

Can the Technological Advancement Eliminate the Human Aspect of Human Resources Management?

Marwan Mustafa Shammout*

¹Associate Professor, Faculty of Administrative & Humanities Sciences, College of Applied Studies & Community Services, King Saud University, Kingdom of Saudi Arabia, E-mail: mshammot@ksu.edu.sa

Abstracts: This study attempts to answer the question, "Can technological advancement eliminate the human aspect in human resources management?" using different comparisons and highlighting several aspects of HRM while shedding light on the relationship between HRM (Human Resources Management) and AI (Artificial Intelligence). In addition to a wealthy literature review that states the various viewpoints on the subject and how such a collaboration between the two majors can lead to significant positive outcomes while considering the potential drawbacks.

Keywords: Human Resources Management HRM, Artificial Intelligence AI, Technology, Electronic Human Resources Management E-HRM, Management.

1. INTRODUCTION

Before looking forward to the future of human resources in the age of technology, artificial intelligence, and machine learning, it is necessary to set a baseline for the sector's current status. It is not as if the digital advancements of the Fourth Industrial Revolution have not already touched areas of human resources management. Companies use HRM strategies and procedures in strategic ways to amass valuable human capital that can be used to help them achieve their missions and goals. That is, HRM strategies and approaches actively seek to develop and retain people with the particular knowledge, skills, and abilities to execute their duties rather than just attracting and acquiring individuals with specific knowledge, skills, and expertise to perform their jobs to become a source of value or capital that businesses can employ to gain a long-term competitive edge in whichever sector or market they compete in. Consider human capital the totality of a company's employees' knowledge, skills, and capacities. In theory, no two organisations will have the same human money, which means that human capital is scarce and difficult to copy by other businesses or rivals.

Human capital cannot be substituted by technology improvements to sustain a competitive advantage obtained from it. On the surface, human capital will be supplanted by technology in the age of computerised, artificial intelligence and machine learning. However, robots will not be able to replace all occupations, and the rate of employment replacement through technology will most certainly be unequal among industries in the future decades. Human capital may still give firms a sustainable competitive edge in today's world, provided they have the right combination of procedures and policies in place to recruit, acquire, develop, retain, and inspire the people who make up their human capital. So, how do businesses do this through HRM practices and policies? Recruiting and selection are two basic HRM tasks frequently referred to as a company's staffing procedures.

The aim of hiring includes workforce planning to bring as many qualified applicants as possible to a job opportunity. HR without People? recruiting ceases once a candidate submits his or her application – whether it is a resume or a formal application – and selection begins. The selection comprises considering all the information gathered about job candidates and determining whether or not to hire them. Data obtained during the hiring or selection process is combined with data collected during the recruitment process via a resume, cover letter, or formal application. Depending on the job, companies may conduct "tests" on applicants, which may include screening resumes, administering personality or other tests, requiring applicants to complete a work sample or virtual work session, interviewing applicants, checking references, or even requiring applicants to submit to background or drug tests. Once a firm's decision-makers have decided which candidate they want to recruit, they

will make an offer, negotiate employment conditions, and obtain the applicant's commitment to becoming a productive member of the organisation. Employee development strategies and policies begin after a company's selection process concludes with an accepted offer. Some firms put newly recruited workers through systematic socialisation programs to help them adjust to the company's culture and transition from outsider to insider. These types of formal socialisation programs might be thought of as training programs. Companies use training to identify information, skills, and talents that present employees lack yet are required to execute the job successfully. The training aims to guarantee that the defined knowledge, skills, and abilities acquired via formal training programs are successfully transferred to the job and work environment. Performance management methods and regulations may reinforce formal training while allowing employees further to improve their knowledge, skills, and capacities.

Performance management is creating and conveying performance expectations, recording employee performance, and offering feedback to the employee to help him or her improve. When implementing succession planning programs to identify and prepare existing workers for future employment within a firm, the employee development activities – performance management and training – match nicely with the employee staffing responsibilities – recruiting and selection. Two more HRM functions overlap or assist the functions above. Direct and indirect compensation are two types of compensation services used to recruit, motivate, and retain employees. The money provided directly to an employee for executing work tasks and functions is known as direct payments. Direct remuneration is mostly considered in terms of a person's salary or hourly earnings. All extra incentives or benefits an employee receives from being a firm member are considered indirect compensation. Indirect compensation in the form of company-provided healthcare, retirement or pension plans, paid time off, vacation, or sick leave, short- or long-term bonus plans, or a cafeteria buffet of "benefits" related programs such as wellness and health programs, childcare support, employee assistance programs, tuition reimbursement, and the like is also considered. Remuneration is used to recruit, motivate, and retain personnel, whether direct, indirect, or "total" compensation (a combination of direct and indirect). Employment law intersects or supports the HRM activities outlined above, depending on whether or not collective bargaining units exist in a specific organisation. Several businesses will integrate worker safety procedures and rules in their HRM duties, depending on the industry or market in which they operate.

