Use of Artificial Intelligence in Human Resource Management: A Systematic Review

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Abstract

The scope of Artificial Intelligence (AI) in Human Resource Management (HRM) is constantly increasing, transforming processes in HRM by incorporating AI applications to increase the efficiency of human performance in an organization. The research on the role and importance of AI applications in HRM functional areas has gained momentum all over the world over the last few years. The present research was conceptualized to identify and review research studies carried out in the field of AI for HRM processes over the last five years (2019-2024). A systematic literature review of 43 research papers from varied management fields published in academic journals was conducted to provide a comprehensive overview of the potential of AI to change the future of HRM. This review provides valuable insights regarding the relationship between AI and HRM. The context of existing studies was analysed for their theoretical content (key themes in HRM and AI research) and gaps were identified to present a strong framework for future research on its impact on human personnel. The review indicates that a limited number of studies have combined crucial trends in implementing AI for HRM, particularly focusing on the managerial capabilities necessary for HR managers; rather, the need for research must be on the ways to adopt the technology that makes AI technology improve employee roles move beyond automation to augmentation so as to provide information, insights, and recommendations for jobs in HRM in near real time. The need is for upskilling and reskilling present and future HR employees with the appropriate AI skills required to perform the various tasks in HR. It is also imperative that research be conducted in the future for organizations to ensure a smooth transition of the AI in HR in a way that ensures a positive impact on the workforce to create a synergetic environment in an organization."

Keywords: Artificial Intelligence, HRM, Augmentation, Human performance

Introduction:

With the use of inventions like the computer and the internet, HRM is in a way to navigate these advancements to electronically increase productivity, cost effectiveness and market competition (Hmoud and Varallyai, 2020). Over the past 20 years, artificial intelligence has proliferated. (Morgenstern et al., 2021). The research defines artificial intelligence (AI) as "a system's ability to identify, interpret, draw conclusions, and learn from data to achieve predetermined organizational and societal goals." (Mikalef and Gupta, 2021). With the usage of AI, HR has the power to

become a strategic partner instead of just a traditional support function by streamlining processes like employee engagement, development, and retention.
To attain optimal corporate performance, organizations must enhance their organizational functioning and expand the skill sets of their human resources. (Wiradendi Wolor, 2020).
AI integration in HRM can lead to lower costs and greater organizational performance, which includes increased job optimization and employee engagement.

Artificial intelligence (AI) applications for human resource management (HRM) have emerged as a result of the use of advanced AI tools and methodologies for both structured and unstructured data analysis. Artificial intelligence (AI) is the umbrella term for a wide range of technologies that enable computers to carry out tasks that would typically need human intelligence and judgment. (Tambe et al., 2019). The COVID-19 pandemic has posed previously unheard-of difficulties for HR managers in the areas of hiring, on boarding, and training. As a result, the use of AI applications in HRM has accelerated.
The ability of the HRM function to incorporate AI techniques into an organization's current business intelligence systems to ingest, process, and analyse data to support decision-making and problem-solving for favourable operational, relational, and transformational outcomes specific to HRM is known as AI-augmented HRM. (Prikshat et al., 2023). More specifically, it suggests that AI and intelligent automation (IA) go hand in hand and that AI may benefit HRM from an IA standpoint. By utilizing the most recent methods to improve human intelligence in HRM operations and information sharing through these instruments, it plays an assisting role. (Malik et al., 2022c; Nguyen and Malik, 2022b). To provide HRM services, AI augmentation does not always require the newest AI technologies. The major goal is to maximize the unrealized potential of the newest AI techniques in HRM functions that improve human-machine symbiosis to obtain greater HRM domain-specific results, such as improving the CXO's decision-making. (Kondapaka et al., 2023).
One consequence of technology advancement is the methodical substitution of automated production processes for basic human tasks. A modern organization can only run efficiently if it employs the appropriate amount of people with the necessary abilities to carry out a growing number of complicated tasks. It is more difficult to replace a human resource than other kinds of resources. The organization faces a serious risk when valuable personnel depart.

Objectives of the paper

- To provide valuable insights into the relationship between Artificial Intelligence (AI) and Human Resource Management (HRM).
- To analyse existing studies and identify key themes, theoretical content, and research gaps in the field of AI and HRM.
- To develop a strong framework for future research on the impact of AI on human personnel.
- To integrate pertinent literature and establish a theoretical foundation for future research development in this area.

Literature Review

This article attempts to contribute to a

better understanding of the potential of AI in HR as well as the issues that must be resolved to ensure its successful deployment by offering a thorough overview of the current state of research on the subject.

