

Adopting AI in Hospitals Human Resource Management: Opportunities and Challenges

Pranima Paul¹, Dr. Tamasmita Basu²

¹MHA Student, Techno Main Salt Lake, Kolkata, West Bengal, India

²Assistant Professor, Department of Hospital Management, Techno Main Salt Lake, West Bengal, India

ABSTRACT

Background:

The adoption of Artificial Intelligence (AI) in hospital human resource management is slowly becoming a reality in many healthcare settings. Employees remain the most important resource in hospitals, and AI is now being explored to support administrative functions such as recruitment, training, performance evaluation, and workforce engagement. While these applications highlight the opportunities for improving efficiency and decision-making, there are also practical challenges around ethics, data privacy, staff acceptance, and organizational readiness that need to be considered.

Objectives:

This review aims to document the usefulness of AI in human resource management in hospitals and to highlight the challenges involved in adopting such systems.

Methods:

A systematic review was conducted following the PRISMA approach. Articles in English published between 2015 to June 2025 were searched through different databases. From 140 records identified, 121 were screened, and 22 were finally included after applying inclusion and exclusion criteria.

Results:

The findings of the review are grouped under four main areas: AI in Recruitment and Talent Acquisition, AI in training and professional development, Employee performance management, and AI for Workforce Retention and Engagement along with Challenges and Risks in AI Adoption. AI tools were found useful in shortlisting candidates, delivering online training, analyzing employee performance, and predicting staff turnover. However, barriers included shortage of trained professionals, cost of implementation, concerns about job displacement, and lack of organizational preparedness.

Conclusion:

AI has the potential to improve hospital human resource management by offering new ways to strengthen administrative efficiency and workforce sustainability. At the same time, its adoption must be balanced with ethical safeguards, adequate training, and policies that ensure responsible use.

How to cite this paper: Pranima Paul | Dr. Tamasmita Basu "Adopting AI in Hospitals Human Resource Management: Opportunities and Challenges" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-10 | Issue-2, April 2026, pp.1472-1488, URL:



IJTSRD125180

www.ijtsrd.com/papers/ijtsrd125180.pdf

Copyright © 2026 by author (s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



KEYWORDS: Artificial Intelligence, Hospital Administration, Human Resource Management, Recruitment and Training, Employee Performance, Workforce Retention.

INTRODUCTION

Background

In today's world AI has become a part of every aspect fostering the functioning of clinical as well as administrative functions, including human resource

management in efficient functioning of a healthcare institution. AI is quickly changing how HR functions are done in the health sector (Shahzad et al., 2023). If

machine learning and artificial intelligence are used to human resource management, the sector of human resources will undergo a significant and significant transformation (Rouhani et al., 2023). The healthcare staffing problem may be resolved with the aid of artificial intelligence (AI), which would simplify tasks such as diagnosis, selection, analysis of big data, and administration (Meskó et al., 2018). “When faced with complexity, AI assesses its effectiveness in organizational decision-making processes by using additional computations, information processing power, and an analytical and cognitive approach (Rouhani et al., 2023)”.

Machine learning and artificial intelligence have had a significant impact on businesses and the market in recent years. Because of its capacity to enhance decision-making, boost output, and automate monotonous jobs, artificial intelligence (AI) has become a major player in numerous industries worldwide (Joshi et al., 2024). Advanced artificial intelligence technologies have been adopted in HR administration because of healthcare facilities increased technological awareness (Joshi et al., 2024). A business must adjust to the shifting needs of its customers to prosper in a cutthroat market, which emphasizes the necessity of innovation and the use of technology like artificial intelligence and machine learning. “In this sense, it is especially crucial for organizational managers to come up with new ideas, employ technology, and pay attention to the wants and sentiments of both service providers and recipients (Rouhani et al., 2023)”. “Similar to the introduction of all other new tools, AI systems' acceptance is influenced by these factors. But greater opposition soon follows when complicated events are handled in an unpredictable way and human-like behavior is required (Lambert et al., 2023)”. The application of AI technology in intricate healthcare work contexts has started, and its development has recently extended to the field of medicine (Lambert et al., 2023). The definition of artificial intelligence (AI) is widely accepted to be systems that exhibit behaviors or conclusions that are frequently attributed to human intelligence and cognition.

“Such decisions usually require the application of factual knowledge, the ability to abstract, and the awareness of a complex situation (Lambert et al., 2023)”. “In this domain, artificial intelligence is being developed to assist medical professionals, including doctors and nurses, in making decisions, diagnosing, prognosticating, treating, and relieving them of physically taxing activities (Lambert et al., 2023)”. AI highlights research gaps, recognizes current trends, and supports sustainable HRM practices. Perhaps the

most important sector where AI is crucial is the medical field. Through combining AI technology with human knowledge, the healthcare sector can develop a workforce that is egalitarian, sustainable, and prepared for the future with the aim of improving patient satisfaction. Incorporating artificial intelligence (AI) into employment procedures promotes more inclusive hiring practices and increases transparency. Predictive analytics and AI-powered applicant monitoring platforms aid in long-term talent planning and lower employee attrition, which is essential for long-term workforce management. The creation of flexible work schedules is also made easier by artificial intelligence, which supports long-term labor management. By lowering carbon emissions linked to commuting, for example, tools that facilitate remote work and improve scheduling might lessen their negative effects on the environment (Petre, 2025).

Since AI systems frequently require a reliable and fast internet connection, they were unusable when there were poor internet circumstances, which several participants indicated was bothersome (Lambert et al., 2023). This project aims to raise the degree of specialist knowledge regarding the potential effects of AI on patient satisfaction when it is integrated into human resource management. To enhance patient happiness in the healthcare industry in a sustainable way, the current study offers a theoretical model. Its foundation is the compilation and analysis of specialist human resource management literature. It is becoming more widely acknowledged that developing sustainable HRM is essential to accomplishing organizational sustainability objectives (Petre, 2025).

Since AI and machine learning are having an impact on human resource functions, human resource management is evolving. “Artificial intelligence improves productivity by changing the way that human resource management procedures are carried out (Rouhani et al., 2023)”. In hospital administration, artificial intelligence is a significant step toward sustainability. AI supports sustainable development goals and helps hospitals prepare for future difficulties by encouraging resource efficiency, lowering environmental impact, and enhancing access to healthcare. “Recent developments in machine learning, robotics, and intelligent decision-making systems have propelled artificial intelligence (AI) to a dramatic transformation in hospital management (Pauca et al., 2025)”. Recruitment procedures can be made more successful, efficient, and in line with business objectives by combining AI and human interaction (Ali & Siddiqui, 2023). Resource optimization, one of the most major developments in

hospital administration brought about by AI, has greatly increased the effectiveness of staff planning, medical equipment uses, and bed distribution.

To better distribute resources and shorten patient wait times, hospitals have implemented predictive algorithms that examine vast amounts of historical data to foresee increases in service demand (Paucar et al., 2025). The application of artificial intelligence (AI) in human resource management (HRM) generates new trends and gives companies a novel way to adjust to the ever-changing nature of business operations. AI has the potential to alter how businesses previously interacted with their workforce. Healthcare must be resource-constrained due to the rapidly evolving and high-quality requirements, and AI technologies seem to be the main facilitators for transforming hospital management. This would encompass domains such as supply chain management, financial operations, patient interaction, analytics, data, and operational efficiency (Wullur, 2024). With vast data sets and a burgeoning start-up scene focused on using AI to identify illnesses, India is uniquely positioned to lead the AI and healthcare sectors (Haider, 2020). The sector of human resources will undergo a profound and substantial transformation if AI and machine learning are combined with HR management. Hiring and deploying staff is more effective and economical

when AI and ML-based solutions are used. As a result, it is possible to provide high-quality services by dividing and allocating human resources' labor based on factors including experience, information, specialized knowledge, and physical and mental health (Rouhani et al., 2023). Hospitals' use of AI is essential for spotting glaring anomalies through their fraud detection systems, which carefully review billing and claims data and search for indications of fraud. In turn, this improves billing integrity and protects the hospital from financial loss (Wullur, 2024).

