



Impact of Artificial intelligence in modern HR practices

Mr. Muthuraj T R

Assistant Professor, PG Dept. of Commerce, Sri Siddhartha Institute of Business Management, SSIT,
Campus, Kunigal Road, Maraluru, Tumakuru – 572105, **Email:** mcomssibm@gmail.com

DOI : <https://doi.org/10.5281/zenodo.17306772>

ARTICLE DETAILS

Research Paper

Accepted: 19-08-2025

Published: 20-09-2025

Keywords:

Artificial Intelligence (AI), Human Resource (HR), Recruitment Employee Engagement Performance Management Learning and Development

ABSTRACT

The integration of Artificial Intelligence (AI) in Human Resource (HR) practices is revolutionizing the way organizations attract, manage, and retain talent. This paper explores the transformative impact of AI across various HR functions, including recruitment, employee engagement, performance management, learning and development, and workforce analytics. By leveraging machine learning algorithms, natural language processing, and predictive analytics, AI enables data-driven decision-making, reduces human bias, and enhances efficiency. The study also examines the ethical considerations, challenges of implementation, and the need for a balanced approach to ensure that AI complements rather than replaces the human touch in HR. Ultimately, the paper highlights how AI can empower HR professionals to become strategic partners in driving organizational success in the digital age.

INTRODUCTION

Through work automation, improved decision-making, and enhanced employee experiences, artificial intelligence is transforming human resources. AI makes HR procedures faster, more equitable, and more strategic from hiring to retaining employees.

Principal Advantages of AI in HR Recruitment: Automates interview scheduling and resume screening to expedite employment. On boarding: Uses virtual assistants to provide automated, customized on boarding. Learning & Development: Suggests customized instruction according to performance and ability levels. Performance management: Offers data-driven assessments and immediate feedback.



Employee Engagement: Tracks morale and enhances experience through sentiment analysis. Retention: Facilitates proactive retention tactics and forecasts attrition. Automation: Effectively manages administrative duties like payroll and leave requests. Workforce planning: detects skill shortages and projects personnel needs. Compliance: Produces reports that are ready for an audit and keeps track of legal changes.

Applications in the Real World Businesses utilizing AI in human resources:

AI-powered video interviews and cognitive tests for Unilever and PepsiCo.

Google and IBM: Attrition and talent management using predictive analytics.

Siemens and Accenture: Tools for internal mobility and personalized learning.

AI chat bots and workforce planning for HR assistance are provided by Amazon and Vodafone.

Benefits:

Reduced bias and quicker hiring, Operational effectiveness and cost reduction

A better working environment for employees, Using data insights to make better decisions

Leadership development and strategic planning

Drawbacks

Lacks emotional intelligence and human sensitivity, Risks of algorithmic bias

Concerns about data privacy, Expensive setup and upkeep, Fears of job displacement

Making decisions in a "black box", Challenges in law and ethics Principal Difficulties

AI model bias, Absence of openness, Concerns about security and privacy

Opposition to change, Combining legacy systems, Accountability for ethics

The Strategic Role of AI in Contemporary HR

Onboarding and Recruitment: Automated, precise, and interesting procedures

Engagement & Experience: Support and sentiment monitoring in real time



L&D & Performance: Tailored development pathways and ongoing evaluation

Workforce Analytics: More intelligent forecasting and planning

Diversity and Inclusion: Lessens Prejudice and Encourages Equity

REVIEW OF LITERATURE

Kumar & Sharma (2020) Kumar and Sharma discuss the use of AI in talent pipelining, highlighting its role in identifying future talent needs, sourcing passive candidates, and building relationships through personalized engagement.

Chung & Tan (2020) Chung and Tan discuss the use of AI-powered chatbots in enhancing the employee experience, focusing on their role in providing instant support, automating tasks, and personalizing communication.

Smith (2020) Smith examines the impact of AI on talent acquisition, highlighting its ability to automate resume screening, source candidates efficiently, and enhance the overall recruitment process.

Brown (2020) Brown delves into the ethical implications of AI in HR, addressing concerns such as algorithmic bias, data privacy, and the need for transparency and accountability.

Garcia & Martinez (2020) Garcia and Martinez examine the intersection of AI and employee wellness, highlighting AI's role in monitoring stress levels, recommending wellness activities, and providing mental health support.