The workforce is a crucial component to the success of the digital transformation, it's critical to comprehend how digital technology will change the face of human resource management (HRM). The process of managing people in an organization is known as traditional HRM, and it encompasses all methods used to manage people and maintain their qualifications, skills, and alignment with stakeholder expectations.

As a result of Industry 4.0's changes, it is important to comprehend how HRM is impacted, particularly how digital technologies are used to HRM's activities. This leads to the introduction of the idea of HRM 4.0, or Smart HR 4.0. The HR industry created a new idea by applying Industry 4.0 technologies, which made it more flexible, prioritized worker welfare over the labor market, and harnessed human potential for new jobs. To boost productivity, HRM 4.0 must thus now establish a digital culture of digital workers who have been taught with digital technologies. According to a 2020 World Economic Forum survey, 84% of participants planned to speed up the digitization of work (such as remote work and video conferencing) and 50% planned to speed up job automation, which would increase the usage of digital technologies. Given this prediction, it is expected that the workforce would face challenges, as the Deloitte (Deloitte Company, 2021). A major difficulty for HRM is that, according to a poll, less than 33 percent of workers are ready for technological advances, particularly in the area of remote work. (Da Silva, L. et al.,2022). Additionally, it is anticipated that AI applications would replace full-time, permanent jobs while hiring individuals for temporary positions (Braganza et al., 2020). Jobs involving repetitive motion, data management and analysis, frequent physical equipment control, and one-on-one evaluation interactions are actually at risk. (Chuang, 2020). Consequently, employees' fear of losing their jobs due to AI may stem from their impression of the technology's inflated potential in the workplace. (Aleksander, 2017; Willcocks, 2020). However, human workers are skeptical about the judgments, suggestions, and actions made by AI, and they may believe that the technology that is enhancing their capabilities is being watched over and spied on by intelligent systems. (Borges et al., 2021).AI in the workplace should ideally complement human workers' strengths. (Henkel et al., 2020; Raisch and Krakowski, 2021). Workers profit from the accuracy, numeric computation, and pattern recognition of AI apps in this cohabitation. (Klotz, 2018). They employ AI to accurately do repetitive activities while allocating their human resources to critical analysis and complex decision-making. (Aoki, 2021; Shrestha et al., 2021; Wilson and Daugherty, 2019). Despite the fact that current literature presents AI as being able to accomplish more than is technologically feasible (Aleksander, 2017), human labourers and the work environment until workplace AI is developed, AI will coexist there. (Willcocks, 2020). As a result, it's essential that employees and workplace AI coexist. (Wilson and Daugherty, 2019). The AI Principles of the Organisation for Economic Co-operation and Development (OECD) stipulate that AI should benefit people, therefore such an engagement might not be in line with those principles. (OECD, 2021). Therefore, rather of viewing AI as a competitor, governments should investigate how it might still be a partner to humans. As part of the United Nations Sustainable

Development Goal 8, it can contribute to laws, guidelines, policies, and legal frameworks that support the deployment of AI in the workplace and promote decent work and productive employment. They should advocate for legislative measures that preserve a workforce equipped for artificial intelligence in the workplace in the future. These measures include funding for continuing education, retraining, and reskilling. The cohabitation encourages companies to be cautious in how they handle their employees and presents a proactive approach to the use of AI in the workplace. (Li et al., 2019). To meet the constantly shifting needs of customers, this line of research also contends that companies should aggressively defend the rights of their employees and carefully integrate technology that supports rather than replaces humans. (Li et al., 2019). Algorithms are expected to complement and profit from human workers' knowledge and experience rather than replace them. (Fong et al., 2020).

Research framework

This study adopts a stream-based systematic review to generate relevant themes about worker-AI coexistence. The study aimed to describe the methodologies adopted by the previous researches along with their contributions in the area of HRM and AI. The main focus of our study was to provide valuable insights regarding the relationship between Artificial Intelligence and HRM. The study's research questions were:

Q1: What are the result outcomes for the researches using AI in HRM?

Q2: Which type of methodologies are used in HRM research?

Q3: What was the contribution of these research papers?

To provide answers of above-mentioned questions, the preliminary literature review was prepared.

The study aimed to describe the positioning of AI in HRM for the keywords: "Artificial intelligence ", "Machine learning " or "HRM" for employee performance. We also searched for synonymous words related to the issues: Technology use for management of Human Resources. We searched journals in Science direct database and website-based articles through different search engines.