This function can be linked to training and performance management – whether it is ensuring safety on an assembly line or following proper protocols in a lab – but it can moreover be a part of everyday office life, where flyers and announcements are posted to inform employees about employee safety protocols, updates for ongoing workplace safety programs, or yearly safety goals. Recruiting, selection, training, performance management, remuneration, employment and labour legislation, labour relations, and occupational health and safety are all HRM functions.

2. LITERATURE REVIEW

During the recruitment process, job seekers pay close attention to what a firm provides in terms of overall remuneration. The way a firm manages performance has a direct influence on its training programs. Managers are frequently the first to notice gaps in employee knowledge, skills, and talents that may be rectified via training. By completing this form of horizontal integration, an often-overlooked HRM function, job or work analysis, is brought to the fore. The process of determining the current state of HRM with automation, knowledge, skills, abilities, and functions that are required of the job, as well as the human traits or competencies required of the employee to accomplish the job, is known as job or work analysis. A position description – frequently referred to as a job description – results from a job or work analysis. This tool serves as a bridge between HRM practices and policies.

How can a recruiter properly establish selection or recruiting methods if the recruiter has not determined what the position requires? Without a role description, it is impossible to determine what knowledge, skills, and talents are necessary to educate personnel or assess their performance. Can a corporation correctly establish and grasp the compensable criteria needed to calculate fair wages for employment without a position description? Horizontally connecting a company's human resources operations does not fully appreciate the potential of such techniques in achieving a long-term competitive advantage. Vertical human resource integration requires each human resource

function to be linked to – that is, to directly serve – the company’s objective. “We aim to organise the world’s knowledge and make it widely accessible and valuable,” reads Google’s mission statement. Each function will be intimately related to the objective of Google to achieve vertical human resource integration. An HR manager in charge of Google’s recruiting processes and HR managers in order of other operations would be able to explain how those policies directly serve the goal. When a company achieves horizontal and vertical human resource integration, they will be able to create high-performing work systems that attract, acquire, develop, motivate, and retain employees who add value to the company – that rare, difficult to imitate, and HR without People? The human capital that the company can leverage like any other capital to achieve its mission.

When looking at how automation, artificial intelligence, and machine learning affect HRM as a system of horizontally and vertically integrated processes, it is crucial to understand what HRM is and how it fits into any company’s overall strategy. When using the technologies mentioned earlier, a corporation should evaluate the systemic impact on HRM. It is different if firms acknowledge those consequences, especially when considering the worth of human resources in the context of broader company strategy. Implementing automated human resources procedures has provided much value. Look at some of the first mechanical human resource management systems (Kim, Y. H., Shin, Y. W., & Lee, S. W. 2018).

Artificial intelligence is a critical and fundamentally transformational modern technology that may be described in various ways. However, in general, it refers to a machine’s capacity to accurately read external data, learn from it, and use and adjust that knowledge to achieve specific goals and complete tasks (Galanaki, E., Lazazzara, A., & Parry, E. 2019).). First-generation AI (AI exclusively used for certain activities) is becoming typical in various businesses. It is increasingly being asserted that first-generation AI will grow into artificial general intelligence shortly, which will be able to reason, plan, and solve problems independently for activities they were never built. Artificial general intelligence is expected to provide a barrier to some white-collar duties. Still, it is unlikely to represent a danger to modern management’s distinctly human components, such as social interactions with employees and managers’ emotional intelligence. In the long term, however, artificial general intelligence may be followed by an artificial superintelligence, in which self-aware and conscious machine-based systems are projected to exhibit scientific innovation, social skills, and prevailing wisdom formerly associated with humans (Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. 2021).

Humans may become obsolete as a result of such breakthroughs. *Artificial superintelligence* is the point at which people and human labour will be radically challenged, transforming or disappearing, with significant ramifications for employee productivity and retention. Recent AI-based mechanisation, such as autoregressive language models like Analytica’s Generative Pre-Trained Transformer-3 (Analytica, 2020), conversational systems, and immersive technologies (Arslan, A., Cooper, C., Khan, Z., Golgeci, I., & Ali, I. 2021), point to unique challenges that humanity and employees will face if/when artificial superintelligence becomes commonplace. In human resource management, AI offers a wide variety of applications. For example, AI techniques have been used in the recruiting process to make the application and selection process more efficient (Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. 2021). Similarly, in the workplace, AI-based decision-making tools such as big data algorithmic analytics, sensory and tracking devices, and metabolic monitors have emerged (Budhwar, P., Malik, A., De Silva, M. T., & Thevisuthan, P. 2022). Furthermore, innovative HR 4.0, inspired by Industry 4.0, has been used to change the HRM domain’s talent onboarding, development, and offboarding processes (Jia, Q., Guo, Y., Li, R., Li, Y., & Chen, Y. 2018).

2.1. The Connection Between HRM and AI

Such expanding AI potentials for HRM may be viewed as both an opportunity for growth and a formidable behavioural challenge, particularly for individuals immediately affected by the work-related concerns AI brings. Employees confront toxic decision processes and competitive risks due to AI-related applications in HRM, despite the rising prevalence of technology in the workplace (Tambe, P., Cappelli, P., & Yakubovich, V. 2019). ACCORDING TO RECENT STUDIES ON DIGITAL ENTERPRISES, insidious HRM tactics to harm workers’ interests are becoming more frequent (Garg, V., Srivastav, S., & Gupta, A. 2018). The increasing unemployment

and redundancies caused by AI and associated technologies cause substantial emotional harm to impacted professionals and colleagues, who frequently remain in companies but in a more insecure position due to the wave of technology-driven layoffs and redundancies (Nawaz, N. 2020).

