RESEARCH NOTES

AN EXPLORATION OF ARTIFICIAL INTELLIGENCE AND HUMAN RESOURCE MANAGEMENT IN IT SECTOR

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Introduction

The exploitation of machine learning will make a steep increase in the acceleration process of human resource management. Artificial intelligence is being used in the IT sector for software machines and computers. The chatbots and virtual processing are the two automation tools of artificial intelligence. Artificial intelligence becomes more specialized in replacing the labor work of humans thereby giving space to generating the value of them. Reduction in machine costs and better performance of the employees will allow the organization to change and diversify its investment. Both artificial intelligence and machine learning go hand in hand by solving problems and adapting the techniques more quickly and smartly. The transformation of the organization and the individual is made by the quicker pace of development of artificial intelligence and its implementation in human resource management.

These technological innovations transformed the place of work and changed the pattern or method of work such as what, when, how, where, and who should do their job respectively. The integration of artificial intelligence and the decision-making process of human resource management ensures that the growth and success of the organization are achieved effectively and efficiently. It has now become mandatory for each organization to upgrade its functions and develop human resource practices to attain the optimal performance of the organization. The strategic human resource management has become main-centric being backed up by the technology of artificial intelligence. Machine learning and the Internet of Things are the two strategic elements that help in tackling the challenges and threats in IT companies.

An emerging spectrum of artificial intelligence technologies helps and empowers the computer network system to follow the intelligent technologies that are made possible only with the human brain. The IT sector nowadays is focusing more on the optimization of human-based work and automated work to givea simple, creative, and endless workplace.

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Almost all the departments of human resource management are influenced substantially by the controlling of artificial intelligence. The departments that are influenced by artificial Intelligence are the training, marketing, sales, and service departments. The process of training and engaging the workers, andgiving them perks isone of the things that are influenced by artificial intelligence technology. The article gives a precise picture of both the challenges and opportunities in implementing artificial intelligence in human resource management within the information technology sector.

Review of Literature

Seema Bhakuni (2023), intelligence-based jobs are performed with the help of artificial intelligence technology and are designed in such a way to perform the job of a person. Artificial intelligence plays a major role in handling human resources in the IT sector of organizations. The effect of artificial intelligence is seen not only in the specific part of the organizations but also in its functions as a whole. The benefits of artificial intelligence are speed, quality, and reducing the burden of doing routine work among employees. The main challenge is that organizations are not regularly or constantly ready to adapt to these new technologies.

Dr. P. Bharani Kumari and A. Hemalatha (2021), noted that the technology of artificial intelligence is being practiced extensively in all the last sixty gates in many areas are branches of science and technology. It has now become mandatory for persons in human resources. Management to know the basics and should be familiar with the function of the application of artificial intelligence in human resource management as it is considered to be a crucial area of the organization There is an expert opinion of artificial intelligence which has a high chance of overtaking the humans and replacing them and reducing the demanding worldwide. Some other experts believe that artificial intelligence is a sophisticated tool that will not replace humans. The perception of employees towards the application of artificial intelligence technology in human resource management leads to investigating and deriving the results by attaining success in the organization.

Kranthi Adepu, Kiran Agarwal, Jaya Chitanshi, Asha Nagendra, Jajamul Islam (2020) article suggests that the perception of human resource executives is to examine and analyze the implementation of artificial intelligence in human resource management of the IT sector. The convenient method of sampling is utilized for the collection of data. The sampling was limited to managers and executives of the human resources working in various IT organizations. The studies reveal that there has been a positive perception of adapting artificial intelligence in human resource management that brings major changes to the practice of adapting human resources. The organization interested in improving the

practice of human resources can implement artificial intelligence for success in the environment.

Richa Verma and Srinivas Bandi (2020), the article say that the ability of machines such as think grasp, and accomplish the tasks processed by humans is attached to the adaptation of artificial intelligence technology. The growth of artificial intelligence has been vast over the recent years which plays a vital role in helping out IT companies for better and quicker decision making especially in human resource management.The part of artificial intelligence is high as it carries out the process of recruitment with much expediency and competence and also in selecting the employees for the right job. It helps in further enhancement of the functions of human resource management.

Gurinder Singh, Garima Bharadwaj, S. Vikram Singh, Vinay Kumar (2020), paper on the role and effect of artificial intelligence are vast and have exploded in many areas of organizations. The research focuses on many major areas where the features of artificial intelligence are being covered and also brings the notice of the effect of artificial intelligence in human resource management. With the emergence of new technologies that also impact the industry of I t sector. This technology of artificial intelligence is being implemented in his organizations to increase their output and manage the employees who show their willingness to adapt to the changes for the success of the organization. Is technology adoption model Has a significant effect in analyzing the perception and employees' interest in adapting artificial intelligence in human resources management.

