Digital Human Resources Management, Requirements and challenges



Rhouati hamza

University Of Banta 1 . hamza.rhouati@univ-batna.dz

Latreche Mohamed

University of Banta 1 . mohamed.latreche@univ-batna.dz

Abstract:

The advent of digital transformation has compelled organizations to rethink their operational methodologies, it has emerged as a pivotal component of corporate strategy. HR managers face the challenge of guiding employers and employees toward adopting a digital mindset that leverages digital technologies for managing, organizing, and leading change. The digital transformation of human resource management (HRM) has accelerated HRM processes, allowing HRM specialists to focus more effectively on meaningful initiatives within their functional domains.

Keywords: human resource management; digital transformation; strategy; digital technologies

^{*} Rhouati hamza, university of Banta 1, hamza.rhouati@univ-batna.dz

Introduction:

Digital transformation has forced firms to reconsider their operational methods, becoming crucial to corporate strategy. Many companies are realizing the need to change their business models to stay competitive and adapt to the digital transformation happening in their industry.

The progressive advancement of digital technology has resulted in a substantial transformation in how HR engages with information and data. Integrating digital technologies has significantly revised key HRM processes, including employee recruitment, performance evaluation, and human resource development. This integration has eventually improved the delivery of services to stakeholders.

Digital HRM reduces time consumption and improves the overall efficiency of HRM operations. The digital revolution has expedited HRM processes, enabling HRM specialists to allocate their efforts more efficiently towards noteworthy initiatives within their functional domains. The increasing importance of digital HRM approaches is crucial, as they increasingly play a central role in developing HR strategy and, consequently, the entire business. (Zhang & Chen, 2023, p. 2)

Modern digital technologies are quickly becoming widely accepted. The escalating rivalry in the industry has compelled prominent organizations to accelerate their digital transformation endeavors. Amidst intense market rivalry, the digitalization of Human Resource Management (HRM) has become crucial for firms aiming to enhance their competitive advantage. The evolution of Human Resource Management (HRM) has a profoundly advantageous effect on ensuring that employees are appropriately equipped to fulfil the requirements of their positions. .(Ni, 2022, p. 11)

Objectives of the Study

- -The main aim of the study is to investigate the concept of digital HRM and its implementation strategies.
- To ascertain the methodologies employed in Digital HRM.
- To investigate the potential opportunities and obstacles.
- -To provide suitable recommendations for improved practices in order to effectively tackle the issues associated with digital HRM, it is necessary to

1. Human Resource Management in the Digital Age

The role of human resources management in companies has evolved from traditional and conservative to dynamic and innovative. Organizations are presently implementing ambitious strategies, such as competency-based recruitment, remuneration plans driven by innovation, performance management centered on outcomes, and human capital empowerment. This transformation is also apparent in converting the human resource management function into a digital form.

The process of digitalization provides substantial advantages for the management of human resources, particularly comprehensive data analysis and consistent optimal performance. Digital transformation improves the productivity of recruitment procedures by replacing manual curriculum vitae (CV) with automated screening, which completes tasks in a matter of seconds. Other benefits include more transparency and expanded access to previously restricted data sets. (Fenech, December 2021, pp. 6-7)

2. Digital Human Resource Management

Digital Human Resource Management (HRM) oversees all HRM tasks using technology, applications, and the internet. Therefore, there is a crucial need for innovation in HRM practices to effectively attract, reward, and assess employees. In today's context, the use of social or virtual media is widely accepted as an effective strategy for retaining valuable employees .Recent studies conducted by Fedorova [2019] demonstrate that the digitization of HRM processes has the potential to eliminate numerous routine tasks, minimize the risk of human error, and address critical challenges. Building on this insight, the expectation is that the implementation of digital HRM, particularly in monitoring online work in real-time, will empower managers to conduct more accurate performance appraisals, ultimately leading to an enhancement in employee performance. (Sangaji, 2023, p. 744)