One of the biggest barriers to the use of AI in Indian healthcare is the lack of appropriate infrastructure. Many Indian start-ups have decided to establish outside of India because the majority of cloud computing equipment is housed on servers located outside of the nation. The lack of experts with AI training is another barrier to the adoption of AI in Indian healthcare. The readily accessible labor is not skilled enough to run AI systems effectively (Bajpai & Wadhwa, 2021).

OBJECTIVES

1. To document the usefulness of AI in human resource management in hospitals.
2. To document the challenges in adopting or implementing AI for human resource management in hospitals.

METHODOLOGY

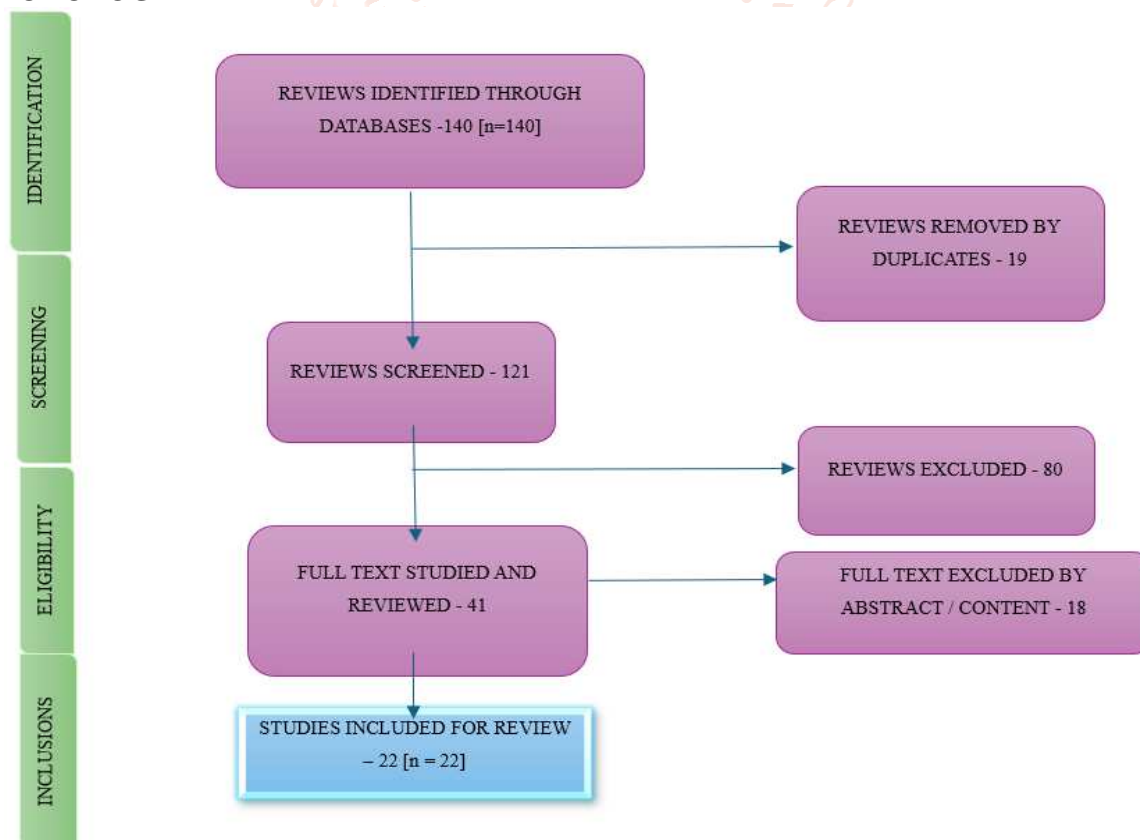


Figure 1: PRISMA flow chart: search strategy and selection

Table 1: The criteria / eligibility for selection for articles

INCLUSIONS	EXCLUSIONS
<ul style="list-style-type: none"> Articles published in English. Articles that highlight AI in hospital human resource management. Reviews and original research published from 2015 – 2025. Papers highlighting administrative or clinical or workplace selected aspect, cast purely technical / clinical studies conducted in hospital / healthcare organizational settings. 	<ul style="list-style-type: none"> Articles published not in English. Non- hospital-based studies Papers focused only on clinical application of AI. Opinion pieces, commentaries, conference abstracts without full texts. Studies before 2015.

RESULTS

AI in Recruitment and Talent Acquisition

According to Yuan, Qi et al. (2022), “human resources are valuable assets for enterprises, and their analysis and forecasting are crucial (Rouhani et al., 2023)”.

Among the many procedures involved in human resource management are hiring, dividing up the work, and luring in the top candidates. Companies must work to increase customer happiness since it is essential to their survival, whether they are in the knowledge management, product, or service sectors (Rouhani et al., 2023).

The growing popularity of AI technologies enables businesses to enhance their hiring, training, and performance management procedures. In the past, hiring managers had to spend hours going through applications and resumes to find qualified applicants. Recruiters can now automate a variety of tasks, including locating prospects, assessing resumes, and even performing preliminary interviews, thanks to the advent of AI-powered hiring tools. AI-powered recruiting solutions that can also use machine learning algorithms to analyze data from job listings and candidate profiles can help recruiters quickly identify the best candidates. These techniques reduce recruiting bias by eliminating the need for human decision-making and evaluating candidates' communication abilities and personality qualities using natural language processing (NLP) algorithms (Shahzad et al., 2023).

In today's digital world, the term "artificial intelligence" has gained popularity. Nonetheless, artificial intelligence is now widely used across a number of industries. The healthcare sector is one significant area that has embraced AI. “The healthcare industry's HR operations have benefited from the use of artificial intelligence to a number of HR procedures, such as performance management, training and development, and the talent acquisition (Shahzad et al., 2023)”.

Although people are more conscious of technology, healthcare delivery has altered. HR professionals must thus keep abreast of the latest technological advancements to recruit, develop, and retain the best talent. Tech-savvy HR managers might have an easier time finding and hiring competent applicants. To publicize job openings and attract a larger audience, utilize online job boards and social media platforms. Furthermore, applicant tracking tools can speed up the hiring process and assist HR managers in managing candidate applications more effectively (Shahzad et al., 2023).

AI deployment will assist the company in cutting expenses in several ways. AI's faster and more powerful performance will increase the procedures' efficacy. Because of AI's capabilities, human specialists are no longer necessary. As a result, human resources will play a different role in business. It will not, however, take the place of human labor in the sector because it is new to the norm to entrust important decisions to machines. Furthermore, it has not yet been established that people can completely trust the capabilities of the industry's machinery (Petre, 2025).

Always working within their means, the hospital should proactively manage payer contracts and create investment strategies that provide long-term sustainable financial stability. First, we have the management, which is another equally important aspect of the hospital's work structure. This involves hiring and selecting procedures, training, and motivating medical and managerial staff that are suitably trained. benefits administration, payroll, and employee training, as well as making sure labor and healthcare regulations are followed (Wullur, 2024).

Even though AI has many potential benefits for HRM, there are many obstacles in the way of integration. Given that they are in charge of the system and that a larger workforce is involved, the main dependencies may be data security issues and HR professionals' resistance to change (Wullur, 2024).

AI-powered HR systems boost employee output (Oyetunde et al., 2022). According to Toh et al. (2019), by concentrating on employee needs and results, it may assess, forecast, diagnose, and grow into a more capable asset. According to Wamba et al. (2017), companies should use AI technologies that complement their business culture and needs. Additionally, they had to produce the required digital maps (Goswami et al., 2023).

The characteristics of the existing technology and how easily an organization may adapt new technology are the main factors influencing AI adoption (London, 2019; Sharma et al., 2022a). According to Bhardwaj et al. (2020), technological preparedness encompasses all of a company's internal and external technology as well as how they are used in the workplace (Goswami et al., 2023).

To manage automated smart machines, digitize data, and successfully apply AI in healthcare, trained healthcare personnel and specialized training are needed (Ajmera and Jain, 2019). A workforce that is specially trained to prevent data theft is necessary due to the requirement to handle sensitive health information with extreme caution (Ajmera and Jain, 2019). The capacity to use AI systems efficiently and to decide the best outcomes may be compromised if readily available informaticians and analysts lack the abilities to provide the essential support, leaving a lot of information unaccounted for (Patil, 2018), (Haider, 2020).

