

OriginalArticle

Artificial Intelligence in Human Resource

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Artificial Intelligence (AI) is becoming an important part of modern organizations, and its influence on Human Resource Management (HRM) is steadily increasing. This research paper examines how AI is transforming traditional HR practices and reshaping the way organizations manage recruitment, performance, training, employee engagement, and workforce planning. As businesses move towards digital transformation, AI-driven tools are helping HR departments improve efficiency, reduce manual work, and make more informed decisions.

The study is descriptive in nature and is based on both primary and secondary data. Primary data was collected through a structured questionnaire from 100 respondents working in various industries such as IT, Banking, Education, and Healthcare. Secondary data was gathered from research papers, journals, and industry reports. The collected data was analyzed using simple statistical methods to identify trends and patterns.

The findings reveal that AI is widely used in recruitment and performance management, where it enhances speed, accuracy, and objectivity. However, concerns related to data privacy, ethical issues, and trust in AI decisions still exist. The study concludes that AI is not a replacement for HR professionals but a supportive tool that strengthens their role while preserving the essential human element in managing people.

Keywords: Artificial Intelligence, Human Resource Management, Recruitment, Employee Engagement, Performance Management, HR Analytics, Workforce Planning, Digital Transformation

Introduction

In today's fast-changing world, technology is not just supporting organizations — it is reshaping the way they work and grow. One of the most powerful developments of recent times is Artificial Intelligence (AI). What once seemed like a futuristic concept is now a practical reality influencing everyday business operations. Artificial Intelligence refers to systems that can learn from data, recognize patterns, solve problems, and make decisions in ways that resemble human thinking. As businesses aim to become more efficient and competitive, AI is gradually becoming an essential part of organizational strategy. Among all departments, Human Resource Management (HRM) holds a special place because it focuses on people — the heart of every organization. HR professionals are responsible for recruiting talent, nurturing employee growth, managing performance, and maintaining a positive work environment. Traditionally, many of these functions involved paperwork, manual screening, repetitive administrative tasks, and subjective evaluations. While these methods helped organization's function, they were often time-consuming and sometimes influenced by unconscious bias. With the introduction of AI, the landscape of HR is undergoing a meaningful transformation. Today, AI tools can screen resumes within seconds, analyze employee performance data, recommend personalized training programs, and even measure employee sentiment. These advancements allow HR professionals to move beyond routine administrative work and focus more on strategic decision-making and employee well-being.

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Literature Review

1. Peter Cappelli, Prasanna Tambe, and Valery Yakubovich (2019), in *"Artificial Intelligence in Human Resources Management: Challenges and a Path Forward,"* discuss the gap between AI's potential and its real use in HR. They identify challenges such as complex HR outcomes, limited data, fairness and legal risks, and employee resistance. The study highlights AI in HR, ethical practices, corporate governance, and causal reasoning over simple prediction. The authors suggest causal models, randomization, and employee involvement to improve implementation. However, the paper lacks strong empirical evidence.
2. Marler and Boudreau (2017), in *"An Evidence-Based Review of HR Analytics,"* discuss how HR analytics is shifting HR toward data-driven decision-making. The study highlights its strategic importance in improving recruitment, performance, and retention while strengthening corporate governance and ethical data use. Through a literature review, they find analytics improves decision quality but faces skill and integration challenges. For my AI in HR research, it stresses combining data capability with responsible implementation.
3. Brynjolfsson, E., Mitchell, T., and Rock, D. (2018), in *"What Can Machines Learn, and What Does It Mean for Occupations and the Economy?"* explore how AI reshapes jobs and decision-making. The paper highlights AI's role in task automation, skill shifts, and governance concerns. Using task-based economic analysis, they find AI complements rather than fully replaces human work, though long-term impacts remain uncertain. For my AI in HR research, it reinforces balancing technological efficiency with ethical workforce planning.

Research Methodology

The present study is based on both primary and secondary data to examine the role of Artificial Intelligence in Human Resource Management. A descriptive research design has been adopted to understand how AI is transforming traditional HR functions such as recruitment, performance management, training and development, employee engagement, and workforce planning.

Primary data was collected through a structured questionnaire distributed via Google Forms to 100 respondents working across industries including IT, Banking, Education, and Healthcare. Convenience sampling was used to select participants based on accessibility and willingness. The questionnaire included multiple-choice and opinion-based questions to assess awareness, level of AI integration, benefits, and challenges.

