Analysis of Recent Advances in Artificial Intelligence for Human Resource Management

Hamdan Hasan Al-Onizat
Assistant Professor
Department of Management Information Systems, Faculty of Amman College, Al-Balqa Applied University,enizat80@bau.edu.jo

Abstract—Perhaps people once thought AI was something out of a science fiction novel. The majority of today's working population, however, is well aware that smart technology is actively reshaping the business world. It's true despite the fact that AI has traditionally been associated with science fiction. Human resources are one of the most notable uses of AI today, but it is not an exception to the rule that AI can be used to practically any sector or profession. According to the results of a recent survey conducted by Oracle and Future Workplace, human resource professionals are optimistic that AI will open up opportunities for learning new skills and gaining more personal time. Human resource experts will be able to take on greater responsibility and play a more strategic role inside their companies as a result.

Keywords—Digital, Artificial Intelligence, Internet, Human Resource.

I. INTRODUCTION

As technology advances rapidly, artificial intelligence (AI) has permeated almost every industry. AI is increasingly a fixture in our workplaces as more companies use it to improve employee experience and company performance. Human resources, in particular, is becoming more technologically advanced and efficient. As the founder of a workforce software company, I've worked with several HR departments in many industries (Tuff Aha). These HR departments use AI at different stages. AI is increasingly powering job matching and applicant communication, including application feedback. It has been found from the discussion of Tambe et al. (2019) artificial intelligence may help most by eliminating human prejudice and improving candidate assessment and communication. AI doesn't merely match keywords, and there's enough time to talk to each candidate. Manually, stuffing the CV with keywords may deceive the machine and get it to a human. Data driven decision making process through the use of AI has helped the HR department of an organization to manage the internal matter effectively.
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II. OBJECTIVE

The following are some of the goals that the study attempted to accomplish:

- To do research on artificial intelligence in the field of human resources;
- AI applications in HR;
- Five Real-World Examples of AI at Work in HR;
- The Prospects for HR in the Future

III. METHODOLOGY

However, 81% of HR executives in the survey stated it was challenging for them to keep up with the fast pace of technology change in their workplaces. We were able to put together this data thanks to their responses to the questionnaire. Human resource professionals, then, need to know more than ever before about how artificial intelligence (AI) is changing the corporate landscape. In particular, this is more accurate now than at any time in the past. This is because AI is having a more far-reaching impact on the industry than on any other sector of the economy. To learn more about what AI is, how it is being used to the field of HRM, and how current HR professionals may begin preparing for the future of their sector, keep reading this article.
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IV. ARTIFICIAL INTELLIGENCE IN THE FIELD OF HUMAN RESOURCES

Artificial intelligence (AI) is a game-changing technology that automates occupations and replicates human capabilities for faster and more efficient performance.

AI allows robots to do tasks like humans, but faster and smarter. AI-powered computers, devices, systems, and applications can solve complex issues, interpret and process natural language, and much more. Here, Sima et al. (2020) mentioned, due of its sophistication, AI is used in many industries, including HR. In 2022, artificial intelligence in human resources will enable firms to simplify processes and boost productivity. AI in human resources is used to automate operations, boost productivity, save operational costs, reduce corporate risk, and remain competitive in the digital age. AI in human resources also improves employee experience,

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retention, and firm-employee relations. (Palos-Sánchez et al. 2022)

Human resources (HR) professionals worldwide are using AI and ML to automate their daily tasks. Organizations are using AI to manage their HR. This accelerates recruiting and boosts production and increase the productivity of the organization (Haenlein & Kaplan, 2019).

AI and ML in HR will also benefit businesses. Businesses may save money by automating laborious tasks. HR professionals may accelerate and achieve organizational objectives using smart AI technology (Lee et al. 2019). Thus, AI is exceptional in human resource management. It streamlines operations and reduces costs.

Several consultancies and recruitment agencies, small and medium-sized firms, and multinational organizations seek to switch to AI-based recruiting in the human resources industry. AI-based recruiting is rising in the human resources management business to attract the talent to the organization faster than the competitors (Krishnan et al. 2022).

V. AI APPLICATION IN HR

Recruiting and on boarding, improving processes, enhancing the employee experience, and automating administrative tasks are all areas where AI has found use in human resources.

Hiring/On boarding

There are certain companies that use AI in the employment process. In the 2019 Global Human Capital Trends report, Deloitte found that just 6% of respondents thought their technology recruitment processes were best-in-class, while 81% stated they were average or below-average (Deloitte, 2023). Experts may rethink their procedures in light of this cutting-edge tool.

Artificial intelligence (AI) might help both the hiring company and the applicants throughout the whole process. By creating more intuitive forms, AI might streamline the application process and reduce the number of incomplete or abandoned submissions. (Li, 2022)

In addition to streamlining the HR department's application process, this method also encourages applicants to submit more thorough and relevant applications. Using AI in the HR department has eased the process of keeping track on the activities of employee (Yang et al. 2020). Monitoring the operational behavior of the company and its employee has helped in bring effective changes.