In India, AI technology has been useful in combating COVID-19. Preliminary screening of COVID-19 cases, coronavirus containment, contact tracing, quarantine and social distancing enforcement, suspect tracking, pandemic tracking, COVID-19 patient care and remote monitoring, vaccine and medication research, and more have all benefited from it. There are numerous obstacles in India's way of implementing AI-driven healthcare (Bajpai & Wadhwa, 2021).

The impact of other people's opinions on research participants' belief that they should adopt AI systems has been described in several studies. The findings of research on social influence were discussed in relation to how it influences workplace communication and decision-making.

AI has so far been developed in the healthcare industry to offer effective and practical solutions for both patients and healthcare professionals. In this area, artificial intelligence (AI) is being developed to help medical professionals, including doctors and nurses, make decisions, diagnose, prognosticate, treat, and relieve themselves physically taxing chores. They aren't being expanded into bigger environments, though (Lambert et al., 2023).

In today's world, modern firms' most important resource—their workforce—is essential to their success. Artificial intelligence (AI) technologies are having a big impact on many aspects of professional life because they are becoming more and more crucial in simplifying and enabling different HRM tasks. According to research, artificial intelligence has become a major trend in the business sector, having a big influence on many companies' HR operations by speeding up the hiring process. The effectiveness and efficiency of HR operations have been linked to the incorporation of artificial intelligence into HR management. This covers the hiring and selecting procedures as well as the engagement and well-being of employees (Joshi et al., 2024).

As a result, the HR division can step in to address these issues, improving employee performance and reducing attrition. The HR department can use data to identify the abilities that are now in high demand and those that are becoming obsolete, since workforce optimization includes training and skill upgrading (Joshi et al., 2024).

By offering innovative solutions, the use of AI tools in the hiring process has changed the employment market. Artificial intelligence has been widely used in hiring experts since 2018 by many companies, finally becoming a major trend in the sector. Because AI-driven recruiting systems and algorithms make it easier to automate candidate sourcing and search as well as match candidates with employers, they have proven to be extremely helpful in selecting qualified applicants from a large pool of applicants with a variety of profiles. Additionally, companies must hire many recruiters to go through and evaluate the large number of job applications, which adds to the expense. However, digital technologies have shown themselves to be quite successful and efficient in these situations (Joshi et al., 2024).

AI systems are data-driven and frequently overlook human aspects in favor of generating decisions based entirely on data. This could lead to the loss of ideal candidates, particularly those from older generations who may possess a wealth of knowledge but are not familiar with AI-powered application monitoring systems (Ali & Siddiqui, 2023).

Human resource management (HRM) is defined by researchers using broadly complementary definitions. A qualified workforce must be hired and developed as part of HRM in order to fulfill company goals and

objectives. It is an approach to personnel management that aims to retain a talented and committed workforce by employing tactics such as people, structural, and cultural ways to obtain a competitive advantage. With an emphasis on retaining new people and preserving their satisfaction, HRM methods encompass recruitment, personnel management, recruiting, and development.

Internal workflows and a variety of HRH-related tasks, including hiring (selecting and recruiting) new employees, training, data processing, evaluation, social connections, and talent management, could be significantly improved by artificial intelligence (AI) in HRH. A successful AI implementation in HRH can increase the efficacy and overall efficiency of the hospital and improve the quality of services offered by drawing in more skilled, qualified applicants and assisting present employees in improving their performance and productivity. Even though hospitals have been gradually incorporating AI into their routine HRH processes at differing speeds, it is clear that the industry will be greatly impacted if the technology becomes more widely used (Rascão & Marques, 2023).

Tactical and operational management oversees the supply, the delivery of health services, and institutional communication with the public (internal and external). It also organizes the elements involved in providing health services to patients, establishes the goals to be met, as long as they align with the available resources, and controls their implementation. Additionally, it is in charge of hiring, choosing, educating, and inspiring the employees of the business or organization. carries out tasks such conducting interviews with potential employees, paying compensation, evaluating employee performance and promoting them, creating and implementing programs to prevent occupational risks, etc. (Rascão & Marques, 2023).

Clinical practitioners' decision-making processes in the healthcare industry are evolving due to AI. Healthcare practitioners can use AI to help with disease diagnosis, treatment planning, outcome prediction, and population health management. AI can also increase user satisfaction and engagement, as well as the effectiveness and quality of healthcare decision-making.

AI is a quickly developing field that could revolutionize diagnosis, treatment, management, and prevention in the healthcare industry (Khosravi et al., 2024).

When making decisions about healthcare management, AI trustworthiness and ethics are crucial. It is crucial to guarantee the dependability and moral integrity of AI-driven conclusions as they become more integrated into managerial decision-making. The openness and reliability of AI systems that influence important choices about patient care, resource allocation, and operational efficiency should be given top priority by corporate leaders in the healthcare industry. For example, a data breach may result from an organization's inadequate client security and privacy rules. This situation could lead to a significant drop in the number of customers, a loss of trust, a decrease in the ability to compete for staff, and a drop in stock market values. Protecting data privacy, reducing algorithmic bias in recommendation systems, and resolving moral conundrums in care and other managerial choices are all examples of ethical concerns (Sallam et al., 2024).

It's crucial to note that creating technology just for doctors won't address the HR crisis. Participation from all medical experts is required.

The entire therapeutic process, however, is not covered by AI; human interaction, empathy, and effective communication are still crucial. Trust and personal relationship cannot be replaced by any software, application, or gadget (Meskó et al., 2018).

HR is responsible for making sure that every employee is treated fairly and equally and that choices about hiring, selection, promotion, and training are made objectively and without any indication of discrimination. Whether or not employees can be regarded as a genuine competitive advantage of the company depends on how they are treated.

The idea is especially crucial to the organization's rules regarding management performance, equal compensation for equal effort, and the hiring and selection process (Stoilkovska et al., 2015).

Each company must first establish its tasks, talents, and competencies in addition to deciding on the selection criteria.

A quality that the candidate must have in order to successfully complete the tasks at work is known as the selection criterion (Stoilkovska et al., 2015).

AI in Training and Professional Development

Digital technology in human resources improves workforce forecasting, planning, and decision-making, which in turn improves organizational performance. Machine learning is a useful method for accomplishing this since it allows computers to mimic human brain processes and recognize patterns (Priya and Sinha 2022).

The efficiency and efficacy of human resource management tasks have been found to increase with the integration of machine learning. It is possible to optimize organizational operations and enhance the employee experience by utilizing machine learning technologies (Garg, Sinha et al. 2022), (Rouhani et al., 2023).

It is possible to measure people's performance by using artificial intelligence, machine learning, and employee information evaluation (Nawaz 2020), (Rouhani et al., 2023).

Public healthcare administrators can create initiatives and tactics to lessen adverse effects in the workplace by recognizing and understanding emotions. Positive leadership practices can raise employee satisfaction, which will raise the caliber of services rendered (Rouhani et al., 2023).

There are several advantages to establishing a workplace that encourages openness and guards against emotional tiredness brought on by inadequate social connection between managers and healthcare professionals (Rouhani et al., 2023).

AI makes it possible to customize employee learning paths, which improves worker flexibility and skill development. A key component of social sustainability in businesses is long-term employee engagement, which is fostered by personalized learning.

It is becoming more widely acknowledged that developing sustainable HRM is essential to accomplishing organizational sustainability objectives. By including social, environmental, and economic factors, it goes beyond conventional HRM techniques. Meanwhile, by offering tools for automation, prediction, and decision-making, artificial intelligence (AI) is revolutionizing commercial processes, including human resource management.

Depending on specialist knowledge about the impact of AI on patient satisfaction when included in human resource management is the aim of this study (Petre, 2025).