The present research was conceptualized to identify and review researches carried out in the field of AI for the HRM process over the last five years (2019-2024). A systematic literature review of 43 research papers from varied management fields published in academic journals was conducted to provide a comprehensive overview of the potential of AI to change the future of HRM. This review provided valuable insights regarding the relationship between Artificial Intelligence and HRM. The context of existing studies with key themes in HRM, AI research was analysed for their theoretical content and gaps were identified to present a strong framework for future research on its impact on human personnel.

The aim was to integrate the pertinent literature and offer a theoretical foundation for future research development in this area. Such a review is needed in order to: (a) guide

future research on the effects of AI on the workplace; and (b) help managers make proper use of AI technology to improve workplace and organizational outcomes.

Methodology

To find pertinent literature and address the issues identified, a Systematic Literature Review (SLR) was conducted following the PRISMA technique (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) (Page et al., 2021). The results analysis was predicated on The PRISMA approach (Page et al., 2021) served as the foundation for the SLR and assisted in locating pertinent literature on AI in HRM. Furthermore, SLR is necessary when the research needs to be context-specific and the topic area is constrained in terms of knowing its existing status (Pereira et al., 2023). The PRISMA method in SLR follows three stages: Identification, Screening, and Inclusion (Da Silva et al., 2022). The publications included journal articles from the Science Direct database. The language of the papers was limited to English. The search period needed to be more specific from the year 2019- 2024. **Stage 1: Identification** – This stage aided in locating databases and creating Boolean operators to locate pertinent articles. The Boolean search strategy used the keywords AI and HRM as expansion and acronyms and keywords like Machine Learning, HR managerial capabilities, and Artificial Intelligence. **Stage 2: Screening** – During the screening phase, documents that did not meet the search context were filtered by going through the title, abstract, and keywords. Screening involved multi-stage filtering using keywords, abstracts, journals, and full-text articles. Out of n = 1030 records, this yielded n = 957 records that discussed the application of AI in HRM in totality. After reviewing the literature, n = 913 records that did not satisfy the search criteria were removed.

Stage 3: Inclusion – The identified list was then screened for keywords, abstracts, and titles in order to evaluate it (Tranfield et al., 2003). To ascertain the journal articles on the list's topic relevancy, abstracts were manually reviewed. Finally, n = 43 records were considered. Fig. 1 provides the systematic flowchart based on the PRISMA methodology in identifying the records considered for the literature review.