Because of these changes, many companies have downsized and restructured, resulting in a shift in the conventional psychological and social contract, which promised job security in exchange for organisational loyalty (Pan, Y., Froese, F., Liu, N., Hu, Y., & Ye, M. 2021). In this sense, even if human work continues to exist, fundamental developments such as ubiquitous rationalisation, optimising the value derived from labour inputs, and AI-driven replacement of humans in essential activities requiring considerable mental skills are all likely to occur (Malik, A., Srikanth, N. R., & Budhwar, P. 2020). Furthermore, research reveals that HR managers are underprepared, with the majority lacking crucial skills and training in current technology-enabled technologies, which might have adverse effects on employees and organisations (Lengnick-Hall, M. L., Neely, A. R., & Stone, C. B. 2018).

Employees and their bosses are also causing problems by misusing IT resources and sharing information with unintended recipients. Similarly, corporations face significant difficulty in protecting and securing their employees' data since abuse of personal information and information posted on websites might jeopardise employees' well-being (Johansson, J., & Herranen, S. 2019).

Employees also suffer psychological and existential issues due to "impossible expectations" in the face of constant technological progress, which is hastened by factors like anxiety, stress, and burnout (Berhil, S., Benlahmar, H., & Labani, N. 2020). Managers and employees, in particular, may face challenges related to trust in AI-based tools and algorithms, constant pressure to change and adapt amidst AI-driven work paradigms and systems, and concerns over controlling AI-based machines to avoid autonomous decisions and implicit biases (Abdeldayem, M. M., & Aldulaimi, S. H. 2020), as well as potential overburdening with new work requirements (Abdeldayem, M. M., & Aldulaimi, S. H. 2020). HRM managers and workers will face many questions and challenges due to machine-human interaction in the workplace. Such interactions and the growing use of AI technologies are expected to influence how people work and how their performance is assessed and maintained (Richards et al., 2019). As a result, AI systems and AI-based technologies are intrinsically linked to HRM and are poised to change the current HRM domain by posing new opportunities and problems. The interweaving and interaction of AI and humans are projected to provide substantial difficulties to HRM functions in enterprises (Yawalkar, M. V. V. 2019).

The next part critically examines these issues and recommends viable HRM initiatives. Interactions between AI and human workers: obstacles and possible HRM techniques A substantial amount of previous research has focused on AI's concerns for HRM regarding employment loss. According to numerous recent studies, most CEOs believe AI will develop more jobs than it will kill, although most HR managers feel the reverse. The HR function in the organisation has traditionally viewed technologies, combining AI from a functional perspective, focusing on retraining and skills development for workers whose jobs may be replaced by AI. This difference in perceptions about the role of AI is because, traditionally, the HR function has viewed technologies, including AI, from a helpful perspective, and the focus has been on aversion and skills development for workers whose jobs may be replaced by AI. However, the ongoing interaction between AI-powered robots and human workers in ordinary organisational duties (Tewari, I., & Pant, M. 2020) is a dynamic that has yet to be well studied. It has been disputed that, as a result of Industry 4.0-related advanced technology, there is a greater awareness of human-AI interaction and collaboration (usually in the form of robots, though crescively other intelligent machines are becoming visible to improve productivity), which poses its own set of control, analysis, and performance evaluation challenges (Kshetri, N. 2021).

According to scientific findings and popular press, digital technologies, like AI, will play a significant role in HR. HR professionals must figure out how to optimise the interactions between digitalisation and humans (Younis, R. A. A., & Adel, H. M. 2020).

The so-called “smart robots” have been working to help and improve the production processes by collaborating with humans in industrial assembly lines (Banking, S. 2021). as well as offering advice to human workers using AI-based algorithms in other organisational functions, are an exciting example of this concern (Premnath, E., & Chully, A. A. 2020). As a result, the AI-powered robots’ function for human employees has shifted from “tools to colleagues” (Palmu, E. 2020). As a result of this shift, people and robots are increasingly playing more sophisticated and collaborative roles in both industrial and service industries (Jatoba, M., Gutierrez, I. E., Fernandes, P. O., Teixeira, J. P., & Moscon, D. 2019).

Military, construction, agriculture, healthcare, analytical services, and manufacturing are examples of this contact and collaboration (Imran, R. 2021). In this context, AI has been recommended to play a critical role in revolutionising the HR function. Its role has been emphasised as essential for filling the skills shortages that enterprises are experiencing (Wang, T., & Lin, J. (2018). In their study of the robot–human co-working in 1,500 firms, Wilson and Daugherty (2018) discovered that if co-working is done strategically, it may complement each other’s abilities and raise organisational productivity. In this regard, they provide the example of a mechanical arm used in Mercedes-Benz production, which benefits human workers and highlights the necessity of joint intelligence growth (Wilson & Daugherty, 2018). However, the creation of such collaboration is not an effortless process, as some researchers have pointed out that, in addition to being functional exchanges, such endeavours also have a substantial impact on the meaning and significance of work for human employees (Bhardwaj, G., Singh, S. V., & Kumar, V. 2020). Given that cognitive biases, emotions, and personality variations play a significant impact in the success or failure of such partnerships, increasing interaction and cooperation amongst human employees (typically as well as being a chunk of a team) has been a heavily investigated issue in HRM studies (Oswal, N., Khaleeli, M., & Alarmoti, A. 2020).

