Original Article

Available online at www.bpasjournals.com

# An Interdisciplinary Narrative On Artificial Intellegence And Human Resource Management

# Anita Singh<sup>1</sup>Urmila Yadav<sup>2</sup>Risha Thakur<sup>3</sup>Bishwajeet Prakash<sup>4</sup>

1Professor
Sharda University
anitasingh3052@gmail.com
2Professor
Sharda University
anitasingh3052@gmail.com
3Associate Professor
Sharda University Greater Noida
SBS , Sharda University Greater Noida
4Assistant Professor, Sharda School of Law Sharda University, Greater Noida
bishwajeetdr@gmail.com

**How to cite this article**: Anita Singh,Urmila Yadav,Risha Thakur,Bishwajeet Prakash (2024) An Interdisciplinary Narrative On Artificial Intellegence And Human Resource Management. *Library Progress International*, 44(3), 9755-9773.

#### Abstract

In today's dynamic business environment Artificial Intelligence (AI) has become a buzz word. In this competitive environment Human Resource Management (HRM) in integration with AI has altered the way of working by modernizing their processes, increasing the efficiency, productivity and adding value to the organization by reducing the cost. There is a change in the HRM processes of hiring, managing and retaining the talents. AI is helping the organization to gain the insight into the ways to engage their workforce. The motivation to conduct a research in the area of AI and HRM is based on the observation made by the authors that though the researchers from interdisciplinary area have contributed in this area, it is presented with fragmented body of information. The basic objective of the study is to stimulate interdisciplinary narratives and analyse the articles and bibliographic information in AI and HRM through a systematic review. This study comprises the synthesis of 87 literature reviews taken from the Scopus data source for the years (2014 to 2023) in CS format upon screening employing the PRISMA 2020 guidance. The data were analysed with the help of R Studio Cloud - Biblioshiny software. The findings of the research reflect the continuous growth in the number of publications in the area of AI and HRM. This study contributes towards the conceptual, methodological, and thematic development of the researched topic and attempts to offer a holistic view of the research by bridging the gap in the present literature.

Key words: AI, HRM, Literature Review, Bibliometric Analysis, Interdisciplinary

#### INTRODUCTION

Artificial Intelligence (AI) emerged in mid nineteenth century and was observed as an artifact of science. Implementation of AI and smart technology is dynamically transforming the workplace all across the world. Today conduct of business and its competition is not limited to local or domestic level companies but at international level, with the application of new technology the business processes are becoming less critical (Erixon 2018). In other words the organization needs to retain its competitive edge by adopting new innovative technological advancements. AI and machine learning is transforming the diverse activities of human resource management (Mitchell et al. 2013). In the field of human resource management, artificial intelligence has gained considerable attention and is increasingly being used to optimize HRM processes such as recruitment and selection, people analytics, and talent acquisition (Zhao & Liu, 2021). AI is helping the HR department in attracting ,recruiting, training ,retaining ,career development, compensation designing and mobility (Kamaruddin et al. 2019). This growing interest in

AI in HRM is supported by several studies that highlight its benefits. Some of these benefits include the ability of AI systems to produce reports and analyse employee data more efficiently than traditional HRM methods. AI systems also have the potential to streamline and automate recruitment and selection tasks, saving time and resources for HR professionals. Moreover, the use of AI in HRM can improve the accuracy and objectivity of decision-making processes, minimize bias in hiring and talent management, and improve overall organizational performance. However, despite the numerous benefits of AI in HRM, there are still challenges and barriers that hinder its full integration and adoption. The literature reveals a shortage of studies that explore the association between the effectiveness of HRM functions and AI. While AI has the potential to revolutionize HRM processes, several barriers exist that impede its progress, such as the complexity of HR phenomena, associated data challenges, legal constraints, and employee reactions.

AI technology has made a remarkable change in the labour market (Huang & Rust, 2018) but it has been also instrumental in elimination of approximately 45% of jobs at different levels (Berg, Buffie, & Zanna, 2018). AI has increased social inequality (Levy, 2018), on the other hand researchers were of the opinion that it is beneficial in upgrading the jobs rather than replacing them (Autor, 2015). In other words AI has a positive influence in the future of human resource management and it has significant potential in its application (Malik, Budhwar, Patel, & Srikanth, 2020; Malik, De Silva, Budhwar, & Srikanth, 2021).

The study of AI and HRM is not only limited to HRM field due to its interdisciplinary nature. It was observed that HR tools based on AI depend on the development of technology and the knowledge for its application relies on social sciences. Researchers from different disciplines has added value to the repository in the knowledge of AI and HRM, like the scholars from computer science has been able to provide solutions to HRM problems through AI algorithms (Anandarajan, 2002), economists has contributed in the study of impact of AI on labour markets (Berg et al., 2018), Psychologist has worked on identifying the motivation level of job aspirants due to AI usage during recruitment (Van Esch, Black, & Ferolie, 2019) and also regarding the higher attrition rate (Brougham & Haar, 2020). Additionally, employees' resistance to the use of AI in HRM further complicates its widespread adoption. Many HR professionals lack the necessary skills and competencies to meet the challenges of AI application in HR processes, leading to a possible contrary attitude towards its implementation. Study of medical scholars has highlighted the resistance of medical employees towards AI usage (Abdullah & Fakieh, 2020).

