vrontis et al., 2021). Still,

there was a potential gap in exploring the concept, drivers, transformation directions, positive impacts, negative impacts, and implications of digital HRM. After a literature analysis using our prior criteria, we found that 31 pieces of research on HRM digital transformation which are suitable for further exploration.

This study has several contributions to the literature. Firstly, it extending the literature through an integrative systematic literature review of digital transformation in HR management by reviewing the recently published articles from 2019 to 2023. Secondly, prior research focuses on isolated technologies in digital HR, while this bridge the gap by offering comprehensive and critical understanding of the concept, digital transformation, implementation of technology, and technology direction of digital HRM. Thirdly, this also highlights both the positive and negative impact of digital HR by balanced assessment of HR digitalization. Fourthly, the use of qualitative content analysis and data triangulation offer a structural framework illustrating how the HR digitalization reform HR operations sector wise. Finally, it offers valuable theoretical implications towards future researchers and guidance to the practitioners in HR world.

**Thus, the current SLR will look for the following questions:**

- What are the current dominant technologies in digital HRM?
- What are the implications of HR's digital transformation?
- What is the nature of HRM's current and future digital transformation?

## 2. METHODOLOGY

This study employs an integrative research design that combines an extensive literature review with qualitative content analysis as Data triangulation. The integrative approach enables the synthesis of existing knowledge across diverse studies to develop a comprehensive understanding of the research topic. First, an extensive literature review was conducted to collect and analyze scholarly articles, reports, and conceptual papers related to digitalization of HRM. This step helped identify key themes, theoretical frameworks, and research gaps. Subsequently, a qualitative content analysis was applied to systematically examine and interpret the selected materials. This involved coding and categorizing the textual data to extract meaningful patterns, concepts, and relationships.

The data sources were Web of Science and Scopus. For the original search we used, irrespective of the Boolean operators "AND" and "OR," the following search phrases and keywords: Digital transformation in HRM,

HR automation, HR transformation, technology in HR, the role of digitalization in HRM.

As inclusion criteria, we only considered the last five years of studies, meaning 2019 to 2023, and the paper is written in English. The very first phase of the sample review was to review duplicate data. Other than the

research article and a few dominant books, all other types, like conference papers, review papers, concept papers, etc., were also reviewed. We also excluded the contents written in other languages. This final filter left 31 papers ultimately meeting the requirements for inclusion and exclusion.

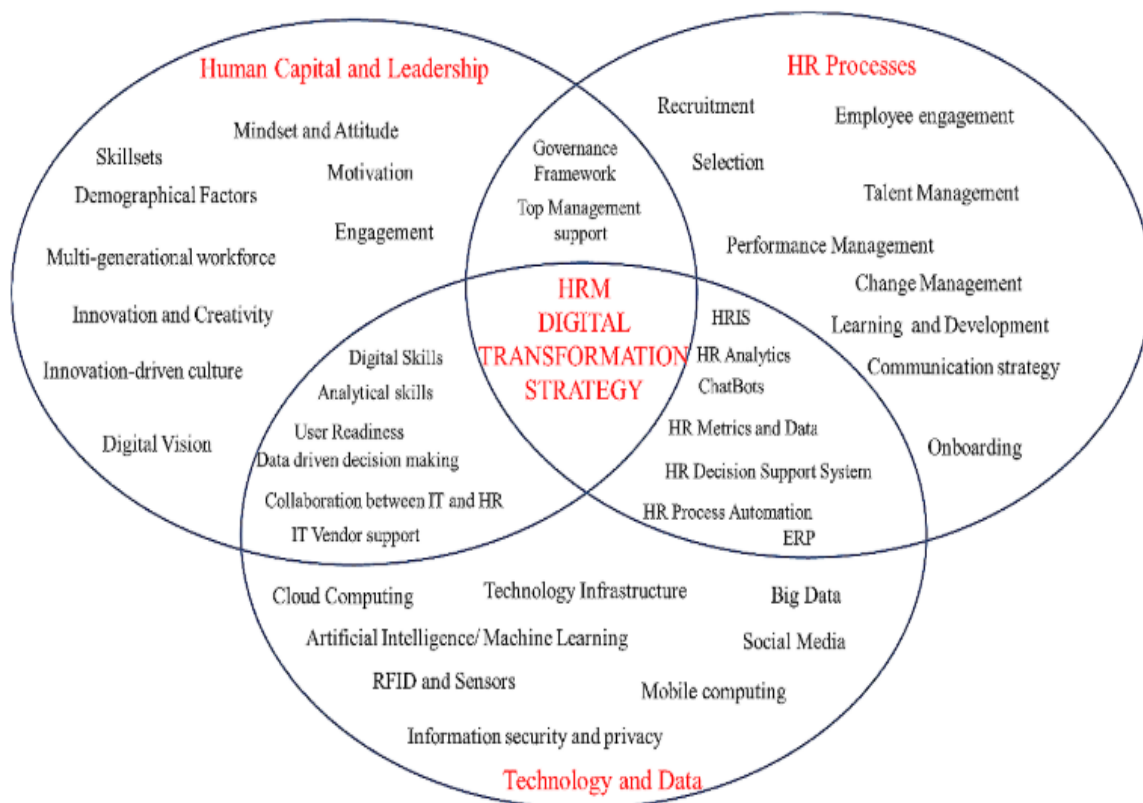


Figure 1: Elements of the HRM Digital Transformation (Shobitha Poulose Et Al., 2024).