These concerns become even more complicated in settings and contexts where AI-powered robots and humans work together as teammates because some human workers may be resistant due to fear of losing their jobs to technology (Arslan, A., Cooper, C., Khan, Z., Golgeci, I., & Ali, I. 2021), as well as psychological issues with the adoption of emerging technologies (Arslan, A., Cooper, C., Khan, Z., Golgeci, I., & Ali, I. 2021). Similar difficulties have been studied under the umbrella term “computer or technology anxiety,” defined as an individual’s level of discomfort when utilising a specific technology (Yawalkar, M. V. V. 2019). Frustration, apprehension, dread, and unease are some emotional states associated with worry (Kshetri, N. 2021).

Compared to ancient technology such as personal computers or legacy organisational IT systems, the conditions surrounding AI-powered equipment and processes, including robots interacting and cooperating with human workers, are highly complicated. As a result, it is equitable to assume that some human workers may experience increased anxiety due to collaborating with these robots daily. This may impact their acceptance of robots as team members and their adoption of this new reality in the workplace. This fear provides a massive problem for the HR function in today’s organisations, which decision-makers and HR executives must manage thoughtfully and effectively.

Prior researchers have referred to computer- or technology-related anxiety as having a state perspective (Premnath, E., & Chully, A. A. 2020), which suggests that it can be a transient phase, with anxiety being higher when the technology is introduced (Palmu, E. 2020). To overcome this anxiety, previous research has emphasised the importance of clear communication about expectations (Imran, R. 2021), potential changes in job tasks (Samarasinghe, K. R., & Medis, A. 2020), training opportunities (Imran, R. 2021), and adjustment periods (Oswal, N., Khaleeli, M., & Alarmoti, A. 2020). HR departments adopting similar tactics in firms where human and AI-powered technologies and processes contact or will interact frequently can assist in overcoming these obstacles. It is also worth noting that when working with developing technologies like AI, trust has been identified as a big challenge (Jatobá, M., Santos, J., Gutierrez, I., Moscon, D., Fernandes, P. O., & Teixeira, J. P. 2019). Scholars have emphasised the importance of dependability, availability, secrecy, and integrity in creating human confidence in technology (Mathur, S. 2019). This trust has a tremendous impact on relevant people’s adoption of technology (employees in organisations). Similarly, trust-related difficulties have been well established in the current literature

on Internet banking acceptance (Xu, D., & Xiao, X. 2020), indicating that trust is critical to Internet banking adoption.

Therefore, trust has been demonstrated to be critical when people engage and work with AI-powered robots (Yabanci, O. 2019).

However, this relationship between people and robots is challenging. Human employees either expect AI-powered technologies like robots to complete every task precisely, resulting in reduced communication (Hmoud, B. 2021), or start intervening in their activities sooner than necessary owing to fear of their not executing the tasks effectively (Yabanci, O. 2019). (Premnath, S. N., & Arun, A. 2020). Prior research has also demonstrated that whether AI takes the shape of a real robot or a virtual software or procedure, it affects human workers' behaviour and faith in it (Malik, A., Pereira, V., & Budhwar, P. 2021). In addition, several recent research (Ahmed, A., & Ogalo, H. S. 2019) have highlighted the role of attachment in building trust between AI and human employees. Because of the newness of the issue, all of these factors affecting expectations and trust creation might be problematic for HRM in companies owing to a need for past practice-based information on effective tactics in such situations. As a result, data from adjacent sectors must be included to build and expand HRM strategies in this area.

Organisational support, for example, has been proven to be an essential component in assisting employees in dealing with new technology-related difficulties and overcoming opposition to their adoption in previous research (Ziebell, R. C., Albors-Garrigos, J., Schoeneberg, K. P., & Marin, M. R. P. 2019).

This organisational assistance usually creates enabling circumstances and provides essential training (Mendy, J., & Rahman, M. 2019). Before workers are introduced to working in teams with humans and robots, HR departments must ensure they have a reasonable degree of technology-specific expertise. However, new research suggests that many companies fail to sufficiently educate their staff about AI engagement and cooperation, leaving them unprepared for future work environments where this is likely to be commonplace (Ogbeibu, S., Pereira, V., Emelifeonwu, J., & Gaskin, J. 2021). The favourable environment and training indicated earlier might potentially result in the creation of a certain amount of attachment (bond) between human employees and AI, especially if the need for affection or reliance is emphasised by AI robot, as it boosts human workers' confidence (Suriyanti, S. 2020). Finally, one of the most challenging difficulties for HR departments in enterprises is dealing with performance assessment dynamics, mainly when humans and AI-enabled robots work together on the same team. Because of the uniqueness of this problem, there is particular HRM research on the subject.