Human resource management (HRM) digitization entails converting analog HR data into digital format. It is crucial to differentiate between digitization and digital transformation procedures in HRM. Strategic alignment in digitalization is achieved by utilizing the potential of digitization after creating a company plan. However, digital transformation enhances alignment by incorporating digital technologies into developing strategies. This problem is not limited to the human resources department alone but is relevant to all areas inside a business. In the

end, a digital organization is the socio-technical result of widespread organizational digitalization. Digital Human Resource Management (DHRM) refers to the outputs of digitalization processes within the context of HRM. Therefore, Strohmeier describes DHRM as the socio-technical result of HRM's digitization. . (Theres, 2021)

3. REQUIREMENTS OF DIGITALIZATION:

The requirements for the digital transformation of human resource management are outlined by (Doshi, Shukla, & Patel, 2021, p. 432):

- 1. **Digital Workforce:** Anticipating and embracing change is imperative, especially in the context of digital transformation. If an organization is in the process of digitizing its operations, particularly in HR, it is essential that employees and HR managers possess the necessary efficiency and knowledge in utilizing technology and software. Without a digitally adept workforce, any attempt at digital transformation risks becoming a significant blunder or failure.
- 2. **Digital Work and Task:** Integrating digital elements into work processes is a fundamental aspect of successful digitalization. Converting traditional manual tasks into digital workflows is key. Employees, seeking purpose and engagement in their work, may resist new technologies if the content or processes on digital platforms lack relevance and motivation. Organizations must strive to make work digitally engaging and leverage digital tools for effective communication with employees.
- 3. **Digital Support Management:** Digitalization extends to planning, implementing, and utilizing digital technologies to support various HRM (Human Resource Management) activities. This includes but is not limited to onboarding processes, recruitment, payroll processing, reward and compensation management, performance appraisal, and training and development initiatives. Efficient integration of digital support management ensures a streamlined and technologically advanced HR environment.
- 4. **Updated HR technology:** The technological domain encompasses the evaluation of elements such as IT infrastructure, technological compatibility, technology complexity, and the comparative benefits of technology. (Alam et al., 2016; Muhammad, 2018). According to Alam et al. (2016), IT infrastructure plays a crucial role in adopting digital Human Resource Management (HRM). It includes the availability of laptops, hardware software, data, networks, resources for computing, applications, and devices. Al-Mobaideen et al. (2013) support this

point of view by demonstrating a favorable relationship between a robust technological foundation and the successful implementation of digital HRM.. (Munodani, Mey, & Werner, 2022, p. 4)

5. **DHRM Consequences:** The primary objective of digital HRM is to improve the worth of firms by integrating digital technology into the development and implementation of HR strategy. According to Bissola and Imperatori (2018), it is essential to accomplish the strategic objectives in order to successfully carry out the digital transformation of HRM. Digital HRM is regarded as a transformative rather than incremental strategy, indicating a significant shift in how managers and employees adjust to digital disruptions in a completely digital environment. Thus, the HR department is responsible for guiding employers and workers in adopting a digital mindset that effectively leverages digital technologies for the purposes of managing, organizing, and leading change. This change transcends the mere reconsideration of HR processes, systems, procedures, and practices. Moreover, it completely transforms the total employee experience, creating a workplace that is more easily accessible, efficient, and fulfilling, instilling a sense of optimism and hope for the future. (Adisa, Adekoya, Abdulraheem, & Mordi, 2022, p. 350)

DHRM consequences refer to the different occurrences that occur as a result of implementing information systems in human resource management. The effects can be classified into two basic categories (Theres, 2021, p. 5):

- **Individual level**: Concerning individuals, this includes characteristics that influence acceptance by users, devotion, satisfaction, and engagement
- **organizational level**: They offer the organization administrative or strategic advantages. Examples encompass a range of factors, such as differences in efficiency and effectiveness that may be linked to financial advantages and time conservation, an overall decrease in HR personnel, improvements in the quality of HR services, and the reorganization of particular human resources operations.

