Ushus - Journal of Business Management
2023, Vol. 21 No. 4
ISSN 0975-3311 | https://oi:10.12725/ujbm.61.1 /ajss.

Editorial

Leveraging Artificial and Human Intelligence for Human Resource Management – Applications, Trends and Challenges

Abstract

The study provides an overview of the applications of Artificial Intelligence (AI) and Machine Learning (ML) models in Human Resource Management (HRM). AI and ML have revolutionized the way HRM operates by providing efficient and effective solutions for various HR functions. Leveraging AI and human intelligence can lead to significant improvements in HRM, but it requires careful consideration of the applications, trends, and challenges involved. The study discusses the use of AI and ML in recruitment and selection, performance management, training and development, and employee engagement. The study suggests that AI and ML have the potential to transform HRM and improve the overall performance of organizations. However, it is important to consider ethical issues and ensure that these technologies are used in a fair and unbiased manner.

Keywords: Artificial Intelligence, Machine Learning, Human Resource Management, Human Intelligence and Applications.

1. Introduction

Artificial intelligence (AI) is transforming the business world in many ways, from automating routine tasks to providing valuable insights for decision-making. As AI technology continues to advance, businesses will increasingly rely on it to gain a competitive edge. Today AI is transforming all sectors of business. Right from powering chatbots and virtual assistants to optimizing supply chains and predicting customer behavior, the possibilities of AI are limitless. Further, AI is making a significant difference to HR by automating repetitive tasks,

reducing bias, and providing insights that can improve recruitment, employee engagement, and retention.

John McCarthy, Stanford Professor coined the term AI, in 1955. He is considered as the father of AI and he defined AI as the science and engineering of making intelligent machines. An American computer programmer Arthur Samuel coined the term machine learning (ML). It is a branch of AI which emphasis the "use of data and algorithms to imitate the way that humans learn, and improving its accuracy over a period of time" Manning C (2020). There are three major stages of AI - weak or narrow AI (ANI), strong or general AI (AGI) and super AI (ASI). ANI performs only "narrowly defined set of specific tasks". AGI algorithms have "the ability to think and make decisions just like us humans". ASI is the stage where machines will surpass human beings. It is a hypothetical stage. As of now, only ANI has been achieved successfully. It is believed that AGI can be achieved in a few years' time (Lateef, 2023).

The artificial intelligence market value will grow significantly with a CAGR of 39.4% between 2022 and 2028. The global artificial intelligence (AI) market was valued at nearly $ 59.67 billion in the year 2021. It is expected to reach a value of $ 422.35 billion by 2028 (Bloomberg, 2022). Today, machines are making business decisions with or without human intervention. Machines performing repetitive tasks that humans are already doing is considered as Assisted Intelligence. Here humans make decisions though machines can perform actions. Augmented Intelligence enable humans to perform better and more than what they are currently capable of doing. Here both humans and machines collaboratively take decisions and machines perform the actions. In Autonomous intelligence, Machines perform the tasks on their own without human intervention. Here, only machines are taking both decisions and actions (Walch, 2020). According to Sinha and Pathak (2019) uman intelligence (HI) can be defined as the quality of human mind that develops based on his/her past circumstances, historical events, and situations. There are some

clear differences between HI and AI. AI can work at a high speed, 24*7 and without any breaks. Machines do not have emotions, treat everything uniformly and handle all situations without any bias. HI also has some advantages over AI. Humans are very good at multitasking and flexible enough to adjust to changing conditions and environments. They can manage diverse situations better.

According to the survey conducted by Society for Human Resource Management (SHRM), participated by HR professionals of organizations of all sizes in a different industries across the United States in the year 2022, it's found that nearly 1 in 4 companies use automation or AI to support HR-related activities. Organizations plan to increase their use of automation or AI in the next five years in the following functions of HR. Recruitment and hiring (79% of participants responded) , Learning and development (41%) , Performance management (38%) , Productivity monitoring (18%) , Succession planning (8%) , Promotion decisions (4%) (SHRM, 2022)

Leveraging Artificial and Human Resource Management

Mobinius **(**2020) observed that AI will surely have an impact on the human resources department.