### 3. ANALYSIS AND FINDINGS

Digitalization of Human Resource Management has been increasing sharply since 2016 in almost no

time. It happened due to the wave of 4IR. **The literature and citations on digital Human Resource management citations are shown in the following:**

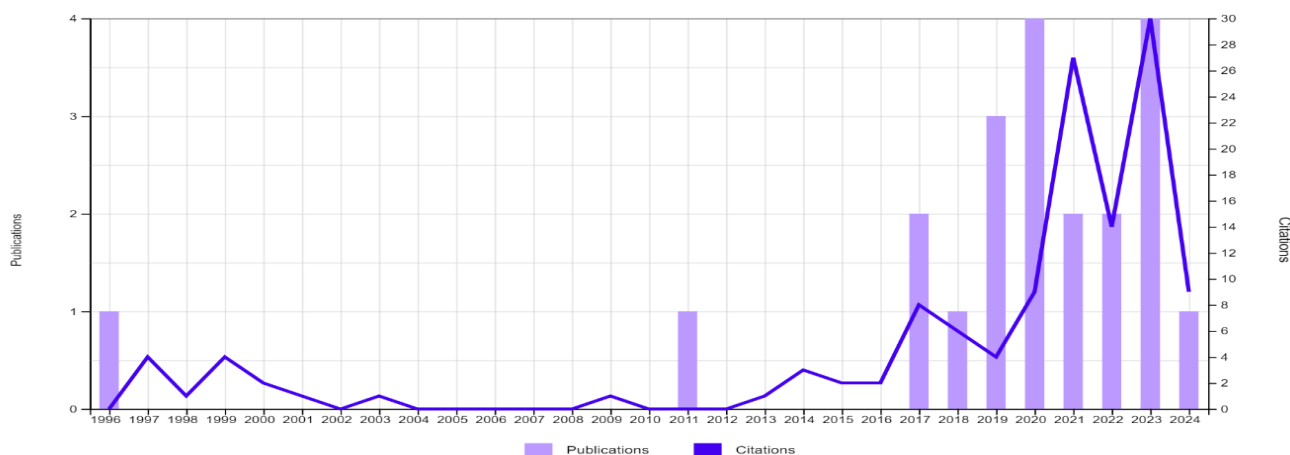


Figure 2: The Growth of Research in Digitalizing HRM.

After switching from personnel management to HRM has been a long journey with conventional HR.

However, after the revolution of mobile technology and the wave of the 4th industrial revolution, traditional HR practices have been replaced with digital means. Like the practice, the researchers are going with HR digitalization studies. It affects both the number of publications and citations simultaneously.

**3.1. The Major Tools and Technology Used In HRM**

After analyzing these 31 papers, we can identify

the digital means and technologies that are transforming traditional HR practices with digital HR practices. Here, we considered the latest pieces of literature of 2023 and 2022 to perceive the latest technologies that are helping HR to be tech-savvy. Artificial intelligence is the most dominant technology that leads the digital transformation of HR practices (Linlin Liu, Yao Su., 2022; A. Kalenova, 2022; Svitlana Urba et al., 2022; Tugba Karabog et al., 2022; Elena K. Zavyalova et al., 2022; Robert-Christian Ziebell et al., 2022; Valentina Poliakova et al., 2022; Daniel Wilfinger et al., 2022).

**Table 1: Summary of Digital Technologies Used in Digital HRM.**

Digital Technology	Authors & Year	Digital Technology	Authors & Year
Digital recruitment for tracking applicants	Ariadna et al., (2023)	Big data and advanced Analytics	Ali Emran (2023)
e-HR with web-based tools, Computer-based applications for HR functions	Hasan Abdulsalam Ali Emran (2023)	Mobile applications, social networks, cloud technologies, virtual reality, artificial intelligence, Analytics and Big Data for HR processes.	Mykhailo Vedernikov et al. (2022)
Big data, cloud computing, artificial intelligence	Elena K. Zavyalova et al., (2022); Robert-Christian Ziebell et al. (2022)	Digitization of talent ability, Data visualization of performance management system	Nisa Eksili (2022)
AMO model applied to investigate strategic HR management effects	Kangning Zheng, Liuliu Zhou, Ying Xu (2022)	Mobile analytics, cloud technologies	K. Zheng, L. Y. Zhou and Y. Xu (2022)
Internet of Things, artificial intelligence, blockchain, machine learning, Big Data	Svitlana Urba et al. (2022); Tugba Karabog et al. (2022)	Technology-led recruitment, onboarding, training, development, Digital upgradation of HR processes	A. Kalenova (2022)
Computing technologies, artificial intelligence, robotics, neurotechnology	Adilah Hisa, Fadziwati Mohiddin, Heru Susanto (2022)	Use of artificial intelligence, Implementation of information technology	Valentina Poliakova et al. (2022)
AI integration into enterprise processes, IoT for increasing information transparency between managers and employees	Mykhailo V. et al., (2022)	Robotic/Intelligent Process Automation (RPA/IPA)	Petra Rydvalova et al. (2022)
Gamification tool	Teresa G. et al., (2023)	Virtual reality	Mykhailo V. et al., (2022)