There is substantial research in the area of AI-HRM from different disciplines having different prospective, but not enough contribution is there related to integration of interdisciplinary knowledge which is pertinent for the effective AI implementation and its future growth (Fountaine, McCarthy, & Saleh, 2019). The basic objective of this study is to present a comprehensive interdisciplinary narrative with the help of existing scattered knowledge from different disciplines and authors and also to explore the new direction for future research. The presented study analyses and discusses the existing literature for potential apparent issues in the area of AI-HRM where not enough attention has been paid by the scholars.

### METHODOLOGY

Aria and Cuccurullo (2017) developed the Bibliometrix software named biblioshiny, a versatile R-based program for in-depth bibliometric examination of academic literature, enabling detailed studies on scientific mapping and visual applications. The biblioshiny software allows for systematic analysis of vast data to identify trends, current subjects, and shifts within subject areas, pertinent countries and voyage of specific keywords or theme of research thus encapsulating a subject. Scopus advanced search engine repository was selected because it has a comprehensive influence and comprises high quality scientific work published all over the globe (Parris and Peachey 2013). Scientific mapping technique was used for citation analysis, co-citation analysis , authorship analysis, bibliographic coupling. Co word analysis was done to study the publication actual content using keywords mentioned by the authors themselves, or their common occurrence in titles, abstracts and the full articles to identify if thematic relationship exists between the different works to view the future of scientific field (Chen, H.; Wei, F.; Chen, X.; Chen, K, 2022, Methlagl, M, 2022, Saha, V.; Mani, V.; Goyal, P.2020),

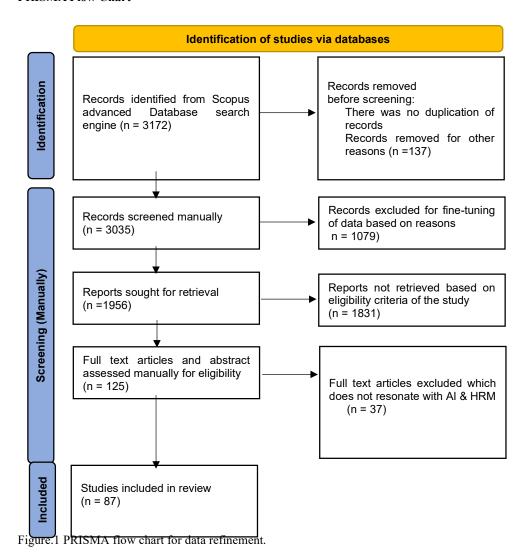
#### DATA RETRIEVED FOR LITERATURE

PRISMA 2020 declaration was used for guidance in the review, which enabled general dissemination of investigation approach and discoveries. The main three subject areas include for the analysis were; Business, Management and Accounting, Social Sciences and Multidisciplinary fields. These three ranges were preferred as they display direct correlation with the main aim of our study and other non-relevant subject areas were excluded from the query. To encompass a broader spectrum all peer reviewed open access English language documents

published reputed journals were included in and others substandard documents were simultaneously excluded(Gutiérrez and Maz 2004; Podsakoff et al. 2005; Vlačić et al. 2021). Finally, as shown in Figure. 1 when the steady PRISMA 2020 directions were followed a systematic query flow of data refinement was established through manual scrutiny of abstract, full text and keywords which ultimately documented a total of 87 suitable articles for the analyses.

Hence, this study selected articles that had: (1) an open access research published in a scientific journal, (2) peer-reviewed in English, (3) specifically associated with AI-driven technology used in human resource management operations, and (4) it included business management and accounting, social sciences, along with multidisciplinary disciplines.

#### **PRISMA Flow Chart**



# ANALYSING LITERATURE

The final data set downloaded, shown in Table 1, consisted of 87 publications generated during the time of 2014–2023, exhibiting a total of 67 scientific peer-reviewed journals with the upward trajectory indicates that AI is poised to become one of the most significant global advancements having an estimated yearly growth rate of 49.36%. There are 423authors, with an international co-authorship rate of 41.38%. The number of keywords plus 467 equals 467, while the total number of references is 6006.

Table1: Main information of the retrieved dataset

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2014:2023
Sources (Journals)	67
Documents	87
Annual Growth Rate %	49.36
Document Average Age	1.4
Average citations per doc	20.49
References	6006
DOCUMENT CONTENTS	
Keywords Plus (ID)	467
Author's Keywords (DE)	340
AUTHORS	
Authors	415
Authors of single-authored docs	8
AUTHORS COLLABORATION	
Single-authored docs	9
Co-Authors per Doc	4.9
International co-authorships %	41.38
DOCUMENT TYPES	
article	87

### DISCUSSION Articles produced

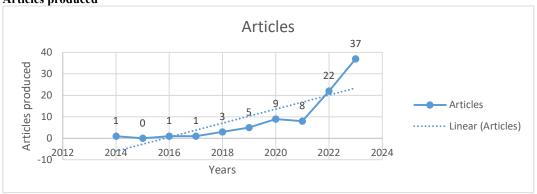


Figure.2 Total number of articles published during 2014-2023.

