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HUMAN RESOURCE AND ARTIFICIAL INTELLIGENCE - INTERPRETING THE APPLICATIONS, IMPLICATIONS, SOLUTIONS FOR A FUTURE-READY ORGANISATION

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Abstract

All companies are looking ahead to analyse data associated with human resources and are more inclined on human capital, which is the major driving factor for the development and all their activities of HR policies. HR analytics will definitely improve profitability of the businesses in the long term. Artificial Intelligence has been widely studied across various industries. This study will focus on the use of AI and its effect on HRM practices with advancements in Internet and Communication Technologies (ICT).

It is an extensive study on various implications, risks, and applications of AI reported by HR experts and review of several studies on modern technologies which have been proposed to combat these issues. It will serve as a reference and archive to various data scientists working on HR by suggesting IT solutions which have been made already till date. It is aimed to clearly present the implications of AI in HR and present solutions for a future-ready organisation. It summarises the recent approaches and tools used by the researchers. The paper is based on the use of AI in HR practices, benefits of AI, applications, solutions and road ahead. Both machine learning and AI are two of the most important tech trends for driving accurate decision-making and staff management. HR staff should be encouraged to use the latest technologies and undertake the obstacles.

Keywords: *HR policies, HR practices, AI, Machine Learning, ICT, HR experts, Human Resource Management, HRM, IT solutions*

1. Introduction

AI is gaining a lot more traction than before over the years. With the advancement of the internet and influence of technology in cultural and socio-economic aspects, AI has been the forerunner of several companies' operations. AI is attracting huge industry investments and governments are also looking forward to making the most of this technology for the common public. Big Data analysis and "Internet of Things (IoT)" has been combined to make an ideal environment for novel applications in human resources (Rathi, 2018).

Organisations are widely moving towards AI and analytics to improve several functions of their business. It is still important to find out whether it is making its way into the field of HR. Human Resource is a step ahead in digitalization and AI is now offering the opportunity to avoid repetitive tasks, speed up talent hunting, minimise attrition of employees, and boost employee engagement. In HR, the "people analytics" is associated with collection of data on employees and measurement of metrics. AI is well referred to as the part of machine learning where applications can learn to make decisions as per the data available. Significant changes have been made due to advancement of technology over the past decade in HR. Cutting-edge data-based technology is constantly moving ahead to the HR industry as businesses are vastly focusing on developing employee-based corporate culture. The modern aspects of technology, machine learning and AI

are known to have great implications for HRM practices. AI transforms and breaks down the data into a user-friendly format through machine learning. It scans data to determine patterns and alters the same for programmed actions.

1.1 Background

HR is going to rely on both manpower and digital technologies as HR leaders are focused on optimising both automated and manual work. HR is getting a new priority in which teams and leaders are aimed to be fluent in AI where they reconsider HR to be more human, personal, and innovative. As we are in the 21st century, the combination of human intelligence and artificial intelligence will definitely transform workers and work culture as well (Meister, 2019).

HRM has been through great transformations due to diversification of HR issues and it strengthens its influence in informed decision-making by the management. These days, HRM is focusing more on tailored HR practices which consider the specifics of all targets. The key here is to support managers to attain better collaboration among the generations. Companies can make the most of employee records with HR analysis to make informed decisions and boost their operational performance (Marr, 2006; 2016).

When corporate leaders are looking forward to a world where digitalization is rising, machine learning-based AI technology is promising to redefine HR practices at various levels like staff training, hiring, career counselling, incentives, mobility, and perks to attract more talent; to evaluate and treat nominations instantly; ensure suitability of position and profile; and predict added value of candidates to the company. These are some of the key challenges for any HRD (Michalski et al, 2013; Kamaruddin et al, 2019). Losing one or multiple talented employees to any competitor is one of the toughest situations for any company which is aimed to be competitive and modern (Bratton et al, 2021). HRD can put performance indicators with the help of AI about their workforce, on the basis of inside information, which is cross-referenced with market insights and competitors' data.

2. Literature Reviews

Around 38% companies are using AI at their workplaces and 62% companies are still planning to start using AI in the near future. According to Deloitte, 33% employees wish their organisation to be powered by AI in future. If a digital system can manage repetitive tasks, it would be a whole lot easier for employees to take more time for innovative and creative tasks (Sen, 2018). IBM also uses AI to deal with various important questions for new entrants to improve their productivity. AI statistically learns and predicts some common scenarios and makes decisions as per several criteria (Ahmed, 2018).

