

Artificial Intelligence Research in Human Resources

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Abstract: This study aimed to "investigate the application of Artificial Intelligence (AI) in the area of Human Resources (HR). It offerings a view of the research that used AI in the area of HR, through the quantitative descriptive analysis of journals in the period between the years of 2017 and 2023. Ten research publications in google scholar have been recognized that address the application of AI in the HR area. As a result, it was concluded that AI is a powerful tool that can be used to enhance HR management performance by improving efficiency, improving employee experiences, and enabling informed strategic decision-making"

Keywords: AI, HR, Arab world

1. Introduction

In the past few years, all companies have paid attention to analyzing information associated to HR and engrossed on human capital, which is reflected the main feature inducing the growth of the organization and all its actions at all levels of HR policies. Data analysis (HR analytics) will knowingly progress business success ended the coming years (Berhil, Benlahmar & Labani, 2020). The relationship between artificial intelligence (AI) and human resources (HR) practices is a topic related to how AI technology can impact the field of HR management in organizations. AI can impact the improvement of recruitment processes, by analyzing resumes and extracting key information to help human resources teams make more accurate hiring decisions. Artificial intelligence can also work to develop employees, by providing accurate guidance on professional development and employee training. As big data and AI analyzes allow monitoring employee performance and identifying areas that can be improved. AI can also be used in performance management, by providing periodic reports on employee performance and making recommendations to improve performance, understanding employee behavior and providing early signals of any issues that need attention. Moreover, AI enables predictive analytics, by analyzing historical and current data to provide predictions about future human resource needs. Therefore, it can be said that with the advancement of technology, AI can help improve the effectiveness of human resources management and improve employee experience. Jatobá et al (2019) settled that there are rare studies on AI applied to HR and a single use behavior.

2. Literature review

2.1 AI and HR

There is no limit to technological innovations, and have affected practically everyone, in every feature of life ended the past rare periods. One of these technological

innovations skilled of revolutionizing the world, and the most talked about, debated and executed in many fields is Ai. AI is software that can think logically, like to the way an intelligent human thinks. As identified by Bersin (2018), AI is now featured in most software and has been integrated into many business roles. One such business role is that AI combination is happening at a quicker step in HR, in relation to different HR tasks such as the hiring procedure, onboarding, and training. Assimilating AI into HR does not mean that AI will totally take over the role of HR managers, but rather it will help HR managers emphasis on more strategic effort and emphasis less on additional, boring, low-value tasks. Therefore, without a distrust, there is a more nuanced image of how AI can help simplify and redesign HR functions to improve efficiency and flexibility (George & Thomas, 2019).

One of the repetitive jobs in HR is talent acquisition is. Most recruiters and HR professionals expend their useful time in the hiring procedure that includes attracting talent, tracking and evaluating, scheduling and conducting initial interviews, and informing candidates of their status and qualifications (George & Thomas, 2019). These chores have been greatly abridged with the help of AI. Wislow (2017) state that "talent acquisition software has removed approximately 75% of the work involved in the hiring procedure. Recruitment which involves placement a job advertisement in related websites and searching for candidates is a long procedure but with AI, sites like LinkedIn, Glassdoor, Indeed and Naukri use machine learning algorithms that provide job recommendations to candidates based on their resume, keywords used by candidates, their search history and list of contacts. With the help of AI, software companies can conduct video or audio interviews in carrying out this task more efficiently and in less time" (Hooda, 2018). Min (2017) state that those corporations that use AI software for recruitment and associated actions can decrease the cost of recruitment up to 71% and rise the efficiency of recruiters by three times.

Moreover, "AI is largely enchanting over learning and development (L&D). With the help of AI, L&D can be personalized and provide a more personalized experience for users. Thus one can accept to learn at a time that suits him. HR must ensure that clever and related content is introduced into these learning materials along with an effective classification system, which keeps them focused on the training materials and keeps them more engaged (Power, 2018). With AI in L&D, the emphasis of HR is only on designing high-quality L&D programs based on recent trends, changes, new skills, etc. that suit each individual's preferences personally (Wislow, 2017) and making them offered over the e-learning platform. Hence HR personnel do not need to spend their time physically coordinating and conducting training programs for workers which is frequently boring and time" consuming.

The study of George and Thomas (2019) apply an interview method where questions were asked to HR professionals to understand the degree of adoption of AI in HR purposes. From the results, it was found that most firms have widely applied AI in the recruitment and selection procedure, because it is the most time-consuming job. They have also decided that with the application of AI, all the processes like recruitment, primary screening, interview arrangement and further processes are done online with the help of AI. Thus, the level of efficiency of human resources has increased significantly. The next function in which AI appears is, the setup process is over a long

procedure and requires a lot of paperwork and time. With the help of AI, these jobs are automated and the jobs become more expedited with the help of the online platform. Regarding other purposes, most companies are in the testing phase. Vrontis et al (2021) find that the advancement of AI may change the essential nature of work and posture a serious threat to human employment. However, it can also create important chances for human-machine collaboration and combination. Furthermore, Merlin and Jayam (2018) state that AI is valuable in the workplace and helps HR professionals understand their work and classify problems and trends in advance. Also, Yawalkar (2019) state that, to improve speed and tedious work, most businesses are approving new technologies. AI has been used by many firms in the field of HR where AI plays an essential role in recruitment, selection, hiring, performance analysis, collecting data related to workers, providing real-time information and providing correct information.