STATEMENT OF THE PROBLEM

HR departments are increasingly adopting Artificial Intelligence (AI) to improve efficiency, There is a gap in research on how HR professionals are adapting to AI tools and how organizations are balancing technology with human judgment. decision-making, and reduce operational costs., The effectiveness and ethical implications of AI-driven HR decisions are still unclear and need to be studied in detail., There is a need to explore both the benefits and challenges of AI in HR to create better implementation strategies., The study aims to provide insights into how AI can be integrated responsibly and effectively into HR practices.

OBJECTIVES OF THE STUDY



1. To look into the different ways that artificial intelligence (AI) is being used in human resources, such as in decision support systems, talent management, hiring, and employee engagement.
2. Examine the possible advantages of incorporating AI technologies into HR procedures, including enhanced productivity, better decision-making and higher employee satisfaction.
3. Examine the obstacles and restrictions related to the implementation of AI in HR, such as algorithmic biases, privacy issues, and change aversion.
4. Analyze the moral issues surrounding AI's application in HR, especially those pertaining to responsibility, transparency, and justice in decision-making.

RESEARCH DESIGN

The study is based on the survey method, and the data required for the purpose of analyzing the impact of AI on HR practices in the IT sector is collected from primary data. A set of structured questionnaires was used to collect the primary data directly from the respondents' HR manager and employees of different IT sectors.

SAMPLE DESIGN

- ★ Population of the study: Employees of the IT sector
- ★ Sampling Design: The simple random sampling method has been used to select the sample respondents from the population.
- ★ Sample size: The size of the sample taken for the study is restricted to 50 respondents.
- ★ Sampling area: The area of sampling is Bangalore and Tumkur.

SCOPE OF THE STUDY

This study is to concentrate on the impact of AI in HR practices and the awareness level of the respondents regarding the AI practices in the IT sector. It also highlights the impact of newly updated AI HR practices on the employees of various IT industries. The study is restricted to only Bangalore and Tumkur City, with a sample size of 50 respondents.



TOOLS FOR DATA ANALYSIS

Tables and charts were used as a tool for analyzing the data collected for the study. Different forms of charts were used to represent the valuable outcomes of the study.

DATA ANALYSIS AND INTERPRETATION

Table 1: Awareness and Adoption of AI in HR Practices

Aspect	Particulars	No. of Respondents	Percentage (%)
Awareness of AI in HR	Very familiar	17	34%
	Somewhat familiar	30	60%
	Not familiar at all	3	6%
Current Use of AI in HR	Yes, extensively	15	30.6%
	Yes, to some extent	28	55.1%
	No, not at all	7	14.3%
Total Respondents		50	100%

Analysis & Intrepretation

94%of HR professionals are aware of AI, indicating strong familiarity.85.7% already use AI, with 30.6% using it extensively and 55.1% moderately. Only 14.3% have not adopted AI, showing minimal resistance.

AI is becoming integral to HR practices, beyond just awareness. Overall, AI adoption in HR is both broad and actively implemented.