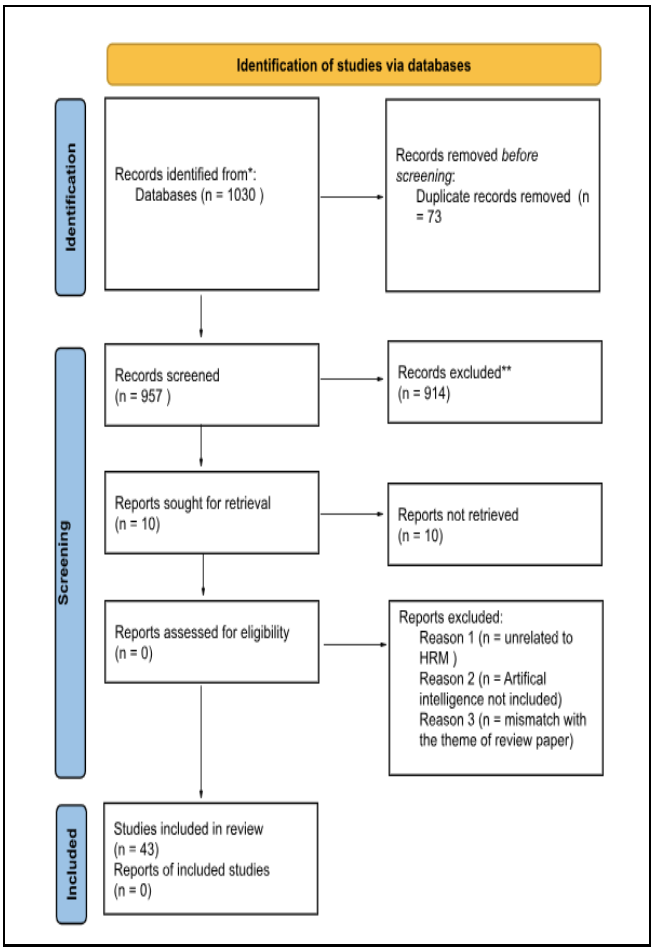

Fig 1: Prisma methodology

TABLES

Table 1: Literature review study details

S. no	Author/year	Year	Country	Journal	Methodology/Approaches	Results	Cited by
1	Pan, Yuan, Froese, Fabian J./2023	2023	Germany	Human Resource Management Review	systematic, interdisciplinary review	Recommendations for interdisciplinary collaborations, propose a unified definition of AI, and provide implications for research and practice.	53
2	Prikshat, Verma, Malik, Ashish, Budhwar, Pawan.2023	2023	UK,Australia	Human Resource Management Review	assimilation framework following a processual approach.	develops a coherent and integrated theoretical framework of HRM(AI) assimilation.	59
3	Zhou, Yu, Wang, Lijun, Chen, Wansi.	2023	China	Journal of Organizational Change Management	systematic literature review	elaborate on the potential theoretical mechanism behind the negative effects of AI-enabled HRM on employees.	2
4	Prikshat, Verma, Islam, Mohammad, Patel, Parth, Malik, Ashish, Budhwar, Pawan, Gupta, Suraksha.	2023	UK,Australia, UAE	Technological Forecasting and Social Change	systematic literature review	identify noticeable research gaps, mainly stemming from - unequal distribution of previous HRM(AI)	21
5	Gryncewicz, Wiesława, Zygała, Ryszard, Pilch, Agnieszka.	2023	Wroclaw,	Procedia Computer Science	Case studies Analysis	interpretable algorithms, such as decision trees, are frequently used in HRM solutions.	3
6	Lukaszewski, Kimberly M., Stone, Dianna L.	2024	USA	Organizational Dynamics	Review study	review the major ethical and moral issues associated with using AI and ML for human resource management.	3
7	Votto, Alexis Megan, Valecha, Rohit, Najafirad, Peyman, Rao, H. Raghav.	2021	USA	International Journal of Information Management Data Insights	systematic literature review	component of tactical HRM/HRIS receives attention and identifies gaps in research to give direction to future research agendas.	120
8	Huang, Xiaoyu, Yang, Fu, Zheng, Jiaming, Feng, Cailing, Zhang, Lihua.	2023	China	Asia Pacific Management Review	conceptual framework	emerging concept of personalized human resource management (HRM)	26
9	Jatobá, Mariana Namen, Ferreira, João J., Fernandes, Paula Odete, Teixeira, João Paulo	2023	Portugal	Journal of Organizational Change Management	systematic literature review	analysing research addressing human resource management (HRM) and the adoption of artificial intelligence (AI)	14
10	Li, Peigong, Bastone, Anna, Mohamad, Talal Ali, Schiavone, Francesco.	2023	UAE	Journal of Innovation & Knowledge	explorative qualitative analysis	impact of the implementation of artificial intelligence (AI) in the healthcare sector	30
11	Stone, Dianna L., Lukaszewski, Kimberly M.	2024	USA	Organizational Dynamics	Review study	HRM, AI, ML.	1
12	Zirar, Araz, Ali, Syed Imran, Islam, Nazrul.	2023	UK	Technovation	systematic literature review	Worker-AI coexistence	50