Kambur (2021) state that the entrepreneurial orientation of HR workers meaningfully and positively influences their awareness of the change that AI can bring; visualizing the change that AI can bring to HR employees significantly and positively impacts their performance. AI also enables workers to be more innovative oriented and increases their performance. As observations of the change that AI can create for HR workers are very positive, hence, AI is not viewed as a threat. Younis and Adel (2020) pointed that, a well-formulated, implemented and evaluated AI strategy coupled with leadership commitment to implement it by supporting it with skilled human resources and appropriate technological infrastructure will enhance the quality of knowledge sharing and creativity-oriented human resource management in an AI-powered organization. Niehueser and Boak (2020) conduct a study on Cielo Company and found that the overview of AI has significantly decrease the time it takes to procedure each individual request for a arranged interview with the hiring manager, from up to two weeks, when many procedures were performed manually, to an average of seven minutes when using AI. The majority of interviewees were confident that there will always be a need for the human element in the recruitment and selection process. They indicated that 61% of respondents disagree about new technology makes jobs done by humans fewer important.

2.2 AI-HR in Arab world

Li et al (2023) state that AI is a valued means to allow companies to increase a competitive advantage. Hiring more fit HR workers and accelerating all stages of the procedure enables healthcare amenities in Dubai to deliver better performance, which explains into greater competitiveness. Implementing digital HR systems powered by AI tools will significantly decrease the time consumed arranging an worker compensation and benefits plan, tasks that used to consume most of HR staff's time and were performed through very primitive technologies. The application of AI means has revolutionized operations and freed up HR staff to focus on more strategic topics. The authors noted that there is a important influence of AI tools on the procedure of recruiting and hiring talented employees, as this procedure takes a significant sum of time and work, from screening 100 of relevant and irrelevant CVs to finding a small set of CVs who meet the job requirements. Though, thanks to AI tools, the whole procedure from placement jobs to categorization according to required standards to shortlisting relevant candidates is done automatically and with high efficiency. Also, Hmoud and

Varallyai (2023) "conducted research among HR managers in Middle Eastern countries, specifically Jordan, Kuwait, Saudi Arabia, and Qatar. An online questionnaire was used to collect data from a total of 389 participants. The results indicated that participants were largely positive towards applications of AI in HR management. The results presented that HR managers have a positive attitude and confidence that evolving AI applications can contribute to supporting the efficiency, effectiveness, and quality of HR management". Furthermore, "Almesafri and Habes (2022) conducted a study on HR departments to implement AI in government institutions in the United Arab Emirates (Dubai Government). To achieve this, the study followed the quantitative approach by conducting interviews with 27 employees in the Dubai government at various senior, middle, and executive administrative levels. Data was specifically collected on the impact of AI applications on HR departments in Dubai. Significant results and recommendations were got, the greatest significant of which was establishing public policies and ethical laws for the use of AI applications in HR in Dubai. Also, obligating all workers of government organizations to take the training and development courses provided to them via distance learning. Lastly, extending the UAE's leadership role in leading AI applications in all fields will bring about optimistic and positive changes in relevant institutions that will lead to greater national progress and growth. Moreover, In Jordan, Hmoud (2021) conducted a study on HR employees who are members of the Jordanian Human Resources Management Society. The results revealed that senior management support and performance expectations are important indicators of the intention to adopt AI. The study revealed that HR leaders have a positive mindset towards the potential role of AI in enhancing the efficiency and quality of HR".

2.3 Role of AI in HR

Amla and Malhotra (2017) pointed that, organizations like Facebook and GE use digital technologies in screening, interviewing and candidate identification for an organization's hiring process. Through AI, the hiring manager can scan the application and the candidate can get a fast reply. Moreover, Rajesh, Kandaswamy and Rakesh (2018) indicated that through AI, the HR manager can track the right candidate in a short period of time and the technology will help in identifying the right candidates according to the required skill sets. AI is being used to reduce favoritism and will help increase transparency in the workplace. This way the firm can choose the resume. AI applications can be used to examine job descriptions (Rathi, 2018).

3. Methodology

Descriptive qualitative analysis investigation methodology is used for this research paper. The paper is built on review of secondary data through articles, books and journals. A widespread research was showed to identify articles from Google Scholar, I term of keywords such as (artificial intelligence or AI or A.I. and Human Resources; AI and human resources in Arab world). The researcher choose the articles which was published between 2017 to 2023 and around 10 published articles were collected.