Nankervis et al. (2021) observed that AI powered system improves the overall efficiency of various HR functions of an organization by making the process flexible and accurate. Malik et al (2022) found effective management of H R functions like planning, recruitment, selection, training, compensation and HRM by applying Expert Systems. Qamar et.al (2021) emphasized the application of Fuzzy logic techniques in human resource selection and optimal labor force design. Further, they discussed the importance of ANN used in personnel planning and performance management. Hamilton and Davison (2022) highlighted the applications of ML techniques in HR manager's decision making and turnover prediction. Sánchez et.al (2022) found that most of the literature is focused on the applications of AI on HRM especially only on recruitment and selection. There is further scope to implement AI system to other HR sub groups.

Anderson (2022) discussed that AI is making a huge positive difference in the following HR operations and processes : talent acquisition process, faster & personalized employee recruits, learning and training programs, support for decision making, automating time-consuming administrative tasks, higher retention of employees or predict employee turnover and human resource forecasting.

AI driven recruitment software minimizes the biases and recruit the best talent. HR chatbots and Virtual reality AI solutions train and engage onboard employees by communicate directly with them. AI analytics can predict the workers sentiments and feelings such as depression, stress level to improve the interpersonal relationships. Further, AI analytics can be used for real time assessment of employees, personalized skill enhancement and optimizing the HR budget. AI powered health monitoring tools are used for understanding employee's wellness and suggesting them accordingly. (www.sap.com)

AI in HRM – Challenges

Implementing AI in HRM can be a challenging task due to various factors, including data privacy concerns, ethical considerations, and the potential for bias in AI algorithms. Here are some of the challenges of implementing AI in HRM. AI in HRM requires access to large amounts of personal and sensitive data, such as employee performance reviews, salary details, and health records. Ensuring the security and privacy of this data is crucial (www. hrinasia.com).

Abdeldayem and Aldulaimi (2020) observed that the necessary technological infrastructure is required implement AI system. Further, highly qualified human resource required to acquire the necessary skills. Connelly et al (2020) highlighted the challenge of employees accepting and implementing the decisions made by the AI powered system transparently. Further there is another challenge to monitor some employees such as gig workers who work on fields and distantly form organizations through AI

powered system. Brougham & Haar (2020) observed that technological evolutions leads employees to feel job insecure and increase turnover. Further they discussed in their study that employee's negative thinking towards advanced technological disruptions is important hurdle to adopt and implement AI technologies in the organization. AI algorithms may be biased, leading to unfair treatment of employees. Floridi and Cowls (2019) discussed the need for ethical considerations when implementing AI in HRM and propose a framework to ensure that AI is developed and used ethically.

Conclusion

AI is a game-changer in HRM and has the potential to significantly improve HR practices, functions and employee satisfaction. AI can automate and streamline many HR processes, functions, reduce bias, and enhance employee experience. However, organizations need to be aware of the ethical implications of using AI and address employee concerns and Challenges to fully leverage its potential. Overall, the adoption of AI in HRM can lead to better HR practices and outcomes, benefiting both organizations and employees.

Dr Manu K S

References

AI for HR: Practical Solutions for a Modern Workforce. https://www.sap.com/insights/ai-for-hr.html

Anderson, K. (2022, June 24). How Artificial Intelligence Is Transforming HR. International Association for Human Resources Information Management. https://www.ihrim.org/2020/02/how-artificial-intelligence-is-transforming-hr/

Abdeldayem, M. M., and S. H. Aldulaimi. 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):3867–3655.