In the beginning, the total number of publications annually remained in a single-digit range of one; however, slowly yet steadily, the publication trend curve began to climb as shown in Figure. 2; however, by 2021, the frequency of publication had gone down nonetheless eventually after that the number of research articles in the field of artificial intelligence(AI) driven human resources management (HRM) has grown significantly, with 22 publications in 2022 and 37 in 2023, reflecting the growing trend of AI integration in HRM. This digital transformation technology offers new challenges to HRM but also helps companies adapt to changes in various domains. It has been observed that AI-driven technology is a powerful solution to HR challenges, and new solutions are emerging, making digital HR procedures a constant and evolving field.

### Three field plot

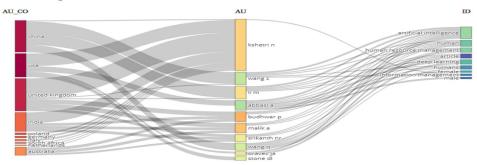


Figure 3 Three field Plot between Authors Countries- Authors –keywords.

This Sankey chart (three-field plot) depicts two associations that have been standardized using keyword-country-author. The more substantial rectangular nodes in every group enable better visual analysis of the connections among the components being examined. The brightness of the hue and the shape of the rectangle suggest significant associations within terms. The countries and authors illustrate top five keywords are artificial intelligence (AI), human, human resource management (HRM), article and deep learning. Author Kshetri M has incoming flow count of ten countries (China, USA, UK, India, Poland, Germany, Italy, South Africa, Netherlands, and Australia) and outflow count of one keyword (information management) next author Wang Z has an incoming flow count of two countries (China and UK) with outflow count of five keywords (artificial intelligence, human, human resource management, humans and information management) then thirdly author Li M has an incoming flow count of two countries (China and UK) with outflow count of five keywords (artificial intelligence, human, deep learning, human resource management and humans) making them top three authors with best connections in the list.

#### Sources

# Bradford law and production and h index

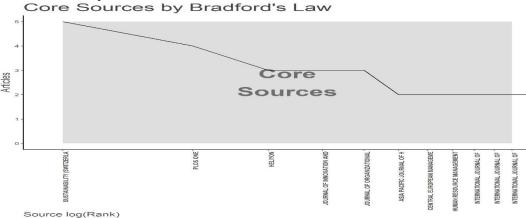


Figure 4: Bradford's law core source graph

Table 2: Branford's rule source ranking

so	Rank	Freq	Zone	H-Index
Sustainability (Switzerland)	1	5	Zone 1	4
Plosone	2	4	Zone 1	3
Heliyon	3	3	Zone 1	2
Journal of Innovation and Knowledge	4	3	Zone 1	3
Journal of Organizational End User Computing	5	3	Zone 1	1
Asia Pacific Journal of Human Resources	6	2	Zone 1	1
Central European Management Journal	7	2	Zone 1	1
Human Resource Management Review	8	2	Zone 1	2

International Journal of Knowledge Management	9	2	Zone 1	1
International Journal of Production Research	10	2	Zone 1	2

Considering Bradford's rule, a study of significant sources indicated which journals were most appropriate in the ranking of scientific articles. From table 2 it has been inferred that the most of the articles concentrated in the first zone, with top five ranked specific journals which are Sustainability (Switzerland)with h-index of 4,Plos One with h-index of 3, Heliyon with h-index of 2. Journal of Innovation and Knowledge with h-index of 3 and Journal or organizational and End User Computing with h-index of 1)proving particularly notable scientific contribution. It also indicates that, while numerous additional sources are available, the five journals represent an integral part in promoting awareness of new knowledge on the subjectFigure.4.

In Table.3 the most relevant document which has secured the first rank with highest total citation of 281 is (Dwivedi, YK 2023) titled "Opinion Paper: "So what if Chat GPT wrote it?" Multidisciplinary perspectives on opportunities, challenges, and implications of generative conversational AI for research, practice, and policy" which was published in the International Journal of Information Management focused on the Multi industry-based research with an aim to review Chat GPT's opportunities and challenges in potential applications in banking, hospitality, tourism, and information technology they concluded that Ch atGPT is a generative AI technology which holds potential in learning but faces practical, moral, philosophical, and legal challenges, that further necessitates international collaboration to maximize its benefits. Second highest total citation of 214 was of document (Mercado JE, 2016) titled "Intelligent Agent Transparency in Human-Agent Teaming for Multi-UxV Management" published in the journal of Human Factors focused on an empirical study of Human -Robotic coordination field industry with an objective to analyses the impact of agent visibility on worker efficiency, confidence, and workload within the human-agent collaboration for multi robot management they found out that increased openness enhances worker performance, confidence, and usability, but reduces effort and response times. Then on the third place with a total citation of 198 comes (De Mauro A, 2018) titled "Human resources for Big Data professions: A systematic classification of job roles and required skill sets" published in the journal of Information Processing and Management focused on the providing a detailed conceptual overview of the professional workforce and skills required in Big Data companies and education industry, aiding HR in recruiting, and developing talent there finding were stated that data Scientists' diverse skills impact business, technology, and value generation. The 'Big Data Job Families vs. Skill Groups A matrix' aids in recruitment campaigns and curriculum.

