3. Efficacy of Artificial Intelligence in Human Resource Management

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ABSTRACT

Technology like artificial intelligence is defining modern paradigms for conducting business. It is a solution that automates and completes the majority of low-value HR tasks so that the strategic scope of work can receive more attention. AI has the potential to drastically alter the employee experience across the board, from hiring to talent management, by quickly and accurately analysing vast amounts of data. AI skills are reaching new heights and shaping the way we live today.

Any organization's success depends on how well its people, processes, and technology work together to deliver value at the lowest possible cost. The majority of back office transactional labour is automated with artificial intelligence, allowing for speedy service delivery. The core objective of the study was examining the role of artificial intelligence in HR functions and understands the challenge in HR department.

The study focuses on the efficacy of AI in various functions of HRM like recruitment, learning and development, performance management employee relations. The data for the study are collected from various journals, research papers, HR blogs and websites.

The study has concluded that a role of AI is larger into various functions carried out in human resource department whereby robotics companies can handle recruitment, hiring, analysing the data, collecting the data, reducing workload at workplace and enriching workplace efficiency.

KEYWORDS

artificial intelligence, machine learning, recruitment, talent management, learning and development and performance management.

Introduction:

Artificial intelligence is a technology that is defining modern corporate operating practices. It is a solution that automates and completes the majority of low-value HR tasks so that the strategic scope of work can receive more attention. AI has the potential to drastically alter the employee experience across the board, from hiring to talent management, by quickly and accurately analysing vast amounts of data. AI skills are reaching new heights and shaping the way we live today. Any organization's success depends on how well its people, processes, and technology work together to deliver value at the lowest possible cost. The majority of back office transactional work is automated with artificial intelligence, allowing for speedy service delivery.

In order to overcome cognitive problems and make machines "think like humans," artificial intelligence is largely a technological instrument. Its main elements include high-speed computation using sophisticated machine algorithms to handle and process enormous amounts of data. At present, Artificial Intelligence is driven by two important technologies that is machine learning and deep learning. Machine learning makes it potential to produce and forecast outcomes based on certain data patterns, which aids in making the appropriate decisions. Algorithms can theoretically learn from stored data without being explicitly programmed to do so. Deep learning is a more complex form of machine learning that uses neural network design to analyse a lot of data. Deep learning defines and establishes fundamental parameters around data and then lets the machine discover patterns on its own to learn. It can manage much more and more complicated data. Because of the advancement of AI-enabled technology, the amount of manual labour required by the HR department has substantially dropped, but their efficiency has skyrocketed. In the past few years, the human resources sector has employed AI and ML solutions to streamline decision-making, daily operations, easier onboarding, and the hiring process.

Review of Literature:

According to **Anupam jauhari (2017)** in the paper titled how AI and machine learning can affect HR practices today depicts AI is growing more relevant and changing how firms use and carry out every operation. Recruitment is made easier for professionals by machine learning technology, which uses chatbots to complete all tasks.

AI screens candidates and notifies them via email of their acceptance or rejection. Deploying digital technologies is something that 53% of businesses are prepared to do, yet only 22% of them have done so, according to an analysis of the India report of Delloite's 5th annual global human capital trends.

According to **Prasanna Vatsa and Kusuma Gullamjji (2019),** In the paper titled "To Study the Impact of Artificial Intelligence on Human Resource Management", It is clearly claimed that the incorporation of AI-based applications into HR operations would undoubtedly have a greater impact on improving organizational performance. The report shows that AI is used extensively in HR, including in hiring, training, onboarding, performance analysis, retention, and other areas. However, due to the high cost of incorporating AI into HR operations, many firms are still lagging back.

According to **Albert Christopher (2019),** In his article names as "Use of Artificial Intelligence in Human Resource Management, the author says that AI – based applications raise employee productivity. While concentrating on employee needs and outcomes, it has the capacity to evaluate, anticipate, diagnose, and become a more capable resource. However, there are difficulties like privacy, a talent gap, maintenance, integration capabilities, or a lack of applications that have been tried and true.

AI systems must be carefully managed by locating trustworthy learning data sets, choosing the best implementation strategy, looking for clarity, removing bias, and taking unintended consequences into account.

According **Jennifer Johansson and Senja Herranen (2019),** In the paper titled "The Application of Artificial Intelligence in Human Resource Management", it is mentioned that the application of AI to recruitment is new and that few businesses have integrated AI into every stage of the hiring procedure. It also states that the primary advantages of AI are the accelerated quality and elimination of repetitive jobs, while the primary obstacle is the level of total company readiness for the emerging technology.

According to **Scott W. O'Connor (2020)**, In the article titled Artificial Intelligence in Human Resource Management, artificial intelligence will continue to influence human resources management in a beneficial way in the years to come. Additionally, HR professionals need to be more aware of the difficulties they can encounter.