Bloomberg (2022), $422.37+ Billion Global Artificial Intelligence (AI) Market Size Likely to Grow at 39.4% CAGR During 2022-2028 | Industry. https://www.bloomberg.com/press-releases/2022-06-27/-422-37-billion-global-artificial-intelligence-ai-market-size-likely-to-grow-at-39-4-cagr-during-2022-2028-industry

Brougham, D., & Haar, J. (2020). Technological disruption and employment: The influence on job insecurity and turnover intentions: A multi-country study. Technological Forecasting and Social Change, 161, 120276. https://doi.org/10.1016/j.techfore.2020.120276

Connelly, C. E., Fieseler, C., Černe, M., Giessner, S. R., & Wong, S. I. (2020). Working in the digitized economy: HRM theory & practice. Human Resource Management Review, 31(1), ahead-of-print. https://doi.org/10.1016/j.hrmr.2020.100762

Floridi, L., & Cowls, J. (2019). A unified framework of five principles for AI in society. Harvard Data Science Review, 1(1). https://hdsr.mitpress.mit.edu/pub/l0jsh9d1/release/8

Hamilton, R. H., and H. K. Davison. 2022. Legal and ethical challenges for HR in machine learning. Employee Responsibilities and Rights Journal 34 (1):19–39. oi:10.12725/ujbm.61.110.1007/s10672-021-09377-z.

Lateef, Z. (2023, February 4). Types Of Artificial Intelligence You Should Know. Edureka. https://www.edureka.co/blog/types-of-artificial-intelligence/

Malik, A., P. Thevisuthan, and T. De Sliva. 2022Artificial Intelligence, Employee Engagement, Experience, and HRM BT - Strategic Human Resource Management and Employment Relations: An International PerspectiveA. Maliked. 171–84Springer International Publishing. oi:10.12725/ujbm.61.110.1007/978-3-030-90955-0_16

Manning C (2020, September), Artificial Intelligence Definitions, Stanford University Human centered artificial intelligence, retrieved from https://hai.stanford.edu/sites/default/files/2020-09/AI-Definitions-HAI.pdf

Mobinius (2020, July 10), AI in HR: Importance of Artificial Intelligence

Technology in HR . https://www.mobinius.com/blogs/importance-of-artificial-intelligence-technology-in-hr/

Nankervis, A., J. Connell, R. Cameron, A. Montague, and V. Prikshat. 2021. 'Are we there yet?' Australian HR professionals and the fourth industrial revolution. Asia Pacific Journal of Human Resources 59 (1):3–19. oi:10.12725/ujbm.61.110.1111/1744-7941.12245.

P.R. Palos-Sánchez, P. Baena-Luna, A. Badicu & J.C. Infante-Moro (2022) Artificial Intelligence and Human Resources Management: A Bibliometric Analysis, Applied Artificial Intelligence, 36:1, 2145631, Oi:10.12725/ujbm.61.1 10.1080/08839514.2022.2145631

Privacy & Security Risks of Artificial Intelligence in HR - HR in ASIA (n.d) Retrieved from https://www.hrinasia.com/hr-tech/%EF%BB%BFprivacy-security-risks-of-artificial-intelligence-in-hr/

Qamar, Y., R. K. Agrawal, T. A. Samad, and C. J. Chiappetta Jabbour. 2021. When technology meets people: The interplay of artificial intelligence and human resource management. Journal of Enterprise Information Management 34 (5):1339–70. oi:10.12725/ujbm.61.110.1108/JEIM-11-2020- 0436

Shivangi Sinha and Anwesha Pathak(2019), Artificial Intelligence Vs Natural (Human) Intelligence- Global Challenge for Human Rights , International Journal of Applied Engineering Research, 14(7), 18-21. https://www.ripublication.com/ijaerspl2019/ijaerv14n7spl_05.pdf

The Society for Human Resource Management (SHRM) (2022), Automation & AI in HR, retrieved from https://advocacy.shrm.org/SHRM-2022-Automation-AI-Research.pdf?_ga=2.112869508.1029738808.1666019592-61357574.1655121608

Walch, K. (2020, January 12). Is There A Difference Between Assisted Intelligence Vs. AugmentedIntelligence? Forbes. https://www.forbes.com/sites/cognitiveworld/2020/01/12/is-there-a-difference-between-assisted-intelligence-vs-augmented-intelligence/?sh=ac93bab26aba