**3.2. Fields/ Area of Applications of HR Digital Technologies**

With the wave of 4IR, traditional HR has been replaced with digital technology. These technologies are used in almost all HR functions, such as talent acquisition, ATS, AI-powered job posting and

matching, etc. After employees are onboarded, HR software allows both the organization and employees to track work, access training material, receive continuous feedback, evaluate performance in real time, and even monitor compensation management.

**Table 2: Summary of Digital HR Implemented Areas.**

Area of HR practice	Authors & Year	Area of HR practice	Authors & Year
Recruitment tracking	Ariadna et al., (2023)	HR-Controlling	Ali Emran (2023)
contactless human resource management	Elena K. Zavyalova et al., (2022)	Professional competency	K. Zheng, L. Y. Zhou and Y. Xu (2022)
Employee evaluation	Teresa G. et al., (2023)	HR process integration	Mykhailo V. et al., (2022)
Transformations in labour productivity	Svitlana Urba et al. (2022)	Innovation capability	Jesus M. Cortes (2023)
Strategic analysis of HR value.	Ariadna et al., (2023)	HR automation	Petra Rydvalova et al. (2022)
New work model	Ariadna Monje Amor (2023)	Could base HR	Robert-Christian Ziebell ET AL., (2022)

The essential aspects are implantation areas and

the technology that fits the implantation of digital

means. Recent reviews identified the segmented areas/ functions of digital HR

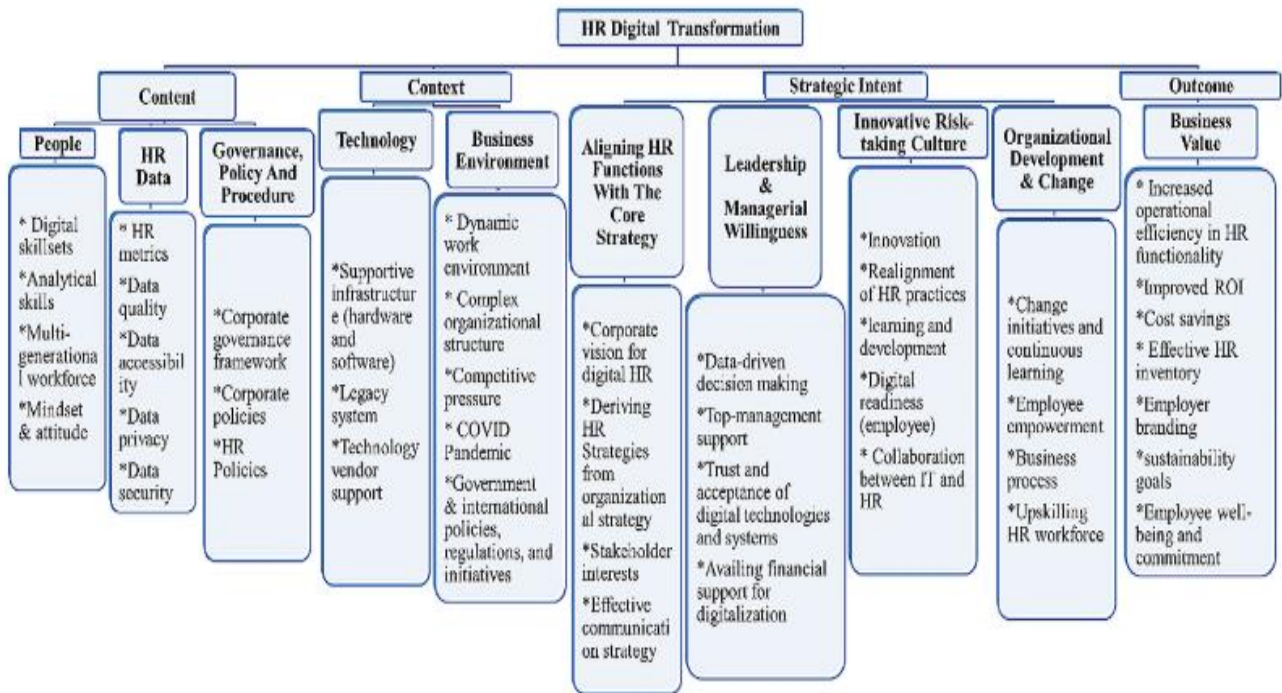


Figure 3: Areas and Adopted Technology in HR (Shobitha Poulose Et Al., 2024).