13	Deng, Chunping, Li, Huimin, Wang, Yuye, Zhu, Rong.	2024	China	Journal of Business Research	algorithmic recording and automatic analysis.	Digitalization of human resource management, Algorithmic recording,	1
14	Pereira, Vijay, Hadjielias, Elias, Christofi, Michael, Vrontis, Demetris	2023	France, Cyprus	Human Resource Management Review	systematic literature review	examining the impact of AI on workplace outcomes	144
15	Bartosiak, Marcin Lukasz, Modlinski, Artur.	2022	Italy, Poland	Career Development International	exploratory experiment	Artificial intelligence, Biased algorithms, Decision support systems,	11
16	Cubric, Marija.	2022	UK	Technology in Society	systematic literature review	drivers, barriers and social implications of the AI adoption in business and management.	163
17	da Silva, L.B.P., Soltovski, R., Pontes, J., Treinta, F.T., Leitão, P., Mosconi, E., de Resende, L.M.M., Yoshino, R.T.	2022	Brazil	Computers & Industrial Engineering	systematic literature review	digital trends resulting from Industry 4.0 affect the field of HRM in 13 different themes, promoting trends and challenges for HRM, the workforce, and organizations.	74
18	Varma, Arup, Pereira, Vijay, Patel, Parth	2024	USA, France, Australia	Organizational Dynamics	Review study and Interview method	Artificial Intelligence, AI, Performance management systems, PMS.	2
19	Nawaz, Nishad, Arunachalam, Hemalatha, Pathi, Barani Kumari, Gajendaran, Vijayakumar.	2024	Bahrain, India	International Journal of Information Management Data Insights	Descriptive	the impact of Artificial Intelligence (AI) on Human Resources Management Practices.	7
20	van Esch, Patrick, Black, J. Stewart, Ferolie, Joseph.	2019	Australia, USA	Computers in Human Behavior	cross-sectional design	Artificial intelligence (AI), Job application likelihood, Marketing, Recruitment, Selection, Technology.	194
21	Pea-Assounga, Jean Baptiste Bernard, Bindel Sibassaha, Jesna Lafortune.	2024	China	Sustainable Futures	Quantitative analysis, PLS-SEM methodology	impact of technological change on digital HR practices.	2
22	Aguinis, Herman, Beltran, Jose R., Cope, Amando.	2024	USA	Organizational Dynamics	In depth demonstration	a list of "dos and don'ts" and that when used by sufficiently trained HRM professionals,	8
23	Deepa, R., Sekar, Srinivasan, Malik, Ashish, Kumar, Jitender, Attri, Rekha.	2024	India	Technological Forecasting and Social Change	systematic literature review (SLR) and bibliometrics analysis	Artificial Intelligence (AI), Human Resource Management (HRM), Dynamic Capabilities View (DCV), Managerial capabilities	2
24	Del Giudice, Manlio, Scuotto, Veronica, Orlando, Beatrice, Mustilli, Mario.	2023	Italy, France	Human Resource Management Review	Propose conceptual framework	Humans – humanoid interactions, Artificial intelligence, Service robot deployment model, Technology acceptance model, Society 5.0, Innovation.	65
25	Madanchian, Mitra, Taherdoost, Hamed, Mohamed, Nachaat.	2023	Canada	12th International Young Scientists Conference in Computational Science, YSC2023	systematic literature review	prevalent AI applications, evaluates statistical evidence of their impact, and engenders discussions on implications.	0
26	Andrieux, Pierre, Johnson, Richard D., Sarabadani, Jalal, Van Slyke, Craig.	2024	USA	Organizational Dynamics	ethics-based framework, the Two-Rule Method	critical ethical considerations linked to making human resources management (HRM) decisions based on the potential capabilities (affordances) offered by generative artificial intelligence (GAI).	3
27	Chowdhury, Soumyadeb, Dey, Prasanta, Joel-Edgar, Sian, Bhattacharya, Sudeshna, Rodriguez-Espindola, Oscar, Abadie, Amelie, Truong, Linh.	2023	France, UK, Morocco	Human Resource Management Review	systematically review the multi-disciplinary literature	AI-employee integration strategies, to benefit from AI adoption.	217
28	Trocin, Cristina, Hovland, Ingrid Våge, Mikalef, Patrick, Dremel, Christian.	2021	Norway	Technological Forecasting and Social Change	GT, an inductive research methodology	Artificial Intelligence (AI), Digital innovation (DI), Affordance, Actualisation, Grounded theory (GT), Human Resource Management (HRM).	84
29	Contreras, Francoise, Jauregui, Kety, Rank, Susanne.	2024	Colombia, Peru, Germany	Journal of Engineering and Technology Management	Bibliometric-mapping research,	Digital transformation, e-HRM, Electronic human resource management, Technology and HRM, Scholar production.	0