Secondary data was gathered from research articles, journals, industry reports, and authentic online sources to support theoretical understanding. The collected data was analyzed using simple statistical tools such as percentages and graphical representations. A qualitative interpretation approach was used to evaluate findings and understand the overall impact of AI on HR practices.

Objectives of the Study

1. To understand the concept of Artificial Intelligence and examine its growing importance in Human Resource Management.
2. To analyze how AI is transforming key HR functions such as recruitment, performance management, training and development, employee engagement, and workforce planning.
3. To study the level of AI adoption across different industries and understand how organizations are integrating AI into their HR practices.
4. To identify the major benefits and challenges associated with the implementation of AI in HR departments.

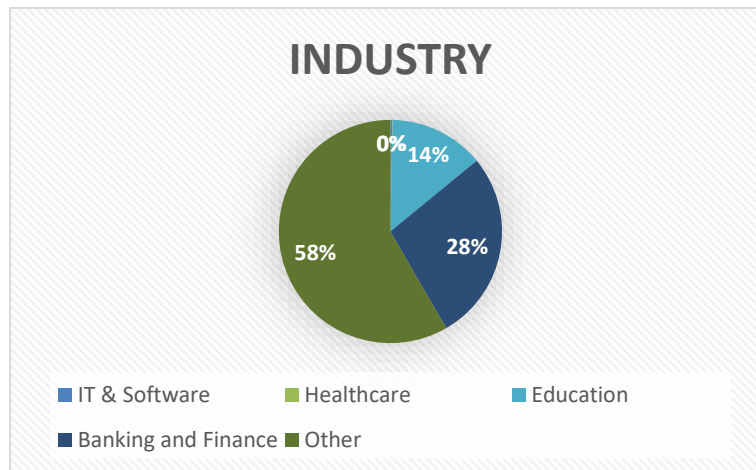
Limitations of the Study

1. **Limited Sample Size** – The study is based on responses from only 100 participants, which may not fully represent all industries or organizations.
2. **Convenience Sampling** – Respondents were selected based on availability, which may lead to sampling bias and affect generalization of results.
3. **Subjective Responses** – The findings rely on personal opinions and perceptions of respondents, which may vary and include personal bias.
4. **Rapidly Changing Technology** – AI is continuously evolving, so the findings may become outdated as new tools and innovations emerge.
5. **Limited Geographic Scope** – The study does not cover organizations from all regions, limiting broader applicability.

Data Analysis

Primary Data was used for this study with 100 respondents

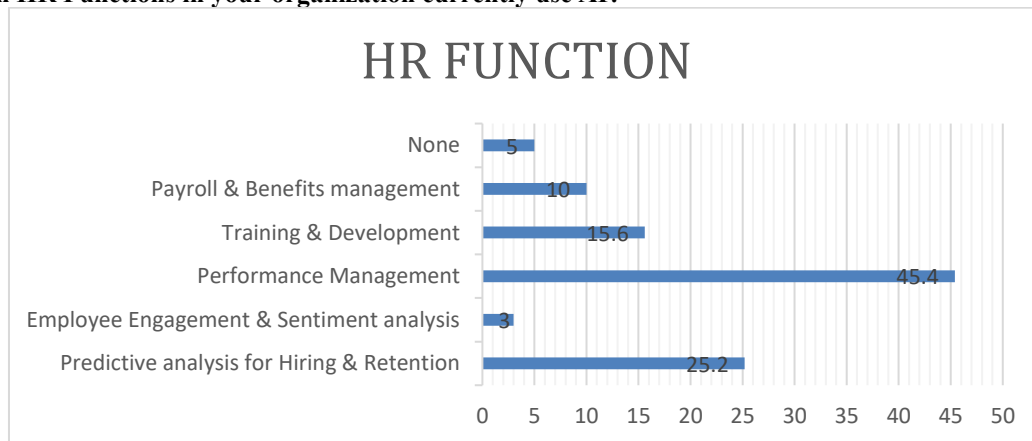
- **Your Organization's Industry?**



Interpretation:

The diverse industry representation suggests AI's relevance across multiple sectors in HR. The significant percentage of IT & Software and Banking & Finance participation indicates strong AI adoption trends in these industries. The presence of Healthcare, Education, and niche industries suggests AI's growing influence beyond tech-driven sectors. The unspecified "Other" category could include emerging industries or sectors with mixed HR functions.