Richa Verma, and Srinivas Bandi(2019), in their article say the changes in information technology have brought wide changes in human resource management through the integration and application of artificial intelligence. This change has forced the IT sector companies to utilize artificial intelligence to upgrade the efficiency of human resource management. The process is initiated by the automation in the recruitment of the employees till the appraisal based on their performance. Certain challenges make us think that artificial intelligence is a threat to the organization but in general, it is considered as a boon through which the success of the organization is achieved.

Nishad Nawaz (2019), notes the inference of artificial intelligence in human resource management is specifically high in the process of recruitment. The swapping of humans is prevalent in a few software-based IT companies. That is a positive impact of artificial intelligence in the recruitment process of human resource management which denotes the replacement of humans by the adaptation of this technology. The main concern is the recruitment of qualified and talented staff who can help out with the sustainable development of the business.

Artificial Intelligence in Organizations

Artificial intelligence plays an important role in increasing the efficiency of the organization with the use of automation processes. The collection and analysis of data have to be understood and applied properly to get the desired results. Both artificial intelligence and machine learning help in increasing the performance of the employees and the organization as a whole by applying new or creative ideas in the business. The process of robotic automation is being used regularly in the streamlining of business operations. Artificial intelligence through innovation accelerates the growth and development of the organization helps in the research process and provides solutions to problems. The organization should follow the ethical considerations of artificial intelligence to ensure its proper and safe use of it. The concern regarding the security and privacy of data can be overcome by ensuring the confidentiality integrity and availability of data. The merging of artificial intelligence and business organizations makes a successful collaborative approach among machines and human beings.

Information Technology

The using of hardware software services and managing to deliver the data or information through any means of technology is known as information technology. The basic elements of information technology include security technical support by computers developing software and managing the data and network. The major benefits of information technology are improvement in communication, increased productivity, effective decision-making, processes of streamlining, and higher access to knowledge and information. Since the information technology sector is evolving steadily, the employees or professionals have to update their skills continuously to survive in this competitive world as there is a need for digital skills namely analyzing, coding of data, and machine learning.

Artificial Intelligence in IT

Artificial intelligence has the potential to analyze historical data and predict problems relating to hardware or software system issues and find solutions for them. The optimization of artificial intelligence in the operation of information technology with the process of automation of tasks or performed continuously by allocating the sources. The artificial intelligence helps in making computer programs and developing algorithms that are useful for performing tasks namely decision-making, speech recognition, and identifying the patterns of data. Artificial intelligence plays a vital role in manipulating the challenges of the information technology sector. The integration of artificial intelligence in the IT sector has various benefits including enhancement of efficiency productivity and process of innovation.

IT in Human Resources Management

The information technology is used in making important decisions concerning hiring and selecting employees. The uses of IT in human resource management are many namely

F   Collection of data and analysis ofthe tools

F   Tracking of resources and optimizing the systems

F   Effective platforms for communication

F   Creating innovative methods and adapting them to the organization.

F   IT and human resource management together ensure the use of technology and processes. Help the employees fulfill those needs and have a positive impact on their sustainability.

Objectives :

F   To observe the impact of artificial intelligence in human resource management.

F   To identify the opportunities and threats of implementing artificial intelligence in human resource management.

F   To analyze the functions of human Resource practices and improve them by adapting the techniques of artificial intelligence.

F   To assess the perception of employees by the utilization of tools of artificial Intelligence in human resource management.

F   *To study the intention of integrating Artificial intelligence and functions of human resources that have become one of the most technological changes in recent days.

Hypothesis

F   There is an association between the factors of artificial intelligence.

F   There is a mediating effect of easy to implement between strategies of planning with AI and increase efficiency and effectiveness of HRM.
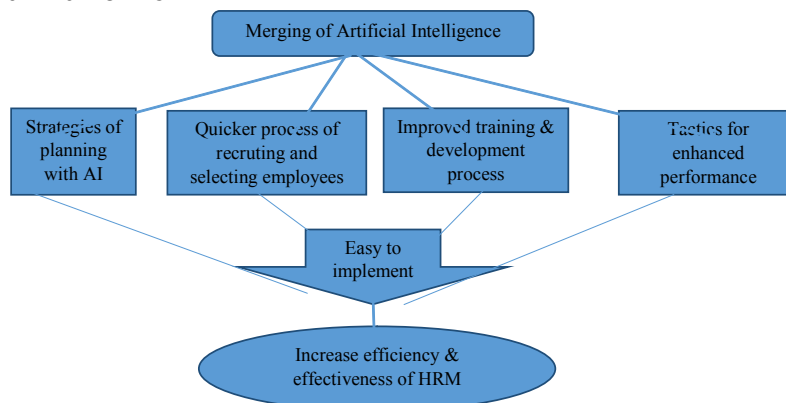
Conceptual Frame Work

Figure 1.1: AI in HRM

Methodology :

Collecting the data is done through various secondary sources, namely research papers magazines, journals, human resource blogs, and websites. The study is carried out on a descriptive basis and is entirely dependent on the secondary source of data. The data gathered is useful for finding the impact of challenges and opportunities for the exploring of artificial intelligence in human resource management of the IT sector. The information technology and its growth are achieved along with the influence of artificial intelligence and its tools.