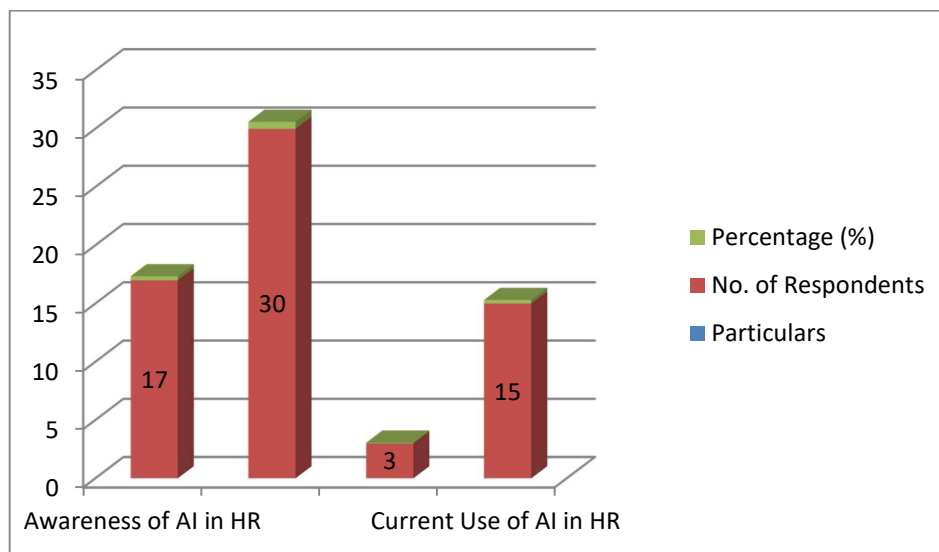




Table 2: AI Tools and Platforms Used in HR

Tool/Platform	No. of Respondents	Percentage (%)
Chatbots for candidate engagement	20	38.8%
Predictive analytics for workforce planning	14	28.6%
Applicant Tracking Systems (ATS)	9	18.4%
Other (unspecified) tools	7	14.3%
Total	50	100%

Analysis & Interpretation: Chatbots (38.8%) are the most used, enhancing candidate engagement. Predictive analytics (28.6%) and ATS (18.4%) support data-driven decisions. Other tools (14.3%) indicate emerging AI applications in HR. Tool usage reflects a shift toward smarter, tech-enabled HR practices.

AI in HR is driving both engagement and strategic innovation.

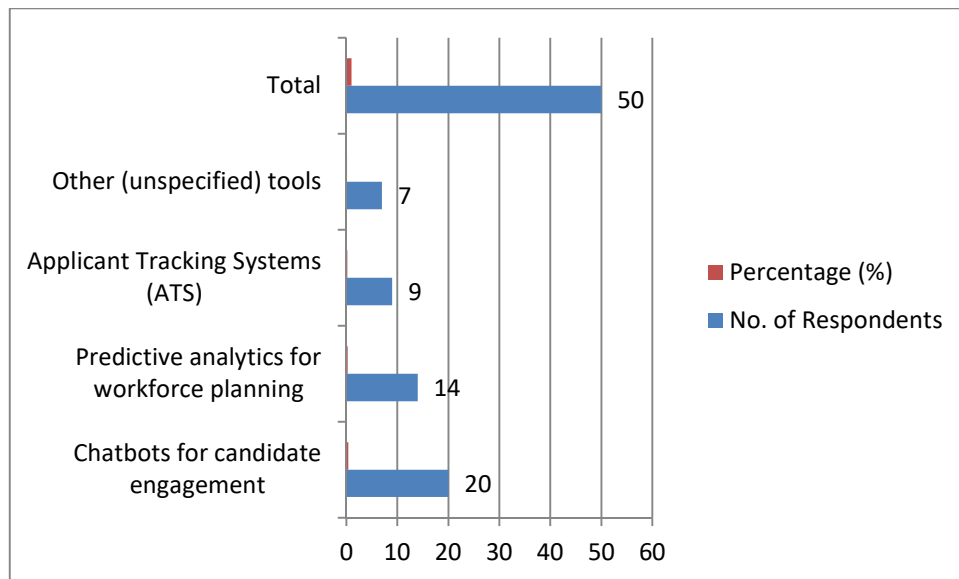


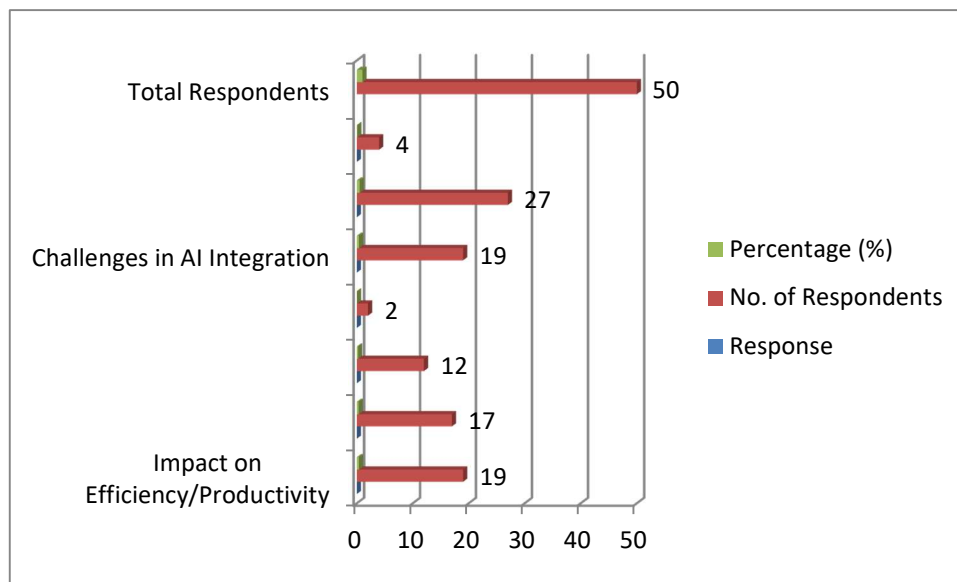
Table 3: Impact of AI on HR Efficiency and Challenges