Nevertheless, it is suggested that earlier research in domains such as gaming, where performance evaluation between human and AI gamers has been addressed from a variety of angles, can help HRM as a study topic, as well as HR activities in enterprises (Yadav, D. K., Yadav, J., & Malik, R. 2019). Winarto, W. (2018) flexible performance criteria reflecting human limits (Iqbal, N., Ahmad, M., & Allen, M. M. 2019). and notably, the aspect of fatigue has been addressed in these studies (Zhou, Y., Liu, G., Chang, X., & Wang, L. 2021). HRM functions in organisations where human workers interact, cooperate, and compete in the same teams with AI-enabled robots will need to leverage such and other comparable insights to establish a reasonably fair performance rating system. This is intended to overcome scepticism and foster confidence in such modern technologies (Budhwar, P., Malik, A., De Silva, M. T., & Thevisuthan, P. 2022). to retain human employees motivated to connect and collaborate with AI-enabled robots as team members.

2.2. E-HRM

E-HRM can be viewed as a result of the collaboration between HRM and AI. E-HRM has also been defined as a way of building HR strategies, policies and practices in organisations through conscious and directed support of or with the full use of web-technology-based means, or more recently, and more comprehensively, as the planning, implementation, and application of information systems for both conversing and supporting actors in their shared performing of HR activities. Building on a theoretical categorisation is required for the configurational method. In this light, a literature study shows that E-HRM systems can be classified based on their e-HRM goals (Yadav, D. K., Yadav, J., & Malik, R. 2019).

This categorisation is based on Thite, M. (Ed.). (2018) theory distinguishes three forms of E-HRM: operational E-HRM, relational E-HRM, and transformational E-HRM. The operational E-HRM configuration is found in firms that employ IT solutions primarily to increase HR department efficiency and concentrates on the administrative aspect of HRM (Ahmed, A., & Ogalo, H. S. 2019). E-personnel recordkeeping and administration, e-payroll, e-time management, and e-access control are examples of operational e-HRM (Ziebell, R. C., Albors-Garrigos, J., Schoeneberg, K. P., & Marin, M. R. P. 2019). Because of the nature of social media, its application in assisting HRM operational operations has received less attention. Social media applications, such as collaborative intranets, discussion forums, and instant messaging, may, on the other hand, assist everyday personnel administrative duties if HR professionals use them to store, share, and retrieve information that is relevant to their work. Previous research suggests that companies can utilise social media platforms (like Facebook and Twitter) to monitor employee on-the-job and off-the-job activity and justify disciplinary measures. Exploring social e-HRM (Galanaki, E., Lazazzara, A., & Parry, E. 2019). Furthermore, social media tools, including instant messaging, collaborative intranets, and ESNs, have been particularly useful in assisting HR operational duties when dealing with distant workers and virtual teams (Myllymäki, D. 2021). Organisations that attempt to manage and sustain connections with workers through empowering them at work are related to relational E-HRM (Ziebell, R. C., Albors-Garrigos, J., Schoeneberg, K. P., & Marin, M. R. P. 2019). E-manager support systems and e-employee support systems are thus included in relational E-HRM (Mendy, J., & Rahman, M. 2019). This is where social media is likely to make an enormous impact. Indeed, previous research has found that social media tools like instant messaging, collaborative intranets, forums, blogs, and wikis are frequently used to support relational HR functions like internal communications (Ellmer, M., & Reichel, A. 2018), team building (Ogbeibu, S., Pereira, V., Emelifeonwu, J., & Gaskin, J. 2021), information management, knowledge sharing, and collaboration (Rahman, M., & Aydin, E. 2020).

Finally, transformational e-HRM, which comprises e-recruitment, e-compensation, e-training and development, and e-performance management, attempts to enhance the strategic orientation of HRM by reforming the HR function (Ogbeibu, S., Pereira, V., Emelifeonwu, J., & Gaskin, J. 2021). It is well-acknowledged that social media sites may be an excellent tool for recruiting (Suriyanti, S. 2020). SNSs and other Web 2.0 apps, on the other hand, contribute to a variety of other transformative tasks in addition to recruitment and selection. According to Yadav, D. K., Yadav, J., & Malik, R. (2019), social media may help with employee orientation, training, career development, performance management, and incentives, among other transformational HR tasks. Large corporations increasingly use social media sites (YouTube), instant messaging, corporate wikis, and blogs to offer virtual and online training courses. Furthermore, social media apps may help with performance management since they allow companies to conduct continuing performance reviews, present and receive constant feedback, and use the 360-degree appraisal approach. Finally, social networking sites, instant messaging, collaborative intranets, forums, blogs, and wikis may all help to strengthen the organisational incentive system by allowing for improved communication with internal and external stakeholders (Yadav, D. K., Yadav, J., & Malik, R. 2019). Although most academics consider operational, relational, and transformational e-HRM configurations desirable, alternative arrangements have evolved that represent a mix of diverse company objectives in their use of IT in HRM (Iqbal, N., Ahmad, M., & Allen, M. M. 2019). Beyond the three configurations above, Zhou, Y., Liu, G., Chang, X., & Wang, L. (2021) point out that when firms combine two or more objectives, they may create a total of five E-HRM patterns. Extended operational use, which combines relational and functional E-HRM; extended relational use, which combines transformational and relational E-HRM; non-relational use, which includes transformational and operational E-HRM; and power use, which provides for transformational, relational, and operational E-HRM, are among the additional E-HRM configurations.