Humans have been rediscovered with the aid of AI. Artificial intelligence (AI) systems that maintain databases of past applicants may evaluate the pool and suggest the best possible candidates for open positions (Nankervis et al. 2022). Human resources specialists may be able to use this technology to locate qualified candidates more rapidly and easily than ever before.

The on boarding process begins after hiring managers have located a suitable individual. An enormous plus of AI is that it allows for on boarding occurring outside of regular business hours (Ahmed et al. 2020).

Chatbots and mobile applications powered by AI mean that HR is always available for new hires. This enhancement reduces the burden of paperwork and speeds up the on boarding process for employees.

Retention and Movement

AI has the potential to enhance the processes of hiring, promoting from within, and rewarding loyalty in employees. Human resources departments may be able to more accurately evaluate employee engagement and job satisfaction using the use of employee recognition tools and customized feedback questionnaires (Bag et al. 2021). The organization as a whole benefit from this knowledge, and it is crucial for satisfying employee needs.

The Human Resources Professional Association suggests that artificial intelligence software might evaluate workers' important performance criteria to decide whether they should be considered for a promotion. Apart from that, the use of effective tools that can help in tracking and monitoring employee performance which can help the company to make any promotional plan or warning proposal respectively for employees (Raisch & Krakowski, 2021). The changes in working process after the pandemic can get relief though the use of AI aas handling worker in hybrid work process is a challenging factor. This might increase employee retention and decrease the expense of recruiting new workers. To date (Kalia & Mishra, 2023),

The software can also estimate who could willingly depart the team. This information might be used by HR experts to implement preventative measures and reduce the likelihood of employees leaving the organization (Lee & Yoon, 2021).

Automation of Office Procedures

Utilizing AI in human resources has the same benefits as utilizing it in other fields and industries: Human resources professionals may focus on long-term planning if routine, low-value tasks are automated (Agrawal et al. 2019). As a result, HR may develop into a vital resource for companies.

Benefits management, application screening, and appointment setting are just some of the tasks that may be automated by clever tech. Each of these is critical to an organization's success, but the labor involved is tedious, leaving HR professionals with less time to help their staff in meaningful ways (Howard, 2019).

Artificial intelligence might be useful for automating routine office tasks. Eightfold found that businesses with HR departments that use AI technologies were 19% more

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productive. The HR team's newfound flexibility might be put to use in strategic corporate planning (Duan et al. 2019).
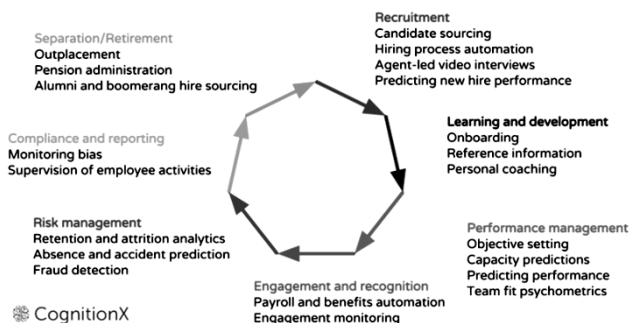

FIGURE 1. ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE

VI. FIVE REAL-WORLD EXAMPLES OF AI AT WORK IN HR ENTERPRISES EMPLOY AI IN HR IN SEVERAL WAYS.

Access
Sonia Mathai, Globality's chief human resources officer, says AI helps with 24/7 assistance.
AI-powered chatbots answer employee questions on employment, perks, and training.

Turnover
By tackling employee turnover in the face of fast expansion, Spark dog helped a major collision repair chain save $1 million in associated expenditures.
The automobile service has over a thousand staff and seven hundred outlets around the country. There was a 40% yearly turnover rate among crucial staff members including mechanics, painters, and customer service agents. In Rogers (2021)
Spark hound utilized Microsoft Power BI to develop an AI-based regression model to investigate the relationship between pay, education, and remarks made by departing employees. The resulting dashboard provides managers with real-time risk indicators for each employee and recommendations for preventative action (Varma et al., 2023)
Employee retention, happiness, HR costs, and revenue rose quickly.
Artificial intelligence lets Spark hound's head of people strategy, Sandy Michelet, reallocate human resources' time from mundane tasks to strategic ones. Swati Choubey & Dr. Bahman Zohra (2021). Understanding the requirement of employees can be easy through the easy documentation system of AI. This process is able to help the HR of an organization to increase employee wellbeing and well and ensure the retention effectively (Johansson & Herranen, 2019).