Aspect	Response	No. of Respondents	Percentage (%)
Impact on Efficiency/Productivity	Significantly improved	19	38.8%
	Slightly improved	17	32.7%



	No noticeable impact	12	24.5%
	Decreased efficiency	2	4.1%
Challenges in AI Integration	Yes, faced challenges	19	39.6%
	No challenges encountered	27	52.1%
	Not applicable (AI not yet integrated)	4	8.3%
Total Respondents		50	100%

Analysis & Interpretation: Most respondents (71.5%) reported improved efficiency after AI integration, while only 4.1% saw a decrease. Over half (52.1%) faced no challenges during implementation, though 39.6% did encounter difficulties. A small portion (8.3%) have not yet adopted AI, possibly due to readiness or resource issues.



□ **Table 4 :Ethical Considerations & Adoption Steps for AI in HR**

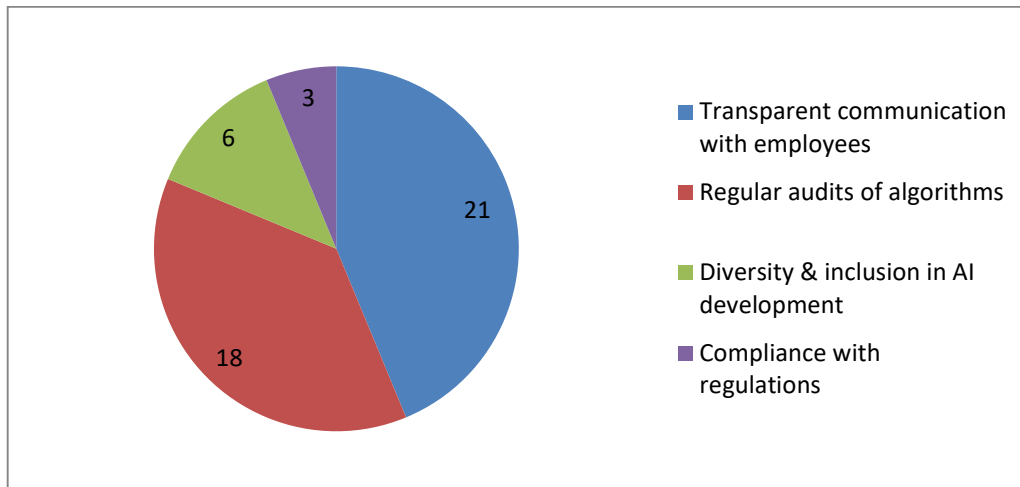
Particular	No. of Respondents	Percentage (%)
Transparent communication with employees	21	42%
Regular audits of algorithms	18	36%
Diversity & inclusion in AI development	6	12%
Compliance with regulations	3	6%



Other	2	4%
Total	50	100%

Analysis and Interpretation

The data shows that **transparent communication with employees (42%)** and **regular audits of algorithms (36%)** are the most commonly adopted ethical practices in AI implementation, indicating a strong focus on **clarity and accountability**. However, **diversity and inclusion (12%)** and **compliance with regulations (6%)** are significantly less emphasized, suggesting that **social and legal considerations may be underprioritized**. The low percentage for "Other" (4%) implies minimal use of alternative ethical approaches. Overall, while organizations are addressing key ethical concerns, there is room to **broaden the scope of ethical AI practices**, particularly in inclusion and legal compliance.