It is possible to integrate AI with "Emotional Intelligence (EI)" where several machines use structural programming, reasoning, and automated learning and gain skills to recognize human feelings and emotions. These machines also provide data to direct, guide, behave, think, and control emotions as per the change in environment. Those modern systems can be helpful to work with humans digitally with rational and logical decision-making (Jain, 2017).

Automation is going to replace all mundane tasks with less human intervention. AI can be used to screen CV, text computerised messages, and also do reference and background check (Verma, n.d.). Global HRM is aimed to cross the $30 billion mark by the end of 2025. AI, technological advancement, and machine learning are working fine in HR functions for professionals to perform traditional practices quickly and easily. A lot of HR professionals are planning to invest in predictive analysis, AI and other automation projects (Rao, 2019). The time required by a team to filter CVs from thousands of requests from online portals can be shortened for hiring new employees in a company and also helps HR on boarding without any bias and they can also hire technically skilled candidates for the right positions (Rajesh et al, 2018).

2.1 Research Gap

The modern HR practices have been capable of developing the foundation for AI applications. AI improves efficiency of the management for maintaining, validating, and gathering data needed by the company. The technological advancement is going to replace mundane tasks with minimal human intervention and AI is helpful in several hiring practices like sending text, screening CV, and reference checking. In some cases, AI works better than human teams to improve employee retention. It is found that simple HR activities are being done by AI to enable employees to deal with complex situations. This research is aimed to fill the gap between HR and AI by analysing recent applications, solutions, and implications to make organisations future-ready.

2.2 Research Questions

i. What are the current applications of AI in HR departments of modern workplaces?
ii. What are the major challenges that are affecting the implementation of AI in organisations?
iii. What are the possible solutions to make organisations future-ready?

2.3 Importance of the Study

AI is going to have a significant impact in repetitive works which are based on rules and demand high accuracy. There are different techniques like "robotic process automation (RPA)" that can reduce costs, speed up activities, and avoid errors until input data is right. Data is the heart and soul of the organisation for HR employment and helps in decision-making. The IT department will also play an important role by ensuring that the data is up-to-date, clean, and complies with protocols. They can make the process more accurate and efficient. All in all, human intervention is still needed to recheck gaps and errors. This study will serve as a foundational support to the organisations in terms of hiring, training, performance management, and case study.

2.4 Research Objectives

i. To investigate the applications of AI in HR management practices
ii. To find out implications in using AI for HR department in an organisation
iii. To discuss possible solutions to make organisations driven by AI and stand out in competition

3. Research Methodology

To fulfil the above research objectives, this study is based on secondary data collected from various resources, papers, journals, online sources, and news portals to determine modern advances in HR practices and implementation of AI in their operations.

4. Analysis of Study

4.1.What are the current applications of AI in HR departments of modern workplaces?

AI is well regarded as the next-gen technology which can think, plan, feel, and conduct tasks which improves productivity of employees without any hindrance (Jia et al, 2018). There are three major categories of AI systems with respect to HR, namely, bots, voice recognition, and algorithms. These AI systems can compile data in HR by solving backend issues and verifying information (Murgai, 2018).

- **Voice Recognition** – This application is capable of transforming data into ideal videos, words, and search websites, broadcast data to analytical tools on its own and in the ideal format of text or speech. HR managers use AI assistants in organisations and they usually rely on this technology (McGovern et al, 2018). This technology is preliminary aimed to make actions on the basis of voice commands like controlling office and personal devices, opening websites and files and other relevant commands (Yawalkar, 2013).
- **Bots** – This solution searches the web for keywords in major search engines. This tool is used to ask queries, extend chatting functions, provide directions and guidelines (Vitaud, 2018). It is vital to improve existing AI systems with various changes to solve complex issues. Even the easiest decisions and problems have a lot of complexities and need a lot of variables to solve. AI can quickly search and perform repetitive tasks (Tiwari et al, 2015).
- **Algorithms** – These are simply instructions and codes which should guide and follow AI functions step by step. Smart algorithms are helpful to automate several HR functions like gathering business intelligence, managing important performance indicators, dissemination of data, and tracking social media activities of candidates and employees (Garg et al, 2018a).
- **Shortlisting and Recruitment –** Organizations often have a large pool of resumes to screen and shortlist and pick the right candidate for the job. It is a very tiresome job for HR professionals. This way, AI applications can check the resumes, scan the same, and reject the ones which are not ideal for the position (Garg et al, 2018b). AI programs can screen resumes and select the right candidate. In addition, chatbots can enhance user experience and update the suggestions and requirements to the candidates. AI programs can determine the choice of words, body language, and speech for the candidates with audio visuals and analyse characteristics of candidates who deserve the position (Garg et al, 2019).
- **Training –** Dynamic competencies are widely required at work. AI needs an application which is capable of suggesting learning programs or videos associated with the experience and job roles. These programs read documents and prepare small learning programs accordingly (Gupta et al, 2019). AI programs provide personal training programs most of the time, such as conversion of written documents in podcasts. One can use AI learning programs properly for employee retention which promotes innovative learning (Tripathi et al, 2012).
- **Employee Retention** – Hiring talented workforce is most challenging at one time and it is also challenging to hold talented teams in the group. It is the most serious and toughest job for 57% of organisations. AI is capable of breaking