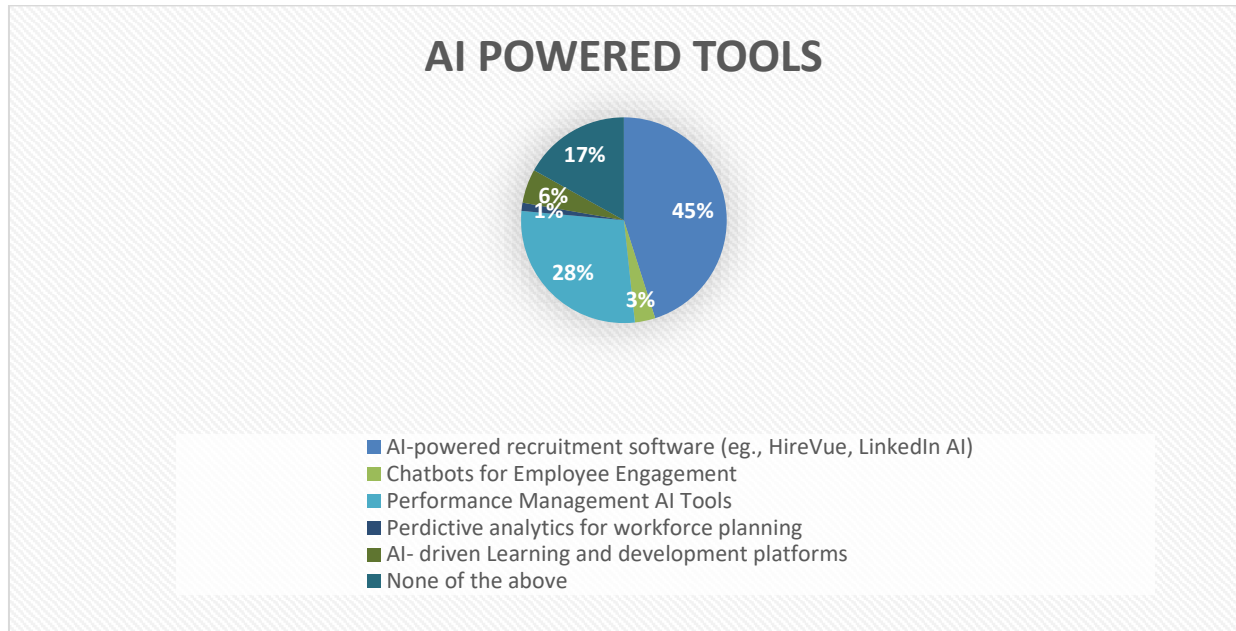
- **Which HR Functions in your organization currently use AI?**



Interpretation:

Strong AI Adoption in Performance & Hiring – Organizations see AI as a valuable tool for hiring and performance management. Moderate Use in Training & Payroll – AI adoption is growing in these areas, but there's still room for expansion. Limited Use in Employee Engagement – AI-driven engagement solutions are not yet mainstream, possibly due to a reliance on traditional HR practices. Resistance or Lack of Awareness reporting no AI use suggests barriers such as lack of knowledge, budget constraints, or resistance to change.

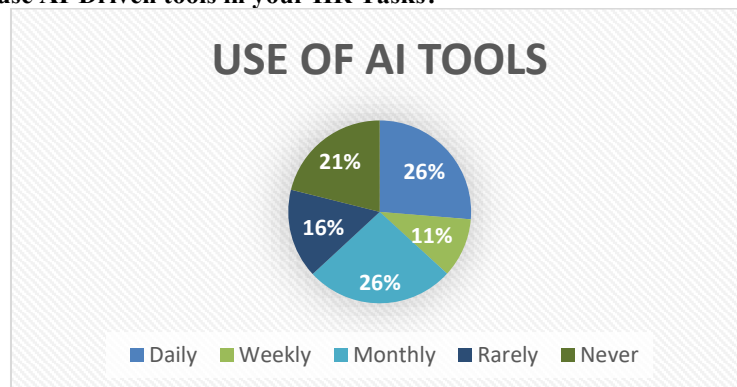
- Which AI-powered tools does your HR department use?



Interpretation:

Recruitment is the Top AI Use Case – Many HR departments prioritize AI-driven hiring solutions. Performance & Engagement Tools Are Emerging – Companies are slowly adopting AI for managing and engaging employees. Awareness Gaps Exist – Not using AI tools may indicate resistance, budget constraints, or lack of knowledge.