Table 1: Justifications of Digital HRM

Authors	Justifications
Bro wn & Martin, (2008) Parr y & Tyson, (2007)	The digital management of human resources involves using technology to automate repetitive tasks such as e-learning, electronic recruiting, e-selection, e-self-assessment, e-performance management, and other related processes. Hence, the apparel industry may leverage advancements in digital human resource management systems to improve overall efficiency and talent acquisition. Digital HRM approaches alleviate the traditional administrative burden by transforming manual duties into digital format. Therefore, this significantly decreases the volume of paperwork. Moreover, this method
	enables managers to implement HR procedures and effectively promote growth
Bell, Yeung & Lee (2006), Keegan & Francis (2008)	Digital HRM revolutionizes the roles of managers and HR professionals, shifting them from traditional paper-based tasks to being highly connected strategic partners. Using digital HRM techniques enhances collaboration and learning by providing tools for training, enabling learning, planning payroll, sharing decisions, and managing employee feedback and grievances. This results in faster speeds for these activities.
Hain es, & Petit, (1997)	The utilization of digital HRM facilitates the effective execution of tasks. A survey of 152 HRIS users indicates that digitization requires support from people, organizations, and system conditions. This support can be achieved through the adoption and use of digital HRM.
Ball, (2001), Thaler- Carter, (1998)	A recently published research study involving 115 organizations has found that the adoption and deployment of digital HRM (Human Resource Management) and HRIS (Human Resource Information Systems) are mostly driven by the organization's size. In addition, we will discuss topics such as modules, internal logistics, and the employment of adaptable software, among other elements.
Lepa k, & Snell, (1998), Ngai, & Wat (2006).	Digital HRM encompasses various aspects within labor-intensive enterprises, such as the textiles industry. Examples include virtual HRM, web-based HRM, and Human Resource Information Systems (HRIS).
Patr a, Khatik & Kodwani, (2002)	Various renowned multinational companies, especially those in the fashion sector, use social media platforms such as Facebook, Twitter, and LinkedIn, as well as Messenger, Skype, and telephone conferences to streamline the hiring process, advertise their business, and attract highly skilled personnel. In addition, Facebook and online groups provide employee and organization-related information, providing managers a clear edge in effectively managing their staff.

Source: (Mia & Faisal, 2020, p. 20)

6. Digital Human Resources Management Practices:

The concept of Digital Human Resources Management Practices involves leveraging technology investments within an organization to enhance and

streamline various HR management (HRM) processes. This includes tasks such as attracting, selecting, appointing, training, and evaluating employees, while also digitally managing data related to current and potential staff. (Alsaraireh, 2023, p. 341) Digital HRM encompasses several roles, with the utmost significance placed on:

Digital Recruitment

The success of modern companies and institutions is intricately tied to their ability to keep abreast of rapid market developments. Recognizing that individuals constitute their most valuable assets, organizations must swiftly adapt their approach to employee recruitment. Consequently, it comes as no surprise that many entities are embracing contemporary digital methods to fulfill their staffing needs.

This is achieved through online advertising, where companies create engaging websites that attract internet users to explore and discover available job opportunities. Additionally, organizations conduct electronic interviews and employ various tests, including functional and psychological assessments, as part of their digital selection (DS) process. The transformation from traditional human resource management (HRM) selection methods to Digital Selection (DS) has undeniably yielded positive outcomes for numerous organizations.