down this issue and its usage is capable of predicting the actions and needs of employees. It is helpful for HR professionals to be proactive and make important actions before anything wrong happens (Bhardwaj, 2018).

- **Performance Enhancement** – Evaluating performance of an employee is not simple for an organisation due to biases in the environment. AI eliminates this biasness and rectifies issues related to feedback. AI-based applications are capable of determining constant objective and teamwork among the staff members (Rajesh et al, 2018). AI is aimed to direct the workforce and improve work in an organisation. It is capable of gathering data in various perspectives like performance data, engagement of employees, and reasons behind employee turnover. AI is capable of forecasting performance indicators of capable employees and also helps staff who should change positions (Rajesh et al, 2018).

4.2.What are the major challenges that are affecting the implementation of AI in organisations?

Here are some of the major challenges that organisations face related to the implementation of AI in their workplaces (Rathi, 2018) –

- **Financial crunches** – This is one of major challenges due to lack of proper implementation of AI tools for conducting administrative roles. When there is no value among senior leaders in AI for HR roles, it is not worth justifying the cost.
- **Interpretability and Transparency in Decision-making** – Things like state or corporate confidentiality or technical knowledge often restrict the transparency on algorithmic decisions. It is not easy to understand the logic behind the internal decision of the model even for a programmer, the decision making further becomes complex due to machine learning.
- **Security and Safety** – There are plenty of challenges associated with proper deployment of AI as it interacts and learns in its setting. Malicious actors may also subjugate autonomous systems in order to manipulate the algorithm. For example, attacks attempting to manipulate systems or spam filters for unusual detection of network traffic.
- **Governance** – AI is known to have premature governance even in this day and age. The existing efforts for governance of ethical dimensions are related to implementation of AI. It is important to ensure a rational approach in the regulatory domain to ensure the benefits of digital technologies.
- **Accountability** – It is a serious and unexplainable issue on taking a specific action. This issue has become more frequent with the advancement of IoT. Faults cause more damages in algorithms and accountability is very important for operator, manufacturer, and programmer. Training data may be the issue instead of algorithms alone with AI. It may be the liability which brings change like in various fields.
- **Lack of expertise** – It is another major issue for adoption of automation in organisations. In addition, technology is mainly used by HR for administrative tasks only. People should really think of how this emerging technology can be vital in the workplace and focus more on it while taking a reactive and proactive approach.

4.3.What are the possible solutions to make organisations future-ready?

Companies must have incentive to invest in the latest technology or they would be unable to do the same. This way, capital owners should admit that machines are going to be cheaper than people and they will deliver better results too. In the UK, the recession over the past 10 years has shown unwillingness in investing more on new equipment due to uncertainty in the businesses and preference on the use of temporary and cheap labour. The new digital firms have made the most of easy technology and it is aimed to enhance flexibility in the workforce and reduce cost.

In addition, a lot of AI predictions have exemptions that new technology would be embraced well and it would lead to positive and early gains in productivity. History often teaches that the road to improvement is even more difficult. Let's take an example of the latest technology in the coal industry. Initially, it affected productivity as it affected team working ethos and social setup of miners (Trist and Bamforth, 1951). One couldn't expect the same disruption when shifting to an AI-dominated world. Here are some of the potential solutions to major issues with implementation of AI –

- **Don't overlook consumer and employee objections**

The acceptance of AI by applicants, contractors, and employees is also a matter of concern. Managers and their team will promote more accurate and faster HR processes. They might prefer better quality information when it comes to making choices. They might be familiar with bots to make recommendations. It is relatable where it is evident that AI works with human intelligence rather than replacing it. However, 61% of candidates prefer physical interviews over online procedure, according to a "ManpowerGroup Solutions" survey (Brown, 2018). According to researchers, people choose personal connections and feel cultured as it can be a differentiator of selection. Same results have been achieved by the "Hays' What Workers Want" report. People are pleased to use social media and mobile apps when looking for a job but want personal interaction once they have selected employers (Hays, 2018).

