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Research Article

Exploring AI's Impact on HRM Practices: A Narrative Review of Literature and Emerging Trends

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ABSTRACT

Introduction: Organizations are increasingly leveraging AI to gain competitive advantages and enhance performance, particularly in human resource management (HRM). AI-driven applications improve efficiency in recruitment, employee engagement, and decision-making. However, the rapid technological evolution poses challenges for HR adaptation, requiring strategic implementation to maximize AI's benefits while minimizing governance costs. Despite extensive research on AI's impact, gaps remain in understanding its broader implications for HRM.

Objectives: This study aims to examine AI's role in HRM by reviewing literature across six key dimensions. It highlights AI's strong impact on recruitment, training, performance management, and salary evaluation, while strategy and employee relations remain experimental. The study also identifies research gaps to guide future AI adoption in HRM.

Methods: This study employs a narrative methodology for the literature review, allowing for a comprehensive analysis of existing research while identifying gaps without redundancy. A systematic approach was avoided due to its requirement for well-defined research questions and quantitative analysis, which fall beyond the study's scope. Given the broad nature of the research, the narrative method is the most suitable. The study follows the IMRAD structure, as it is widely recognized and commonly used in academic research.

Results: AI significantly enhances HR functions by improving recruitment, reducing biases, and streamlining decision-making. It also supports employee engagement and organizational efficiency through advanced data analysis. Additionally, AI adoption extends beyond HR, benefiting sectors like energy and healthcare by optimizing resource management, improving diagnostics, and enhancing service delivery.

Conclusions: The review of 50 articles highlights the significant advantages of AI in HRM, particularly in improving efficiency and productivity. Various AI applications, such as the Oracle program used in government recruitment, streamline hiring by simplifying processes and enhancing candidate selection. Additionally, AI techniques assist in evaluating employee success, aiding organizations in retaining top talent and offering training opportunities to less experienced employees.

Keywords: artificial intelligence, human resource management, effectiveness of AI in HRM

INTRODUCTION

In the business analysis era, the organization needs a confident, fast and creative response with more attention to the competitive landscapes, which may change more rapidly than ever before [1]. According to this fact, many organizations are embracing emerging technologies aiming to achieve competitive advantages and advanced performance[2]. Among these technologies, artificial intelligence (AI) has attracted the attention of business organizations by the ability to analyze, synthesize and generate accurate results in a record time[3]. The increased development of information and communication technologies (ICT) allows phenomena like AI to greatly influence different parts of society[4]. AI is introduced as a digital technology with the ability to autonomously perform tasks

commonly thought to require human intelligence[5]. AI is pushing HRM and the profession will have to undergo a revolutionary rather than evolutionary transformation in order to remain a necessary and valuable function for organizations.[6]. Despite recent research focusing on the transformative impact of technologies on management, the rapid pace of technological innovation has introduced complexities to HR's adaptation efforts concerning artificial intelligence. The lack of technological adaptability within HR may trigger upheaval throughout the entire organization, compromising the benefits of AI and increasing governance costs[7]. Moreover, in the last decade, the massive volume of data generated in different formats caused a revolutionary demand for AI applications, resulting in extracting valued information from variants and unpolished data[8]. AI applications such as chatbots, fuzzy systems, genetic algorithms and much more are now adopted in various organization's departments[9]. One organization department that has being empowered by AI applications and has demonstrated a core change in its functionality when adopting AI, is human resource management (HRM)[10]. a recent review of the field focusing on the strategic adoption of AI-assisted applications and HRM[11]. AI holds the promise of transforming HR functions by improving efficiency, precision, and decision-making processes. Recruitment and talent acquisition stand out as one of the critical areas where AI can create a profound impact[12] AI can serve as a key driver in improving employee engagement and retention.. By examining employee data, AI algorithms can detect patterns and trends that signal low engagement or potential turnover. This insight enables HR professionals to take proactive steps, such as introducing training initiatives or fostering a positive workplace culture, to address these challenges effectively.[13] Although there have been several studies analyzing the applications and impact of artificial intelligence, there still remains a lacuna in the existing literature. Prior studies have explored broadly the adverse impact of AI on organization performance[14].

