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**“A Study on Leveraging HR AI Tools to Enhance the Employee
Performance in IT Sector”.**

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ABSTRACT

This study examines the role of Artificial Intelligence (AI)-based HR tools in enhancing employee performance in the IT sector. The research focuses on AI applications such as automated recruitment systems, performance management software, learning platforms, and HR chatbots. Data was collected from 120 IT professionals using a structured questionnaire and analyzed through percentage analysis and the Chi-square test. The findings reveal that AI-powered HR tools significantly improve employee productivity, engagement, task efficiency, and overall job performance. HR chatbots were found to enhance communication, provide timely support, and improve employee experience. However, challenges such as lack of training, system reliability issues, insufficient organizational support, and resistance to change affect successful implementation. The study concludes that effective adoption of AI-based HR tools can substantially improve employee performance and organizational effectiveness in the IT sector.

1. INTRODUCTION

In today's digital era, Artificial Intelligence (AI) is transforming Human Resource Management (HRM) by improving the efficiency and effectiveness of HR functions. The IT sector, being highly technology-driven, increasingly adopts AI-based HR tools such as automated recruitment systems, performance management software, learning platforms, and HR chatbots. These tools help organizations streamline HR processes, enhance employee engagement, and improve productivity. AI enables data-driven decision-making, personalized employee support, and real-time performance monitoring. As competition in the IT industry continues to grow, organizations are leveraging AI to gain a competitive advantage through better workforce management. However, challenges such as data privacy concerns, implementation costs, and employee resistance also exist. Therefore, understanding the impact of AI-based HR tools on employee performance has become an important area of study. This research focuses on examining how AI technologies contribute to employee performance and organizational success in the IT sector.

OBJECTIVES OF THE STUDY

1. To examine the role of AI-based HR tools in improving employee engagement and productivity in the IT sector.
2. To assess the effectiveness of AI-driven HR chatbots in enhancing HR service delivery and employee support in

IT organizations.

3. To evaluate the challenges faced by HR managers in implementing AI technologies to improve employee performance in IT companies.
4. To identify the key factors influencing the successful adoption of AI-based HR tools for enhancing employee performance in IT organizations.

NEED OF THE STUDY:

The need for this study arises from the increasing adoption of Artificial Intelligence (AI) in Human Resource Management within the IT sector. Organizations are using AI-based HR tools to improve employee productivity, engagement, and performance. However, there is limited research on how these tools directly impact employee performance and the challenges faced during their implementation. Therefore, this study helps in understanding the effectiveness of AI-based HR tools and the factors influencing their successful adoption in IT organizations.

PURPOSE OF THE STUDY:

The purpose of this study is to understand the role of AI-based HR tools in improving employee performance in IT organizations. It examines the effectiveness of HR chatbots, the challenges faced during the implementation of AI technologies, and the factors influencing their successful adoption. The study also focuses on how AI tools contribute to productivity, engagement, and overall work performance.

LIMITATIONS OF THE STUDY:

- The study is limited to selected employees from the IT sector.
- The sample size is limited to 120 respondents.
- The findings are based on responses collected through questionnaires and may vary according to individual opinions.
- Limited time and resources restricted wider data collection.
- The study mainly focuses on the present use of AI-based HR tools and may not cover future technological developments.

2. REVIEW OF LITERATURE:

1. Artificial Intelligence in Human Resource Management: A Systematic Literature Review (2024)

Authors: Nawaz, Nishad et al.

Nawaz et al. (2024) conducted a systematic review on the application of artificial intelligence in human resource management. The study found that AI-driven HR tools, such as predictive analytics and automated performance systems, significantly enhance employee productivity and decision-making efficiency. The findings highlight that in digital and IT environments, AI enables personalized training and real-time feedback, which directly contributes to improved employee performance.