#### • Most global cited document

Table. 3 Most relavant documents

Paper	Article	Objective	Method		Conclusion	industry	Keywords
Dwivedi YK, 2023, Internation al Journal of Informatio n Managem ent	Opinion Paper: "So what if ChatGPT wrote it?" Multidiscipli nary perspectives on opportunities, challenges, and implications of generative conversationa 1 AI for research, practice, and policy	ChatGPT, a technology with potential applications in banking, hospitality, tourism, and information technology, presents opportunitie s as well as obstacles. It does, however, provide	Review Research	based	ChatGPT, a generative AI technology, has significant potential in various learning settings but also presents practical, moral, philosophic al, and legal challenges. In educational institutions, the lack of established norms and codes of	Multi industry- based research	Conversation al agent Generative artificial intelligence Generative AI ChatGPT Large language models

		misinformati		conduct can		
		on.		lead to		
				issues.		
				Authorities		
				struggle to		
				penalize		
				criminals		
				with legal		
				consequenc		
				es, and		
				internationa		
				1		
				collaboratio		
				n is needed		
				to		
				maximize		
				the benefits		
				of ChatGPT		
				in various		
2.5	~ 111		(1370771)	settings.		
Mercado	Intelligent	Researchers	(ANOVAs).	The study	Human -	intelligent
JE, 2016,	Agent	studied the	multivariate	reveals that	Robotic	agent
Hum	Transparency	impact of	analyses	increased	coordinati	transparency,
Factors	in Human–	agent	of variance	openness	on field	human–
	Agent	visibility on	(MANOVA)Bonfe	boosts	industry	agent
	Teaming for	worker	rroni	worker		teaming,
	Multi-UxV	efficiency,	alpha correction	performanc		multi-UxV
	Management	confidence,		e,		management
		and		confidence,		
		workload in		and		
		human-		usability		
		agent		but		
		collaboratio		decreases		
		n for		workers'		
		multirobot		effort and		
		administrati		response		
		on.		times.		

Demauro A, 2018,	Human resources for	The text provides a	Review / Conceptual study	Data Scientists	Corporate and	Big Data Business
Inf Process	Big Data	comprehensi	Conceptual study	are diverse	Education	Intelligence
Manage	professions:	ve overview		professiona	Industry	Human
	A systematic	of the		ls with both		resources
	classification	professional		hard and		management
	of job roles	workforce		soft skills,		Machine
	and required	and		impacting		learning
	skill sets	expertise		business		Topic
		needed in		procedures,		modelling
		Big Data		technology,		
		companies,		and value		
		aiming to		generation.		
		provide a		Their		
		data-driven		statistical		
		description		knowledge		
		of job		is not		
		responsibilit		enough to		
		ies and skills		give		
		required for		organizatio		
		businesses		ns a		
		to leverage		competitive		
		Big Data,		advantage.		
		aiding HR		The 'Big		
		and		Data Job		
		managers in		Families vs.		
		recruiting,		Skill		
		and		Groups A		
		developing		matrix' can		
		human		help create		
		resources in		recruitment		
		desired		campaigns		
		areas.		and		
				curriculum		
				for .		
				companies		
				and		
				educational		
71 7	- C	-	G 1 .:	institutions.	36 11 1	G 1110 17
Zhu J,	Deep transfer		Correlation	Transfer	Medical	Covid-10, AI,
2020,	learning	learning		learning is	industry	Lung
Plosone	artificial	CNN will	and standard	more		Disease,
	intelligence	assess COVID-19	deviations, Fleiss' Kappa inter-rater	effective for small		Chest
	accurately		agreement, (R2), p-	for small datasets and		Radiologist, Deep
1	stages COVID-19	severity on chest	values, (MAE) and	improves		Transfer
	lung disease	radiographs,	(ROC) analysis.	performanc		learning
	severity on	comparing	(NOC) analysis.	e indicators.		icariiiig
1	portable chest	traditional		Training		
	radiographs	and transfer		duration is		
	radiographs	learning		reduced		
		methods,		without		
		ensuring		compromisi		
1		accurate		ng		
		illness		performanc		
1		severity		e. The		
1		values from		transparenc		
		qualified		y index and		
		chest		geographic		
		radiologists.		al extension		
L		raarorogists.	<u>I</u>	ai catelisioii		į.

Caputo F, 2019, through aims to explore the decis digital revolution connection between soft skills, information technologies, and Big Data, aiming to create a feasible link to enhance business efficiency.	Structural equation modelling (SEM).	provide similar disease severity information . Medical personnel need precise training and motivating systems to prioritize patients, estimate risk, and allocate resources effectively due to the shortage of ICU beds and ventilators  The study indicates a strong correlation between human resources traits like job ambition and social abilities and a company's financial performanc e, while also highlightin g the indirect impact of big-data operations on these relationship s.	IT Industry	Big Data, Artificial intelligence, soft skills, High-tech European firms
---	--------------------------------------	--	-------------	--