Enhancing staff competencies through focused training improves healthcare professionals' capacity to meet patient requirements. Higher levels of patient satisfaction are a result of more responsive and flexible staff members. Faster response times and more effective service delivery are the results of streamlined human resource procedures. These enhancements have a direct impact on improving operational performance and patient happiness in healthcare facilities (Petre, 2025).

The hospital's business activities are complex at this point. They play a vital role in ensuring the institution's smooth operation, patient care, and organizational financial stability. Although AI systems cannot handle every nuance of performance management and appraisal, they do offer what may be the most rapid and resource-efficient means of evaluating human work. This backs a strategy that bases judgments about promotions and terminations on thorough and trustworthy data assessments (Wullur, 2024).

The use of AI in the Indian pharmaceutical industry is still in its infancy, despite the possible advantages of AI-powered HRM procedures (Pillai et al., 2022). Additionally, the technology should be in line with the HR activities and functions needed in the Indian pharmaceutical industry when it comes to AI-powered HRM practices (Pandey, 2020; Mahmoud, 2021; Prikshat et al., 2023).

Every company will have different AI needs and efficiency targets. Organizations must have access to AI and enough time to implement it if they want to reap the full benefits of adopting it in hiring. This is since many firms, whether they are aware of it or not, think they want to use artificial intelligence. They might not need this degree of effectiveness or quality, or they might not have the technical know-how to put it into practice. Prioritizing long-term organizational improvements is important, and we should endeavor to create strategies for training machines and people to identify staff competencies that will ultimately benefit the business. To improve their efficiency and productivity at work, people could think about automating certain jobs. After this initial investigation is over, a plan for automating the application of AI can be created. Future HR departments will increasingly embrace AI, especially when interacting with candidates and helping them get ready for interviews (Goswami et al., 2023).

AI applications in hiring and selection offer more efficient and objective methods that improve the caliber of hires. Additionally, employee training programs and performance evaluations benefit from AI's analytical skills, which enable individualized growth plans and performance evaluations based on trustworthy data. The use of AI-enhanced HRM methods fosters a more vibrant and stimulating workplace that prioritizes opportunity, justice, and individual development (Wullur, 2024).

Upper management and HR leaders should be aware that incorporating AI into the HR system may offer advantages for the entire business, not just the HR division. Organizations must have the requisite technical capabilities, be ready, and comprehend the advantages of deploying artificial intelligence. Prior to creating a plan for incorporating AI into the current system, HR managers and executives should carry out research. Determining which jobs, procedures, and processes require modification can be the initial step. To improve their efficiency and productivity at work, people could think about automating certain jobs (Goswami et al., 2023).

Recruiting the expertise and resources required for artificial intelligence development presents increasing obstacles and financial limits for public health organizations (Panch et al., 2019). Limited resources and inadequate data backup methods are particularly problematic for smaller health sector organizations (Ajmera and Jain, 2019; Patil, 2018).

Many people think that the person who develops the software should be a regulated agent when it comes to AI in healthcare (Paul et al., 2018; Mohandas, 2017). Guidance on establishing limits in the healthcare industry where AI cannot take control should also be provided (Mohandas, 2017), (Haider, 2020).

The acceptability of the outcomes produced by AI algorithms is one of the problems preventing AI from being widely used in Indian healthcare (Paul et al. 2018).

The development would produce a safe, simple, and efficient AI system by taking into account the skills, traits, and limitations of healthcare personnel. Due to the involvement of healthcare professionals in its development and the ease with which it could be incorporated into clinical processes and routines, the emerging system would be highly accepted (Lambert et al., 2023).

By encouraging staff development and upskilling using digital platforms, the HR department can improve employee satisfaction and streamline operations. AI algorithms can be utilized to analyze the skill sets and areas for improvement of employees based on patient feedback and employee history. This data can be used to offer suitable educational options that correspond with changing company requirements.

Artificial intelligence (AI)-powered chatbots and virtual assistants are being used by HR departments to offer personalized support. Employees are no longer needed to physically supervise and manage time-consuming, labor-intensive daily tasks, allowing them to focus on important work that improves their engagement at work (Joshi et al., 2024).

Since the human mind is accustomed to doing things in the old-fashioned way, it is often terrifying of change. The use of new approaches is met with resistance from healthcare managers as technology advances. Due to their lack of knowledge, comprehension, and experience, top-level management at healthcare organizations are discouraged from implementing technology methods to enhance HR activities. If HR managers believe there is a high degree of danger, they are also less likely to use AI techniques. In a similar vein, Bankins (2021) identified that workers may become antagonistic toward the use of AI tools in some situations because they fear losing their employment to automation (Joshi et al., 2024).

Because it has the potential to influence workplace reform, this research is important. Organizations must comprehend how AI can support HR operations, particularly in recruiting and selection, if they want to remain competitive in today's market. Hiring outcomes can be improved by identifying best practices and reducing potential hazards associated with AI deployment.

Understanding how AI technology will affect HR procedures as they evolve is essential. This research can help clarify how to optimize the benefits of integrating AI while ensuring its equitable and ethical use. Investigating how AI affects HR can also result in the creation of innovative HR strategies and techniques that will assist companies in adjusting to and thriving in an AI-driven future (Ali & Siddiqui, 2023).

Hospital Human Resources. Assessing artificial intelligence's positive aspects is also part of the plan, as is looking for the many opportunities it can present to hospitals and management alike. AI presents the cutting-edge technological realm that enables machines to perform large, repetitive activities without human assistance.

This enables the healthcare organization to expand successfully and efficiently by allowing its employees to work in various capacities. By gathering information and organizing data (stored facts) pertinent to the immediate outcome, artificial intelligence will assist hospital human resources management. Time, people, materials, equipment, and money are all saved by AI (cost reduction) (Rascão & Marques, 2023).

According to the literature, AI systems have demonstrated success in a variety of medical imaging use cases, including the detection of mitosis in breast cancer histology images, dermatologist-level accuracy in skin cancer classification, the diagnosis of diabetic retinopathy from retinal fundus photos, and the prediction of cardiovascular risk factors from retinal fundus photos. This research shows how AI systems may help medical professionals give more individualized and customized information, as well as help with diagnosis and prognosis (Khosravi et al., 2024).

For enterprises and their executives to remain competitive in the future, artificial intelligence must be successfully incorporated into strategic decision-making processes. Recent research has focused a lot of attention on the use and debates around artificial intelligence (AI) in healthcare companies' managerial decision-making process. Researchers investigated differing opinions about how AI-powered tools and algorithms might improve the efficacy and healthcare decision-making. Peer-reviewed research demonstrated AI's capacity to evaluate enormous volumes of medical data, helping management and doctors make data-driven choices about patient outcomes, treatment strategies, and resource allocation. Additionally, research highlighted the need to guarantee AI's ethical and structural use in healthcare decision-making, including data privacy and bias (Sallam et al., 2024).

A nation may save money by investing in an AI-based decision-support system that could assist doctors in making better choices, which would result in fewer needless hospital stays.

However, less developed nations may be more receptive to legislative reforms that would encourage the use of these technologies, which would result in a wider uptake than in more developed areas (Meskó et al., 2018).

Therefore, it can be said that the HR department and managers themselves bear the responsibility of carrying out the hiring and selection of human resources. By supervising the integration of the equality policy into all facets of HR policies and organizational procedures (Stoilkovska et al., 2015).

Since many firms typically get a large volume of job applications, the hiring process may present significant challenges for HR managers. However, there is no next step, indicating that these candidates have already been chosen, if the number of qualified applicants meets the number of openings. But hiring involves more than merely posting a job. This is because the goal of recruitment is to find the right candidates (Stoilkovska et al., 2015).

Many businesses have made meeting the demands of their consumers their top priority since doing so is essential to succeed in today's fiercely competitive environment (Urkude, Urkude et al. 2021), (Rouhani et al., 2023).

Businesses who are able to leverage emerging technology have more success. The facial recognition feature is crucial for the employment process and task distribution (Rouhani et al., 2023).

According to the findings of this systematic study, artificial intelligence significantly affects hospital management's sustainability in three important areas: lowering environmental impact, increasing access to healthcare, and optimizing costs (Paucar et al., 2025).