SOPs
The ADP Research Institute (ADPRI) has created a way to assess HR service quality and identify factors that affect talent brand, desire to resign, and employee turnover.
It collected this data from 25 countries by tracking a range of measurements and indicators. HR Experience Scores (HRXPS) result.
The test shows that employees who have one HR contact are twice as likely to like their company. HR is 7.4 times more likely to be value-promoting after seven contacts.
The conclusion is that employee retention is influenced by HR-employee engagement.
DP Research Institute director of people and performance research Marcus Buckingham said, "while companies have always tried to better understand what contributes to the talent brand, we now have a studied metric to effectively measure the HR function." "While companies have always tried to better understand what contributes to the talent brand, we now have a studied metric to effectively measure HR function."(Malik et al., 2023)
Based on our findings, HR is crucial to building a strong talent brand. To the extent that increased HRXPS is influenced by increased employee involvement, higher specificity in the services provided, and a more individualized experience thanks to a centralized point of contact. The industry's formerly HR-free stance has been reversed thanks to this highly placed representative of a single point of contact.

Automate
AI may also aid HR with automation. Mathai, a Globalist employee, said that HR departments are using AI systems to help them achieve more with less. HR workers may focus on employee relations by automating transactional and repetitive tasks using AI (Berhil et al. 2020).

Staff Benefits
HR spends a lot of time managing benefits. AI-driven automation in this industry might save manual labor and allow HR to enhance services to employees.
Michelet claims Spark hound has implemented this method internally. AI chat bots answer benefit questions. A feedback button lets the bot evolve.

VII. THE PROSPECTS FOR HR IN THE FUTURE
Human resource professionals should be aware of the various barriers they may confront despite the obvious positive influence that artificial intelligence will continue to have on the field of human resources management in the years to come.

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The majority of HR managers' complaints center on the widespread need for more intuitive and safe AI software. The major barrier preventing people from utilizing AI at work is, in fact, people's worries about privacy and security incursions (Duan et al. 2019). In addition, 31% of those who participated in the Oracle survey preferred talking to a real person rather than a machine at work. Human resources experts of the future will need to be well-versed in the evolving trends and new technologies so that they can effectively address these challenges. (Kalia & Mishra, 2023)

Highgrove warns that users of this technology must consider the potential ethical and privacy issues that may come from doing so. To paraphrase "In the field of human resources, the use of AI may include exploiting confidential information to generate confidential insights."

One way in which businesses may earn employees' trust and demonstrate respect for the personal information they provide is by obtaining explicit permission to acquire such data through technological means (Sodhro et al. 2019). However, businesses are equally concerned about the security of their data, so HR managers must take precautions.

In order to prepare for the future of the field of human resources management, professionals in the field should take the time to learn about the most recent innovations in the field and build a solid foundation of HR knowledge upon which to expand (Song et al. 2020).

FIGURE 2: - ARTIFICIAL INTELLIGENCE IN HR

CONCLUSION

As it develops, AI promises to dramatically alter many aspects of human resources management. Recruitment was the first step, but the process has now grown to include everything from current workers' development and output to succession planning. As the HR department's role evolves, I predict that it will soon require a new approach to workforce

analysis and a refocused effort on training and progression in order to keep up. Many current work and workforce settings will need to be rethought for powerful AI capabilities to give more focused insights from complex data sources. There is nothing like in the human world. The good news is that we don't have to, since the synergy between AI and human intellect produces the best outcomes. Human resources managers might provide more value to their organizations by employing several AI systems to improve workplace efficiency and productivity. Whether or whether they are ready for this shift as individuals and as a group is not obvious. You need just comply with the stipulated directives, since they are not very complicated.

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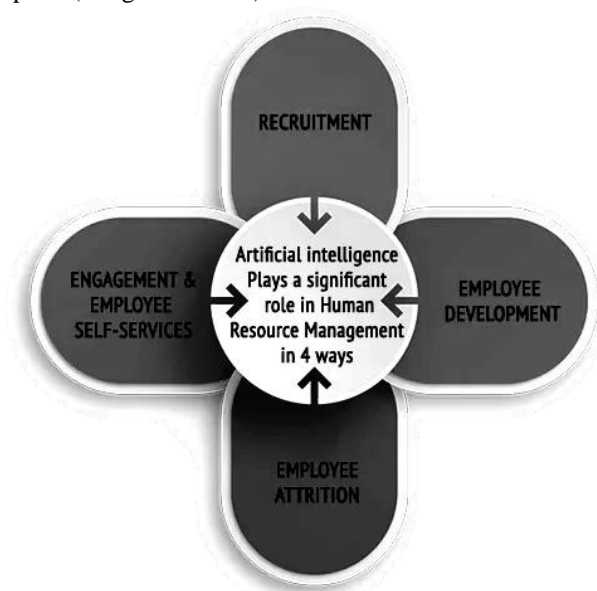
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