Scholz RW, 2018, Sustainabi lity	Unintended Side Effects of the Digital Transition: European Scientists' Messages from a Proposition- Based Expert Round Table	The report categorizes unseen vulnerabiliti es and compares findings with a 2017 Japanese ERT to provide a broader perspective on vulnerabiliti es that are not yet widely recognized and require additional research policy measures.	follow-up content analysis (based on cluster analysis) resulted in an interactive, structured (Delphilike method) method	The use of digital data, including algorithms, requires trans disciplinary procedures to ensure ethical practices. AI-powered robots could replace human workers, restructure supply chains, and promote platform economics. This shift could alter socioecono mic actors' involvemen t in profit networks. Advances in technology are causing a post-fuel business and disrupting traditional democratic processes.	Multi industry-based research	digital transformatio n; digital curtain; digital vaulting; unintended side effects (unseen's), proposition- based expert round tables
Kong H, 2021	Influences of artificial intelligence (AI) awareness on career competency and job burnout	The research aims to explore the impact of various factors on hospitality industry personnel, aiming to educate both staff members and supervisors.	Structural equation modelling (SEM)	The study found a correlation between AI knowledge and workplace exhaustion, but no significant correlation was found between AI knowledge and professiona I capabilities. The	Hospitalit y Industry	Artificial Intelligence, AI awareness, Career competency, Job burnout, Organization al commitment

				association between AI knowledge and professiona l competence was facilitated by organizatio nal dedication.		
Vottoam, 2021, INT J INF MANAG DATA INSIGHT S	Artificial Intelligence in Tactical Human Resource Management: A Systematic Literature Review	This research explores AI implementat ion in HRM literature to identify strategic HRIS elements and their depiction, as well as the SLR approach applied, based on publicly available sources and literature.	Systematic literature reviews	The peer- reviewed literature shows a significant disparity between administrati ve and technical HRIS procedures, with task- driven and data-driven elements dominating. Additionall y, academic research on employee benefits and remuneratio n systems is lacking.	Multi industry- based research	Artificial Intelligence, Human Resource, Information Systems, Machine Learning, Decision Science, Human Resource Management Systems
Malik A, 2022, Internaion al Journal of Human Resource Managem ent	May the bots be with you! Delivering HR cost effectiveness and individualise d employee experiences in an MNE	The study explores the impact of a shift from policy-oriented HRM methods to AI-mediated, personalized HRM procedures on worker satisfaction and efficiency in human resources management, as well as	Qualitative case study design	The use of AI-enabled programme rs, virtual, online, and human aides in HRM functions has improved the organizatio n's HR cost-effectivenes s, enhanced employee experience, and led to increased commitmen	Technolo gy consultin g Industry	HRM practices; artificial intelligence; hyper personalisatio n; individualisat ion; employee experience; MNEs; India

		the potential effects on employee conduct and mindsets.		t, contentmen t, and lower turnover behavior among employees.		
Trocin C, 2021, TECHNO L FORECA ST SOC CHANGE	How Artificial Intelligence affords digital innovation: A cross-case analysis of Scandinavian companies	The study aims to create a systematic framework for analysing how AI facilitates digital innovations by analysing information acquisition and assessing the potential of AI affordances in generating digital innovation and verbalizing decisionmaking through data-driven legitimizatio n.	Multiple case study approach	The study presents an AI- affordance-innovation framework that connects participants , AI, objectives, organizations, and projects for innovative workflows in the era of smart machines. It uses the affordance-actualization theory to design unbiased methodologies for handling large amounts of data while adding value. AI allows for personalized forecasting based on individual preferences and helps organizatio	Multi industry- based research	Artificial Intelligence (AI) Digital innovation (DI) Affordance Actualisation Grounded theory (GT) Human Resource Management (HRM)

		ns achieve their digital innovation goals.	

### • Affilation & Countries Production with Total Citation (TC)

All authors' affiliations are broad, as seen in Table 4. three educational institutions distinguish themselves above the rest of the universities, notably the University of the Witwatersrand, South Africa, Pennsylvania State University, USA, and Poznan University of Technology, Poland which have published the most research papers (21, 7, and 6 accordingly).

Table . 4 Top 10 Affilations production

Affiliation	Articles	Country
University of the Witwatersrand	21	South Africa
The Pennsylvania State University	7	USA
Poznan University of Technology	6	Poland
Stony Brook University	6	USA
Sun Yat-Sen University	6	China
Swansea University	6	UK
Shanghai Jiao Tong University	5	China
Carnegie Mellon University	4	USA
Eindhoven University of Technology	4	Netherlands
Norwegian University of Science and Technology	4	Norway

Table .5 Countries Production and TC Table .6 Top 10 Countries Collaboration

Country	TP	TC
USA	62	473
China	48	102
UK	39	305
South Africa	33	27
Poland	21	53
Germany	20	6
India	17	127

From	То	TP	Combination
United Kingdom	Australia	6	Developed-Developed
China	United Kingdom	4	Developed-Developed
India	Australia	3	Developing-Developed
			Developed-Developed
United Kingdom	Finland	3	-
			Developed-Developing
United Kingdom	India	3	
USA	United Kingdom	3	Developed-Developed
			Developed-Developed
Australia	Denmark	2	

Italy	13	303	Australia	New Zealand	2	Developed-Developed
Australia	12	72	Australia	Saudi Arabia	2	Developed-Developing
						Developed-Developed
Netherlands	12	25	China	Australia	2	