4. Results and discussion

The results of previous studies which was reviewed in this paper conclude that, AI is now featured in most software and has been integrated into many business functions, which mean that AI integration is happening at a faster pace in HR. Also, AI can help simplify and reshape HR functions to improve efficiency and flexibility. The results also, showed that AI is largely taking over learning and development, with the help of AI, learning and development can be personalized and provide a more personalized experience for users. Moreover, the results indicated that most companies have widely applied AI in the recruitment and selection process because it is the most time-consuming function. Also, AI plays an essential role in recruitment, selection, hiring, and performance analysis. On the other hand, in Arab world, the results show that AI is a valuable tool to enable companies to gain a competitive advantage, and AI applications can contribute to supporting the efficiency, effectiveness, and quality of HR management. AI can improve the efficiency of HR practices, by analyzing data related to candidates and current employees to understand patterns of performance, behavior, and skills required. Drawing on this data, intelligent systems can guide decisions in hiring processes and better guide selections. Also, AI can use machine learning techniques to scan resumes and extract key information such as experiences, skills, and qualifications more effectively and quickly than humans. AI can also provide interactive experiences for candidates via chatbots or smart bots to answer common questions, provide information about the hiring process, and guide candidates through the application stages. In addition, AI can be used to carry out initial interviews with candidates online, saving time and effort for human resources teams and allowing initial evaluations of candidates to be provided. Using machine learning techniques, intelligent systems can improve the performance of HR operations over time, by identifying errors and improving processes according to analyzes and feedback.

5. Conclusion

The relationship between AI and HR management is the use of smart technology, including AI and machine learning techniques, to improve HR management processes and develop the overall performance of the organization. AI is used to analyze large amounts of data related to employees and HR processes, allowing the generation of accurate predictions regarding job needs and work behaviors. AI can be used to provide personalized guidance to employees based on their current performance and skills, as well as to provide personalized and integrated training that meets the needs of each employee. Intelligent technologies such as social robots and virtual assistants can be used to improve the employee experience in various aspects of work, including communication, internal communication, and management. AI can analyze candidates' resumes and other data more effectively than humans, and can also provide a list of potential candidates who are best for a given occasion. AI can also provide accurate analyzes of employee performance, thus helping management make informed evaluative and management decisions. Overall, AI is an effective tool that can be used to enhance human resource management performance by improving efficiency, improving employee experiences, and enabling informed strategic decision-making. The limitation of this study were, this study review the article which was published in

google scholar, future studies may review other articles in EBSCO, Elsevier, ProQuest, to review the largest number of published articles.

References

Abulsaoud Ahmed Younis, R., & 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 *The Annual International Conference of The British Academy of Management (BAM)*.

Almesafri, A., & Habes, M. (2022, March). Understanding the Use of Artificial Intelligence (AI) for Human Resources in the Dubai Government. In *International Conference on Business and Technology* (pp. 417-428). Cham: Springer International Publishing.

Amla, M., & Malhotra, P. M. (2017). Digital Transformation in HR. *International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS)*, 4(3), 536-544.

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.

Bersin, J. (2018). How will AI in HR be a game-changer?. Retrieved from <https://searchhrsoftware.techtarget.com/opinion/How-will-AI-in-HR-be-a-game-changer>

George, G., & Thomas, M. R. (2019). Integration of artificial intelligence in human resource. *Int. J. Innov. Technol. Explor. Eng*, 9(2), 5069-5073.

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.

Hmoud, B., & Varallyai, L. (2023). Role of Artificial Intelligence in Human Resource Management in the Middle East Countries. *KnE Social Sciences*, 435-448.

Hooda, S. (2018). People Matters - Interstitial Site — People Matters. Retrieved from <https://www.peoplesmatters.in/article/employee-relations/5-ways-hr-will-be-affected-by-artificial-intelligence-18113>

Jatobá, M., Santos, J., Gutierriz, I., Moscon, D., Fernandes, P. O., & Teixeira, J. P. (2019). Evolution of artificial intelligence research in human resources. *Procedia Computer Science*, 164, 137-142.

Kambur, E. (2021). The effect of artificial intelligence on human resources employees. *Alanya Akademik Bakış*, 5(3), 1479-1492.

Min, J. (2017). Ten ways HR tech leaders can make the most of artificial intelligence. Retrieved from <https://www.personneltoday.com/hr/ten-ways-hr-tech-leaders-can-make-artificial-intelligence/>

Niehueser, W., & Boak, G. (2020). Introducing artificial intelligence into a human resources function. *Industrial and commercial training*, 52(2), 121-130.

Power, R. (2018). How AI and Machine Learning Can Help Build a More Engaged Workforce. Retrieved from <https://www.inc.com/rhett-power/how-ai-machine-learning-can-help-build-a-more-engaged-workforce.html>

Rajesh, D. S., Kandaswamy, M. U., & Rakesh, M. A. (2018). The impact of Artificial Intelligence in Talent Acquisition Lifecycle of organizations. *International Journal of Engineering Development and Research*, 6(2), 709-717.

Rathi, D. R. (2018). Artificial intelligence and the future of hr practices. *International Journal of Applied Research*, 4(6), 113-116. Retrieved from www.allresearchjournal.com

Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2022). Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review. *The International Journal of Human Resource Management*, 33(6), 1237-1266.

Wislow, E. (2017). Beworkhappy.com. Retrieved from <https://www.facebook.com/beworkhappy>

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.