2. Artificial Intelligence, Robotics, and Advanced Technologies in HRM: A Systematic Review (2022)

Authors: Vrontis, Demetris, Christofi, Maria, Pereira, Vikas, Tarba, Shlomo Y., Makrides, Andreas, and Trichina, Elena

Vrontis et al. (2022) examined the role of artificial intelligence and advanced technologies in HRM through a systematic review. The study revealed that AI integration in HR processes improves talent management, employee

engagement, and overall workforce productivity. This is particularly relevant to the IT sector, where technology-driven HR practices enhance employee performance outcomes.

3. Disrupting the HRM Function: The Role of AI (2021)

Author: Minbaeva, Dana

Minbaeva (2021) analyzed how AI is transforming HR functions and identified that AI-powered analytics improves decision-making and workforce planning. The study emphasizes that AI helps HR professionals optimize employee performance by providing data-driven insights and predictive capabilities.

4. Artificial Intelligence in Service (2021)

Authors: Huang, Ming-Hui and Roland T. Rust

Huang and Rust (2021), in their study published in the Journal of Service Research, analyzed the role of artificial intelligence in service environments. The study found that AI enhances employee capabilities and improves productivity by supporting human tasks, which leads to better performance in IT-enabled sectors.

3. RESEARCH METHODOLOGY RESEARCH DESIGN:

The study follows a descriptive research design to understand the role of AI-based HR tools in improving employee performance in the IT sector. A quantitative research approach was adopted, and data was collected through a structured questionnaire. The study is cross-sectional in nature, as data was gathered at a particular point in time. A survey method was used to collect information directly from employees working in IT organizations.

DATA COLLECTION METHOD:

Primary Data: Collected directly from employees working in IT organizations through a structured questionnaire.

Secondary Data: Collected from books, journals, research articles, websites, and published reports related to Artificial Intelligence and Human Resource Management.

Both primary and secondary data were used to obtain comprehensive information for the study.

The collected data was used to analyze the impact of AI-based HR tools on employee performance in the IT sector.

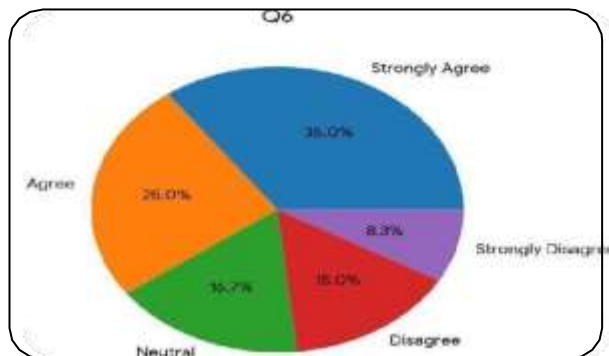
POPULATION AND SAMPLE:

- Population: Employees working in the IT sector who use AI-based HR tools.
- Sample Size: 120 respondents were selected for the study.
- Sampling Technique: Convenience Sampling Method was used to select the respondents.

DATA ANALYSIS TECHNIQUES:

- **Percentage Analysis** – Used to analyze the responses collected from the respondents and present them in percentage form.
- **Chi-Square Test** – Used to test the relationship between AI-based HR tools and employee performance in the IT sector.
- **Tabular Analysis** – Data was presented using tables for easy interpretation of results.

- **Graphical Analysis** – Pie charts were used to visually represent the collected data and findings.



HYPOTHESIS:

- Null Hypothesis (H0): There is no significant relationship between the use of AI-based HR tools and employee performance in the IT sector.
- Alternative Hypothesis (H1): There is a significant relationship between the use of AI-based HR tools and employee performance in the IT sector.

4. DATA ANALYSIS:

Q6. TO what extent do you agree that: AI – powered HR tools help improve my overall job performance.