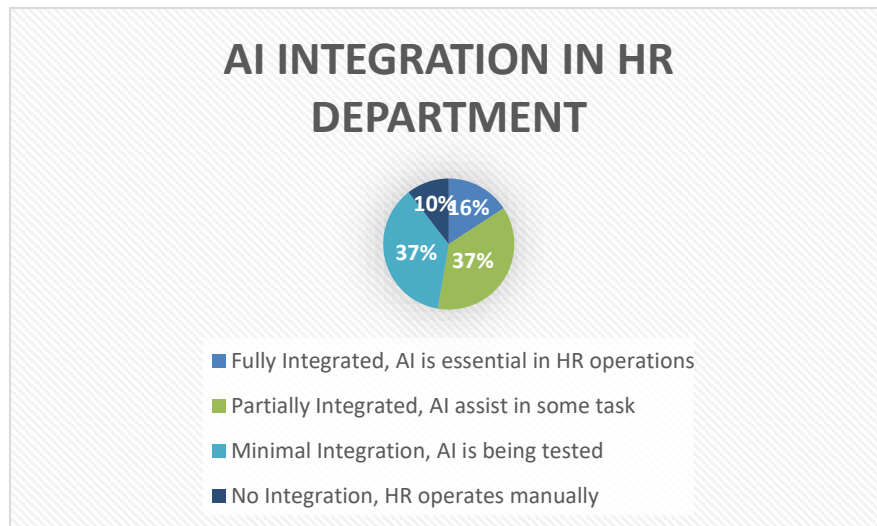
- How often do you use AI-Driven tools in your HR Tasks?



Interpretation:

High Adoption, but Not Yet Universal – A majority use AI at least monthly, but rarely or never use it. Daily & Weekly Use Indicates Maturity – Companies using AI frequently likely have well-integrated AI solutions.

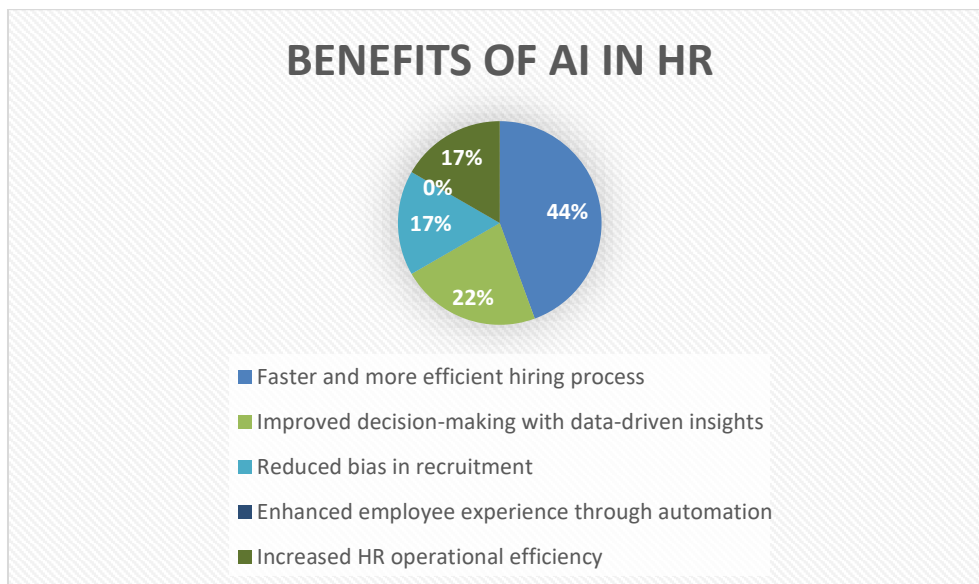
- What level of AI Integration exist in your HR Department?



Interpretation:

Most organizations are still experimenting with AI – 73.6% (partial/minimal integration) suggest that AI is not yet a core HR function. Only a few HR departments rely heavily on AI – Just 15.8% have fully integrated AI into daily operations. Manual HR processes still exist – Over 10% of organizations have no AI involvement, which may indicate resistance to change or resource constraints.