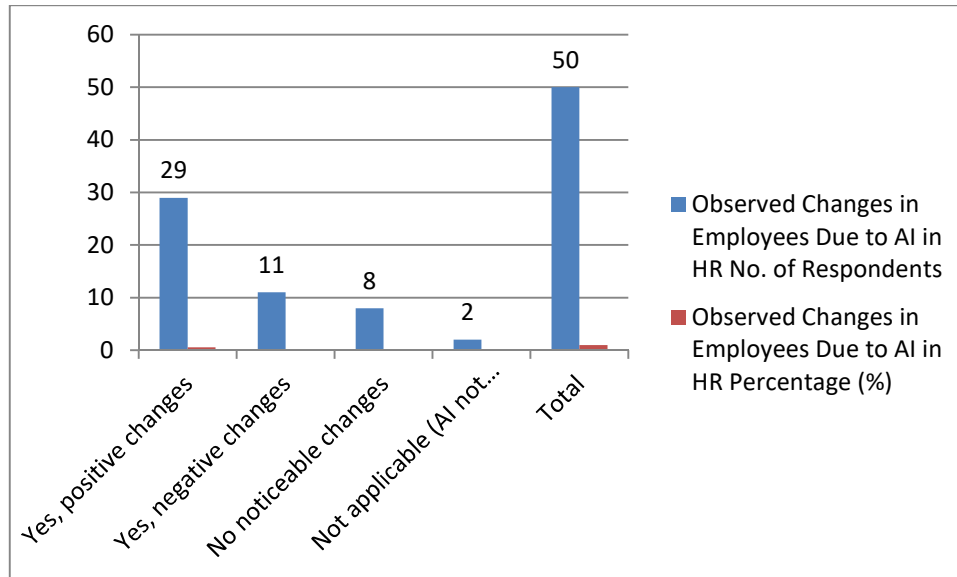
□ Table 5 – Observed Changes in Employees Due to AI in HR

Particular	No. of Respondents	Percentage (%)
Yes, positive changes	29	58%
Yes, negative changes	11	22%
No noticeable changes	8	16%
Not applicable (AI not implemented)	2	4%
Total	50	100%

Analysis and Interpretation



A significant majority (**58%**) of respondents reported **positive changes** from AI implementation, suggesting that AI is generally having a beneficial impact. However, **22%** experienced **negative changes**, indicating that some organizations may face issues such as disruption, job concerns, or poor implementation. **16%** noticed **no change**, and **4%** have not implemented AI, highlighting that the impact of AI is not uniform and depends on how effectively it is integrated and managed.



□ Table 6 – Changing Role of HR Professionals Due to AI

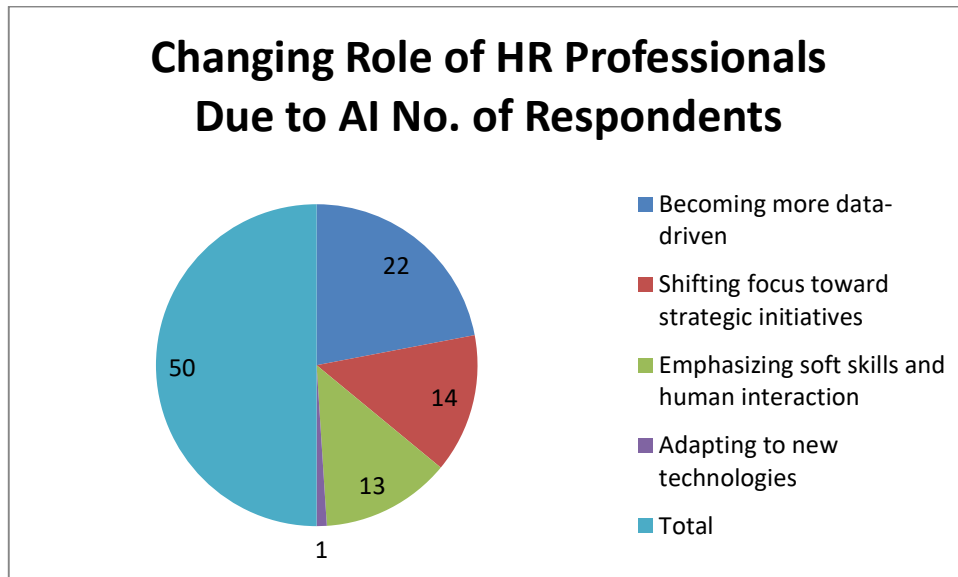
Particular	No. of Respondents	Percentage (%)
Becoming more data-driven	22	41.7%
Shifting focus toward strategic initiatives	14	29.2%
Emphasizing soft skills and human interaction	13	27.1%
Adapting to new technologies	1	2.1%
Total	50	100%