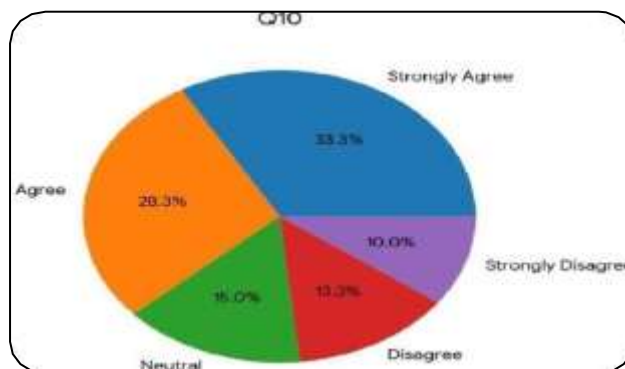
Response	Respondents	Percentage
Strongly Agree	42	35.0%
Agree	30	25.0%
Neutral	20	16.7%
Disagree	18	15.0%
Strongly Disagree	10	8.3%
Total	120	100%

Interpretation: The table and pie chart for Q6 show that 35 % of the respondents strongly agree and 25% agree with the statement, indicating an overall positive perception among employees.

Only 23.3% of respondents disagree while 16.7% remain neutral, suggesting that the majority of employees hold favorable views regarding the statement .

Q10. Does AI tools contribute to better job performance .

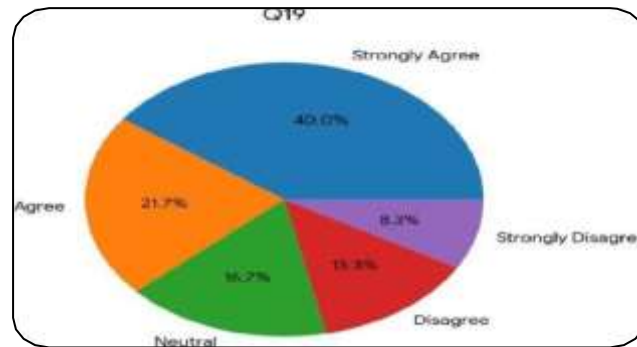
Response	Respondents	Percentage
Strongly Agree	40	33.3%
Agree	34	28.3%
Neutral	18	15.0%
Disagree	16	13.3%
Strongly Disagree	12	10.0%
Total	120	100%



Interpretation : The table shows that a majority of respondents believe AI tools contribute to better job performance . among the 120 respondents, 33.3% strongly agree and 28.3% agree, indicating a positive perception of AI's impact . 15.0% remain neutral, while 13.3% disagree and 10.0% strongly disagree . overall, the findings suggest that AI tools are generally viewed as enhancing employee performance and productivity in the workplace.

Q19. Do you think insufficient organizational support affects the successful implementation of the AI based HR tools.

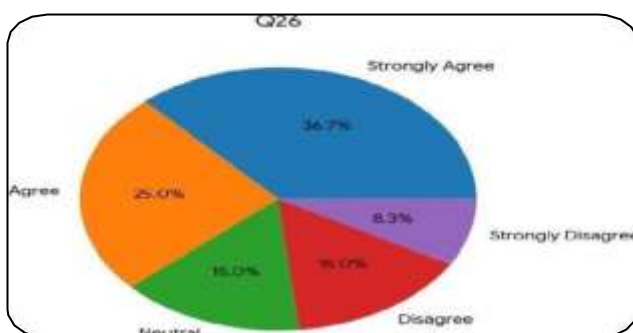
Response	Respondents	Percentage
Strongly Agree	48	40.0%
Agree	26	21.7%
Neutral	20	16.7%
Disagree	16	13.3%
Strongly Disagree	10	8.3%
Total	120	100%



Interpretation : The results show that many respondents believe insufficient organizational support affects the successful implementation of AI based HR tools. A majority of employees agreed or strongly agreed, indicating that support from the organizational plays an important role in the effective adoption and use of AI technologies in HR processes

Q26. AI based HR tools help in identifying high – potential employees within the organization . would you agree .

Response	Respondents	Percentage
Strongly Agree	44	36.7%
Agree	30	25.0%
Neutral	18	15.0%
Disagree	18	15.0%
Strongly Disagree	10	8.3%
Total	120	100%



Interpretation : Most employees agree that the AI based HR tools help in identifying high potential employees. A majority show positive response, indicating AI support better talent recognition. However, some respondents remain neutral , showing varied experiences. Overall, AI tools are generally seen as useful for identifying potential talent in organizations.