Research Questions :

1. What is the perception of artificial intelligence technologies in human resource practices based on the talent and qualification of employees?

2. What is the potentiality of artificial intelligence and its impact on human resource functions in the IT sector?

3. Is there a possibility of sustainability brought by artificial intelligence for controlling the process of human resource management?

4. Are the IT companies Aware of artificial intelligence-powered human resource management technologies?

Analysis and Interpretation

Descriptive Statistics

Table 1.1: Descriptive Statistics

	Mean	Std. Deviation	N
Strategies of Planning with AI	3.700	0.531	604
Quicker Process of Recruiting and Selecting Employees	3.500	0.470	604
Improved Training & Development Process	3.754	0.468	604
Tactics for Enhanced Performance	3.532	0.582	604
Increase Efficiency & Effectiveness of HRM	3.902	0.346	604

Mean

The mean scores for the variable such as Strategies of Planning with AI(3.70), Quicker Process of Recruiting and Selecting Employees (3.50),Improved Training & Development Process(3.75), Tactics for Enhanced Performance(3.53), and Increase Efficiency & Effectiveness of HRM(3.90). Among all the above variables, the highest mean score goes

to Strategies of Planning with AI. It means that aforesaid all the reasons for Increase Efficiency & Effectiveness of HRMfactorsare evenly dispersed but mostly dispersed on Strategies of Planning with AI. It can conclude that the artificial intelligencewillIncrease Efficiency & Effectiveness of HRM.

Standard Deviation

The above table indicates the SD scores for five factors are Strategies of Planning with AI(0.53), Quicker Process of Recruiting and Selecting Employees(0.47),Improved Training & Development Process(0.47), Tactics for Enhanced Performance(0.58), and Increase Efficiency & Effectiveness of HRM(0.35). According to the correlation matrix identify the Increase Efficiency & Effectiveness of HRMhas a low SD, whereas Tactics for Enhanced Performance has a high SD, indicating that the data is spread out over a wide range of values.

Pearson's Correlation Analysis

Table 1.2: Correlations Analysis

	Strategies of Planning with AI	Quicker Process of Recruiting and Selecting Employees	Improved Training & Development Process	Tactics for Enhanced Performance	Increase Efficiency & Effectiveness of HRM
Strategies of Planning with AI	1	.633**	.398**	.596**	.424**
Quicker Process of Recruiting and Selecting Employees		1	.410**	.700**	.465**
Improved Training & Development Process			1	.123**	.441**
Tactics for Enhanced Performance				1	.436**
Increase Efficiency & Effectiveness of HRM					1
**. Correlation is significant at the 0.01 level (2-tailed).					

Testing of Hypothesis

There is an association between the factors of artificial intelligence.

The Correlation coefficient among Strategies of Planning with AIand Quicker Process of Recruiting and Selecting Employeesis.633, which shows 63.3% of positive relationship among Strategies of Planning with AIand Quicker Process of Recruiting and Selecting Employees at 1% level of significance. The Correlation coefficient among Strategies of Planning with AI and Improved Training & Development Processis.398, which shows 39.8% of positive relationship among Strategies of Planning with AI and Improved Training &

Development Process at 1% level of significance. The Correlation coefficient among Strategies of Planning with AI and Tactics for Enhanced Performanceis.596, which indicates 59.6% of positive relationship among Strategies of Planning with AI and Tactics for Enhanced Performance at 1% level of significance.The Correlation coefficient among Strategies of Planning with AI and Increase Efficiency & Effectiveness of HRMis.424, which indicates 42.4% of positive relationship among Strategies of Planning with AI and Increase Efficiency & Effectiveness of HRMat 1% level of significance.

The Correlation coefficient among Quicker Process of Recruiting and Selecting EmployeesandImproved Training & Development Processis.410, which shows 41% of positive relationship among Quicker Process of Recruiting and Selecting EmployeesandImproved Training & Development Process at 1% level of significance. The Correlation coefficient among Quicker Process of Recruiting and Selecting EmployeesandTactics for Enhanced Performanceis.700, which indicates 70% of positive relationship among Quicker Process of Recruiting and Selecting EmployeesandTactics for Enhanced Performance at 1% level of significance. The Correlation coefficient among Quicker Process of Recruiting and Selecting Employees andIncrease Efficiency & Effectiveness of HRMis.465, which indicates 46.5% of positive relationship among Quicker Process of Recruiting and Selecting Employees andIncrease Efficiency & Effectiveness of HRMat 1% level of significance.