This also applies to health and treatment facilities. The demand for emergency services has increased recently as a result of the rise in illnesses. On the other hand, it is feasible to identify people's outward traits and analyze their feelings because of the shortage of personnel, overcrowding in medical facilities, weariness, and people's mental and psychological stress. better outcomes when tasks were divided (Rouhani et al., 2023).

Healthcare professionals can benefit from possibilities for training and growth using technology awareness. Virtual classrooms, webinars, and e-learning platforms can all be used to deliver training materials and keep staff members abreast of best practices and developments in the industry (Shahzad et al., 2023).

An organization's capacity to draw in top personnel may be impacted by perceived risk. Prospective employees use technology to take chances and advance their field. The efficacy of training and development initiatives can also be impacted by perceived risk. Workers may be less inclined to voice issues or offer feedback if they believe doing so might put them at risk. Establishing a culture of trust, openness, and unambiguous communication with employees must be a top priority for firms since perceived risk affects them (Shahzad et al., 2023).

AI in Employee Performance Management

Since AI-driven simulations and interactive modules significantly increase the efficacy and efficiency of such programs, individualized learning experiences portend the next revolution in training and development. Therefore, these AI-driven tools would be more beneficial and adaptable to the learning styles and needs of the employees in addition to matching the type of training outcomes that the firms demand (Wullur, 2024). With this information, HR managers can quickly recognize and reward top performers, encouraging others to develop their own creative skills. AI systems may provide workers with real-time feedback and identify areas for improvement, which promotes continuous professional development. Human Resources professionals can use technology to evaluate employee performance and give feedback (Shahzad et al., 2023). Digital technology adoption enhances information sharing and collaboration among all stakeholders, which boosts organizational performance. Artificial intelligence therefore has a big impact on performance management since it offers quick and personalized ways to raise worker performance (Joshi et al., 2024).

AI for Workforce Retention and Engagement

Employees who are at risk of disengagement or turnover can be identified by AI systems using sentiment analysis. This makes it possible to implement proactive measures that enhance job satisfaction, lower attrition rates, and promote continuity of treatment, all of which are critical elements of a reliable and efficient healthcare system (Petre, 2025).

Data mining, machine learning, and neural networks are examples of AI technologies that have completely changed human resource management and made it possible for the emergence of new workplace capabilities that were previously only imagined. Considering this, it is easy to see how traditional HR methods, which were largely trial-and-error management systems, gave way to a new, radical dependence on technology and data-driven methods. Taking advantage of the rapid advancement of technology, this new strategy aims to demonstrate significant gains in organizational performance (Wullur, 2024).

Furthermore, the HR department can identify patterns of poor performance, frequent absenteeism, and other factors that affect overall productivity. For example, data may reveal that a certain department often experiences high staff turnover rates, which could be associated with certain management practices or work environments (Bajpai & Wadhwa, 2021).

HRM management and retention are top considerations for manufacturing companies that value innovation for a competitive edge and enhanced performance. HRM is today seen as a useful strategic tool for hiring and managing staff, having grown in scope throughout time (Ali & Siddiqui, 2023).

The application of HRM methods that guarantee the long-term welfare of workers, effective use of resources, and organizational resilience is known as a sustainable HRM system.

This idea covers several important topics, such as:

- Employee retention and engagement.
- Diversity, equity, and inclusion.
- Work-life balance.
- HRM practices that are environmentally conscious (Paucar et al., 2025).

Several of the included studies addressed the opinions of healthcare professionals regarding organizational support for the system's use. Legal liability, organizational infrastructures, and the culture of adopting or rejecting AI systems were the primary discussion topics on this subject. (Lambert et al., 2023).

There are at least three main causes of the healthcare workforce crisis: a global lack of doctors, physician aging and burnout, and an increase in the need for chronic care. A successful healthcare system depends on the availability, accessibility, acceptance and quality of health personnel. The aging workforce is another issue, and the need-based shortfall of healthcare workers worldwide is estimated to be 17.4 million (Meskó et al., 2018).

AI system adoption is influenced in the same way as the introduction of any other new instrument. However, increased resistance quickly results from the expected human-like behavior and the less predictable management of complicated situations. Instead of studying acceptance, the inventors of these systems focus on acceptability. This is typically linked to concepts like transparency or comprehensibility, which are meant to directly result in acceptability. This is used at the technical and legal levels as well as in management-level deployment choices. Such methods fail to capture the degree of acceptability of user and should be assessed directly. Acceptability can only be traced back to acceptance through this stage (Lambert et al., 2023).

Technology helps HR managers keep an eye on employees' performance and provide ongoing feedback as needed. Healthcare companies use artificial intelligence (AI) to monitor employee performance data, such as productivity, patient outcomes, and protocol adherence, highlighting both the individual's strengths and opportunities for development. This evidence can then be used to create targeted performance improvement plans for every person. By evaluating data from many sources, such as computerized patient satisfaction records and routine employee performance evaluations, artificial intelligence (AI) can be used to improve performance management (Joshi et al., 2024).

Due to the challenge of establishing precise standards for every resource, every company faces significant challenges while putting in place a system for evaluating the performance of its infrastructures, services, technology, and human resources. This organization benefits greatly from artificial intelligence. The AI platform assists HR managers in concentrating on equipment, personnel relations, prompt decision-making, and all associated resources. This clever AI technology automates every administrative task. Human nature allows us to express our feelings in a variety of contexts. It changes based on the various situations. For the creation of a flexible system, it is critical to have a thorough understanding of the opinions, sentiments, and views of employees (Rascão & Marques, 2023).

This covers duties including staff engagement, retention, and talent acquisition. Organizations in this industry are more likely to employ technology if it is well-suited to these activities. Other elements, including organizational and individual considerations, may also have an impact on technology adoption, according to the task technology fit theory (Goodhue and Thompson, 1995; Lin, 2014; Alyoussef, 2023) (Goswami et al., 2023).

Despite being insightful, this study has limits because it only looks at a small number of AI models and managerial problems, which is problematic given the speed and scope of AI technology improvements. The wide spectrum of AI applications in healthcare administration may not be well represented by these selections. Additionally, because AI technology is dynamic, our results may change over time, underscoring the importance of carefully interpreting and using them. The study's sample size is another significant drawback; it may be insufficient to fully represent the diversity found in healthcare administration or to cover a wide range of viewpoints. Furthermore, the results could have been impacted by any biases in the participant selection process, which would have compromised the validity of the conclusions reached (Sallam et al., 2024).

AI in Hospital Human Resource Management

Hospitals and health centers are intricate institutions that deal with people's lives and health; therefore, they require management that is modern, effective, and scientific. Physicians, nurses, midwives, dentists, pharmacists, paramedics, technicians, managers, and supervisors are examples of human resources in hospitals that work to enhance patient care. In order to strengthen hospitals, the workforce is therefore essential (Belhaj and Tkiouat 2013). One of the most crucial tasks in human resource management is matching the appropriate person with the right job. A productive employee can be one who is in the correct mental state (Rouhani et al., 2023). Building a talented and capable team is essential to providing patients with outstanding healthcare services. Healthcare organizations may ensure that patients receive excellent care if they have the correct personnel in place (Ramadevi, Gunasekaran et al., 2016), (Rouhani et al., 2023).

The term "artificial intelligence" has become popular in today's digital environment. Nonetheless, artificial intelligence is now widely used across several industries. The healthcare sector is one significant area that has embraced AI (Shahzad et al., 2023).

Data on employee performance can be analyzed with the aid of information technology to find trends and patterns. Artificial intelligence (AI) can help detect possible performance problems and offer coaching and training to boost worker performance. In a complex and demanding hospital setting, technology knowledge in healthcare organizations has greatly impacted HR management's decision to implement advanced artificial intelligence that performs tasks that were previously completed by humans (Shahzad et al., 2023).

To optimize the advantages of artificial intelligence, enterprises must control the perceived dangers involved in its implementation. Furthermore, the degree of artificial intelligence adoption in HR operations is heavily influenced by social media influence and individual inventiveness. For artificial intelligence to be successfully adopted and used in HR tasks, healthcare organizations must encourage cooperation between HR specialists and technology specialists (Shahzad et al., 2023).

