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Integrating Artificial Intelligence into Eco-Friendly Human Resource Management: Exploring Applications and Consequences

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Abstract:

Purpose: The study explores the applications of AI technologies within eco-friendly HRM frameworks and examines the potential consequences, challenges, and ethical considerations associated with such integration.

Findings: The study reveals that AI-driven tools offer opportunities to optimize HR processes, improve environmental sustainability outcomes, and enhance organizational performance.

Practical Implications: By understanding the potential applications and consequences of AI in this context, organizations can develop tailored approaches to promote environmental sustainability while effectively managing their human capital.

Originality/Value: This study highlights the importance of considering environmental sustainability goals alongside technological advancements in HRM practices, thereby advancing the understanding and providing practical guidance for organizational decision-making.

Paper Type: Empirical Research paper

Keywords: Artificial Intelligence, Eco-friendly HRM, HR processes, environmental sustainability.

Introduction:

In the fast-growing technical world artificial intelligence (AI) plays a predominant role in every sort of human life. Traditional businesses are continuously being transformed by artificial intelligence (AI) into "automatic factories," where human labour is minimized and talent is utilized to achieve organizational sustainability. As the global focus on environmental sustainability intensifies, organizations are increasingly integrating AI-driven solutions into their HRM practices to foster eco-friendly initiatives.

Artificial Intelligence (AI) is the term used to describe how technology, especially computer systems, can simulate human intelligence processes. Artificial intelligence (AI)

systems get better over time by learning from data, adapting to new inputs, and becoming more and more competent of handling a variety of jobs and issues. The "eco-friendly" HRM describes how HRM strategies and procedures include environmental concerns and sustainable practices. It includes initiatives to reduce how much an organization's operations affect the environment while advancing the welfare of its workers. The aim of this study is to determine the advantages and challenges that artificial intelligence (AI) poses for advancing a more sustainable and ecologically friendly approach to human resource management (HRM), providing direction for future management practices in a dynamic digital ecosystem.

Trigger for the Study:

The study originates from the growing demand on businesses to implement ecologically friendly policies and to make use of cutting-edge technology like artificial intelligence to improve HRM effectiveness and efficiency. The alignment of technical progress and environmental sustainability objectives has led to a study of the possible benefits and drawbacks of integrating AI with eco-friendly human resource management practices. Furthermore, the increasing amount of research on AI in HRM and sustainability emphasizes the necessity of examining the particular impacts and outcomes of incorporating AI technology into eco-friendly HRM frameworks. By addressing the gap, the research aims to know the impacts and applications in integrating AI into the HRM processes in order to achieve their goals of environmental sustainability and business success.

Review of Literature:

Anjali Sabale et al., (2022) study states that in HR technology, artificial intelligence plays a significant role and has the ability to either enhance or replace green HR methodologies. AI helps companies carry out any task more effectively and successfully. In addition to helping

organizations coordinate distinctive frameworks, AI reasoning is offering a phase that can improve all HR Function operations. Minisha Gupta., (2021) suggests that AI has been extremely helpful to many corporate organizations by making complex and demanding duties for management simpler. Thus, AI is required in order to start and implement green HRM systems across the company. The chapter has also made recommendations for the direction of further studies in the fields of green innovation and HRM.

Vikas Garg et al., (2018) study suggests that Human resource management (HRM) techniques and procedures have been significantly impacted by artificial intelligence (AI). Green HRM is important for the integration of corporate environmental management with human resource management because, as the current situation shows, everyone is working to create smart and environmentally friendly organizations. The field of HR technology is seeing a rise in artificial intelligence, which has the potential to either improve or replace green HRM procedures. Dr. Aarti Sharma et al., (2023) study states that there are many factors that affect organizations and their operations, including human resource management procedures, either directly or indirectly. In order to address this, it is imperative that organizations implement green workplace practices. Technology can be a major factor in implementing these environmentally friendly working practices. Therefore, the purpose of this study is to examine how artificial intelligence might help adopt green practices in order to achieve sustainable growth.

Dr. RA Rathi., (2018) study suggest that Artificial Intelligence (AI) is increasingly being used in organizations today to help with HR activities. AI may lessen the administrative strain on HR professionals and support them in making decisions based on data patterns rather than gut feeling. The modern technological words artificial intelligence (AI) and machine learning (ML) have a big impact on HRM procedures. Dr. Harisha B S et al., (2023) suggests that examines the various ways that AI is affecting HR services, with a focus on hiring and HR

operations. It explores how artificial intelligence (AI) might automate repetitive processes so HR professionals can focus their attention on more strategic and value-added work. Additionally, covered are the moral issues and difficulties brought on by the application of AI in HR, such as algorithmic discrimination and data privacy.