This shift has not only eradicated the influence of nepotism but has also expedited the selection process, significantly reducing the time required for its completion. (Alsaraireh, 2023, p. 342)

- Digital Training

With the widespread adoption of digital work, there is an increasing demand from employees for flexible support in terms of both space and time, such as virtual or e-coaching. Just as information can be rapidly accessed, individuals seek personal feedback on their actions or ideas directly and wish to determine when they allocate time for consultations. The demand for online-based consulting services has surged significantly, particularly in light of the circumstances surrounding the Covid-19 pandemic, giving providers of such solutions a substantial competitive edge. (Hagemann & Klug, 2022)

One of the key responsibilities in human resources management is employee training. The digitization of training activities within organizations involves a suite of systems that allow employees to receive training at their convenience, without limitations of time and place, and utilizing a variety of communication tools. Technological advancements have simplified the management of processes such as identifying training needs, planning training sessions, developing training module content, creating comprehensive training catalogs, and evaluating training effectiveness in an electronic environment. In essence, within the organizational framework, these systems enable the establishment of a diverse training pool, empowering employees to independently identify their training needs, allocate time for training at their convenience, and access training materials from their respective locations. Moreover, these systems facilitate objective evaluations of training effectiveness upon completion. (VARDARLIER, 2020, p. 264)

- Digital Performance evaluation

Despite slight variations among business administration authors, there exists a broad consensus on the definition of performance evaluation. It is a systematic evaluation method that measures the extent and excellence of accomplishments in relation to the specified standards. This assessment entails determining a correlation between the current and desired conditions . (Alsaraireh, 2023, p. 342)

In fact, all traditional human resource management processes can be transformed into electronic practices, as illustrated in the following table

Table 2Description of operational and relational levels of digital HR functions

Digital HR function	Description
E-profile	The e-profile functions as the primary component in a company's employee database. The system is a comprehensive and consolidated platform that provides access to a wide range of employee information. This encompasses the contact details, personal particulars, employment background, certifications, educational qualifications, training, skills, availability, exceptional working hours, employee utilization, current job description and responsibilities, sensitive job-related information, and any internal services requested by the

Digital HR function	Description
	employee. (Baykal, <u>2020</u>).
E- recruitment/E- selection	E-recruitment and selection refers to the process of performing tasks using internet-based technology. It simplifies the different administrative procedures involved in soliciting, evaluating, choosing, and even integrating job applicants. The procedures can also establish a set of goals and standards for choosing or excluding a job application. (Baykal, 2020).
E-training/E- learning	E-training is an online instructional method that utilizes web-based technology and a variety of multimedia and interactive tools to provide learners with the essential knowledge on certain chosen subjects. (Ben Amara & Atia, 2016). E-learning is the use of network technology to transmit skills and information for the purpose of learning, guidance, training, or education. This encompasses a variety of applications and procedures, such as web-based education, computer-assisted learning, simulated classrooms, and digital collaboration conducted via the internet. (Nivlouei, 2014).
E-performance	E-performance systems are online technologies and platforms that assess employees' abilities, knowledge, and performance based on established objectives and criteria. These systems equip managers with the full data, criteria, measurements, and assessment models necessary for evaluating performance efficiently in different organizational roles. (Baykal, 2020; Nivlouei, 2014).
E-compensation	E-compensation involves using internet-based technology and software applications to efficiently strategize, create, manage, and communicate compensation programs. (Namasaka & Mamuli, 2020).
E-time	E-time management covers several aspects, such as

Digital HR function	Description
management	attendance tracking, time examination, individual job planning, monthly work scheduling, absence monitoring, leave reporting, and task allocation. (Dede, <u>2019</u>).
E-career and talent management	E-career and talent management are intricately linked to e-training systems, which enable employees to acquire targeted training to enhance their expertise in a certain field. Consequently, this allows the organization to efficiently monitor the progress of its employees' careers (Baykal, 2020; Dede, 2019).
E-worker health and safety	E-worker health and safety involves documenting, managing, and reporting employees' occupational health and safety protocols, incidents of employee injuries and accidents, exposure to chemicals, and so on. This system generates legal documentation and reports related to workplace health and safety. (Dede, 2019).

source: (El-Kot, Leat, & Masry, 2022, pp. 374-375)

7. Stages of Digital Transformation

Digital transformation is the process of incorporating digital technology into every area of an organization, resulting in substantial changes to its operations and the value it provides. In the current era, marked by the 4th Industrial Revolution, which is mainly digital, advanced technologies like artificial intelligence (AI), machine learning, Internet of Things (IoT) networks, advanced analytics, and robotics have the ability to completely change how organizations operate and interact with clients and the global environment.