The Correlation coefficient among Improved Training & Development Process andTactics for Enhanced Performances.123, which indicates 12.3% of positive relationship among Improved Training & Development Process andTactics for Enhanced Performance at 1% level of significance. The Correlation coefficient among Improved Training & Development Process andIncrease Efficiency & Effectiveness of HRMis .441, which indicates 44.1% of positive relationship among Improved Training & Development Process andIncrease Efficiency & Effectiveness of HRMat 1% level of significance.

The Correlation coefficient among Tactics for Enhanced Performance andIncrease Efficiency & Effectiveness of Hrim's.436, which indicates 43.6% of positive relationship among Tactics for Enhanced Performance andIncrease Efficiency & Effectiveness of HRMat 1% level of significance.

Mediation Analysis

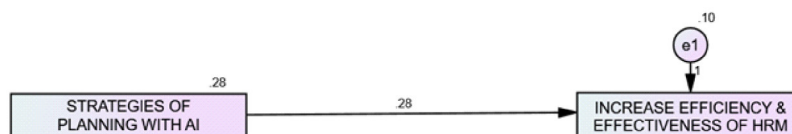Effect of independent variable on dependent variable without the effect of mediation variable.

Figure 1.2

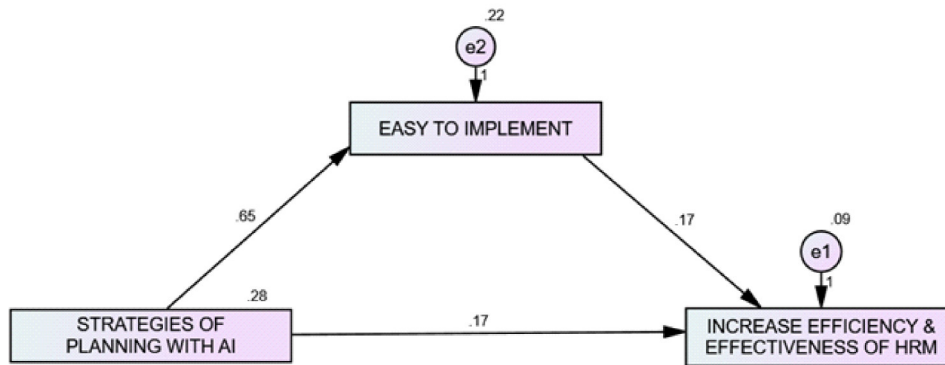Effect of independent variables on dependent variable with the effect of mediation variable

Figure 1.3: With mediating effect

Testing of Hypothesis 2

There is a mediating effect of easy to implement between strategies of planning with AI and increase efficiency and effectiveness of HRM.

Table 1.3: Effect of independent variable on dependent variable

Relationship			Effect without mediator	Effect with mediator
Increase Efficiency &Effectiveness of HRM	<---	Strategies of Planning with AI	0.424*	.170*

This study revealed that Strategies of Planning with AI affect Increase Efficiency & Effectiveness of HRM after the mediation variable controlled. The impact ofStrategies of Planning with AI on Increase Efficiency & Effectiveness of HRM with mediator and without mediator is significance at 5% level. Thus, the mediation effect is partial.

Discussions :

F   The anticipation of integrating artificial intelligence in human resource management is much higher when compared to that of human resources in performance related to tasks and activities.

F   Some experts feel that humans cannot be replaced by machines henceforth using them as supporting devices to complete their tasks.

F   The study of artificial intelligence and deep learning suggests the fact that the mission will help in forecasting the results and humans will make proper decisions for the sustainable growth and development of the business.

F   There will be a rise in competition among business organizations to utilize the technology of artificial intelligence to sustain the top spot in the market.

F   Tracking, managing, examining, and safeguarding the data is possible when adopting artificial intelligence in human resource management.

F   The information technology sector is well organized and the working capacity of the employees is done by the promising adaptation of artificial intelligence in human resource management.

Conclusion :

The role of artificial intelligence is very crucial to carrying out various functions of human resource management, thereby handling the process of recruitment hiring selection performance appraisal of the employees, training, and development allocation of jobs, reducing the workload, and enriching the efficiency of the workplace. The impact of artificial intelligence in human resource management is highly noticeable in the process of hiring that enables the recruitment of employees who are talented and up-skilled in their work. There are also a few challenges in this concept where the expert opinion conveys high chances of overtaking human beings replacing them and reducing the demand globally, Recruitment of employees who are mentally fixed in adapting to the changes in technology and upgrading themselves with it is also the biggest challenge. The organizations should continuously update with the techniques and tools of artificial intelligence. The challenges can be overcome by adapting the technologies of artificial intelligence and implementing it efficiently and effectively.

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