3.3. A Conceptual Framework for Implanting DHRM

The literature review provides the shape of digitalization of HR activities. The reviewed studies provide the digital HR enablers and areas of

implementation. The Stimulus-Response (Mehrabian and Russell 1974) and Resource Based View (Barney 1991) models make that conceptual framework. We found that the conceptual framework is worthy of explaining the transformation of digital human resource management.

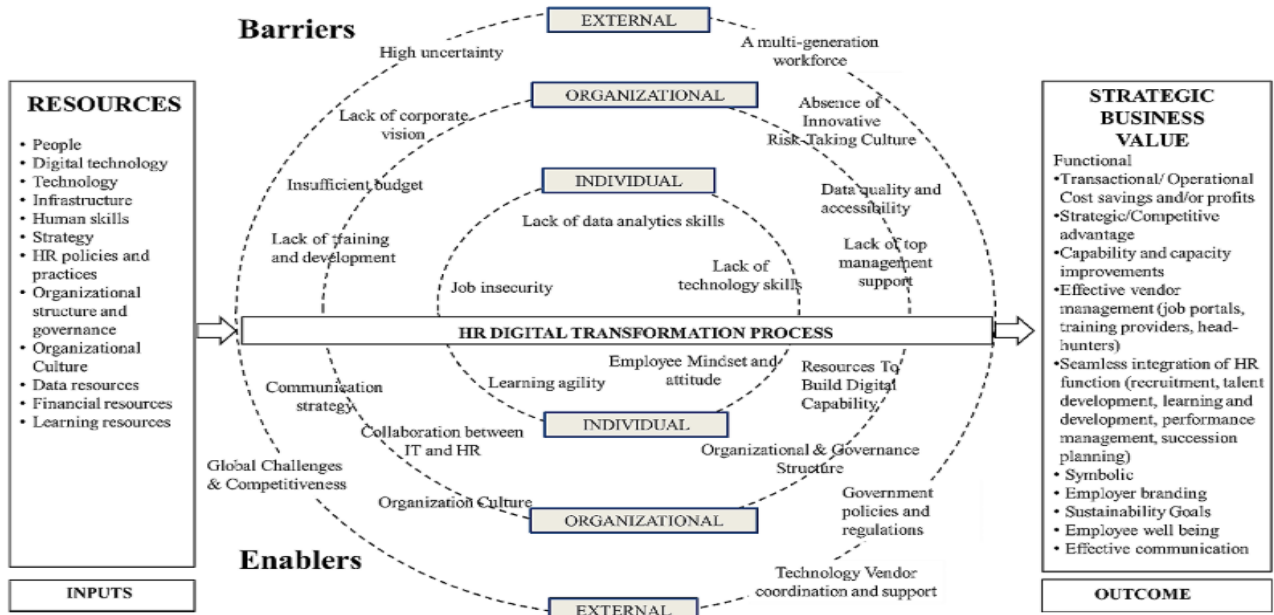


Figure 4: Potential Framework to Implement Digital HRM (Shobitha Poulose Et Al., 2024).

3.4. Sectoral Implementation of Digital HRM

The execution of Digital HRM differs among

various sectors. Almost every industry has witnessed a significant favourable influence on environmental performance through digital human resource

management (HRM) methods, including digital recruitment, training, performance appraisal, and remuneration (Hasan, A. and Ali, E., 2023; Coral,

Barboza., 2018). However, the following table summarizes the covered sector where digital means are deployed in HR.

**Table 3: Sectoral Implementation of Digital HRM.**

Authors & Year	Sector
Yu, Zhou and Yunqing, Zou. (2023); Hafinas, Halid et al., (2020); Coral, Barboza. (2018).	Software development, Service industry
Hasan, Abdulsalam and Ali, Emran. (2023)	Education
Emi, Masyitah (2022)	Pharmaceutical industry
Jain, S. (2023)	Multiple industries
Toni, Mihova (2022); Hafinas, Halid et al., (2020)	Manufacturing industry
Khatib, O., & Alshawabkeh, K. (2022)	Mobile telecommunications
Ghada et al. (2022)	FMCG sector

### 3.5. Impact Of Digitalization HRM

The influence of digitalization on Human Resource Management (HRM) is considerable, resulting in substantial alterations in corporate strategy and procedures. Digital technologies, including social, mobile, analytics, cloud, and artificial intelligence, fundamentally transform HR processes (Shukla, A. et al., 2023; Emran, H., & Elhony, F. M., 2023). These transformations improve recruiting, training, employee engagement, and decision-making, eventually leading to better organizational performance (Jain, S., 2023). The impact of DHRM fosters advancing skills, improving knowledge, and integrating technology to achieve sustainable firm development (Masyitah, E. et al., 2023). Furthermore, the digitalization of HRM

improves the employer's image in the market, enhancing the ability to recruit better and enabling the firm to remain or be more competitive.