Statistical Tool Analysis –

Statistical Tools Used

1. Percentage Analysis

Percentage analysis was used to classify and present the responses collected from the respondents. It helped in understanding the distribution of opinions regarding AI-based HR tools and employee performance.

Formula:

$$\text{Percentage} = (\text{Number of Respondents} / \text{Total Number of Respondents}) \times 100$$

2. Chi-Square Test (χ^2 Test)

The Chi-Square Test was used to test the hypothesis and determine whether there is a significant relationship between AI-based HR tools and employee performance in the IT sector.

Formula:

$$X^2 = \sum[(O - E)^2 / E]$$

Where:

O = Observed Frequency E = Expected

Frequency X^2 = Chi-Square Value

Hypothesis testing –

H_0 (Null Hypothesis):

There is no significant relationship between the use of AI-based HR tools and employee performance in the IT sector.

H_1 (Alternative Hypothesis):

There is a significant relationship between the use of AI-based HR tools and employee performance in the IT sector.

Options	Observed Value (O)	Expected Value (E)	χ^2
Strongly Agree	42	24	13.50
Agree	30	24	1.50
Neutral	20	24	0.67
Disagree	18	24	1.50
Strongly Disagree	10	24	8.17
Total	120	120	25.34

Chi-Square Table

X ² Table Value	X ² Calculated Value
9.488	25.34

Degrees of Freedom (df) = 4

Level of Significance = 0.05

Interpretation:

Since the calculated χ^2 value (25.34) is greater than the table value (9.488), the Null Hypothesis (H_0) is rejected and the Alternative Hypothesis (H_1) is accepted. Therefore, there is a significant relationship between AI-based HR tools and employee performance in the IT sector.

Decision Rule

- If the calculated χ^2 value is greater than the table value, reject H_0 and accept H_1 .
- If the calculated χ^2 value is less than the table value, accept H_0 and reject H_1 .

5. MAJOR FINDINGS:

- AI-based HR tools improved employee performance for the majority of respondents.
- AI systems helped employees manage workload and complete tasks efficiently.
- HR chatbots provided quick responses and accurate HR-related information.
- Many employees faced difficulties adapting to AI-based HR tools.
- Lack of training and organizational support affected successful AI implementation.

SUGGESTIONS:

- Provide regular training programs on AI-based HR tools.
- Strengthen organizational support for AI adoption initiatives.
- Improve system reliability to reduce technical errors and interruptions.
- Encourage employees to embrace technological changes through awareness programs.
- Use AI tools for continuous feedback, skill development, and career planning.

CONCLUSION:

The study examined the impact of AI-based HR tools on employees performance in the IT sector. The findings reveal that AI tools improve productivity, engagement, communication, and overall employee support. Employees generally have a positive perception of AI-driven HR systems and chatbots. However, challenges such as lack of training, system errors, and inadequate organizational support affect effective adoption. The study concludes that AI-based HR tools can significantly enhance employee performance when supported by proper training and reliable implementation strategies.

BIBLIOGRAPHY:

- Angrave, David, et al. "HR and Analytics: Why HR Is Set to Fail the Big Data Challenge." Human Resource Management Journal, 2016.
- Bondarouk, Tanya, and Chris Brewster. "Conceptualising the Future of HRM and Technology Research." International Journal of Human Resource Management, 2016.
- Strohmeier, Stefan, and Federico Piazza. "Artificial Intelligence Techniques in Human Resource Management—A Conceptual Exploration." German Journal of Human Resource Management, 2015.
- Stone, Dianna L., et al. "The Influence of Technology on the Future of Human Resource Management." Human Resource Management Review, 2015.
- Parry, Emma, and Stefan Strohmeier. "The Impact of e-HRM on Organizational Performance." International Journal of Human Resource Management, 2014.