Therefore, in order to be ready for the future of human resource management, professionals should take the required efforts to learn about the most recent developments in the industry and to establish a solid base of HR knowledge upon which they may build.

Technologies in AI That Revamp HR Functions:

Robotic Process Automation (RPA):

The first AI in HR solution, robotic software known as robotic process automation (RPA), can reduce the repetitiveness of many professions by freeing employees from monotonous work so they can work on more engaging and meaningful tasks. The grading and screening of resumes is an example. By comparing resumes to job requirements, AI can choose the best candidates from a vast pool of applicants. It can then alert them, schedule interviews, or even reject them.

AI systems used in HR are highly sophisticated, allowing for complicated decision-making while reducing procedures. Another area where AI in HR may simplify procedures is onboarding. Each employee may have different credentials and papers to complete depending on their department and job.

The RPA system can rapidly determine and access the required forms for each employee by providing an automated intelligent process. The system as a whole provides the opportunity to increase employee engagement at work, allowing them to return to their core responsibilities and resulting in more productive personnel overall.

Cloud-based HR Platform Services:

Large businesses can choose from a variety of services provided by cloud-based suppliers like Google or Microsoft to personalize their HR IT solutions. Predictive analytics, for instance, can be helpful if the company wants to invest in employee engagement.

A tool like this may identify productivity dips, foresee potential flight risks, and pinpoint staff members who could be prepared for career options by reading data from across the organization. Through identifying patterns in employee data, this kind of intelligent technology can aid in rewarding employees as well as developing and retaining talent.

Accessibility is a benefit of a cloud-based system; these systems provide mobile apps, enabling workers to access and use HR services while on the go.

Data Workbench:

Data silos occur when departments across an organization use different systems that can't communicate with one another. They can also happen within one employee's workflow when switching between platforms. Keeping the data apart in their own separate systems means HR departments can't weigh one data set against another. One solution to this is the data workbench.

For example, OneModel is a platform that integrates data from disparate sources, whether online or offline, enabling companies to compare data from different systems and create analytics based on a fuller picture. This AI-assisted tech can help companies recognize patterns between disparate data and help create strategic insight.

Micro services:

Employing a microservice is an option for businesses that want to deploy AI aimed at particular tasks without completely overhauling their systems. One illustration of a microservice is Traitify, which provides candidates with sophisticated evaluation tools by swapping out conventional word-based examinations for image-based ones to determine which personality traits are most appropriate for different job tasks.

A microservice can be an excellent approach to test out AI solutions when HR teams see a specific need within their hiring (either for increasing efficiency or for better data-backed decision-making).

AI First Suite:

This kind of AI solution for HR is made to function as a complete intelligent system, giving engagement methods and predictive data to keep prospects and workers interested throughout the employment lifecycle. Ascendify is one instance of a company that provides services from the very beginning of hiring by performing duties like assessing the top candidate referral sources. In order to manage staff retention, it also provides each employee with a "virtual career coach."

Embedded AI:

AI software tools are a common feature of the platforms used by tech services. Pandologic's pandoIQ, a complete programmatic recruitment platform, is an example. In order to streamline the hiring process, increase productivity, and find qualified individuals based on data, this system automates posting job ads in the most intelligent way possible. It makes use of potent AI algorithms for a variety of daily operations carried out by HR experts, such as budget optimization and job classification utilizing natural language processing. With embedded AI, each step of the hiring process includes an AI component that is already there to swiftly and effectively locate qualified applicants and make decisions along the way.

Impact of AI in Various HRM Functions:

Traditional recruitment techniques can be replaced with AI-based hiring solutions since they are more effective, accurate, and efficient overall. These cutting-edge solutions analyse massive amounts of data using AI algorithms, automating various steps of the hiring procedure from job posting through candidate screening and selection. By utilizing artificial intelligence and its solutions, businesses can enhance their hiring procedures, lessen human prejudice, and increase the calibre of the candidates they select. HR can use artificial intelligence to assess job descriptions and resumes, find the most qualified candidates using machine learning algorithms, and predict candidate performance using predictive analytics. Businesses can automate the hiring process with the aid of recruiting automation software. These include of reviewing resumes, conducting interviews, and on-boarding new hires. Additionally, this technology can be used to analyse job descriptions in order to determine the key competencies required for a given position. As a result, it ensures each applicant is qualified for the job for which they apply. Selecting the best job prospects from among hundreds of job applications can be a significant challenge throughout the candidate sourcing process. This is where AI can assist and automate the talent sourcing process by searching across numerous databases and channels for possible individuals who fulfil the job requirements; AI can also review resumes and job applications to find the most suitable applicants based on their abilities, experience, and qualifications and rank them accordingly during the screening process; Chatbots can help to schedule interviews once HR identified the best candidates for the job vacancy. HR can even choose to conduct a middle-stage automated interview before inviting a candidate to an in-person interview. Candidates can respond to a set of questions, and AI technologies can evaluate their emotional intelligence overall as well as their facial expressions and speech tones. This may make it easier for HR to select individuals who best suit the corporate culture. It seems sense that large corporations like Google, Facebook, and Apple are already utilizing these techniques in their hiring processes.