#### 3.5.1. Positive Impact of Digital HRM

The integration of digital HR has changed the style and operation of traditional HR activities (Shukla, A., et al., 2023; Masyitah, E., et al, 2022). HR may leverage digital technologies to improve management, accurately predict employee needs, and make informed decisions, increasing the organization's performance. Moreover, integrating digital technologies in HR facilitates the development of novel positions for HR experts and exploiting sophisticated analytics tools, improving HR operations' overall efficiency.

**Table 4: Summary Of the Positive Impact of Digital Technologies On HRM.**

Authors & Year	Extent of positive impact
Yu, Zhou and Yunqing, Zou. (2023); Hafinas, Halid et al., (2020); Coral, Barboza. (2018).	Data-driven HR insights affect the organization and financial performance.
Hasan, Abdulsalam and Ali, Emran. (2023)	It affects the knowledge, skills and competencies of employees
Emi, Masyitah (2022)	Develop competencies to adapt to the changing environment
Jain, S. (2023)	Satisfaction, retention and productivity
Toni, Mihova (2022); Hafinas, Halid et al., (2020)	Company competitiveness
Khatib, O., & Alshawabkeh, K. (2022)	Achieving strategic leadership
Ghada et al. (2022)	Management Service Quality (HRMSQ)
Ariadna et al. (2023)	Hybrid mode of work
Ellen, D.et al. (2022)	Adaptability and skill development

#### 3.5.2. Negative Impact

Digitalization of HRM boosts the employee satisfaction and organizational efficiency while raising concerns about privacy and security. The negative effects of Digital HRM systems might be ascribed to multiple variables emphasized in the given situations. Although implementing digitalization in HRM procedures might lead to

beneficial outcomes, there are apprehensions surrounding the privacy and security implications of using IoT technology for data collecting and analysis in HRM practices (Zareen, S., & Khan, S. A., 2023). In the long term, if digital HRM practices are not implemented and adapted correctly, it may result in reduced performance and competitiveness (Wang, L., & Zheng, G., 2022).

**Table 5: Summary of the Negative Impact of Digital Technologies On HRM.**

Authors & Year	Extent of the negative impact
Zareen, S., & Khan, S. A. (2023).	Raising concerns about privacy and security
Ellen, D.et al. (2022)	Professionals are often hesitant to adopt new technologies, hindering full integration

Alhan, O. (2023).	up-to-date technology investments and qualified personnel, as traditional practices, may hinder competitiveness in the long run
Lumi, A. (2020)	Fear of job loss due to robotization, high costs of new technologies, and concerns about thinking degradation
Khaled, G., & Alena, F. (2021)	employee mental well-being and health hazards due to adopting new technology
Khaoula, S. et al. (2021)	negative impact of stress and productivity

### 3.6. Review of the Findings and Direction from Selected Studies:

The SLR reviewed 31 studies on the digital transformation of Human Resource Management. The separate studies were chosen after carefully reviewing each part of the research papers. The major findings of the research are significant for understanding and predicting the future shape of HR practices. That is why the present SLR sorted the main findings of each study and tracked their

limitations. Most of the papers also shared future research directions with their research, suggesting the gap for doing research in the particular field. The future directions are very insightful for the researchers in HR fields because each paper shares the proper areas of development further.

**In the following the current paper summarized the key findings, limitations and future research directions:**

**Table 6: Summarized Findings, Limitations and Research Directions On DHRM.**

Author (Year)	Most important findings	limitations	Future Research Directions
Ariadna Monje Amor (2023)	Digital transformation in HRM involves rapid changes driven by information technologies, significantly intensified by the COVID-19 pandemic. It reshapes HR processes, recruitment methods, and work models towards digitalization.	The factors and consequences of the digitalization of HRM remain unclear. - Wide reach and high efficiency may not always indicate success.	Explore the impact of digital HRM on employee well-being. Investigate the effectiveness of digital recruitment strategies in diverse industries.
Elena K. Zavyalova, Dmitry N. Sokolov, Dmitry Kucherov, Antonina Lisovskaya (2022)	The digital transformation of Human Resource Management (HRM) is rapidly evolving, especially during the COVID-19 pandemic, impacting organizations' processes, efficiency, and success in various ways.	Lack of consideration for additional aspects of digital HRM beyond reach and effectiveness. Absence of specific details on the digital HRM technologies used by the organizations studied.	Explore the impact of digitalization on company success and functionality. - Investigate the relationship between digital HRM and organizational characteristics.
Al-kharabsheh, S. A. et al., (2022)	Digital transformation in HRM refers to the adoption of web-based tools, enabling HR departments to focus on strategic activities like recruitment, training, and performance management, enhancing overall efficiency and effectiveness.	Important factors like industry type and technological infrastructure were not explored, potentially limiting the depth of the analysis. Specific details about the digital HRM technologies utilized were not provided, which could have enhanced the research's practical implications.	- Impact of digitalization on employee well-being- Effectiveness of e-HR tools on organizational performance
Elena K. Zavyalova, Dmitry N. Sokolov, Dmitry Kucherov, Antonina Lisovskaya (2022)	Digital transformation in HRM is crucial for enterprise growth. The DEA-Malmquist model aids in evaluating personnel efficiency, predicting post-transformation employee needs, and supporting contactless HR management.	N/A	- Explore impact of digital transformation on employee performance. - Study effectiveness of contactless human resource management in enterprises.
Jin-Hee Lee, Nam-Jo Kim (2022)	Strategic HRM in digital transformation positively impacts task performance in travel agencies post-COVID-19. It enhances ability, motivation, and opportunity, emphasizing the importance of ongoing education for employees.	N/A	- Explore impact of continuing education on task performance. - Investigate long-term effects of strategic HRM in digital transformation.
Svitlana Urba, Olga Chervona, Vladimir Panchenko, Lina Artemenko, Olga Anatolievna Guk (2022)	Digital transformation in HRM involves integrating technologies like IoT, AI, blockchain, and Big Data to enhance human resources management processes, as highlighted in the study on engineering enterprises.	N/A	- Explore impact of digital technologies on employee performance and satisfaction. - Investigate long-term effects of digital HR systems on organizational success.