Fazeelat Masood et al., (2023) study suggests that Organizations may benefit from a strong synergy that might be produced by the AI-green HRM integration. On the basis of this data, more sustainable practices can be created and put into action. This chapter first provides an understanding of the importance of integrating AI with green HRM. This chapter second demonstrates the difficulties businesses encounter when implementing AI to support green HRM practices. Samuel Ogbeibu et al., (2023) suggests that Businesses in emerging economies are under increasing pressure to go green, improve their capacity to increase profits more efficiently, and maintain environmental sustainability (ES). There is increased demand on human resource management (HRM) to make sure that their initiatives support environmental goals without sacrificing the pursuit of profit maximization.

Gurunadham Goli et al., (2020) study states that as everyone is currently putting a lot of effort into building wise and excellent environmentally conscious companies, green business is essential to the integration of corporate environmental management and human resource management. An emerging area of HR technology called artificial intelligence (AI) has the potential to increase the effectiveness of HRM procedures. K. Gayathri et al., (2023) suggests that Organizations can increase the effectiveness of recruitment and selection processes and expand their pool of candidates by implementing artificial intelligence systems in human resource management. The artificial intelligence system in HRM, subjective criteria such as bias and preference are less likely to play in recruitment and selection of employees. The HRM artificial intelligence system may have a favorable effect on employees' professional growth and use.

R. Menaka., (2023) study states that Owing to developments in artificial intelligence, human resources (HR) professionals may now use calculations and AI to streamline their job processes, reduce predispositions, and improve their examination and dynamic. In the near future, as artificial intelligence continues to transform the landscape of human resource management, HR managers also need to be aware of the potential obstacles they may face. R. Bhagyalakshmi Ramadas et al., (2021) suggests that the use of AI will play a major role in the future; therefore, people should become knowledgeable about the most recent advancements in machine learning and AI technology, which can assist to simplify HRM-related issues. AI solves issues faster and with greater accuracy than we can. Artificial intelligence in HRM greatly enhances human resource potential and helps managers make the most of it.

Shreya Panwar., (2023) study states that Artificial intelligence has the potential to drastically change numerous components of human resource management, and this potential is growing as the technology develops quickly. This study looks at how employees and HR experts view artificial intelligence, including its possible advantages, difficulties, and ethical consequences for HRM procedures. The report also explores the variables impacting organizations' decisions to embrace AI-driven HRM solutions, as well as their readiness to do so. Singh Rashmi et al., (2023) Study suggests that AI has always been a crucial component of businesses and has a big impact on HR procedures, policies, and practices. The situation that has altered with the entrance of COVID-19 was never. Today, organizations are also going toward developing smart, including green HRM, and adopting sustainable operations. Organizations were thrown off guard by the pandemic and had to make numerous modifications for which they were unprepared.

Olena Sova et al., (2023) suggests that it looks at how integrated sustainable HRM is into business processes and how important it is becoming. The study examines and evaluates

the It is established that many businesses are concerned about how AI and digital HRM may affect long-term HRM and present integration issues. Prasanna Tambe et al., (2019) study states that In human resource (HR) management, there is a significant disconnect between the potential of AI and its actual application. This article lists four obstacles to overcome when using data science methods to HR-related tasks. It then suggests feasible remedies to these problems using three overlapping ideas.

Saeed Aldulaimi., (2020) suggests that an outlook on how artificial intelligence (AI) may be used in the future to comprehend the viewpoints and attitudes of human resources professionals across a range of contexts. As a result, the structure of the workforce in corporate organizations has changed. Ahmad Arslan et al., (2021) study specifically highlight the difficulties that modern organizations' human resource management (HRM) departments and executives meet as a result of the close connection between artificial intelligence (AI) and human workers, particularly in teams.

Wenhao Song et al., (2021) suggests that Green human resource management (GHRM) is essential to improve a company's capacity for green innovation and also had a beneficial impact on green innovation, and green human capital acted as a mediator in the relationship between GHRM and green innovation. In addition, the influence of GHRM on green human capital is moderated by management environment concerns. Peter Hogg., (2019) study suggests that the opportunities and challenges that artificial intelligence (AI) presents, as it does with any new and mostly untested technology. It is HR's duty to guide corporate executives toward the optimal course of action, frequently involving the use of technology. Similar to analytics, AI has enormous promise.

Mr. Vivek V. Yawalkar., (2019) study states that Artificial intelligence facilitates faster and more efficient work completion in the industry. Artificial intelligence has spread to numerous departments. By employing AI systems, organizations can leverage insights into

current operations and daily tasks. Due to increasing stress in the economic world, strict managers realized the value of AI in the workplace. Fadi Sakka et al., (2022) suggests that the first analytic pillar outlines the potential benefits of AI-assisted decision-making, which will undoubtedly liberate human resources (HR) personnel from repetitive work and allow them to concentrate deeper on key assignments. The second pillar focuses on how the HR department is positioned within businesses.