Existing empirical evidence shows that E-HRM designs may be integrated in practice rather than being mutually incompatible because enterprises can pursue many goals for utilising IT in HRM simultaneously (Zhou, Y., Liu, G., Chang, X., & Wang, L. 2021).

2.2.1. E-HRM Advantages and Disadvantages

Standardisation is created through E-HRM, and with standardised procedures, a business may remain compliant with HR regulations while assuring more accurate decision-making. By cutting expenses and enhancing the overall pace of multiple systems, E-HRM has improved efficiency and enabled firms to minimise their HR headcount. E-

HRM also has relational implications for a business, allowing employees and managers to access HR data and increasing the connectedness of all elements of the company and external organisations (Johnson, R. D., & Stone, D. L. 2019).

2.2.1.1 Advantages of E-HRM

E-HRM is ineffective for firms where employees are unwilling to embrace or use it. The following are some of the most substantial advantages of E-HRM:

- Maintaining a high level of efficiency in terms of time management.
- Assisting with essential duties such as record keeping, portfolio maintenance, and gathering and storing crucial human resource information.
- Assisting in the reduction of time and personnel costs.
- Improving precision and lowering human bias
- Quickly creating, reporting, and analysing data.

2.2.1.2. Disadvantages of E-HRM

- It is expensive to maintain and install E-HRM.
- Maintaining the secrecy of the input data is challenging.
- Electronic media are subject to viruses that can infect them from anywhere on the Internet. E-HRM is vulnerable to data loss, hacking, and corruption.
- Because computers and their accompanying programs are only as good as those who use them, data input mistakes can and do happen. Such flaws in HR management systems might have serious repercussions.
- Before using E-HRM, companies should invest more in training and development.

CONCLUSION

The study in hand attempted to answer the question, "Can technological advancement eliminate the human aspect in human resources management?" unbiasedly, and the short answer to such question is "NO", considering the different elements involved in the relationship between HRM and technology, where such relationship resulted in the term E-HRM. E-HRM is an advanced business solution that postulates complete online support in admonishing all processes, activities, data, and information necessary to manage human resources in a prevailing company. E-HRM is an advanced business clarification that provides complete online support in admonishing all processes, activities, data, and information necessary to manage human resources in an avant-garde company. E-HRM is a technique of chartering HR strategies, policies, and practices in businesses through intentional and purposeful support of and full use of web-technology-based channels. It is an efficient, dependable, and simple-to-use tool that is available to a wide range of users. It addresses all areas of human resource management, including personnel administration, education and training, career development, company structure, job descriptions, the recruiting process, employee personal pages, and yearly employee interviews. As a result, E-HRM is a method of performing HRM. The author believes technological advancements should work as a helping tool instead of replacing the human element.

REFERENCES

- [1] Abdeldayem, M. M., & Aldulaimi, S. H. (2020). Trends and opportunities of artificial intelligence in human resource management: Aspirations