After the investigation, studies inspecting the top 10 countries' outputs towards AI with HRM revealed that (see Table. 5 & 6) the United States of America, with 62 papers, ranks highest in terms of study production, followed by China and the United Kingdom, with 48 and 39 documents, respectively. South Africa has 33 documents, Poland has 21, Germany has 20, India has 17, Italy has 13, Australia, and the Netherlands each possess 12 articles overall. Furthermore, USA with 473 and UK with 305 has the highest has second highest Total Citations (TC) closely followed by Italy with 303(TC) then comes a developing nation India with 127 (TC). It was also disclosed that UK, Chinathe Australia has the maximum collaboration network strength with other nations. AI's global adoption has attracted sectors from all backgrounds, including established, developing, and economically disadvantaged nations, to improve future possibilities and progress. As AI technology flourishes, major AI powers are working towards goal alignment. The US, UK, and China are aiming to become international AI superpowers, with India also showing significant potential with noteworthy development in this area which shows significant potential. Furthermore, the three field plots presented earlier in this paper accurately stated that all the top nations have shifted their focus to AI, HRM, deep learning, and information management significantly during last few decades.

#### • Thematic Mmapping & Keywords

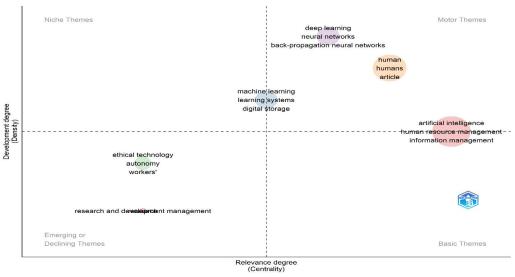


Figure. 5. Thematic mapping of keywords.

The Bibliometrix-generated thematic map can utilize the tactical schematic technique with four separate quadrants for the thematic mapping of the major keywords in the area of AI and HRM (Cobo et al., 2011). The Figure 5. Within zones 1, 2, 3, and 4, every quadrant represents an assortment of themes which are; Niche Themes, Motor Themes, Emerging or Declining Themes and Basic Themes. The colourfull bubbles represent interconnected clusters, with titles indicating the most frequent search terms. Their dimensions are determined by keyword recurrence and their location on the graph. Centrality is an international assessment of a node's ranking relative to adjacent nodes, indicating the significance of a theme in a specific research area. Density is a local parameter representing each node's position relative to neighboring nodes, guiding a theme's growth trajectory. There is no bubble in the niche themes thus suggesting that no keyword is specified is in this quadrant. In the motor theme, there are three bubbles with three terms respectfully, where the orange bubble consisting of (humans, humans, and article keywords has the second highest level of 6 occurrence density with second highest centrality ranking of also 6. The blue bubble, which consists of (machine learning, learning systems, and digital storage) keywords, has centrality ranking of 4 and density ranking of 5. Here it is also interesting to note that the purple bubble consisting of (deep learning, neural networks, and backpropagation neural networks) has the highest density ranking of 7, whereas the centrality ranking is

5.In the emerging or declining themes, the green bubble consisting ethical technology, autonomy, and workers) has a centrality ranking of 2 and density ranking of 3. of videos bubble would be considered an emerging theme with low centrality, null density, and an occurrence value of 6, then the pink bubble consists research and development showcasing the lowest centrality and density ranking of 2 and 1.5 this may be linked to the nature and framework towards the AI & HRM field. The keywords (artificial intelligence, human resource management and information management) fall in basic themes. This red bubble takes a highest centrality ranking of 7 because they are the utmost universal and cross-cutting as compared to the other three specific themes with a density level of 4.

Table 7. Top 10 keyword occurance and percentage covered.

Terms	Frequency	%
artificial intelligence	35	15%
human resource management	18	8%
human	8	4%
deep learning	7	3%
female	7	3%
humans	7	3%
information management	7	3%
male	7	3%
article	6	2%
decision making	5	2%

The top keyword in the dataset is artifucial intellengece (AI) having the occurance of 35 and it covers 15% of the dataset, then comes human resource management (HRM) with 18 occurances and covers 8 % of the data closely followed by human with 8 occurances and coviring 4 % data. Additionaly (deep learning, female, humans infrmation mangement and male)all these keyword have similar occurance and data coverage rate of 7 and 3%.

#### CONCLUSION AND FUTURE IMPLICATIONS

The study contributes significantly to the understanding of the impact of AI and HRM, providing a structure for previous studies. Through bibliometric analysis and systematic literature assessment, the study identicates the academy's insufficient focus on these two issues, the field of AI-HRM is still in early stage and fragmented studies are conducted from different disciplines .Although analysis of literature reflects the importance of AI with significant global advancements having an estimated yearly growth rate of 49.36%. That is very much evident from the highest citation of multidisciplinary articles in the area of AI and HRM. It has been observed that the different disciplines are weak in theoretical development and that indicates that the current field is practice oriented. The findings have significant implications for organizational leadership and administration, particularly HRM.The text provides a comprehensive understanding of AI and HRM, enabling individuals to develop long-term strategies for utilizing AI and machine learning in underexplored job markets in developing countries. It also explains fundamental processes in AI and HRM across various enterprises. They reveal key concepts that can help HR executives understand the actions and tendencies of organizations implementing AI-related HRM. It is crucial for business management to stimulate the creation and implementation of AI assets to encourage the adoption of artificial intelligence in the business context. Businesses may get ready for AI revolution by progressively constructing their own data analysis infrastructure and strengthening business information administration. Concerning the key study lines developed through this investigation, it has become vital to emphasize the importance of undertaking investigations that concentrate not merely on the utilization of AI in human hiring and selection but additionally on other aspects of the domains of HR management. Consequently, it might be appropriate to perform research on AI's impact on HRM among company workers.