The fight to develop the finest AI in the market is still going strong. AI's recent advancements have created numerous potential for its application in the healthcare sector. When weighed against technological

advancements, it will raise the likelihood that AI will soon be fully integrated into healthcare systems (Wullur, 2024).

According to recent studies, the healthcare sector has benefited greatly from the widespread use of artificial intelligence. To develop the finest artificial intelligence, numerous start-ups, research institutes, and large corporations are competing. Some of them are vying to develop AI that can address issues facing the healthcare sector. Many AIs are currently available for use in the industry, but many issues remain unresolved and opportunities remain untapped. Innovation and difficulties have a positive link; when innovation arises, it will inevitably lead to problems (Wullur, 2024).

Experimental research on AI in the healthcare industry is scarce and mostly concentrates on showcasing AI-implemented pilot projects and providing some data on the alleged outcomes of these efforts. By identifying the most recent trends in AI deployment in HRM of healthcare companies through a comprehensive analysis of both empirical and theoretical research, our work adds to the body of knowledge already available on the effects of AI in the healthcare industry (Joshi et al., 2024).

The effectiveness of AI as an innovation will mostly depend on how widely it is adopted and used. A methodical strategy and tools to evaluate and improve AI credibility and dependability are therefore essential as healthcare organizations rely more and more on AI for important decision-making. High-quality governance is necessary for the development and effective use of AI in order to safeguard data and frameworks that enable the production of reliable AI products. As a result of artificial intelligence's rapid progress in managing complicated tasks, many AI-powered products and services now have more autonomy when making decisions, which has an impact on both people and businesses. This is especially true for healthcare administrators and providers, who face the crucial task of guaranteeing the validity and dependability of AI-generated information in the face of AI's potential to completely transform the sector (Sallam et al., 2024).

Broader Applications of AI in Hospital Management

The term "artificial intelligence" has become popular in today's digital environment. Nonetheless, artificial intelligence is now widely used across a number of industries. The healthcare sector is one significant area that has embraced AI (Shahzad et al., 2023).

The optimistic view of science, which aims to characterize, explain, and forecast phenomena using quantifiable and verifiable facts, forms the basis of the epistemological approach used in the study of artificial intelligence (AI) as a tool for innovation in hospital management. Empiricism and deductive reasoning are in line with artificial intelligence (AI), which is inherently linked to the analysis of vast volumes of data (Big Data) and the application of algorithms for decision-making. Accordingly, the application of AI in hospital administration aims to streamline procedures by utilizing predictive models that have been verified by observational research, clinical trials, and controlled simulations (Sadeghi & Vargas, 2020) (Paucar et al., 2025).

Apart from telemedicine, another important aspect of hospital administration has been the use of AI to automate administrative procedures. Automated solutions lower operating expenses and free up administrative staff from repetitive work by enabling quicker and more accurate inventory management, appointment scheduling, and billing (Davenport & Kalakota, 2022) (Paucar et al., 2025).

A security concern is also presented by the vast volumes of private health data that are accessible online via the cloud computing environment, which are required to implement AI in the healthcare industry. One of the biggest obstacles to the effective adoption of AI in the healthcare industry is cybersecurity concerns (Ajmera and Jain, 2019), (Haider, 2020).

Patient care and operational efficiency were enhanced by the use of electronic health records and adherence to data privacy protection through technological security. Hospitals may maintain patient safety while providing high-quality care by adhering to rules and standards thanks to quality assurance and compliance (Wullur, 2024).

The quality of healthcare services has been analyzed from a variety of perspectives. According to a patient-centered viewpoint, it is impacted by emotional needs, privacy, respect, emotional support, engagement in treatment decisions, personalization of care, and access to tailored information (Petre, 2025).

Although there are some open-source data examples in India, such as the National Cancer Registry, they are not enough (Mohandas and Ranganathan 2017) (Bajpai & Wadhwa, 2021). Numerous researchers and businesses, including TCS (Tata Consultancy Services) and KPMG India, have also created machine-learning models to

identify at-risk groups nationwide and forecast the disease's severity (KPMG 2020; Ghosh, Ghosh, and Chakraborty 2020; Shinjini 2020) (Bajpai & Wadhwa, 2021).

It's interesting to note that radiology appears to have more established AI-based diagnostic process assistance technologies than other medical specialties³⁰. This suggests that healthcare practitioners' acceptance of AI varies depending on their specialty.

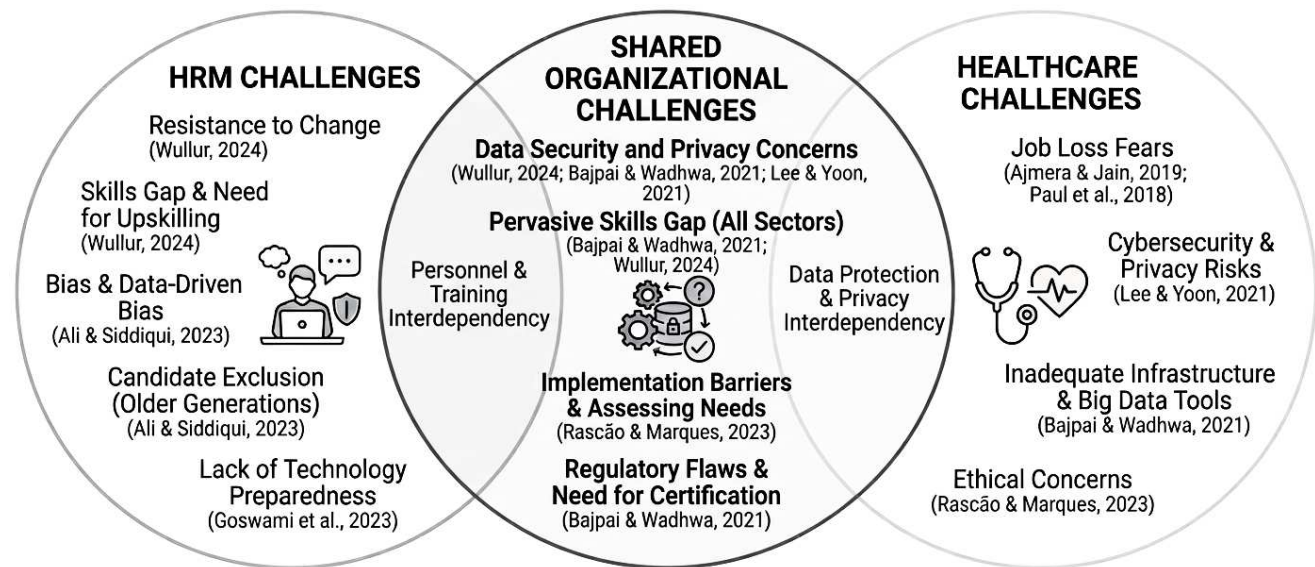
Many businesses and organizations have already demonstrated how AI may assist reduce costs and/or enhance treatment quality.

Deepmind Health collaborated with the Moorfields Eye Hospital NHS Foundation Trust to analyze one million anonymized eye scans and medical information to improve eye care. IBM released Watson Oncology to provide clinicians with evidence-based therapeutic alternatives as well as a sophisticated tool for evaluating the context and meaning of organized and unstructured data in clinical notes and reports.

Zorgprisma Publiek helps hospitals and caregivers in the Netherlands reduce unnecessary patient hospitalizations by analyzing digital bills from insurance companies using IBM Watson in the cloud (Meskó et al., 2018).

Challenges and Risks in AI Adoption

CHALLENGES AND RISKS IN AI ADOPTION



1. Cross-Sectorial Interdependencies and Core Risks

Several systemic barriers apply universally across all organizations attempting to integrate AI. These core dependencies often form the main obstacles to successful integration.