Concept of Human Resource Management

The term "human resource management" (HRM) encompasses a range of activities and policies related to managing an organization's workforce. This includes creating a human resources strategy, recruiting and selecting staff, providing training and development, assessing employee performance, overseeing compensation, and handling employee relations. [15]. Human resource management (HRM) forms the foundation of all management activities, yet it's not the bedrock of all business endeavors [16]. Management of Human Resource (HRM) is the strategic, intertwined, and harmonious orchestration of work, development, and the well-being of the individuals laboring within an organization [17]. All managers are at least partly responsible for some activities falling under the HRM category. Poor performance in HR-related activities can lead to failure even for businesses with great business strategies, planning, products, or services. High management commitment leads to higher productivity, smarter productivity, and increased accountability at lower organizational levels [18].

Concept of Artificial Intelligence

The term "Artificial Intelligence" was officially coined and defined by John McCarthy at the time as "the science and engineering of making intelligent machines". Russel and Norvig (2020) referred to it as the "the birth of artificial intelligence." One of the initial paradigms of AI was that it revolved around high-level cognition. Not the ability to recognise concepts, perceive objects, or execute complex motor skills shared by most animals, but the potential to engage in multi-step reasoning, to understand the meaning of natural language, to design innovative artefacts, to generate novel plans that achieve goals, and even to reason about their own reasoning (Langley, 2011). AI research is the result of three breakthroughs: (1) the introduction of a much more sophisticated class of algorithms; (2) the arrival on the market of low-cost graphics processors capable of performing large amounts of calculations in a few milliseconds; and (3) the availability of very large, correctly annotated databases allowing for more sophisticated learning of intelligent systems (Jain, Ross, & Prabhakar, 2004; Khashman, 2009; PWC, 2019) "AI is concerned with methods of achieving goals in situations in which the information available has a certain complex character. The methods that have to be used are related to the problem presented by the situation and are similar whether the problem solver is human, a Martian, or a computer program" (McCarthy, 1988). With the variety of separate opinions on what AI is, lacking agreement on a standard evaluation (i.e., criteria, benchmark tests, milestones) makes it extremely challenging for the field to maintain healthy growth (Hern´andez-Orallo, 2017).

STUDY OF EXISTING LITEAURE REVIEWS

Year	Context	Types of Research Approach	Finding	Reference
2025	Cyborging HRM theory: Tracing its evolution to revolution while exploring the challenges and future trajectories of HRM's role	This conceptual analysis expands on the Substitution, Augmentation, Modification, and Redefinition (SAMR) model to present a forward-looking perspective on Human Resource Management (HRM) in the age of Artificial Intelligence (AI).	Examining the modern challenges of Artificial Intelligence, we anticipate they will result in what we refer to as Cyborging HRM.	[6]
2024	Integration of artificial intelligence in human resource management: A comprehensive review and proposed future research directions	A keyword co-occurrence analysis was performed on articles using the VOS (Visualization of Similarities) methodology.	The core inquiry of this research explores how AI integration can improve both research and practices in Human Resource Management (HRM).	[7]
2023	An integrative analysis of Artificial Intelligence (AI) and Human Resource Management (HRM): Emerging challenges and prospective directions	The methodology categorized prior research into four disciplines: Management and Economics, Computer Science, Engineering and Operations, and Others.	The findings indicate that research across various disciplines had distinct focal points and employed diverse methodologies. Studies in technical fields primarily concentrated on developing AI for specific HRM functions, whereas research in other disciplines focused more on the impact of AI on HRM, employment, and labor markets.	[19]
2022	The practical implementation of artificial intelligence and its influence on administrative human resource processes	The study employed a descriptive analytical approach, incorporating necessary statistical methods such as pre-tests (e.g., Kolmogorov-Smirnov test), descriptive statistics (including arithmetic means, standard deviations, frequencies, and relative importance), as well as multiple regression analysis.	Assessing the practical implementation of artificial intelligence in the administrative functions of human resource management within organizations.	[20]
2021	Smart Hiring: Leveraging Artificial Intelligence to Identify, Select, and Retain Global Talent	The research methodology relies on grounded theory, participant observation, and qualitative data collection.	Analyzes how digital technologies contribute to improving the successive stages of the recruitment process.	[21]