The load of responding to plenty of assessments and online tests has been put on candidates (Buranyi, 2018). They need to frame themselves with employers' methods. It is very time-consuming and they also don't get proper feedback on how they were not selected without any human element. It also lures some people to trick the system by putting false information to manipulate the system.

- **Don't ignore the alerts of AI system against threats**

Considering the recent concerns on interference from Russians in presidential elections in the US, using fake news and misinformation, and hacking into cyber systems may lead to gruesome consequences. In the context of an organisation, there are chances that unethical or malicious actors could breach the system, make changes to algorithms, and steal sensitive data. The previous Morrisons case is based on the cost of malicious private data usage, it seems to be a far-fetched and serious problem till date (Faragher, 2018). The exposure grows by being more reliant on AI. Inner changes may not be seen but blatant intervention can be. Well-planned processes may be corrupt in different ways in operations as systems can be manipulated as per their needs, especially when they observe that it doesn't deliver the right answers. People might underestimate or ignore until technology is affected. Managers might overlook the alerts from AI systems and rely more on their intuition, despite the solid evidence given by the AI. Hence, AI is supposed to predict better than humans (Agrawal, 2018). There are also chances of false information recorded by the users for getting the desired answer.

5. Results

Ever rising big data, computation power, and more theoretical knowledge are making AI technologies more advanced. However, organisations should not overlook the implications of this transformation. The coordination between technology and people at work is very subjective and it is important to adapt to the situation to improve positive potential and reduce ill effects of AI. On the basis of several sources discussed in this study, following are some tips to make the most of AI for HR applications –

- HR professionals should be clear on their goals and objectives. Is AI just a value addition or cost-reduction practice?
- AI must be driven according to business needs instead of technology. However, it could find out ways to transform the business. Technology investment is critical if business is aimed to achieve predictable answers and improve consistency. If the business is aimed to innovate with creativity, emotional and fair engagement, they should keep encouraging employees.
- HR experts should find out where their digital gaps and strengths are, and their odds to grow and unblock bottlenecks to shorten turnaround time to analyse data and manage huge volumes of data.
- They should develop solid professional and personal connections with IT staff to seek new opportunities and find out wider implications for an organisation.
- A "data-driven HR function" must be developed by HR leaders and they should develop such skills quickly on their own.
- They should ensure that humans learn from systems and vice versa, and build a learning attitude and change in HR staff.
- When it comes to AI rollout, they should determine the ideal point where human intervention is needed and is not counterproductive.
- They should test systems in different situations prior to the rollout to ensure acceptance and generation of results efficiently.
- It is also important to enhance transparency and ensure proper understanding of AI.
- It is important to learn to think of errors in a structured manner. It is worth understanding that both machines and humans make mistakes.
- They should understand how AI works and enhance transparency.
- They should seek plenty of small changes instead of waiting for a big change and evolve as business grows.

6. Conclusion

AI plays a very vital role in several HR functions and is rapidly being an alternative to several mundane jobs without human intervention. AI is aimed to give better performance than humans by increasing employee retention and minimising turnover rate. Machine learning and AI has been used by a lot of companies in HRD where AI is very important for selection, hiring, recruitment, performance analysis, providing real-time data, accurate data, and gathering employee data.

AI-based programs will help deliver best results for the HR management. The HR team can have freedom to undertake more sensible roles and assignments which are very important for the performance of an organisation. AI is

helpful to reduce administrative load on them and make better data-driven decisions instead of relying on their guesswork alone. AI is also helpful for hiring, retaining best talent, and eliminating favouritism.

In addition, the use of AI is expected to rise up as technology gets more reasonable and trusted. There are strong financial benefits for the growth of latest technologies to take place as quickly as possible without spending time on expensive risk analyses. These unfavourable situations are known to increase the risk as the team eventually loses their control on technology. There is a need to maintain balance between automation and human decision-making.

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