- **Data Security and Privacy:** Concerns about "data security issues" and "data theft" are central. The increasing use of data for analytics amplifies cybersecurity risks for security and privacy (Wullur, 2024; Bajpai & Wadhwa, 2021; Lee & Yoon, 2021).
- **The Critical Skills Gap and Upskilling Necessity:** Every business faces difficulty in implementing a system for assessing its technological and human resource needs (Rascão & Marques, 2023). A profound skill gap exists, with organizations lacking "professionals with AI training," meaning that "the readily accessible labour is not skilled enough to run AI systems effectively" (Bajpai & Wadhwa, 2021; Wullur, 2024). This necessitates coordinated upskilling programs to ensure that "continuous growth of HR experts" can occur (Wullur, 2024).
- **Fear of Job Loss:** A significant cultural and economic barrier is the widespread worry that automated and robotic technologies "may result in the loss of human jobs" (Ajmera and Jain, 2019; Lee & Yoon, 2021). In some contexts, this fear is so powerful that negative press stories claiming "AI threatens jobs" have hindered start-ups' ability to obtain funding (Paul et al., 2018).

2. Specific Challenges in AI-Driven Healthcare

The healthcare industry faces complex challenges rooted in ethical responsibility, technical infrastructure, and the nature of medical practice.

- **Infrastructure and Technical Gaps:** The primary obstacles include "unstructured data sets, interoperability problems, a lack of open medical data sets, a lack of analytics tools that can work with big data, a lack of funding, and inadequate infrastructure" (Bajpai & Wadhwa, 2021).
- **Ethical and Regulatory Lacunae:** Ethical concerns are significant because AI can "jeopardize patient privacy, safety, and preferences." Crucially, existing ethical standards and regulations for AI in healthcare are not "keeping up with the rapid advancements in the field," resulting in regulatory flaws (Rascão & Marques, 2023; Bajpai & Wadhwa, 2021).
- **The Non-Replaceable Human Element:** A critical risk is the failure to recognize that "the entire therapeutic process... is not covered by AI." Core human attributes such as "human interaction, empathy, and effective communication," alongside "trust and personal relationship," cannot be replaced by any software (Meskó et al., 2018).

3. Specific Challenges in AI Integration within HRM

Within Human Resource Management, the main dependencies hinge on organizational culture and the limitations of data-driven selection.

- **Resistance and Organizational Preparedness:** A primary dependency is "HR professionals' resistance to change," which demonstrates a profound lack of technology awareness and readiness within the workforce (Wullur, 2024; Pillai et al., 2022). For successful adoption, HR staff must understand "how AI fits into the larger company plan" (Goswami et al., 2023).
- **Bias, Dehumanization, and Skill Exclusion:** AI systems are data-driven and "frequently ignore human variables" (Ali & Siddiqui, 2023). This leads to several major risks:
 - **Data Bias:** Because "humans supply the data," there is a danger that "human biases could affect the results" (Ali & Siddiqui, 2023).
 - **Candidate Search Exclusion:** If candidate searches rely solely on keywords, the pool of potential applicants is reduced. This can lead to the loss of "ideal applicants... especially those from older generations," who have experience but might be "unfamiliar with AI-powered application monitoring systems" and fail to include pertinent keywords in their resumes (Ali & Siddiqui, 2023).

DISCUSSION

Core Function Transformation Human resources are the most valuable organizational assets, making their analysis crucial, particularly in hospitals (Yuan, Qi et al., 2022). Effective use of AI in recruitment directly influences workforce quality and patient outcomes. AI-powered recruitment tools, highlighting abilities to automate screening and interviews (Shahzad et al., 2023), improve efficiency but raise concerns about unintentionally overlooking qualified candidates who deviate from predefined algorithmic patterns. This demonstrates that while AI speeds hiring, human oversight remains necessary to balance efficiency with fairness.

The healthcare sector benefits by widening candidate pools through digital platforms (Shahzad et al., 2023). However, skepticism about entrusting key decisions to machines persists [(Petre, 2025), (Wullur, 2024)], reflecting larger high-stakes trust issues in hospitals. Another critical dependency is the growing need for upskilling HR professionals [(Wullur, 2024), (Goswami et al., 2023)]. For hospitals, training investments are as essential as AI tools; parallel development is vital for AI-driven potential to materialize.

In India specifically, lack of structured data, insufficient AI-skilled workforce, and regulatory barriers (Bajpai & Wadhwa, 2021) limit transformation, emphasizing the need for contextual strategies aligned with local realities, ethical concerns, and training rather than replicating Western models.

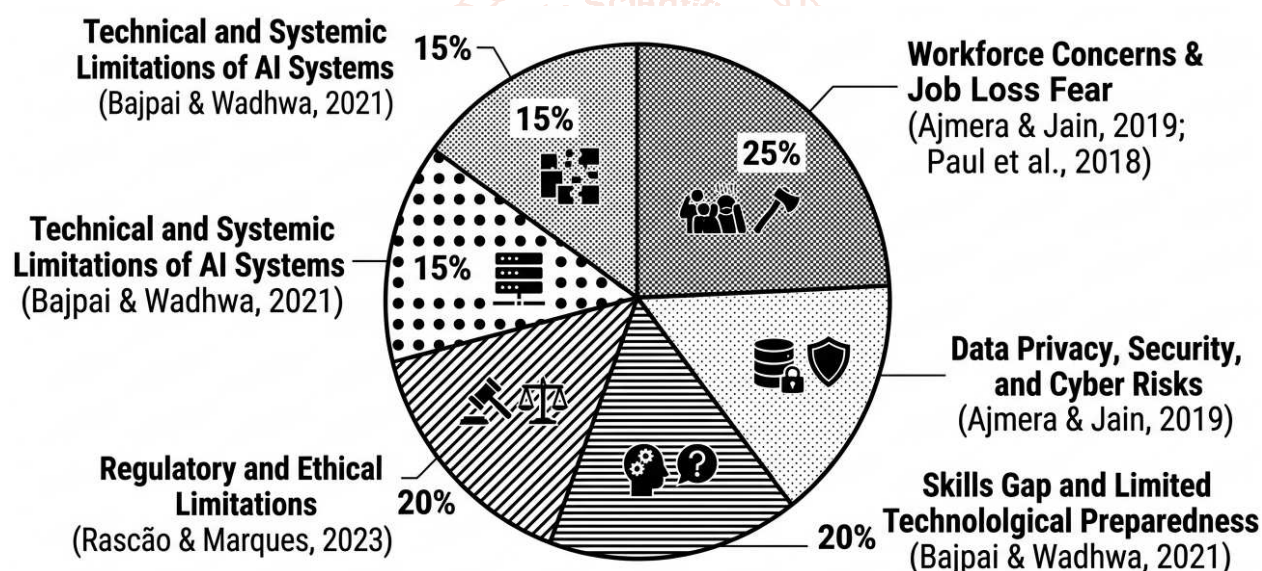
Learning, Development, and Retention Digital technologies anticipate labor demands and optimize training (Rouhani et al., 2023), but healthcare organizations struggle to align these technologies with workforce realities and long-term planning. Machine learning drivers better performance measurement and training personalization (Priya & Sinha, 2022; Garg et al., 2022; Nawaz, 2020), but evaluations must not become strictly mathematical numbers; performance also requires empathy and patient trust—areas where AI cannot fully substitute, showing AI should complement rather than replace human professional judgment.

AI-driven training modules foster flexibility (Wullur, 2024) and personalized engagement (Petre, 2025). Yet, in Indian healthcare, resistance and limited resources remain key barriers [(Shahzad et al., 2023), (Haider, 2020), (Bajpai & Wadhwa, 2021)]. AI links employee development to patient satisfaction (Petre, 2025), but pharmaceutical and healthcare industries remain in early stages of adoption (Pillai et al., 2022). Technical training must include ethical awareness to counter perceived threats to job security (Bankins, 2021).

AI also facilitates performance identification both in clinical and non-clinical healthcare sectors, identifies employee sentiments [(Petre, 2025), (Wullur, 2024)], and fosters sustainable HRM [(Paucar et al., 2025), (Lambert et al., 2023)].

Operations and Operational Realities A primary hospital task is matching the appropriate person with the right job (Belhaj and Tkiouat, 2013; Rouhani et al., 2023), requiring a judgment of the "right mental state" that current AI systems cannot fully replace. Building talented teams (Ramadevi, Gunasekaran et al., 2016) faces algorithmic data pattern risk, potentially overlooking talent in resource-limited rural contexts, especially in India (Rouhani et al., 2023).