Analysis and Interpretation

The majority of respondents (**41.7%**) indicated that AI is driving their organizations to become **more data-driven**, reflecting a shift toward evidence-based decision-making. A significant portion is also **focusing on strategic initiatives (29.2%)** and **enhancing soft skills and human interaction (27.1%)**, suggesting that AI is enabling employees to move beyond routine tasks. Only **2.1%** reported a focus on



adapting to new technologies, implying that the emphasis is more on how AI transforms work culture and strategy rather than on tech adoption itself

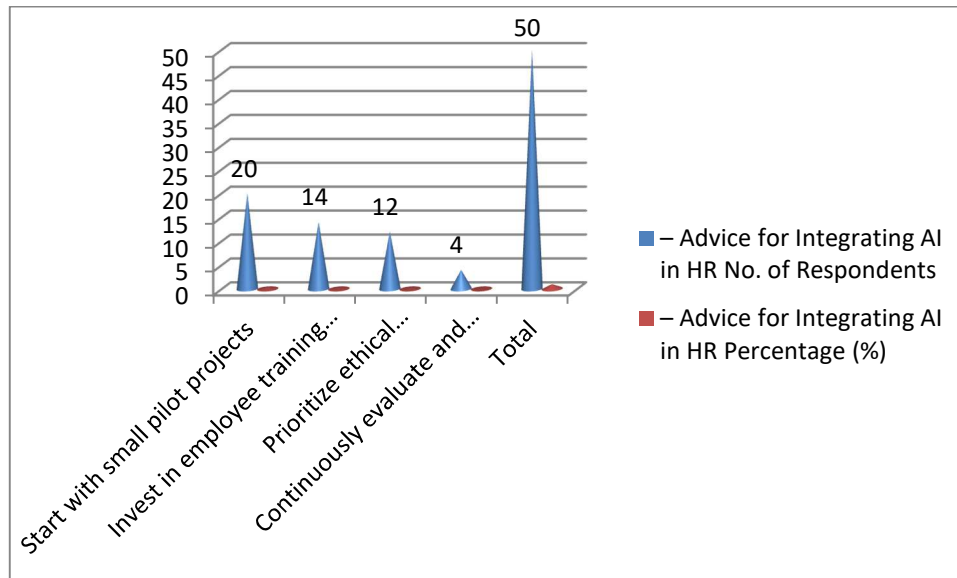


□ **Table 7 – Advice for Integrating AI in HR**

Particular	No. of Respondents	Percentage (%)
Start with small pilot projects	20	40%
Invest in employee training and education	14	28%
Prioritize ethical considerations	12	24%
Continuously evaluate and adjust AI usage	4	8%
Total	50	100%

Analysis and Interpretation

Most respondents (40%) favor **starting with small pilot projects** for AI adoption, highlighting a preference for cautious, incremental implementation. Investing in **employee training (28%)** and **ethical considerations (24%)** are also key priorities, showing awareness of the need for skill development and responsible AI use. However, only a few (8%) emphasize **continuous evaluation**, suggesting that ongoing monitoring and adjustment of AI systems may be overlooked. This points to a focus on careful rollout and preparation, but potentially less emphasis on long-term oversight.