- for public sector in Bahrain. *International Journal of Scientific and Technology Research*, 9(1), 3867-3871.
- [2] Abdullah, P. Y., Zeebaree, S. R., Jacksi, K., & Zeabri, R. R. (2020). An hr system for small and medium enterprises (sme) s based on cloud computing technology. *International Journal of Research-GRANTHAALAYAH*, 8(8), 56-64.
- [3] Ahmed, A., & Ogalo, H. S. (2019). From hr to e-hr: Contemporary developments from scholarly work. *Annals of Contemporary Developments in Management & HR (ACDMHR)*, Print ISSN, 2632-7686.
- [4] Analytica (2020). World's Leading Trade Fair for laboratory technology, analysis, biotechnology and analytica conference, June 21–24, 2022 | Messe München
- [5] Arslan, A., Cooper, C., Khan, Z., Golgeci, I., & Ali, I. (2021). Artificial intelligence and human workers interaction at team level: a conceptual assessment of the challenges and potential HRM strategies. *International Journal of Manpower*.
- [6] Bankins, S. (2021). The ethical use of artificial intelligence in human resource management: a decision-making framework. *Ethics and Information Technology*, 23(4), 841-854.
- [7] Berhil, S., Benlahmar, H., & Labani, N. (2020). A review paper on artificial intelligence at the service of human resources management. *Indonesian Journal of Electrical Engineering and Computer Science*, 18(1), 32-40.
- [8] Bhardwaj, G., Singh, S. V., & Kumar, V. (2020, January). An empirical study of artificial intelligence and its impact on human resource functions. In *2020 International Conference on Computation, Automation and Knowledge Management (ICCAKM)* (pp. 47-51). IEEE.
- [9] Budhwar, P., Malik, A., De Silva, M. T., & Thevisuthan, P. (2022). Artificial intelligence—challenges and opportunities for international HRM: a review and research agenda. *The International Journal of Human Resource Management*, 33(6), 1065-1097.
- [10] Ellmer, M., & Reichel, A. (2018). UNPACKING THE “E” OF E-HRM. *The brave new world of eHRM*, 2(0), 247.
- [11] Galanaki, E., Lazazzara, A., & Parry, E. (2019). A cross-national analysis of e-HRM configurations: integrating the information technology and HRM perspectives. In *Organizing for digital innovation* (pp. 261-276). Springer, Cham.
- [12] Garg, V., Srivastav, S., & Gupta, A. (2018, October). Application of artificial intelligence for sustaining green human resource management. In *2018 International Conference on Automation and Computational Engineering (ICACE)* (pp. 113-116). IEEE.
- [13] Hmoud, B. (2021). The adoption of artificial intelligence in human resource management and the role of human resources. In *Forum Scientiae Oeconomia* (Vol. 9, No. 1, pp. 105-118). Wydawnictwo Naukowe Akademii WSB.
- [14] Imran, R. (2021). Re-Inventing Human Resource Management Through Artificial Intelligence. In *Fourth Industrial Revolution and Business Dynamics* (pp. 243-258). Palgrave Macmillan, Singapore.
- [15] Iqbal, N., Ahmad, M., & Allen, M. M. (2019). Unveiling the relationship between e-HRM, impersonal trust and employee productivity. *Management Research Review*.
- [16] Jatoba, M., Gutierrez, I. E., Fernandes, P. O., Teixeira, J. P., & Moscon, D. (2019). Artificial intelligence in the recruitment & selection: innovation and impacts for the human resources management. In *43rd International Scientific Conference on Economics and Social Development* (pp. 96-104).
- [17] Jatobá, M., Santos, J., Gutierrez, I., Moscon, D., Fernandes, P. O., & Teixeira, J. P. (2019). Evolution of artificial intelligence research in human resources. *Procedia Computer Science*, 164, 137-142.
- [18] Jia, Q., Guo, Y., Li, R., Li, Y., & Chen, Y. (2018, June). A conceptual artificial intelligence application framework in human resource management. In *Proceedings of the international conference on electronic business* (pp. 106-114).
- [19] Johansson, J., & Herranen, S. (2019). The application of artificial intelligence (AI) in human resource management: Current state of AI and its impact on the traditional recruitment process.
- [20] ohnson, R. D., & Stone, D. L. (2019). Advantages and unintended consequences of using electronic human resource management (eHRM) processes.
- [21] Kim, Y. H., Shin, Y. W., & Lee, S. W. (2018). Practical application of the Bar-HRM technology for utilization with the differentiation of the origin of specific medicinal plant species. *Journal of Plant Biotechnology*, 45(1), 9-16.
- [22] Kshetri, N. (2021). Evolving uses of artificial intelligence in human resource management in emerging economies in the global South: some preliminary evidence. *Management Research Review*.
- [23] Lagiotis, G., Stavridou, E., Bosmali, I., Osathanunkul, M., Haider, N., & Madesis, P. (2020). Detection and quantification of cashew in commercial tea products using High Resolution Melting (HRM) analysis. *Journal of Food Science*, 85(6), 1629-1634.
- [24] Lengnick-Hall, M. L., Neely, A. R., & Stone, C. B. (2018). Human resource management in the digital age: Big data, HR analytics and artificial intelligence. In *Management and technological challenges in the digital age* (pp. 1-30). CRC Press.
- [25] Malik, A., Pereira, V., & Budhwar, P. (2021). HRM in the global information technology (IT) industry: Towards multivergent configurations in strategic business partnerships. *Human Resource Management Review*, 31(3), 100743.
- [26] Malik, A., Srikanth, N. R., & Budhwar, P. (2020). Digitisation, artificial intelligence (AI) and HRM. *Human Resource Management: Strategic and International Perspectives*, 88-111.
- [27] Mathur, S. (2019). Artificial intelligence: redesigning human resource management, functions and practices. *Human Resource: People, Process and Technology*, 1(1), 1-7.
- [28] Mendy, J., & Rahman, M. (2019). Supporting SMEs' internationalization through a deeper understanding of human and technology barriers: Applying effective HRM processes from a developing country. *Journal of Organizational Effectiveness: People and Performance*.
- [29] Myllymäki, D. (2021). Beyond the 'e-'in e-HRM: integrating a sociomaterial perspective. *The International Journal of Human Resource Management*, 32(12), 2563-2591.