#### REFERENCE

- 1. Abdullah, R., & Fakieh, B. (2020). Health care employees' perceptions of the use of artificial intelligence applications: Survey study. Journal of Medical Internet Research, 22(5). Article e17620.
- 2. Anandarajan, M. (2002). Profiling web usage in the workplace: A behavior-based artificial intelligence approach. Journal of Management Information Systems, 19(1), 243–266.
- 3. Arvidsson, V., & Mønsted, T. (2018). Generating innovation potential: How digital entrepreneurs conceal, sequence, anchor, and propagate new technology. *the Journal of strategic information systems*, 27(4), 369-383.
- 4. Autor, D. H. (2015). Why are there still so many jobs? The history and future of workplace automation. Journal of Economic Perspectives, 29(3), 3–30.
- 5. Baldegger, R., Caon, M., & Sadiku, K. (2020). Correlation between entrepreneurial orientation and implementation of AI in human resources management (HRM). *Technology innovation management review*.
- 6. Berg, A., Buffie, E. F., & Zanna, L. F. (2018). Should we fear the robot revolution? (the correct answer is yes). Journal of Monetary Economics, 97, 117–148.
- 7. Brem, A., Giones, F., & Werle, M. (2021). The AI digital revolution in innovation: A conceptual framework of artificial intelligence technologies for the management of innovation. *IEEE Transactions on Engineering Management*
- 8. Brock, J. K. U., & Von Wangenheim, F. (2019). Demystifying AI: What digital transformation leaders can teach you about realistic artificial intelligence. *California management review*, 61(4), 110-134.
- 9. 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. Article 120276.
- 10. Bughin, J., Hazan, E., Sree Ramaswamy, P., DC, W., & Chu, M. (2017). Artificial intelligence the next digital frontier
- 11. Caputo, F., Cillo, V., Candelo, E., & Liu, Y. (2019). Innovating through digital revolution: The role of soft skills and Big Data in increasing firm performance. *Management Decision*, 57(8), 2032-2051
- 12. Cheng, A. S., Ng, P. H., Sin, Z. P., Lai, S. H., & Law, S. W. (2020). Smart work injury management (SWIM) system: Artificial intelligence in work disability management. Journal of Occupational Rehabilitation, 30, 354–361.
- 13. Chen, H.; Wei, F.; Chen, X.; Chen, K. Global Research Trends in Gestational Diabetes Mellitus from 2000 to 2020: A Bibliometric Study. Z. Für Geburtshilfe Neonatol. 2022, 226, 197–204. [CrossRef]

- 14. De Mauro, A., Greco, M., Grimaldi, M., &Ritala, P. (2018). Human resources for Big Data professions: A systematic classification of job roles and required skill sets. *Information Processing & Management*, 54(5), 807-817.
- 15. Erixon F (2018) Recipe. Retrieved from the economic benefts of globalization for business and consumers. https://ecipe.org/publications/the-economic-benefits-of-globalization
- 16. Fountaine, T., McCarthy, B., & Saleh, T. (2019). Building the AI-powered organization technology isn't the biggest challenge, culture is. Harvard Business Review, 97 (4), 62–73.
- 17. Haefner, N., Wincent, J., Parida, V., & Gassmann, O. (2021). Artificial intelligence and innovation management: A review, framework, and research agenda ☆. *Technological Forecasting and Social Change*, 162, 120392
- 18. Holmström, J. (2022). From AI to digital transformation: The AI readiness framework. *Business Horizons*, 65(3), 329-339.
- 19. Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. Journal of Service Research, 21(2), 155–172.
- Huang, X., Yang, F., Zheng, J., Feng, C., & Zhang, L. (2023). Personalized human resource management via HR analytics and artificial intelligence: Theory and implications. *Asia Pacific Management Review*
- 21. Hutchinson, P. (2020). Reinventing innovation management: the impact of self-innovating artificial intelligence. *IEEE Transactions on Engineering Management*, 68(2), 628-639.
- 22. Johnson, P. C., Laurell, C., Ots, M., & Sandström, C. (2022). Digital innovation and the effects of artificial intelligence on firms' research and development–Automation or augmentation, exploration or exploitation?. *Technological Forecasting and Social Change*, 179, 121636.
- 23. Kaushal, N., Kaurav, R. P. S., Sivathanu, B., & Kaushik, N. (2023). Artificial intelligence and HRM: identifying future research Agenda using systematic literature review and bibliometric analysis. *Management Review Quarterly*, 73(2), 455-493.
- **24.** Kong, H., Yuan, Y., Baruch, Y., Bu, N., Jiang, X., & Wang, K. (2021). Influences of artificial intelligence (AI) awareness on career competency and job burnout. *International Journal of Contemporary Hospitality Management*, 33(2), 717-734
- 25. Levy, F. (2018). Computers and populism: Artificial intelligence, jobs, and politics in the near term. Oxford Review of Economic Policy, 34(3), 393–417.
- 26. Malik, T., Dwivedi, Y., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., ... & Wright, R. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71, 102642.
- 27. Malik, A., Budhwar, P., Patel, C., & Srikanth, N. R. (2020). May the bots be with you! Delivering HR cost-effectiveness and individualised employee experiences in an MNE. The International Journal of Human Resource Management, 1–31.