Automation reduces administrative burdens (Davenport and Kalakota, 2022; Paucar et al., 2025), but cybersecurity remains a significant obstacle (Ajmera and Jain, 2019; Haider, 2020). Indian fragmented data forcing reliance on foreign data creates algorithms that ignore local demographics (Mohandas and Ranganathan, 2017; Bajpai & Wadhwa, 2021). Furthermore, Indian acceptability of AI outcomes remains low because doctor-patient trust relies on personal interaction (Paul et al., 2018; Bajpai & Wadhwa, 2021), requiring explainable AI. Despite these hurdles, global examples show deep deployment improving diagnostic and evidence-based decisions (Meskó et al., 2018).



The Multi-Faceted Constraints of AI Integration in Healthcare HRM

CONCLUSION

In the current era, AI has fundamentally reshaped human resource management (HRM) across all sectors, with a profound impact on healthcare settings. These findings indicate that AI has transitioned traditional HR practices into modern, technical methodologies. The integration of AI in hospital HRM has enhanced employee performance, recruitment precision, strategic planning, workforce retention, and the overall quality of patient care, significantly uplifting the field over the last decade.

However, significant limitations persist, particularly in the Indian healthcare market where AI is not yet

widely implemented. This creates barriers to identifying managerial issues and problem-solving capabilities. Key drawbacks include a lack of skilled labor for daily administrative AI operations, employee rigidity, and low acceptance of AI-driven HRM practices. Furthermore, excessive dependence on data patterns risks overlooking talent in remote or resource-constrained areas—a critical concern in India as AI systems are predominantly trained on urban datasets. These infrastructure and funding challenges mirror those faced by many developing nations, making global adoption a gradual process.

To advance futuristic HR practices in Indian hospitals, it is suggested that investment in training be prioritized equally with AI technology acquisitions. HR professionals must remain flexible, and organizations must provide structured training to increase adaptability, reduce workloads, and upskill staff for daily operations. In the future, AI will streamline decision-making and identify performance gaps with prompt development strategies. Ultimately, AI should serve as a supportive tool to enhance retention and work-life balance, aiding human efforts rather than replacing essential human values and the "human touch."

REFERENCES

- [1] Rouhani, S., Rezvani, M., & Madadia, Y. (2023). Human resource management through artificial intelligence model in the healthcare. *Qeios*. <https://doi.org/10.32388/3936AL>
- [2] Shahzad, M. F., Xu, S., Naveed, W., Nusrat, S., & Zahid, I. (2023). Investigating the impact of artificial intelligence on human resource functions in the health sector of China: A mediated moderation model. *Heliyon*, 9, e21818. <https://doi.org/10.1016/j.heliyon.2023.e21818>
- [3] Paucar, E. W. C., Paucar, H. Z. C., Paucar, D. R. C., Paucar, G. V. C., & Medina Sotelo, C. G. (2025). Artificial intelligence as an innovation tool in hospital management: A study based on the SDGs. *SDGsReview*, 5, e04089. <https://doi.org/10.47172/2965-730X.SDGsReview.v5.n01.pe04089>
- [4] Petre, A.-G. (2025, March 27–28). Study of human resource management and the role of artificial intelligence in patients' satisfaction. In *Sustainability and Economic Resilience in the Context of Global Systemic Transformations: International Scientific and Practical Conference (4th ed.)*. Chişinău, Moldova. <https://doi.org/10.53486/ser2025.10>
- [5] Wullur, K. M. N. (2024). The impact of AI implementation on business operations in hospitals (Bachelor's thesis, Institute IPMI).
- [6] Goswami, M., Jain, S., Alam, T., Deifalla, A. F., Ragab, A. E., & Khargotra, R. (2023). Exploring the antecedents of AI adoption for effective HRM practices in the Indian pharmaceutical sector. *Frontiers in Pharmacology*, 14, 1215706. <https://doi.org/10.3389/fphar.2023.1215706>
- [7] Haider, H. (2020). Barriers to the adoption of artificial intelligence in healthcare in India. *K4D Helpdesk Report*. UK Department for International Development. https://assets.publishing.service.gov.uk/media/5e7d95aae90e0733e0c71a6a/723_Barriers_to_the_adoption_of_AI_in_healthcare_in_India.pdf
- [8] Bajpai, N., & Wadhwa, M. (2021). Artificial intelligence and healthcare in India. *ICT India Working Paper No. 43*. Columbia University, Earth Institute, Center for Sustainable Development. <https://hdl.handle.net/10419/249832>
- [9] Lambert, S. I., Madi, M., Sopka, S., Lenes, A., Stange, H., Buszello, C.-P., & Stephan, A. (2023). An integrative review on the acceptance of artificial intelligence among healthcare professionals in hospitals. *npj Digital Medicine*, 6, 111. <https://doi.org/10.1038/s41746-023-00852-5>
- [10] Joshi, A., Singh, R., & Rani, S. (2024). Strategic adoption of artificial intelligence for human resource management practices transforming healthcare sector. *The International Journal of Education Management and Sociology*, 3(3), 151–153.
- [11] Ali, M. A., & Siddiqui, D. A. (2023). The application of artificial intelligence (AI) in human resource management: The current state of AI & its impact on the traditional recruitment process. *Karachi University Business School, University of Karachi, Pakistan*.
- [12] **Rascão, J., & Marques, M. B.** (2023). Debate on artificial intelligence in hospital human resources management, in the digital age (from theory to practice). *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 7(7), 141–180. <http://www.ajhssr.com/>
- [13] **Lee, D., & Yoon, S. N.** (2021). Application of artificial intelligence-based technologies in the healthcare industry: Opportunities and challenges. *International Journal of Environmental Research and Public Health*, 18(1), 271. <https://doi.org/10.3390/ijerph18010271>
- [14] **Khosravi, M., Zare, Z., Mojtabaiean, S. M., & Izadi, R.** (2024). Artificial intelligence and decision-making in healthcare: A thematic analysis of a systematic review of reviews. *Health Services Research and Managerial Epidemiology*, 11, 1–15. <https://doi.org/10.1177/23333928241234863>

- [15] **Sallam, M., Snygg, J., & Sallam, M.** (2024). Assessment of artificial intelligence credibility in evidence-based healthcare management with “AERUS” innovative tool. *Journal of Artificial Intelligence, Machine Learning and Data Science*, 1(4), 9–18. <https://doi.org/10.51219/JAIMLD/mohammed-sallam/20>
- [16] **Meskó, B., Hetényi, G., & Gyórfy, Z.** (2018). Will artificial intelligence solve the human resource crisis in healthcare? *BMC Health Services Research*, 18, 545. <https://doi.org/10.1186/s12913-018-3359-4>
- [17] **Stoilkovska, A., Ilieva, J., & Gjakovski, S.** (2015). Equal employment opportunities in the recruitment and selection process of human resources. *UTMS Journal of Economics*, 6(2), 281–292.
- [18] **Alotaibi, Y. A., Ahmed, M. M., & Alsubaie, A. M.** (2024). Artificial intelligence in healthcare human resource management: Prospects and challenges. *Journal of Multidisciplinary Healthcare*, 17, 5341–5351. <https://doi.org/10.2147/JMDH.S466188>
- [19] **Soni, J.** (2022). A study on the impact of artificial intelligence on human resource management. *International Journal of Research and Analytical Reviews (IJRAR)*, 9(2), 149–168. <https://www.ijrar.org>
- [20] **Haridasan, M. M.** (2022). A study on artificial intelligence in human resource – Industry perspective (Undergraduate project report). Sathyabama Institute of Science and Technology.
- [21] **Li, P., Bastone, A., Mohamad, T. A., & Schiavone, F.** (2023). How does artificial intelligence impact human resources performance: Evidence from a healthcare institution in the United Arab Emirates. *Journal of Innovation & Knowledge*, 8(1), 100340. <https://doi.org/10.1016/j.jik.2023.100340>