RESULTS OF THE STUDY

- Most respondents (94%) are aware of AI in HR, but only 30.6% use it extensively. While 85.7% use AI to some degree, there remains a notable gap between awareness and full implementation, suggesting that many organisations are still at an early stage or hesitant to expand its use.
- Among the 50 respondents, chatbots for applicant engagement were the most used AI tool in HR (38.8%), followed by predictive analytics for workforce planning (28.6%). Applicant Tracking Systems (ATS) accounted for 18.4%, while other tools were used by 14.3%.
- Impact on HR efficiency/productivity: 71.5% of respondents reported improvements from AI (38.8% significantly, 32.7% slightly), while 24.5% saw no impact and 4.1% experienced reduced efficiency. Challenges in integrating AI: 39.6% faced challenges in integrating AI, 52.1% did not and 8.3% have not yet integrated AI. Overall, AI has positively impacted HR efficiency for most, although integration challenges remain for some.
- Most respondents cite transparent communication (42%) and regular algorithm audits (36%) as top ethical priorities for AI in HR, while fewer emphasise diversity (12%) and regulatory compliance (6%).
- The implementation of AI in HR has led to positive changes in employees for the majority (58%), although some have experienced negative impacts (22%). A smaller proportion have not noticed any changes (16%), and a few have yet to implement AI (4%).



□ 41.7% of respondents believe that AI will make HR departments more data-driven. 29.2% see a shift towards strategic initiatives in HR roles. 27.1% emphasise the continued importance of soft skills and human interaction. 2.1% cite adapting to new technologies as an important change.

□ Most respondents (40%) favour starting with small pilot projects, followed by 28% who prioritise employee training and 24% who focus on ethical considerations. Only 8% emphasise continuous evaluation, indicating a preference for cautious, well-trained and ethical implementation of AI.

RECOMMENDATIONS

Below are the recommendations made based on this study:

- Close the gap between awareness and usage: Share clear roadmaps and success stories; provide training to support AI adoption.
- Prioritise high-impact tools: Focus on chatbots and predictive analytics; regularly evaluate ATS and other tools.
- Overcome integration challenges: Build cross-functional AI teams; run pilots to address issues early.
- Ensure transparency and ethics: Communicate openly about the use of AI; conduct algorithm audits; emphasise diversity and compliance.
- Monitor the impact on employees: Gather feedback regularly; adapt AI applications and offer support when needed.
- Balance data and human touch: Use AI to improve decisions without losing focus on social skills; train HR on empathetic use of AI.
- Implement AI wisely

CONCLUSION

This study highlights a significant gap between high awareness of AI in HR and its extensive use, with many organizations still in early adoption stages due to integration challenges. Chatbots and predictive analytics are the most impactful tools, improving HR efficiency for most users. Ethical concerns, especially transparency and audits, are prioritized, though diversity and compliance need more attention. AI positively affects employees overall but can also have negative impacts, underscoring the need for ongoing feedback and adjustments. HR roles are becoming more data-driven, yet soft skills remain



essential. A cautious, phased approach—with pilot projects, training, and ethical focus—is recommended to maximize AI benefits while maintaining the human element in HR

References

1. **Dr. Ayaz Qaiser et al.** **Focus:** AI integration in HRM's effect on organizational performance, with workplace adaptability and employee performance as key factors. **Work:** *The Impact of Artificial Intelligence (AI) Integration in HR Practices on Employee Engagement and Organizational Performance* **Published:** Annual Methodological Archive Research Review
 2. **Saeed Turki Alshahrani et al.** **Focus:** HR managers' perceptions of AI impact on HR practices in Saudi Arabia's chemical industry. **Work:** *Perceptions of the Impact of AI on Human Resource Management Practices Among Human Resource Managers Working in the Chemical Industry in Saudi Arabia* **Published:** Sustainability Journal
 3. **Muhammad Khuram Khalil et al.** **Focus:** Benefits and challenges of AI and automation in HR practices, including efficiency and data privacy. **Work:** *The Impact of AI and Automation on HR Practices: Opportunities and Challenges* **Published:** Journal of Student Research
 4. **Dr. B. Sankar Naik** **Focus:** Impact of AI technology on HR in Indian IT companies, focusing on recruitment and performance management. **Work:** *Impact of Artificial Intelligence Technology on HR Practices in Indian IT Companies* **Published:** Management Journal for Advanced Research
 5. **Ms. Kajal Chauhan & Ms. Mansi Tyagi** **Focus:** AI's transformative role in recruitment, performance evaluation, training, and engagement in HRM. **Work:** *The Impact of Artificial Intelligence on Human Resource Management* **Published:** International Journal of Research and Innovation in Applied Science (IJRIAS)
- www.researchgate.com
 - www.shodhaganga.com