- [30] Nawaz, N. (2020). Exploring artificial intelligence applications in human resource management. *Journal of Management Information and Decision Sciences*, 23(5), 552-563.
- [31] Ogbeibu, S., Pereira, V., Emelifeonwu, J., & Gaskin, J. (2021). Bolstering creativity willingness through digital task interdependence, disruptive and smart HRM technologies. *Journal of Business Research*, 124, 422-436.
- [32] Oswal, N., Khaleeli, M., & Alarmoti, A. (2020). Recruitment in the Era of Industry 4.0: use of Artificial Intelligence in Recruitment and its impact. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(8), 39-47.
- [33] Shahbaz, M., Jam, F. A., Bibi, S., & Loganathan, N. (2016). Multivariate Granger causality between CO2 emissions, energy intensity and economic growth in Portugal: evidence from cointegration and causality analysis. *Technological and Economic Development of Economy*, 22(1), 47-74.
- [34] Pan, Y., Froese, F., Liu, N., Hu, Y., & Ye, M. (2021). The adoption of artificial intelligence in employee recruitment: the influence of contextual factors. *The International Journal of Human Resource Management*, 1-23.
- [35] Premnath, E., & Chully, A. A. (2020). Artificial Intelligence in Human Resource Management: A Qualitative Study in the Indian Context. *Journal of Xi'an University of Architecture & Technology*, XI, 1193-1205.
- [36] Premnath, S. N., & Arun, A. (2020). A Qualitative Study of Artificial Intelligence Application Framework in Human Resource Management.
- [37] Qiu, L., & Zhao, L. (2018). Opportunities and challenges of artificial intelligence to human resource management. *Academic Journal of Humanities & Social Sciences*, 2(1), 144-153.
- [38] Adaleh, A. M. (2023). Challenges and HRM Practices within Jordanian Business Organizations. *International Journal of Membrane Science and Technology*, 10(3), 2308-2316. <https://doi.org/10.15379/ijmst.v10i3.1958>
- [39] Rahman, M., & Aydin, E. (2020). Benefits, barriers and risks—the role of technology in e-HRM implementations in public sector organisations: evidence from Bangladesh. *International Journal of Human Resources Development and Management*, 20(3-4), 252-268.
- [40] Samarasinghe, K. R., & Medis, A. (2020). Artificial Intelligence based Strategic Human Resource Management (AISHRM) for Industry 4.0. *Global Journal of Management and Business Research*.
- [41] Suriyanti, S. (2020). Transformational leadership, HRM competence, information technology, and the performance of public service employee. *Jurnal Minds: Manajemen Ide dan Inspirasi*, 7(1), 11-22.
- [42] Tamba, P., Cappelli, P., & Yakubovich, V. (2019). Artificial intelligence in human resources management: Challenges and a path forward. *California Management Review*, 61(4), 15-42.
- [43] Tewari, I., & Pant, M. (2020, December). Artificial Intelligence Reshaping Human Resource Management: A Review. In 2020 IEEE International Conference on Advent Trends in Multidisciplinary Research and Innovation (ICATMRI) (pp. 1-4). IEEE.
- [44] Thite, M. (Ed.). (2018). e-HRM: Digital approaches, directions & applications. Routledge.
- [45] Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2021). Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review. *The International Journal of Human Resource Management*, 1-30.
- [46] Wang, T., & Lin, J. (2018). Research on the Influence of Artificial Intelligence on Human Resource Management Teaching and Work. In *International Conference on Humanities and Advanced Education Technology (IHAET)* (Vol. 4, No. 2, pp. 512-517).
- [47] Wilson, H. J., & Daugherty, P. R. (2018). Collaborative intelligence: Humans and AI are joining forces. *Harvard Business Review*, 96(4), 114-123.
- [48] Winarto, W. (2018). Electronic Human Resources Management (E-HRM) adoption studies: past and future research. *DeReMa (Development Research of Management): Jurnal Manajemen*, 13(1), 100-120.
- [49] Xu, D., & Xiao, X. (2020). Influence of the Development of VR Technology on Enterprise Human Resource Management in the Era of Artificial Intelligence. *IEEE Access*.
- [50] Yabanci, O. (2019). From human resource management to intelligent human resource management: a conceptual perspective. *Human-Intelligent Systems Integration*, 1(2), 101-109.
- [51] Yadav, D. K., Yadav, J., & Malik, R. (2019). E-HRM: A paradigm shift in HR practices and its effects on perception of employees towards accepting this new technology. *Prabandhan: Indian Journal of Management*, 12(2), 23-39.
- [52] Yawalkar, M. V. V. (2019). A Study of Artificial Intelligence and its role in Human Resource Management. *International Journal of Research and Analytical Reviews (IJRAR)*, 6(1), 20-24.
- [53] Younis, R. A. A., & Adel, H. M. (2020, September). Artificial intelligence strategy, creativity-oriented HRM and knowledge-sharing quality: empirical analysis of individual and organisational performance of AI-powered businesses. In *Proceedings of The British Academy of Management (BAM) 2020 Annual International Conference: Innovating for a Sustainable Future*, London, United Kingdom.
- [54] Zhou, Y., Liu, G., Chang, X., & Wang, L. (2021). The impact of HRM digitalization on firm performance: investigating three-way interactions. *Asia Pacific Journal of Human Resources*, 59(1), 20-43.
- [55] Ziebell, R. C., Albors-Garrigos, J., Schoeneberg, K. P., & Marin, M. R. P. (2019). e-HRM in a Cloud Environment: Implementation and its Adoption: A Literature Review. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, 10(4), 16-40.

DOI: <https://doi.org/10.15379/ijmst.v10i4.2037>

This is an open access article licensed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>), which permits unrestricted, non-commercial use, distribution and reproduction in any medium, provided the work is properly cited.