Dr. Coral Barboza., (2019) study states that AI is clearly essential to the success and long-term wellness of the company, there is also concern among workers that increasing automation could result in a decline in the employment rate. The state-of-the-art in artificial intelligence and its implications for HR are also examined. Shivani Pandey., (2020) suggests that the way that people interact with machines in the workplace is changing significantly as a result of the organizations' eagerness to adopt new developments. AI is simultaneously changing employee prospects and manager-employee dynamics.

Siham Berhil et al., (2020) states that to solve the issues and ultimately concentrate on recommended artificial intelligence techniques, all businesses have shown interest in the analysis of data pertaining to human resources and have concentrated on human capital, which is thought to be the primary factor influencing the company's development.

Research Gap:

While there has been considerable research on AI in HRM and sustainability separately, there exists a notable research gap in understanding the implications and applications of AI specifically within eco-friendly HRM frameworks. This study seeks to fill this void by exploring how AI technologies can be integrated into HRM practices to promote environmental sustainability while optimizing organizational performance and employee well-being.

Objective:

1. To investigate the integration of artificial intelligence with eco-friendly human resource management.
2. To look into the potential benefits of artificial intelligence for sustainable HR procedures.
3. To explore the relationship between artificial intelligence impacts and sustainable human resource strategies.

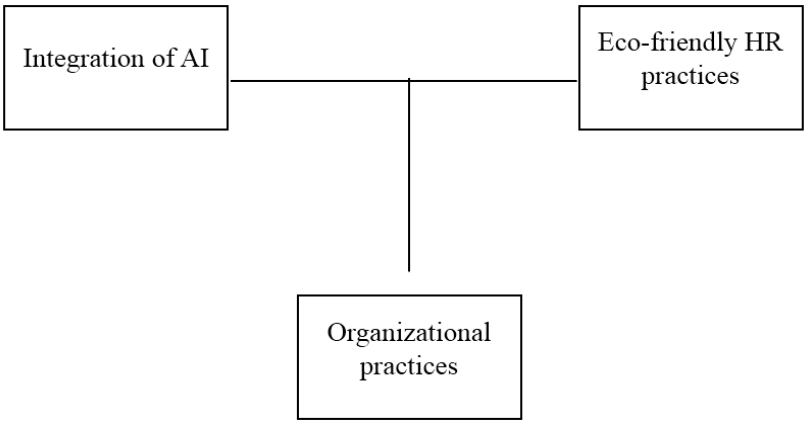
Scope of the Study:

- This study will explore how artificial intelligence (AI) can help make human resource management (HRM) practices more environmentally friendly.
- The study will focus at the different ways AI can be used in HRM to reduce environmental impact.
- The study will also examine the potential positive and negative effects of integrating AI into eco-friendly HRM and provide practical insights for organizations.

Limitations of the Study:

- The study may face limitations in generalizing findings across diverse organizational contexts due to variations in industry, size, and cultural factors affecting the adoption of AI in eco-friendly HRM.
- Due to time constraints, the study has been limited with the sample size of 120 people.

Research Model:



Research Methodology:

Research Design used for this study is the **descriptive research design**. It is also known as Ex-post facto design. The sample design opted here is judgemental sampling which is a non-probability sampling. Rather than choosing volunteers at random, specifically selected people who are competent or representative of the issue being studied.

Sample Size:

The sample size used for this study is 120 from HR people of IT Sector.

Gender	**Responses**
Male	30
Female	90

Data Collection:

Data Collection for this study is through Primary & Secondary source of data. The primary source of data is through structured questionnaire and the secondary source of data is through company websites, journals, newspaper, article.

Pilot Study:

Before going for data collection pilot study was conducted initially by giving questionnaire to 10 respondents who is highly educated in the field. Pilot study helps to know the validity & reliability of question.

Hypotheses Tested:

H1: To study the socio demographic variable affecting the integration of AI into eco-friendly HR practices.

H2: To study the positive correlation between the AI and eco-friendly HRM.

H3: To study the relationship between the awareness of AI and utilization of AI in HR practices.

Analysis and Findings:

TEST APPLIED	HYPOTHESIS TESTED	P VALUE	RESULT
Chi square	There is no relationship between the gender and the integration of AI into eco-friendly HRM	**0.056**	**Hypothesis accepted**
Correlation	There is a relationship between decision making through AI and integrating into eco-friendly HRM	**0.316**	**Positively correlated**

Correlation	There is a relationship between the contribution of AI in ecofriendly practices and recruitment process in HRM	**0.183**	**Positively correlated**
Regression	There is a relationship between the utilization of AI in HRM and the awareness of AI in eco-friendly HR practices	**0.031**	**Hypothesis rejected**

Statistical Tools:

Reliability Statistics:

Cronbach's Alpha	N of Items
.774	15

Interpretation:

The reliability value is 0.774 that states that there is a moderately high level of consistency and dependability in the methods used to integrate AI into eco-friendly HR practices.