2020	Emerging Trends and Potential Opportunities of Artificial Intelligence in Human Resource Management	Integrating insights from systematic, meta-analytic, and narrative review methodologies, this expert overview critically examines the transformative influence of artificial intelligence on management and human resource practices, revealing its pivotal role in optimizing recruitment, decision-making, and organizational performance.	Adopting modern artificial intelligence technologies is a vital strategy for organizations operating in unpredictable environments.	[22]
2019	This succinct overview traces the evolution of artificial intelligence by highlighting its historical milestones, current innovations, and future prospects.	Narrative literature review methodology	Artificial intelligence's transformative effects on employment, personal privacy, and everyday life highlight the urgent need to establish robust ethical guidelines for its responsible deployment.	[23]
2018	Integrating artificial intelligence into human resources management presents significant obstacles while unlocking promising avenues for future innovation.	Causal reasoning, Randomization, Formalizing processes	Empirical evidence suggests that while artificial intelligence is often heralded as transformative for human resource management, its real-world implementation consistently underperforms, signaling the need for targeted, data-driven enhancements.	[24]
2017	Embracing artificial intelligence partnerships: Strategies for transforming hesitant managers into enthusiastic supporters	Quantitative survey data	The introduction of advanced intelligent machines in the workplace has sparked polarized reactions: while some survey participants embrace AI's limitless potential, others see it as a precursor to looming disaster.	[25]
2016	An empirical investigation examining how the adoption of electronic HR management systems relates to the overall effectiveness of HR practices	Empirical study	This study investigates how e-HRM usage influences HRM effectiveness at both the policy and practice levels, revealing that the connection between e-HRM determinants and its utilization is mediated by user intention.	[26]

2015	A conceptual analysis of the integration of artificial intelligence techniques within human resource management.	Conceptual study	This conceptual study highlights six distinct applications of artificial intelligence in human resource management: forecasting employee turnover with neural networks, sourcing candidates through knowledge-based search engines, optimizing staff scheduling using genetic algorithms, analyzing HR sentiment via text mining, extracting resume data with information extraction, and enabling employee self-service through interactive voice response.	[27]

OBJECTIVES

The objective of this study is to explore the role of artificial intelligence (AI) in human resource management (HRM) by analyzing existing literature across six critical dimensions. It aims to assess AI's influence on various HR functions and its potential to enhance organizational efficiency.

A primary focus of the study is AI's impact on recruitment, where it streamlines candidate selection, reduces biases, and enhances decision-making processes. Additionally, AI's role in employee training is examined, highlighting its ability to personalize learning experiences and improve skill development. Performance management is another key area, with AI assisting in evaluating employee productivity and providing real-time feedback for continuous improvement.

Salary evaluation is explored, emphasizing AI's contribution to fair and data-driven compensation structures. However, the study finds that AI's role in HR strategy and employee relations remains in the early stages, with ongoing experimentation and limited widespread adoption.

Beyond evaluating AI's current applications, the study identifies gaps in research, underscoring areas requiring further exploration to optimize AI-driven HRM strategies. The insights from this study aim to provide a foundation for future research and practical AI implementation in HRM, ensuring organizations can maximize its benefits while addressing associated challenges.

METHODS

This study adopts a narrative methodology for the literature review. This approach is utilized to identify and summarize existing research while also highlighting unexplored areas without redundancy [28]. A systematic methodology has been deliberately avoided, as it necessitates well-defined research questions, which extend beyond the scope of this study. Given the broad nature of our research, the narrative methodology is the most suitable choice. Additionally, since our study does not incorporate quantitative analysis, which is a key requirement of the systematic approach, adopting a narrative methodology aligns with standard industry practices [29]. Currently, there is no universally accepted structure for narrative methodology. For this study, we have chosen the IMRAD (Introduction, Methods, Results, Discussion) format, as it is widely preferred [30].