Daniel Wilfinger, Claudia Brandstätter, Julia Mitteregger (2022)	Digital transformation in HRM, particularly HR-Controlling, utilizes technologies like Big Data and Advanced Analytics to enhance work performance evaluation, promising sustainable financial improvements for companies.	- HR metrics have not been extensively applied to control and optimize HR processes. - The acceptance of new technology and the success of HR transformation can be increased with new metrics.	- Explore AI integration in HR-Controlling for enhanced efficiency. - Investigate the long-term impacts of digitalization on HR performance evaluation.
Robert-Christian Ziebell, Jose Albors-Garrigos, Klaus-Peter Schoeneberg, Maria Rosario Perello Marin (2022)	The paper explores the adoption and success of e-HRM in a cloud computing environment, emphasizing factors influencing the transformation from traditional HRM to digital HRM, including new HR metrics.	N/A	- Explore further HR metrics for optimizing processes in e-HRM. - Investigate impact of new metrics on technology acceptance in HR.
Mykhailo Vedernikov, Lesia Volianska-Savchuk, Oksana Chernushkina, Natalia Bazaliyska (2022)	Digital transformation in HRM involves utilizing data for payroll, performance management, learning, and recruitment and enhancing employee work conditions through technologies like AI, cloud, and mobile applications.	- Lack of strategic planning, systematic training of digital skills, and relevant talent cultivation- Failure to combine performance with digitalization, narrow scope, and low efficiency of transformation	- Impact of AI on HR processes. - Integration of virtual reality in HR management.
Teng Yuan (2023)	Digital transformation in HRM involves digitizing talent abilities, modernizing HR elements, and visualizing performance data. It enhances competitiveness, efficiency, and economic benefits in enterprises.	- Incomplete tasks for evaluating HR-processes' digitization effectiveness. - Further investigations needed for personnel management digitalization indicators.	N/A
K. Zheng, L. Y. Zhou and Y. Xu (2022)	Digital transformation in HRM involves using HRM-systems to digitize business processes, optimize operations, enhance employee engagement, and improve overall company success through modern technologies.	- Methodology and methods limitations due to the onset of the pandemic. - Limited geographical locations in India, limiting cultural diversity.	- Evaluation methods for HR-processes' digitization- Further investigation on HRM-system effectiveness in personnel management
Jesus M. Cortes (2023)	Human Resource Digital Transformation (HRDT) involves integrating digital and individual factors to enhance innovation capability in HR processes, crucial for organizational success in the digital era.	- Not addressing the correlation between competencies and employee effectiveness. - Lack of effective methods to acquire necessary competencies.	- Explore factors enhancing innovation capability in HRDT. - Investigate impact of HRDT on gig economy post-COVID-19.
A. Kalenova (2022)	Digital transformation in HRM involves adapting to new technologies like AI and robotics to enhance personnel management systems, improve competencies, and make strategic decisions in the digital era.	- Lack of broad literature studies with a wide perspective. - Few theoretical researches conducted by domestic and foreign scholars.	- Explore impact of digitalization on employee competencies. - Investigate effectiveness of new HR technologies in digital environment.
Linlin Liu, Yao Su (2022)	Digital transformation in HRM enhances competitive advantage by optimizing the value chain through employee competence, motivation, and opportunity, leading to improved organizational performance and revenue maximization.	- Model of recruitment process based on artificial intelligence- Map of possible risks in digital HR transformation	- Evaluate HR value chain sheds, reconstruct under different models. - Build electronic HR asset evaluation system based on human capital.
Valentina Poliakova, Maxim P. Pochekutov, Evgeniia Aleksandrovna Panova (2022)	The paper discusses the digital transformation in HR management through the use of artificial intelligence and information technology to enhance efficiency and form qualified personnel in the digital economy.	- Research limitations acknowledged- Practitioners' opinions compared with theoretical findings	- Explore AI impact on employee training and development. - Investigate AI integration in performance management systems.
Petra Rydvalova, Kateřina Maršíková, Jaroslav Demel (2022)	Digital transformation in HRM includes managing a hybrid work environment, robotic/intelligent process automation, talent, and knowledge management. It offers opportunities, flexibility, and challenges in the digital era.	- Intense competition due to digital transformation- Skills needed for superior HR performance	- Explore impact of digital HR trends on organizational performance. - Investigate challenges and benefits of implementing RPA/IPA in HR.
Sari Sakarina, Zet Ena, Jenita, Pandu Adi Cakranegara, Susilo Surahman (2022)	Digital transformation in HRM enhances performance and achievement by adapting to the demands of Industrial Age 4.0 through automation and digitized technology, fostering competitiveness and innovation.	N/A	- Explore impact of digital transformation on employee well-being. - Investigate strategies for enhancing HR performance in Industry 4.0.
Tugba Karaboga, Hasan Aykut Karaboga,	Digital transformation in HR involves leveraging big data and AI to revolutionize	- Brexit and COVID-19 negatively affected the service sector in the	- Explore AI impact on HR functions and processes. -