The crux of digital transformation is in individuals who possess a profound comprehension of technology and can enable the many stakeholders inside a company. This method has gained prominence due to the widespread use of internet platforms. Hence, it is crucial to strictly follow the specific procedures delineated in the digital transformation plan to maximize the impact of this digital

platform. The digital transformation strategy may be categorized into three stages: digitizing manual activities, integrating intelligent technology, and supervising cultural change.

- Digitalize the Manual Processes

In order to initiate the process of digitalization, it is important to incorporate sophisticated technology into the existing business activities. The initial stage involves the transformation of analog documents and assets into digital data. Therefore, the emphasis is on enhancing the efficiency of these processes. A prime illustration is the indispensable amalgamation of gateway devices and sensors, which is vital for linking pre-existing equipment and machines to an Internet of Things (IoT) network. VR wearables have the potential to assist individuals in performing customer service and inventory management tasks. This phase also highlights the significance of ensuring that the organization's Enterprise Resource Planning (ERP) and planning systems are well equipped for the task. Advanced ERP solutions utilize artificial intelligence and machine learning, functioning on agile and flexible in-memory databases to synchronize with future actions.

- Integrate Intelligent Technologies

Technologies such as artificial intelligence (AI), machine learning, and advanced analytics enable the utilization of information analysis, real-time automation, and complex learning algorithms.

In addition to technology, businesses must implement upskilling and reskilling programs to ensure that their employees can effectively utilize intelligent technologies and contribute maximum value to their work and processes, thereby leveraging insights and capabilities.

- Manage Cultural Change

A new survey published in Harvard Business Review reveals that cultural issues are the primary obstacle to digital transformation, as reported by 63% of executives. Optimal transitions are achieved when firms acknowledge the inherent challenges of change. Individuals who have developed established patterns of behavior and comprehension over an extended period, potentially spanning several decades, will seek support in recognizing the potential advantages of these modifications and adjusting their work processes and routines to capitalize on them entirely. (Halid, 2022, pp. 116-117)

8- Challenges of the Digital Transformation of Human Resource Management

- There is a need for a well-defined organizational strategy rather than intrinsic problems with digitalization. The challenges that have been emphasized include the need for a clearly defined plan and a lack of guidance for digital transformation.
- Employee resistance is described as a state where employees display a lack of readiness to accept and adopt the changes that result from digital transformation in the discipline of human resource management. It was recognized that not all employees may easily adjust to the new system, with several participants emphasizing the need for a change in company culture.
- "The user did not provide any text". Furthermore, the significant difficulty of employees adapting to the changes and acquiring new abilities was acknowledged since certain employees may be unfamiliar with the technology and need training.
- The effect of digitization on the organization's financial performance was discussed. The upfront expenses related to digitizing the Human Resource Management department emphasize budget limitations as a hindrance. Nevertheless, the potential enduring financial benefits that could be achieved through efficient digitalization cannot be dismissed. (Fenech, December 2021, pp. 6-7)

Implementing effective digital HRM practices requires the strategic alignment of planning, talent enhancement, and technology integration. Below are several recommendations for implementing more effective digital HRM practices, along with associated references:

- **1. Digital HRM Strategic Planning**: Perform a thorough assessment of the organization's digital preparedness and synchronize HR strategy with the overall business goals.
- **2. Skill Development and Training**: Offer continuous training programs to strengthen employees' digital abilities, assuring their ability to utilize technology in their respective positions proficiently.
- **3.** Integration of AI and Software: Combine artificial intelligence and HR software to carry out recruitment, performance analysis, and predictive analytics tasks.

4. Human-Centric Approaches: Prioritize a strategy that centers on people's needs and experiences during the shift to digital, with a specific emphasis on worker welfare, engagement, and satisfaction.