RESULTS & DISCUSSION

Artificial intelligence plays a crucial role in matching individuals with the most suitable job positions. According to the article, this process is straightforward and efficient. AI can significantly reduce costs for employers while also

offering substantial additional benefits. Given the vast amount of employee data in the industry, AI can process and analyze this information much more quickly and accurately than humans. This capability stands out as one of AI's most remarkable contributions to the sector. Furthermore, AI systems can identify and learn human behavior patterns, aiding in the assignment of job roles that align with specific behavioral tendencies. Ultimately, the article highlights that this technological advancement will enable the sector to gain a competitive edge, enhancing its ability to thrive in the labor market [50]

Their study aimed to examine the impact of Artificial Intelligence on the recruitment and selection processes within Human Resources. Additionally, they explored how AI would influence the role of recruiters and the responsibilities of leadership in this context. The findings indicated that AI could greatly enhance recruitment and selection by streamlining repetitive tasks such as application screening. Furthermore, AI has the potential to minimize biases and improve the overall efficiency of the hiring process. [31] The study sought to explore the effects of implementing Artificial Intelligence in HR management practices by analyzing approximately 59 journal articles. The objective was to assess the extent to which AI has influenced various HR functions [32] In their study, the authors highlighted that Artificial Intelligence supports organizational needs by enhancing employee benefits, which play a crucial role in both physical and emotional engagement. These needs can be assessed through an online survey system to better understand employee expectations. AI has also been shown to improve the recruitment screening process by effectively selecting reliable candidates using advanced technology. Additionally, the integration of the IDSS (Integrated Development Support System) alongside the KDD (Knowledge Discovery in Database) system aids HR management in making critical decisions. For AI to be successfully implemented, organizations must follow a strategic framework that includes key elements such as understanding and alignment, change management and governance, capability and skill development, and ultimately, integration and deployment [33].

The study aimed to examine the impact of Artificial Intelligence on specific HR functions, with a focus on how professionals within the HR domain perceive AI implementation. To gather insights, the author conducted interviews with 186 HR professionals from the Jordanian HRM Association. The findings revealed that successful AI adoption requires strong support from top management. Furthermore, the interviews indicated that HR professionals generally have a positive outlook on AI integration. AI is not limited to Human Resources Management; it is also widely utilized in sectors such as healthcare and energy [31].

Their research highlighted that energy remains a fundamental pillar of economic growth and production in the United Arab Emirates, primarily dependent on natural petroleum resources such as oil and gas. The integration of Artificial Intelligence into energy sector projects in the UAE has played a crucial role in enhancing Human Resources management and technological advancements. AI adoption has contributed to cost reduction, revenue growth, reduced workforce demands, and improved efficiency in service delivery. However, it is recommended that specialized personnel be available to address any challenges that may arise with AI implementation.

Moreover, AI has had a significant impact on the healthcare sector. Similar to other industries, the UAE government has increased AI adoption in healthcare, particularly in Cerebrospinal Fluid (CSF) analysis under the ETAM (Employés, Techniciens et Agents de Maîtrise) framework. AI has the potential to enhance diagnostic accuracy, streamline surgical procedures, ensure effective patient care, and safeguard patient data. Before implementing AI in management practices, it is crucial to assess its influence on Perceived Usefulness (PU) and Perceived Ease of Use (PEU) among medical professionals, as these factors directly impact Behavioral Intention to Use (BIU), a critical success factor for AI adoption. To ensure the effective integration of AI in healthcare, the UAE government provides managerial and operational support through the Technology Acceptance Model (TAM). This includes training, evaluating service requirements, assisting stakeholders, and employing research methodologies to facilitate the successful implementation of AI systems across 13 healthcare centers in Dubai. [34,35]

4.1 Effectiveness of AI in HRM

4.1.1 Human Resource Strategic

Strategic planning in human resources serves as the foundation of human resource management. It helps organizations anticipate future workforce needs and assess employee qualifications in alignment with the company's strategic goals. Artificial Intelligence (AI) has emerged as a transformative technology that continues to

shape organizational performance and core operations in the digital age. By incorporating AI, businesses can enhance productivity and improve overall efficiency.

Artificial intelligence harnesses extensive knowledge to boost a company's performance by eliminating inefficiencies and optimizing resource allocation. Research suggests that adopting a complementary approach helps organizations attain long-term sustainability. This approach integrates artificial intelligence with knowledge sharing, allowing businesses to gain a competitive advantage by fostering innovation, enhancing employee empowerment, providing training, and aligning strategies with key performance indicators. AI-powered technologies contribute to improved efficiency in three essential areas: customer service, financial management, and operational strategy. [36]

Artificial intelligence serves as a crucial component of organizational performance (OP). In an unpredictable market environment, businesses must adopt strategies that enhance their resilience and sustainability. AI is defined as a machine's capability to effectively perform tasks traditionally carried out by humans. According to this article, AI plays a key role in helping organizations adapt to disruptions in the business landscape. It is closely associated with improved performance and organizational resilience.