30	Wang, Rui, Guo, Li-ming, Cao, Chao, Chen, Yan-sheng.	2023	China	Technological Forecasting and Social Change	Systematic approach study	Entrepreneurship, Systematic, Entrepreneurial process, Key success factors (KSFs), AI industry, The Guangdong-Hong Kong-Macao Greater Bay Area (GBA), Interpretative structural modeling.	7
31	Li, Wanlu, Qin, Xin, Yam, Kai Chi, Deng, Huiru, Chen, Chen, Dong, Xiaowei, Jiang, Luyuan, Tang, Wenjin.	2024	China, Singapore	Tourism Management	three-wave, multi-source field study	Artificial intelligence (AI), AI crafting, AI engagement, AI helping, Performance enhancement motives, Impression management motives.	3
32	Sienkiewicz-Małyjurek, Katarzyna.	2023	Poland	Government Information Quarterly	Systematic Literature Review (SLR) and survey research	Artificial intelligence (AI), Challenge, Digital government, Public governance.	10
33	G. M. , Sridevi, Suganthi, S. Kamala.	2022	India	International Journal of Information Management Data Insights	A systematic literature survey	Suitability measurement, Talent acquisition, Profiles, Artificial intelligence, Quality.	21
34	Zhuang, Kuanson g Victor, Goggin, Gerard.	2024	Australia	Telematics and Informatics	scholarly literature review	Disability, Artificial intelligence, Automated decision making, Bias, Employment.	0
35	Kong, Haiyan, Yin, Zihan, Baruch, Yehuda, Yuan, Yue.	2023	China, UK	Journal of Vocational Behavior	person–environment (P–E) fit theory	AI trust, Employee–AI collaboration, Career sustainability, Well-being, Productivity, Protean career orientation.	17
36	Jacob Fernandes França, Tiago, São Mamede, Henrique, Pereira Barroso, João Manuel, Pereira Duarte dos Santos, Vítor Manuel.	2023	Portugal	Heliyon	Systematic literature review	Artificial intelligence, Human resources, Potential assessment, Talent management, Next-gen HR.	29
37	Horodyski, Piotr.	2023	France	Computers in Human Behavior Reports	Primary data collection	Artificial intelligence, AI, Human resources, Recruitment, Applicants' perception, TAM.	12
39	Stone, Dianna L., Lukaszewski, Kimberly M., Johnson, Richard D.	2024	USA	Organizational Dynamics	Systematic literature review	Human resource management, AI, Technology, HR functionality, Artificial intelligence, Machine Learning.	1
40	Varma, Arup, Dawkins, Cedric, Chaudhuri, Kaushik.	2023	USA	Human Resource Management Review	Critical Assesment	Artificial intelligence, AI, HR systems, International HR, Technological platforms.	33
41	De Obesso Arias, María de las Mercedes, Pérez Rivero, Carlos Alberto, Carrero Márquez, Oliver.	2023	Spain	Journal of Business Research	Descriptive	Artificial Intelligence, Robots, Human resources, Mobbing, Work environment.	5
43	Indarapu, Sai Rama Krishna, Vodithala, Swathy, Kumar, Naveen, Kiran, Siripuri, Reddy, Soora Narasimha, Dorthi, Kumar.	2023	India	The Journal of High Technology Management Research	Machine Learning model	HR intelligent practices, Business management, Machine learning.	7
44	Erro-Garcés, Amaya, Aramendia-Muneta, Maria Elena.	2023	Spain	Journal of Organizational Change Management	Empirical research	Digitalization, Automation, Data analytics, Human resource management practices, Economic results, Industry 5.0.	13
45	Jedynak, Monika, Czakon, Wojciech, Kuźniarska, Aneta, Mania, Karolina.	2021	Poland	Journal of Organizational Change Management	Systematic literature review, Thematic Analysis	Digital, Organization, Review.	52

Results

The purpose of this research was to review the integration of AI within HRM and HRIS components. The review indicates that a limited number of studies have combined crucial trends in implementing AI for HRM, particularly focusing on the managerial capabilities necessary for HR managers; rather, the need for research must be on the ways to adopt the technology that makes AI technology improve

employee roles move beyond automation to augmentation so as to provide information, insights, and recommendations for jobs in HRM in near real time.

The review examined the research studies that demonstrated the benefits of AI in HRM, usage of AI tools in HRM, Digitalisation of HRM processes, negative effects of AI in HRM for employees, including enhancing employee engagement and satisfaction, improving recruitment processes, supporting decision-making and predicting employee retention and worker and AI coexistence. The research indicated that interpretable algorithms, such as decision trees, are frequently used in HRM solutions. The researches are addressing human resource management (HRM) and the adoption of artificial intelligence (AI) in the organizations. Artificial intelligence (AI) is purposefully built to be very profitable, powerful, and to help humans with less tedious tasks (Khatri et al., 2020). When combined, artificial intelligence (AI) and human resources can help managers use the potential of their workforce, monitor workforce configuration in real-time, and enhance overall management and work efficiency—all of which contribute to the realization of high quality and firm advancement (MaWang et al., 2020). It is necessary to retrain and upskill current and future HR staff members with the necessary AI skills to carry out the various HR activities. Future research must also be done by organizations to guarantee a seamless integration of AI in HR and a favourable effect on workers, hence fostering a synergistic atmosphere within the company. The reviewed literature presented a research gap between the digitalisation of HRM and its transition into the organization processes which needs to be safely adapted and adopted by the Human Resource personnels.

The review of existing research provides a foundation and direction for future re- search to address the gap between Artificial intelligence and human beings coexistence in the workplace.

Numerous changes have taken place in industries like manufacturing systems, services, and the human resources involved in the processes during the course of multiple industrial revolutions. Digital technologies, since the beginning of the Fourth Industrial Revolution, have completely changed the way people recruit, lead, manage, work, learn, and communicate with each other. In this regard, it's essential to comprehend the primary difficulties, disruptive groupings, and changes and trends in HR resulting from the usage of digital technology. (Da Silva, et al.,2022). The review clearly revealed that organizations should prioritize accuracy and precision by investing in AI systems that provide dependable data analysis and decision-making capabilities if they want to optimize the benefits of AI technology in HRM. It is advisable for managers to proactively identify and automate repetitive work in HR operations to optimize time and cost savings. Organizations can decrease costs and increase operational efficiency by optimizing workforce and resource allocation through the reallocation of HR experts' time from administrative chores to more strategic

initiatives. (Nawaz,et al., 2024). Personalized HRM, a subset of high-performance work practices (HPWPs), is the next generation of HRM, defined by the use of artificial intelligence (AI) and advanced HR analytics to deliver customized HR solutions. By offering a conceptual framework for artificial intelligence, machine learning in HRM, and AI-employee integration techniques to profit from AI adoption, this review paper adds to the body of research on digitalization in HRM.