Doğan Başar, Songül Zehir (2022)	HR functions, processes, and systems, creating a digital workplace and enhancing employee experience.	UK. - Digital transformation did not stand aside from these negative effects.	Investigate digital HR pitfalls and solutions for future advancements.
Yusuf, M. et al., (2023)	Digital transformation in HRM positively impacts Industry 4.0 development, despite challenges from macroeconomic shocks like Brexit and COVID-19, affecting the UK service sector significantly.	- Specifying organizational strategy is challenging due to its dynamic nature. - Small and medium-sized enterprises lack formalized strategies for alignment.	- International trends in customer needs and behavior analysis. - Impact of macroeconomic shocks on HRM in different sectors.
Collou, L., & Bruinsma, G. (2022)	Digital transformation in HRM involves shaping employee behavior through aligned HR configurations using technology-driven methods to adapt to organizational changes and reaping new technology's benefits.	- Traditional HR competencies need updating. - HR teams should not rely on others for tech decisions.	- Adjust scores based on empirical assessments by HR professionals. - Define additional HR activities influencing DT behaviors for future research.
Kravchuk, O., Varis, I., Zalizniuk, V., Kaluzhna, T., & Samko, A. (2023).	Digital HR transformation involves modernizing HR processes through technology. It requires a strategic digital HR strategy to manage the changes effectively and align with organizational goals.	- HRM faces challenges in adapting to changing social norms and changes within the enterprise. - HRM has difficulties in the digitalization process.	- Explore impact of AI on digital HR strategy. - Investigate long-term effectiveness of digital HR transformation.
Nisa Eksili (2022)	Digital transformation in HRM is crucial for adapting to societal and business changes, facing challenges, and utilizing HR technologies to enhance productivity and employee experiences in the digital era.	- Systems by Nunes, Pinto, and Sousa lack transparency and focus. - Anh, Lee system requires IT experts and high acquisition costs.	- Impact of AI on HRM practices- Employee well-being in digitalized work environments
Jakub Chán, M. Balková (2022)	Digital transformation in HRM involves utilizing methods like task description and skill matching to develop employees effectively, aligning with the demands of the fourth industrial revolution.	Lack of comprehensive studies on shaping work practices for digitalization. - Need for research on measurable data of HR functions affected.	Improve transparency across organizational levels to increase trustworthiness.  Explore enhancing system transparency for increased organizational trust.
Riza Irmak, Harun Demirkaya, Hülya Gündüz Çekmecelioğlu (2023)	Digital transformation in HRM is addressed in the paper through developing a scale for transformation and digitalization in HRM, consisting of 7 sub-dimensions and 21 items, ensuring validity and reliability.	- Challenges of digital transformation following the COVID-19 crisis- Impact on culture and the role of HRM	- Investigate impact of digital transformation on HR functions comprehensively. - Explore new skills and talents needed for digital transformations.
Adilah Hisa, Fadziwati Mohiddin, Heru Susanto (2022)	Digital transformation impacts HRM practices post-COVID-19, challenging organizational culture. HRM plays a crucial role in managing these challenges, enhancing understanding of digital transformation in Asian organizations.	-Exploratory study with limited generalizability- Skewed gender distribution among participants	- Explore the impact of digital transformation on organizational culture- Investigate HRM strategies for managing digital transformation challenges
Teresa Galanti, Clara De Vincenzi, Ilaria Buonomo, Paula Benevene (2023)	Digital transformation in HRM involves adapting to Industry 4.0 by developing technical and soft skills, fostering collaboration, and building functional relationships to meet the demands of digital innovation.	N/A	- Effectiveness of incentivizing smart and sustainable manufacturing in Industry 4.0.- Explore consequences of digital transformations for blue-collar and white-collar workers.
Asif, M., Yang, L., & Hashim, M. (2024).	The digital transformation of human resources impacts organizational strategic sustainability and performance	N/A	- Explore impact of digital HR transformation on other industries. - Investigate conscious leadership role in non-Islamic banking sectors.
Kangning Zheng, Liuli Zhou, Ying Xu (2022)	Digital transformation in HRM is crucial for enterprise growth. This study uses a DEA-Malmquist model to predict post-transformation employee needs, supporting contactless HRM and enterprise digitalization.	N/A	- Enhance model for broader industry application. - Investigate the impact of digital transformation on employee performance.
Hasan Abdulsalam Ali Emran (2023)	Digital transformation significantly impacts HRM strategies by necessitating skill enhancement, knowledge increase, and	- Potential negative effects of the new system- Conversion of old and new HR management systems	- Investigate effective training programs for digital transformation. - Explore