In volatile market conditions, companies can leverage AI technologies for data analysis, relationship mapping, forecasting, and informed decision-making. By utilizing AI, businesses can optimize resource allocation and process large volumes of data to drive positive performance outcomes. Additionally, AI fosters adaptability, strengthening core business operations and enhancing long-term survival. Through these insights, artificial intelligence becomes a valuable tool in boosting organizational efficiency and overall success [37]

4.1.2 Employee Relationship Management

The study explored whether artificial intelligence tools and programs could help management identify and address intangible employee behaviors, such as engagement, and ways to enhance it. Employee engagement is recognized as a critical factor directly linked to productivity. To assess engagement levels, the study utilized an interview-based approach, analyzing employees at all levels within SML (Security Market Line) before and after the implementation of AI technologies.

The findings revealed that AI technologies exceeded management's expectations by not only assessing employee engagement but also predicting behaviors and attitudes. This allowed organizations to proactively address potential issues before they escalated into disengagement and stress. By integrating AI-driven solutions, businesses can take a more strategic approach to talent retention and gain valuable insights that were previously difficult to access, ultimately improving decision-making and operational efficiency [38]

4.1.3 Recruitment

Artificial Intelligence has transformed the traditional hiring and recruitment process by integrating computer-assisted technologies. AI-driven facial recognition applications in recruitment enable HR professionals to efficiently identify and select the most suitable candidates from a large applicant pool. This technology helps assess key soft skills and determines how well a candidate aligns with job requirements.

Additionally, AI applications help reduce recruiter bias by providing an objective validation process. However, ongoing research aims to bridge the gap between theoretical understanding and practical application of facial recognition across diverse groups. Ensuring AI databases are continuously updated with accurate and reliable data is essential for improving effectiveness. For instance, Amazon's facial recognition system faced significant challenges due to data inconsistencies, which impacted its overall success. [39]

The study explored various AI tools and case studies applied to different HR functions, including recruitment, employee retention, training, and development. The findings indicated that integrating AI into HR processes can enhance efficiency and effectiveness, particularly in areas such as candidate selection and hiring.

Moreover, AI can play a crucial role in minimizing biases and reducing nepotism in the recruitment process. However, as AI remains a relatively new and evolving field, not all organizations have adopted it. As a result, its impact on HR practices is currently limited to specific regions worldwide [40]

The study aimed to assess the application of AI in the hiring process and its overall impact. The findings revealed a strategic transformation resulting from AI integration in recruitment. Organizations that have adopted AI-driven

hiring methods have experienced a notable improvement in operational efficiency and the ability to identify and select top talent more effectively [41]

4.1.4 Training and Development

Alam (2020) conducted a study involving a sample of 100 employees from the Municipality and Planning Department in Ajman to explore the future of HRM functions with the integration of AI technologies. Participants completed a questionnaire addressing various HRM aspects, including recruitment, selection, training, and performance enhancement, as well as the potential impact of AI on these functions.

The study's findings indicated that AI will play a crucial role in shaping the future of HRM. It recommended that HR departments begin training employees on AI applications and incorporate AI-related subjects into educational curricula at all levels to ensure a smooth transition into AI-driven HR

4.1.5 Managing Employee Performance

The study explored the impact of Artificial Intelligence (AI) on Human Resource (HR) practices within organizations based in the UAE. Researchers employed a mixed-methods approach, incorporating both surveys and interviews, to examine their research question. The participants in the study comprised HR professionals and AI experts. The findings indicated that integrating AI technology into HR functions led to greater efficiency, enhanced performance evaluations, and improved training and development programs. As a result, the successful digital transformation of HR processes will largely depend on AI adoption and the preparedness of employees. [42]

4.1.6 Salary Evaluation

AI enables organizations to assess employee performance effectively and develop a fair and efficient compensation strategy. For compensation adjustments to be effective, they must align with the company's strategic goals while remaining adaptable to evolving business needs. Through AI, businesses can analyze both internal and external compensation structures, conduct salary benchmarking, and perform post-evaluation processes. This technology helps organizations design an optimal salary framework, clearly defining compensation levels and structures based on job roles and responsibilities. [43]