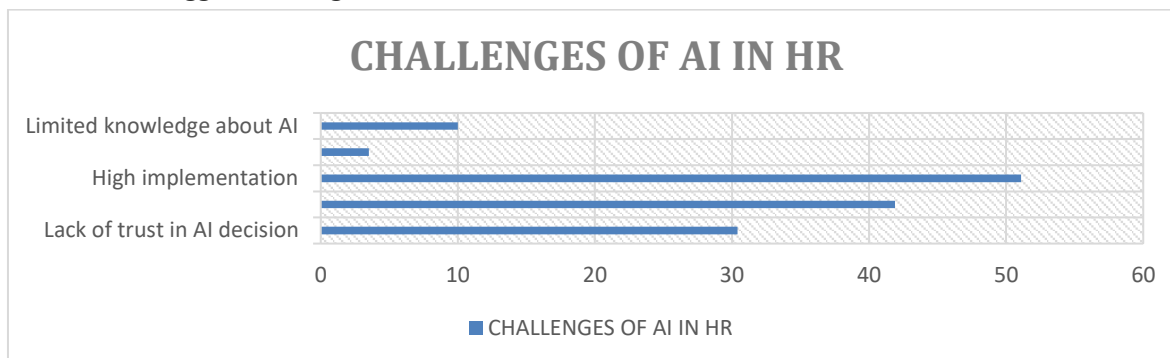
- What is the main benefits AI has provided in HR?



Interpretation:

AI's biggest impact is on recruitment efficiency. Data-driven insights and automation improve decision-making. AI is helping create fairer hiring practices.

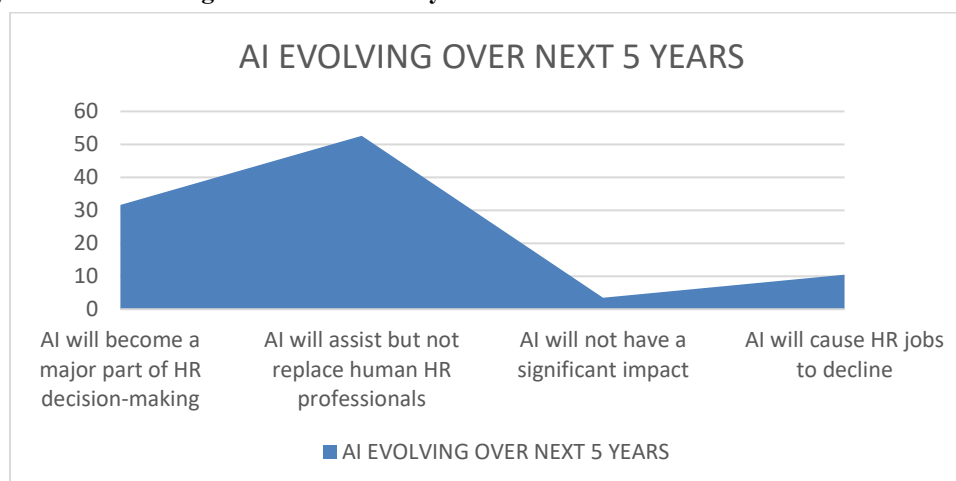
• What are the biggest challenges of AI in HR?



Interpretation:

Data security is the biggest hurdle to AI adoption in HR. Trust issues persist, likely due to a lack of transparency in AI decision-making. AI implementation requires financial and educational investments.

• How do you see AI evolving in HR over next 5 years?



Interpretation:

AI is expected to enhance HR functions but not replace human professionals. Concerns about job displacement exist, but most respondents see AI as a tool to improve efficiency. The integration of AI into HR processes is seen as inevitable but likely to require human oversight.

Findings

1. AI is widely used in recruitment and performance management, improving efficiency and saving time.
2. Organizations benefit from data-driven decision-making and reduced manual workload.
3. Concerns exist regarding data privacy, trust, and implementation costs.
4. Most respondents view AI as a supportive tool, not a replacement for HR professionals.

Suggestions

1. Ensure ethical AI use through transparency, fairness, and data security measures.
2. Provide proper training to HR professionals to enhance digital skills.
3. Develop clear governance policies to minimize bias and build trust.
4. Maintain a balanced approach where AI supports human judgment.

Conclusion

In conclusion, Artificial Intelligence is reshaping modern HR practices by improving efficiency, accuracy, and strategic decision-making. While challenges exist, AI should be viewed as an enabling technology that enhances human capabilities. With responsible implementation and proper oversight, AI can significantly contribute to building smarter, fairer, and more effective HR systems.



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