The influence of implementing artificial intelligence (AI) on general human resource (HR) practices and organizational performance was examined in this review; however, the implications that AI is having on HR personnel received very little attention.

The findings of the review indicated that biased recommendations from intelligent agents may sway people who decide on workplace discipline; as a result, it would not be a good idea to rely solely on AI for HRM procedures. The review also revealed that employee attitudes, expertise, and legal compliance all work together to favorably impact digital HR strategies. A partial and positive mediator of the relationship between digital HR practices and technology change is employee sentiments. This demonstrated that technological advancements and other aspects of workers' jobs have an impact on HR procedures. Additionally, worker exposure to ICT policies and HR systems increases overall efficiency inside the firm. (Pea-Assounga, et al., 2024). Only a few publications (Votto et al., 2021, for example) have made an effort to synthesize the various viewpoints and comprehend the state of research on the adoption of AI-based technologies in HRM. (Budhwar et al., 2022; Malik et al., 2023a, 2023b). Furthermore, even if numerous studies have emphasized the effects of AI in the workplace (Bahoo et al., 2023; Truong and Papagiannidis, 2022; Pietronudo et al., 2022), enhancing managers' responsibilities and abilities to foster innovation and cultivate AI-specific talents is a crucial consequence. (Giraud et al., 2022). Others have pointed out that in order to successfully provide human-machine cooperation and collaboration, adopting AI-based technology necessitates the development of managerial skills and competencies. (Pereira et al., 2023; Prikshat et al., 2023a; Vrontis et al., 2022). Thus, it is clear from the foregoing that there is a greater need for research to comprehend the managerial skills necessary for implementing AI to maintain levels of performance for individuals, teams, and firms. (Giraud et al., 2022; Leyer and Schneider, 2021; Pereira et al., 2023; Vrontis et al., 2022). AI does, however, have limitations and is not a solution to every organizational challenge. Losing a job is a major problem for workers who use workplace AI. It is anticipated that workers will become unemployed because of workplace AI. (Balsmeier and Woerter, 2019). Thus, there's a good probability that workplace AI might perform its tasks without requiring employee participation. (Michailidis, 2018). As such, AI in the workplace is like a forbidden territory for employees. If employees are unable to comprehend how an AI application makes decisions, they will become uneasy. Therefore, AI may not have the chance to foster trust

among employees. (Gillath et al., 2021; Siau and Wang, 2018).

FIGURE LEGENDS

Figure 2: Country-wise distribution of research publications
Figure 3: Combo graph of the number of publications year-wise and total citations for the publications

FIGURES

- **Figure 2: Country-wise distribution of research publications**

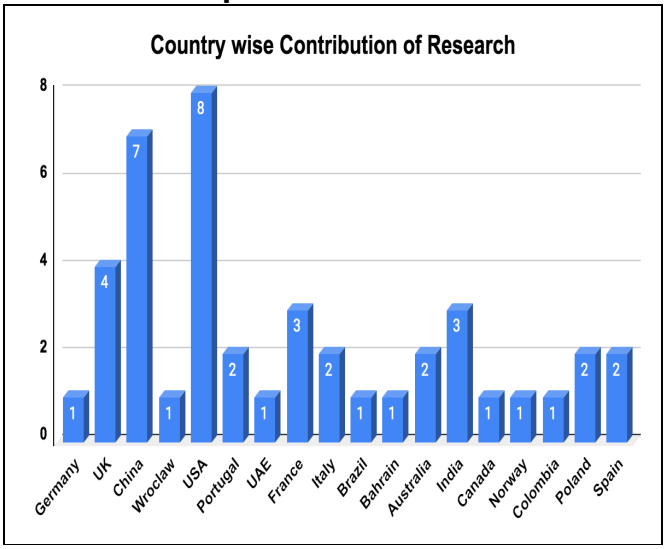

Figure 2: The review indicated as in Figure 2 that the top contributing country is the United States (8 articles), followed by China (7 articles), United Kingdom (4 articles), France (3 articles), India (3 articles), Australia (2 articles), Italy (2 articles), Portugal (2 articles), Poland (2 articles), and Germany, Wroclaw, UAE, Brazil, Bahrain, Canada, Norway, Colombia, and Africa contributed 1 article each.