By integrating data mining technology with performance management, organizations can develop a smart incentive system. Additionally, utilizing neural network technology enables the establishment of an advanced salary evaluation system, ensuring a more precise and data-driven approach to compensation assessment [44]

AI applications play a crucial role in promoting fairness in remuneration management. One supervised artificial intelligence approach, the BP neural network, is inspired by principles from biology, neurology, psychology, and statistics. This model establishes a structured computational framework that mimics the human brain's neural system by integrating multiple interconnected nodes. Leveraging big data, a BP neural network can be employed to develop an intelligent decision support system, ensuring an equitable and objective compensation assessment process. [45]

4.2 Challenges & Difficulties

Our analysis of existing studies reveals that AI is primarily applied in four key areas of HRM theory: employee recruitment, training and development, performance management, and salary evaluation. However, the integration of AI into the remaining two dimensions—human resource strategies and employee relationship management—remains in the experimental stage and is currently limited to a few technology companies.

4.2.1 Knowledge Management

Despite significant advancements, many companies still struggle with identifying and utilizing HR data effectively. Artificial intelligence, which involves the use of computer technology to perform tasks traditionally requiring human intelligence—such as decision-making—plays a crucial role in addressing these challenges. One fundamental concept that can be applied at different stages of the AI lifecycle is causal reasoning. The absence of causal understanding makes it difficult to generate high-quality datasets for analysis, as AI algorithms often rely on associations rather than causal relationships. Causal reasoning also helps address issues related to fairness and explain ability. Enhancing AI-driven HR management requires balancing both efficiency and fairness; however, these two objectives do not always align seamlessly.[46]

A potential solution to this challenge was identified in the research conducted by Merlin P. & Jayam R. (2018). Their study concluded that the increasing pressure on HR leaders stems from AI's influence on hiring decisions, performance forecasting, and the automation of repetitive tasks. By leveraging AI, HR professionals can analyze historical data and predictive analytics to gain valuable insights into best practices, challenges, and effective strategies. In the future, HR is expected to collaborate closely with AI-driven systems, which will assess employee performance, predict turnover rates, evaluate skills and experience, and shortlist top candidates. AI can also break down and anticipate individual employee needs, helping identify personal preferences and determining factors such as the need for salary adjustments or concerns regarding work-life balance.

4.2.2 Ethical Challenges to AI

Their study aimed to categorize existing research on Artificial Intelligence, highlighting both its advantages and challenges in HR management. The researchers concluded that AI's innovative applications have the potential to enhance organizational and employee performance, along with various HR functions. However, they also acknowledged the ethical concerns associated with its implementation [47]

The use of AI to analyze and interpret complex workforce data—whether at the organizational, team, or individual level—can offer valuable insights. However, it also raises ethical concerns, as well as potential risks to privacy and autonomy [48]

This highlights how biases and unfair practices can emerge when AI is used for tasks such as analyzing complex performance data, personalizing training programs, predicting future performance, and assessing employee satisfaction. For example, when selecting job candidates, an expert system may reflect the biases of the professionals who trained it, potentially favoring specific genders, skills, backgrounds, or ethnic groups. Since expert judgment is often incorporated as an input in fuzzy logic implementations, bias can unintentionally influence HR processes like candidate screening and performance evaluations. Additionally, using fuzzy data to train artificial neural networks (ANNs) can reinforce and perpetuate biases within HR practices over time [32]

4.2.3 Employee Happiness

It is noted that employee reactions to the evolving role of HRM due to technological advancements remain an underexplored topic, presenting an opportunity for further research. The effectiveness of intelligent automation in HRM may be influenced by recognizing both cross-national differences and similarities in employee behavior. Furthermore, it is becoming increasingly evident that robots will replace certain human roles in the workplace. However, beyond affecting displaced workers, the introduction of robots is also expected to significantly impact managers and supervisors. Therefore, gaining a clear understanding of how AI implementation will affect employee satisfaction is essential. While research suggests that HRM professionals and managers have a positive outlook on AI's integration into human resource management, it remains uncertain how the broader workforce will respond to such a fundamental shift in organizational structure. [47]

Several challenges have been identified in research assessing the integration of artificial intelligence into the human resources sector. While AI can streamline and simplify HR processes, complete reliance on technology is not feasible. One of the most significant issues in HR is the risk of discrimination between employees and employers. The study highlighted that AI may struggle to consider employees' social, cultural, and religious backgrounds, which could unintentionally lead to biased outcomes.