AI Powered Learning and Development:

AI has the potential to improve and augment learners' educational experiences in learning and growth. With its many qualities, AI aids in learning and development. Through assessing a learner's performance and customizing the curriculum or content to suit their requirements and preferences, AI makes it possible for each learner to have a unique learning experience. AI-powered tutoring programs can offer students individualized advice and support as they progress through the curriculum.

These technologies can also assess student performance and modify the curriculum to meet individual requirements. Videos, tests, and other interactive educational resources can all be produced automatically by AI. For educators and trainers, this can result in savings in both time and resources. AI can design assessments that modify the level of difficulty based on the learner's progress. This can offer a more precise assessment of the learner's knowledge and skills. Virtual assistants and chatbots powered by AI can offer learners round-the-clock assistance by responding to their inquiries and guiding them through the course material. AI can forecast learning outcomes, spot at-risk learners, and offer tailored interventions to help them become better. By using AI to grade assignments and tests, instructors can dedicate more of their time to higher-level activities like giving comments and interacting with learners. Course materials and other educational resources can be translated into many languages using AI, increasing their accessibility for students all around the world. A rapidly expanding field, AI in Learning and Development, is continually producing creative application in education. The goal of utilizing AI in L&D is to enhance the learning practice, improve the efficacy of instruction, and provide learners with more personalized and effectual education.

AI Powered Performance Management:

It has become more crucial to find efficiencies through technologies like AI and make the proper data-driven decisions in order to grow the business and get ready for the future. Businesses have begun employing artificial intelligence to conduct performance reviews. In an AI-powered performance management paradigm, data collection is continuous and automatic. The performance appraisals can therefore be ongoing. AI examines a centralized collection of data from earlier reviews and from numerous sources in addition to the data that has been gathered. As a result, judgmental errors are eliminated, and the employee performance assessment gains greater significance. Performance management with AI is entirely data-driven. It has no personal preferences. It gathers information from various sources, eradicating the room for error in the data itself. So, AI can help HR to provide unbiassed feedback that can help the employees as well as the organization. AI-powered performance reviews sift through enormous quantities of data to produce projections that take into account the employee's career development and performance record in addition to the review's findings. This is essential for assessing an employee's potential and determining the most suitable goals. The manager may be better able to recognize promotions and determine incentives with its aid. AI enables managers to double-check their decisions and ensure the accuracy of the feedback they give. It will aid managers in developing and provide a larger range of facts and information about the workers they are evaluating. In traditional performance appraisal method, managers are enforced to rely on an employee's perception and their own view of an individual's outcome. There is just more data available for AI-powered performance assessments. This can also help managers provide feedback more effectively because they can use specific metrics to back up their positive comments about employees or to show them exactly where they can do better in terms of output and job performance. AI may conduct regular intelligent surveys as part of the continuous performance review and collect feedback in real-time; it can also provide the employees with individualized insights based on those surveys or even self-evaluations. This will facilitate improved communication between management and employees and provide a more accurate picture of the daily successes and difficulties that affect both individuals and the organization as a whole.

Table 3.1: Some of The Ai Tools Used by Companies Are Listed Below:

AI Tools	Key Features Used In HRM Functions
Pymetrics	Gamified assignment & assessment Candidate-job matching
AmazingHiring	Collaborative recruitment Connecting features like email and messaging prototypes
ICMS Talent Cloud	Applicant Tracking System Recruitment marketing
Oracle Recruiting	Employee onboarding Insights and analytics Cloud- based technology
Skillate	Candidate screening Reporting and analytics
Textio	Real-time language analysis & feedback Job posting optimization
Eightfold	Candidate experience management Career path assistance
HireVue	Pre-employment assessments Interviewer training Video interviews
Entelo	Candidate sourcing and engagement Candidate relationship management (CRM)
Harver	Pre-employment assessments Scheduling video interviews Candidate experience management
Whatfix	Contextual help Performance support & Interactive guides On-boarding
intelliHR	Performance management Compliance management Employee management

Conclusion:

AI-based HR interventions have the potential to significantly increase employee output and assist HR managers in improving employee performance and experience. By automating time-consuming processes, improving accuracy, and providing valuable data on workforce trends, AI and ML solutions are transforming HR departments. With the use of these technologies, HR professionals will be able to grow their careers and improve their staff while also having a greater strategic influence. Having said that, HR managers must have the necessary training, knowledge, and experience for using these technologies.

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