Percentage Analysis:

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Male	30	25.0	25.0	25.0
	Female	90	75.0	75.0	100.0
	Total	120	100.0	100.0	

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24-28	78	65.0	65.0	65.0
	29-32	27	22.5	22.5	87.5
	33-36	12	10.0	10.0	97.5
	Above 36	3	2.5	2.5	100.0
	Total	120	100.0	100.0	

Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 2	51	42.5	42.5	42.5
	2-4	33	27.5	27.5	70.0
	4-6	12	10.0	10.0	80.0
	Above 6	24	20.0	20.0	100.0
	Total	120	100.0	100.0	

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HR Manager	27	22.5	22.5	22.5
	HR Executive	21	17.5	17.5	40.0
	HR Generalist	12	10.0	10.0	50.0
	Other HR roles	60	50.0	50.0	100.0
	Total	120	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduation	36	30.0	30.0	30.0
	Postgraduation	84	70.0	70.0	100.0
	Total	120	100.0	100.0	

Chi-Square:

	Value	df	Asymptotic Significance (2-sided)

Pearson Chi-Square	7.550[a]	3	.056
Likelihood Ratio	7.176	3	.066
Linear-by-Linear Association	.008	1	.930
N of Valid Cases	120		

Interpretation:

The p value is 0.056 hence there is no significant relationship between the gender and the integration of AI into eco-friendly HR practices.

Correlation:

		Decision making	Integrating with Eco-friendly HRM
Decision making	Pearson Correlation	1	.316**
	Sig. (2-tailed)		<.001
	N	120	120
Integrating with Eco-friendly HRM	Pearson Correlation	.316**	1
	Sig. (2-tailed)	<.001	
	N	120	120

Interpretation:

The p value obtained is between the range of -1 to 1, hence decision making through AI and integrating into eco-friendly HRM is positively correlated.

		AI Contribution	Recruitment process
AI Contribution	Pearson Correlation	1	.183*
	Sig. (2-tailed)		.046
	N	120	120
Recruitment process	Pearson Correlation	.183*	1
	Sig. (2-tailed)	.046	
	N	120	120

Interpretation:

The p value obtained is between the range of -1 to 1, hence contribution of AI in ecofriendly practices and recruitment process in HRM is positively correlated.

Regression:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.197[a]	.039	.031	.603

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.736	1	1.736	4.780	.031[b]
	Residual	42.856	118	.363		
	Total	44.592	119			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.322	.229		5.773	<.001
	Name	.278	.127	.197	2.186	.031

Interpretation:

The value obtained from regression is 0.31, null hypothesis is rejected, hence there is a significant relationship between the utilization of AI in HRM and the awareness of AI in eco-friendly HR practices.

Implications:

The use of artificial intelligence (AI) into environmentally conscious human resource management has the potential to revolutionize numerous organizational aspects. AI-powered personnel acquisition procedures expedite hiring, maximize resource efficiency, and lessen environmental effect. AI-powered learning solutions that enable personalized staff

development maximize the acquisition of skills while reducing the need for conventional expensive training techniques. Workforce management systems with AI capabilities can more correctly predict hiring needs, which minimizes excessive hiring and lowers energy usage. AI collaboration technologies that enable remote work reduce carbon emissions from office space and transportation, in line with environmentally sustainable practices. AI analytics-based environmental impact assessments help guide sustainable HR programs and promote corporate social responsibility. Responsible algorithmic implementation, bias reduction, and data privacy protection are all ensured by ethical AI governance frameworks. Continuous monitoring and improvement powered by AI feedback loops drive ongoing optimization, promoting organizational efficiency and ecological responsibility.

Conclusion:

In summary, organizations looking to balance technological advancement with environmental sustainability can greatly benefit from the integration of artificial intelligence (AI) into eco-friendly HRM. Businesses may maximize resource utilization, lower carbon emissions, and promote ethical decision-making by utilizing AI-driven solutions in talent acquisition, employee development, workforce management, and remote work enablement. However, in order to reduce possible dangers like algorithmic bias and data privacy concerns, it is crucial that businesses prioritize transparency, accountability, and ethical governance as they set out on this revolutionary journey. Organizations may improve operational efficiency and significantly impact environmental conservation efforts by utilizing AI as a tool to drive eco-friendly HR practices. This will ensure a more sustainable future for the earth and for businesses alike.

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