	technology integration for organizational efficiency and sustainable development, as shown in the study.		impact of team building on digital transformation cooperation.
Jie Zhang, Zhisheng Chen (2023)	Digital transformation in HRM involves leveraging factors like internal customer needs, industry innovation, and digital governance to enhance processes such as selection, training, and assessment with advanced technologies.	- The factors and consequences of digitalization of HRM remain unclear. - Wide reach and high efficiency may not always indicate success.	- Impact assessment of digital transformation on HR systems- Strategies for mitigating negative effects of new HR systems
Ariadna Monje Amor (2023)	Digital transformation in HRM involves rapid changes driven by information technologies, especially intensified by the COVID-19 pandemic. It reshapes HR processes, recruitment methods, and work models towards digitalization.	N/A	- Explore impact of digital HRM on employee well-being. - Investigate effectiveness of digital recruitment strategies in diverse industries.

This study also acknowledges some other limitations. Exclusion of non-English papers, use of only two databases (Web of Science and Scopus), and the five years of time frame from 2019 to 2023 are among those which have a scope of overcome in future studies.

## 4. IMPLICATIONS

### 4.1. Theoretical Implications of Digital HR

*Chaining the HR model:* Conventional HR models are now shifting to digital HR frameworks. HRM is now conceptualized and studied, requiring a more dynamic and data-driven model.

*Employee well-being:* Digital HRM has implications for theories that seek to understand work engagement, well-being, and job satisfaction from a new point of view. Integrating digital tools in HR processes can affect perceptions, shaping the new framework and understanding of employee well-being and their pattern of behaviour.

*Organizational structure and culture:* Theories regarding organizational structure and culture are largely shaped by the extension of digital HRM means. Now, the digital model is more flexible, dynamic, and decentralized than the organizational model, impacting the organizational hierarchy.

*Data-driven HRM:* With digital integration, HR now includes data analytics, which allows the collection and analysis of vast amounts of data, influencing how the researcher will predict HR practices and outcomes.

### 4.2. Managerial Implications of Digital HR

#### Efficiency and automation:

Digital HRM allows managers to automate HR functions from payroll to retirement. This automation enhances the skills and output of the organization.

*Improved decision-making:* Now, managers can access real-time data and analytics to make data-

driven decisions. This enhances the chance of making the right decisions since they can assess and track the HR metrics.

*Talent management:* Managers need aid to acquire and retain the right people. Digital HR provides an ATS and tracks the entire HR process, with which managers can detect the right talent for hiring and retain them for sustainability.

*Employee communication and engagement:* Digital technologies and tools improve organizational communication and positively affect employee engagement. Real-time feedback, quick communication, and tracking compliance foster work engagement and employee commitment.

## 5. SUMMARY OF THE REVIEW

The study comprehensively defines and analyses the HRDT construct's trends and offers a detailed analysis of how digital disruptions have led to the digital transformation of HR practices. HR professionals must be skilled in digital disruptions, such as artificial intelligence, big data analytics, machine learning, robots, and smart system maintenance. The process of digitizing and transforming HRM is distinct in several ways. Digitizing HR practices necessitates carefully managing sensitive data, such as employee information, performance assessments, and personal details. This necessitates achieving a delicate equilibrium between promoting technological progress and maintaining a personal and human element. (Bajer, 2017; Thite, 2022; Thoti, 2024). HR activities are subject to various legal and compliance norms, such as data protection, labour legislation, and industry-specific requirements (Thite 2022).

Although this work has made essential contributions, it has drawbacks that suggest potential areas for future analysis. We have concerns about the limitations of the number of papers. The study's exclusion method is exclusively high since we wanted to know particular aspects of the

digitalization of human resource management. That is why the study only filtered and worked with 21 scientific articles on that topic from the Web of Science. To make it comprehensive, future studies should include more papers and may combine both Scopus and Web of Science.

The SLR indicates that digital transformation substantially influences human resource management practices and strategies. Furthermore, the successful execution of digital transformation

was significantly dependent on enhancing the capabilities of personnel through training and motivation to accomplish organizational objectives with maximum efficiency and effectiveness. The study also highlighted the dominant technologies in recent times. To summarize, the study emphasized the crucial significance of digital transformation in enhancing performance and achieving high employee satisfaction levels and organizational success.

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