Overcoming challenges and embracing opportunities in the use of digital Human Resource Management (HRM):

Implementing digital Human Resources Management (HRM) presents several challenges and provides numerous business opportunities. Firms must quickly adapt to and stay ahead of technological advancements to remain competitive in the digital world.

A significant obstacle to deploying digital HRM is the reluctance to adopt and adapt to new ideas. Individuals are inclined to oppose change, and implementing novel digital systems and protocols may provoke feelings of doubt or unease. However, by prioritizing implementing effective change management practices, firms may facilitate their workers' quick and willing acceptance and adoption of these changes. By effectively conveying the advantages of digital HRM, offering instruction and assistance, and engaging employees in the implementation process, opposition can be minimized, and a culture of acceptance and excitement can be nurtured, allowing employees to lead the transformation actively.

Ensuring data security and privacy is another problem. Due to the digitization of HR procedures, a significant amount of confidential employee data requires safeguarding. However, companies may establish trust and confidence by allocating resources to develop strong cybersecurity safeguards, enforce data protection policies, and adhere to applicable rules. This involves utilizing encryption, adopting multi-factor authentication, conducting regular security audits, and providing comprehensive training to personnel on the most effective techniques safeguarding data. Although facing challenges, implementing digital HRM has a multitude of prospects. Using technology, companies may optimize and automate HR procedures, improve productivity, and elevate the whole employee journey. Digital Human Resource monitoring (HRM) platforms provide a range of functionalities, including self-service portals, online training and development programs, performance monitoring tools, and real-time analytics. These features enable HR managers to make choices based on data and offer customized experiences for workers, sparking excitement and enthusiasm about the future of HR management.

Moreover, digital HRM allows firms to utilize sophisticated analytics and predictive modeling to get valuable insights into personnel patterns, detect skill deficiencies, and develop focused training programs. This enables companies to cultivate and enhance the competencies of their staff, guaranteeing that they possess the essential digital proficiencies required to succeed in a constantly changing digital environment. Ultimately, the benefits and opportunities of implementing digital HRM outweigh the potential challenges. By actively addressing resistance to change, prioritizing data security, and fully embracing technology in digital HRM, organizations can make significant strides in their digital skills development programs. This proactive approach to HR management, enabled by digital HRM, can position organizations for success in the digital era. (Zhang & Chen, 2023, p. 2)

Conclusion

The emergence of digital transformation leads to substantial alterations in HR activities, converting the role of human resource management from stagnant to dynamic and strategic. HR managers encounter many obstacles and possibilities when it comes to improving the productivity of team members and, ultimately, the organization's profitability. This entails efficiently incorporating digital employees into automated workflows and adjusting to new digital formats and organizational frameworks. In the age of digitization and the fourth industrial revolution, it is essential to prioritize the quality, quantity, and distribution of highly skilled human resource management. Acquiring essential skills is essential to compete in the digital job market successfully. Therefore, throughout the fourth industrial revolution, human resource management must possess a thorough comprehension of scientific concepts and cultivate the essential skills, beliefs, and behaviors that facilitate optimal performance. Individuals must demonstrate the ability to think and act proficiently in their respective professional domains during digital transformation.

The effect of digitalization on human resource management (HRM) in organizations is substantial. The advancement and growth of digital technologies highlight the necessity for digital transformation in HRM. However, the integration of digitalization in HRM encounters several hindrances, including

- In addition, software and artificial intelligence can aid workforce assessment and analysis, such as predicting employee turnover.

- The inability to align performance with digitalization, the lack of strategic planning, and poor training in digital skills are all factors that contribute to this failure.
- The COVID-19 epidemic has accelerated the trend of digitizing HR procedures, highlighting the crucial need for digital HRM technology in organizational contexts.
- -The influence of digital transformation on HRM strategies is particularly apparent in areas such as education, where the transition to digital education has resulted in substantial alterations
- To solve these issues, the institutional structure must be improved, people-oriented methods must be deployed, and HRM must be digitalized.

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