- 28. Malik, A., Srikanth, N. R., &Budhwar, P. (2020). Digitisation, artificial intelligence (AI) and HRM. *Human resource management: Strategic and international perspectives*, 88.
- 29. Malik, A., De Silva, M. T., Budhwar, P., & Srikanth, N. R. (2021). Elevating talents' experience through innovative artificial intelligence-mediated knowledge sharing: Evidence from an IT-multinational enterprise. Journal of International Management, 27(4). Article 100871
- 30. Malik, A., Budhwar, P., Patel, C., & Srikanth, N. R. (2022). May the bots be with you! Delivering HR cost-effectiveness and individualised employee experiences in an MNE. *The International Journal of Human Resource Management*, 33(6), 1148-1178.
- 31. Mariani, M. M., Machado, I., Magrelli, V., & Dwivedi, Y. K. (2023). Artificial intelligence in innovation research: A systematic review, conceptual framework, and future research directions. *Technovation*, 122, 102623.
- 32. Mercado, J. E., Rupp, M. A., Chen, J. Y., Barnes, M. J., Barber, D., & Procci, K. (2016). Intelligent agent transparency in human–agent teaming for Multi-UxV management. *Human factors*, 58(3), 401-415.
- 33. Methlagl, M. Mapping Inclusive Education 1980 to 2019: A Bibliometric Analysis of Thematic Clusters and Research Directions. Issues Educ. Res. 2022, 32, 225–247.
- 34. Mikalef, P., Fjørtoft, S. O., &Torvatn, H. Y. (2019). Artificial Intelligence in the public sector: a study of challenges and opportunities for Norwegian municipalities. In *Digital Transformation* for a Sustainable Society in the 21st Century: 18th IFIP WG 6.11 Conference on e-Business, e-Services, and e-Society, I3E 2019, Trondheim, Norway, September 18–20, 2019, Proceedings 18 (pp. 267-277). Springer International Publishing
- 35. Mitchell RS, Michalski JG, Carbonell TM (2013) An artifcial intelligence approach. Springer, Berlin
- 36. Pan, Y., Froese, F., Liu, N., Hu, Y., & Ye, M. (2022). The adoption of artificial intelligence in employee recruitment: The influence of contextual factors. *The International Journal of Human Resource Management*, 33(6), 1125-1147.
- 37. Pan, Y., & Froese, F. J. (2023). An interdisciplinary review of AI and HRM: Challenges and future directions. *Human Resource Management Review*, 33(1), 100924
- 38. Prikshat, V., Malik, A., &Budhwar, P. (2023). AI-augmented HRM: Antecedents, assimilation and multilevel consequences. *Human Resource Management Review*, 33(1), 100860
- 39. Saha, V.; Mani, V.; Goyal, P. Emerging Trends in the Literature of Value Co-Creation: A Bibliometric Analysis. Benchmarking Int. J. 2020; ahead-of-print. [CrossRef]
- 40. Scholz, R. W., Bartelsman, E. J., Diefenbach, S., Franke, L., Grunwald, A., Helbing, D., ... & Viale Pereira, G. (2018). Unintended side effects of the digital transition: European scientists' messages from a proposition-based expert round table. *Sustainability*, 10(6), 2001.

- 41. Trocin, C., Hovland, I. V., Mikalef, P., & Dremel, C. (2021). How Artificial Intelligence affords digital innovation: A cross-case analysis of Scandinavian companies. *Technological Forecasting and Social Change*, 173, 121081
- 42. Urbinati, A., Manelli, L., Frattini, F., & Bogers, M. L. (2022). The digital transformation of the innovation process: Orchestration mechanisms and future research directions. *Innovation*, 24(1), 65-85.
- 43. Van Esch, P., Black, J. S., & Ferolie, J. (2019). Marketing AI recruitment: The next phase in job application and selection. Computers in Human Behavior, 90, 215–222.
- 44. Votto, A. M., Valecha, R., Najafirad, P., & Rao, H. R. (2021). Artificial intelligence in tactical human resource management: A systematic literature review. *International Journal of Information Management Data Insights*, 1(2), 100047.
- 45. Zhao, C., Cooke, F. L., & Wang, Z. (2021). Human resource management in China: what are the key issues confronting organizations and how can research help?. *Asia Pacific Journal of Human Resources*, 59(3), 357-373.
- 46. Zhao, S., Liu, M., Xi, M., Zhu, C. J., & Liu, H. (2023). The role of leadership in human resource management: perspectives and evidence from China. *Asia Pacific Business Review*, 29(1), 1-10.

Zhu, J., Shen, B., Abbasi, A., Hoshmand-Kochi, M., Li, H., & Duong, T. Q. (2020). Deep transfer learning artificial intelligence accurately stages COVID-19 lung disease severity on portable chest radiogra