Figure 3: Combo graph of the number of publications year-wise and total citations for the publications

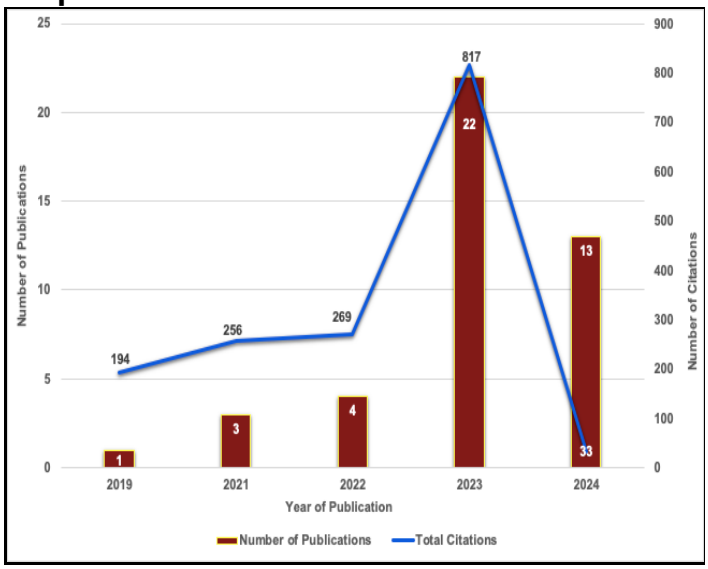

Figure 3: The year-wise publication garnered several citations and is depicted in Fig. 3 as a combination of bar and line chart. While most of the records were between 2019 and 2024, 2019 was the year with one paper while 2023 had the most significant number of papers with the maximum number of citations. The number of papers and percentage of citations progressively increased over the years, noting the importance of studies related to the application of AI in HRM. However, SLR attempted to identify the direction of research studies on AI in HRM, and it indicates that research on AI in HRM had gained traction in 2023, with 22 publications (refer Fig. 3) compared to 1, 3, and 4 in 2019, 2021 and 2022, respectively. It shows the significance of AI in HRM in recent years and its relevance to the field of HRM. As a contribution this research paper will empower the academicians and professionals in the field of HRM regarding AI

limitations and its growing relevance.

Conclusion

According to the review, there aren't many studies that combine important trends in utilizing AI for HRM, especially when it comes to the managerial skills required of HR managers. Instead, research needs to be done on ways to use AI to improve employee roles beyond automation and into augmentation, offering data, insights, and recommendations for HRM jobs almost instantly. It is necessary to retrain and upskill current and future HR staff members with the necessary AI skills to carry out the various HR activities.

The current review demonstrated how the application of AI in various HRM tasks, such as hiring, performance evaluation, onboarding, employee engagement, and self-service, is indicative of technological advancement and its pervasiveness in the field of human resource management. A study by Pereira et al. (2021) and Vrontis et al. (2022) also indicated that further inquiry is necessary to unravel the managerial capabilities and competencies essential for the adoption and sustained performance of AI in HRM. While the first research question helped to understand the critical AI functionalities, tools, and techniques that will augment managerial capabilities in various HRM applications, the second research question enabled the mapping of the methodologies to adopt for research of AI in HRM and the third research question helped in concluding the contribution made by the researches in the field of HRM.

The way artificial intelligence (AI) and machine learning (ML) are improving organizations and our lives. When organizations use AI-based tools they may likely eliminate thousands of jobs, violate individual's privacy, perpetuate biases, and result in unfair discrimination in organizations. Thus, even though AI has many benefits and advantages they may also come at a heavy price. As a result, we believe that those who use AI and ML should consider the negative consequences of using them and ensure that they do not create harm before they are implemented in organizations.

Furthermore, the extent of these "deep" changes to occupations and the workforce is still unknown even as AI integration into organizational strategy brings about these changes.

Although there is a wealth of information regarding the potential benefits of AI for workplaces, research on how employees and AI can coexist in AI-enabled workplaces is still in its infancy. Future studies are therefore required to close this research gap regarding employees' adoption of AI in HRM in a way that improves their skill set. Advanced artificial intelligence (AI) systems are capable of autonomously solving problems and making decisions, even surpassing human intelligence and decision-making skills. (Kaplan and Haenlein, 2019). Consequently, even though the use of AI in HRM shows promise, its efficacy depends on its successful implementation, which is reliant on sufficient managerial skills rather than a strong technological foundation.

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