The research aimed to explore technological advancements in AI and their impact on HR management. Although the study did not explicitly outline its methodology, it appears to be a literature review. The findings indicate that while AI offers substantial benefits to HR, precautions must be taken to mitigate bias. Additionally, the absence of human involvement in certain HR functions, such as recruitment, could create challenges. Another key concern is safeguarding employee data, ensuring that it is not misused for unethical or illegal purposes.

The study concluded that AI can enhance efficiency, promote fairness, and generate more precise outcomes in HR processes. However, it also emphasized the importance of addressing potential challenges to prevent adverse consequences. While much of the existing research discusses AI's role in HRM, few studies have explored AI ethics in depth. Some highlight the need for regular reliability tests to validate AI-generated data, but ethical AI implementation requires more than that. Educating users on AI ethics before deployment and raising awareness of

AI bias are crucial steps. If not handled carefully, AI bias in HRM could result in severe and discriminatory outcomes, underscoring the need for responsible implementation [49]

GAPS IN THE LITERATURES

Artificial intelligence is a transformative technology that continues to shape organizational performance. Many companies today incorporate AI into various processes. Although AI itself is not a new concept, its widespread societal acceptance is relatively recent. However, further research is needed to better understand both the current landscape and future directions of AI, particularly in its application within HRM. Additionally, it is essential to examine the impact of AI on employees, including the changes in behaviors and norms that arise from its use in human resource management.

While research generally supports the positive effects of AI implementation, there are still notable gaps in the literature, pointing to future research opportunities. These can be outlined as follows:

1. The potential negative impacts on specific groups, such as people with special needs, and how society might respond in the event of AI discontinuation during crises.
2. The need for HR departments to develop policies that prepares organizations for AI readiness.
3. The limited exploration of ethical and privacy concerns associated with AI in HRM.
4. The lack of studies on how AI and machine learning can be applied at the organizational level to enhance managerial training and development. Currently, decisions related to AI usage and managerial structure are predominantly left to human judgment.

CONCLUSION

Although further research is needed, our team reviewed 50 articles, the majority of which highlighted the advantages of AI in the HRM sector, emphasizing its potential to enhance efficiency and productivity. In addition to this, our further research revealed various AI applications within HR. For instance, government departments utilize the Oracle program for recruitment, which benefits both recruitment departments and job applicants. The application streamlines the process by providing user-friendly forms, allowing easier access to applicant data, and enabling the selection of candidates with the right experience and skills. Furthermore, reports suggest that AI techniques can help assess indicators of employee success, enabling organizations to retain top talent while providing training opportunities for less experienced employees.

The literature review confirmed that AI has a positive impact on several HRM functions, including selection, recruitment, training, and development. Studies by Qamar et al. (2021), Tursunbayeva et al. (2022), and Vrontis et al. (2022) were among the few to address ethical concerns surrounding AI implementation in HRM. Moreover, Hmoud & Laszlo (2019) and Kshetri (2021) both agreed that AI could reduce nepotism and bias in HRM's selection and recruitment processes. On the other hand, Ahmed (2018) was the only researcher to point out that the lack of human touch in the recruitment process could lead to issues.

Overall, AI has the potential to significantly improve HRM functions, contributing to enhanced organizational performance. However, the article by Tambe et al. (2019) identified challenges that HRM may face when adopting AI, including issues related to understanding causality, ensuring fairness, and explaining AI's decisions. We found that these challenges were connected to potential solutions discussed in Merlin & Jayam (2018). Interestingly, the articles we reviewed did not explore solutions to the disadvantages mentioned in Ahmed (2019), particularly the concerns regarding AI-induced discrimination among employees. Additionally, we identified two articles that applied AI in other sectors, such as Almarashda et al. (2021) in healthcare and Alhashmi et al. (2019) in the energy sector, which offered unique perspectives on AI's application beyond HR.

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