



An Empirical Study on the Role of Artificial Intelligence in Human Capital Management

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Abstract

The world began to change and adapt accordingly to the dynamic technological advances. As same as the application of advanced technology in the present day is known as Artificial Intelligence (AI) which is referred to as the development of computer systems that perform tasks typically involving human intelligence. AI is being observed to be applied to various fields of business, especially to Human Resources being one important wing among the list. AI interferes with learning, reasoning, problem-solving, and understanding natural language. AI is increasingly used in human resources to help drive decisions in employee hiring, retention, and development. It can also be applied to automate tasks like payroll, but it's being also used for the rapid creation of new policies, contracts, job descriptions, interview questions, etc. This empirical study is conducted to illuminate the concepts, impact, role, and recent trends of AI in Human capital management. Hence, an overview of the scope of AI in Human capital management has been built in the study.

Keywords: Artificial Intelligence, Human Resources, technological advances, human intelligence, business, Human capital management.

1. Introduction

The most heard and explored phenomenon of Industry 4.0 is conventionally known as Artificial intelligence. It is a broad term that encompasses several types of technology applied to various wings of present-day world business and applies to human resource management as well. AI is immensely used in human resources to drive decisions about hiring, retention, and employee development [1]. It is also implied to automate important tasks such as payroll management, rapid creation of new policies, contracts, job descriptions, interview questions, and so forth. AI is also used to anticipate and plan for outcomes using predictive analytics and machine learning. In other words, AI refers to the development of technological software that can perform tasks typically based on human intelligence that involve capabilities like learning, reasoning,

problem-solving, and understanding natural language [2,3].

2. Multiple Avenues AI is intervening in Human Capital Management

The human resources (HR) department has seen a transformation because of advancements in artificial intelligence (AI) technology. HR professionals may now use machine learning and algorithms to improve their analysis and decision-making, minimize biases, and expedite work procedures. However, some organizations are hesitant to deploy AI for further use cases due to existing limits and vulnerabilities. Here we will go over some of the ways AI is artificial intelligence is making its mark in human capital management:

i. Recruitment: AI assists employers in finding the best candidates by comparing resumes and job descriptions of capable candidates. Workable is a

fantastic example of this; in addition to parsing resumes for employers, it also uses the information it gathers to compile a list of suitable applicants that it scrapes from LinkedIn and other websites. It will even compose an email to those prospects enticing them to apply for open positions, as shown in Figure 1 [4-7]. AI is also being used more and more in the evaluation process to do personality tests, video interview insights, and much more. By doing this, the employer not only avoids wasting endless hours of labour but also guarantees that no qualified applicant is passed over because of weariness or human error.



Figure 1 Various Ways of AI in Human Capital Management

ii. Performance Reviews: An AI-powered system records and analyses employee performance data all year long for the HR head who has to give performance reviews for the team. This system takes into account things like finished projects, participation in the project, and peer reviews. When it comes time for the review, the HR director receives a mail with a detailed report outlining each team member's accomplishments, opportunities for growth, and evolution over time. By doing this, the evaluation process becomes less subjective and more equitable for the team.

iii. Employee On-boarding and Off-boarding Processes: It's common for new hires to feel overburdened by paperwork and procedures, but now with an on boarding platform powered by AI it

would be hassle-free for both the organization and the candidate. The AI platform guides newly hired staff members. Subsequently, the platform also guides new hires through the required paperwork, presents them with the company's policies, and even schedules their first training sessions. The new hire feels less anxious and more accepted as a result. Similarly, AI can handle off boarding chores including returning business property, handling exit questionnaires, and other tasks that ensure a smooth transition for both parties when an employee leaves the organization. It's a win-win situation for both parties to gain from the scenario.

iv. Employee Engagement Initiatives: Employee sentiment is a difficult concept for HR departments to effectively assess. This procedure can be automated with a survey tool driven by AI. An AI tool analyses the results of a brief, interesting survey that employees can complete anonymously and honestly. The survey can be automated. As a result, trends and problem areas are found, giving HR departments the knowledge they need to raise employee engagement and happiness.

v. Talent Development and Training: AI can customize training programs for each learner by analyzing their unique learning preferences, styles, and performance data. By tailoring the activities and content to each individual's needs, this personalized method maximizes the effectiveness of the learning process. AI personalizes learning and development programs for employees as per the needs and requirements of employees. Therefore, the AI platform analyzes employee skills and career ambitions based on his role and goals, and the AI recommends specific training courses, webinars, or workshops. Most of the employees appreciate this personalized approach, which motivates them to actively engage in their career development.

vi. Workforce Planning: An artificial intelligence (AI) program may forecast which roles may need to be filled in the upcoming year by evaluating data such as industry trends, company growth objectives, and competencies of the current workforce. This enables the management to plan ahead and strategize, guaranteeing that the business always has



the correct talent. The same reasoning holds true for the rest of the organization, so even a global C-suiter might benefit from these resources to broaden their viewpoint.

vii. HR Chatbots and Virtual Assistants: And last, an AI Chatbot acts as a round-the-clock HR helper. Workers can enquire about benefits, leave regulations, and other topics with the chatbot. This improves the entire experience for employees while enabling the HR team to concentrate on key duties. Employees receive prompt replies to their questions.

3. Metrics Depicting On How HR Teams are Embracing AI

The majority of the 250 HR leaders surveyed for Eightfold AI's report *The Future of Work: Intelligent by Design* stated that they are already utilizing AI for various HR functions, including payroll processing and benefits administration (77 percent), hiring and recruitment (73 percent), performance management (72 percent), and onboarding new hires (69 percent). Ninety-two percent of HR leaders want to employ AI more in the future in at least one HR domain. Performance management (43%) is ranked highest, followed by hiring and recruiting (41%), payroll processing and benefits administration (42%), onboarding new hires (40%), and employee records management (39%). Most wish to increase their consumption in the next 12 to 18 months. This is consistent with recent research indicating that the use of AI in HR is anticipated to increase in the upcoming years. According to IDC's *Future of Work 2022* research, 60% of the world's 2000 largest companies will use AI and machine learning (ML) tools this year to support the full employee life cycle. Eighty percent of the world's 2000 organizations, according to the authors, will utilize AI/ML-enabled "managers" by 2024 to hire, fire, and educate staff. Indeed, two years ago, there was news that Amazon was firing employees using bots or algorithms. According to Amy Loomis, research director at IDC, stack ranking is already a commonly utilized technique in HR. A statistical method for comparing employee performance to that of other employees is called stack ranking. Stack rating software analyses

employee performance and makes recommendations based on that data. For example, it may suggest that management intervene, that underperforming employees receive further training, or, in the worst-case scenario, that employees who perform below expectations be fired. It might even go so far as to fire workers who rank in the worst 10% of performers. To counteract this trend, New York City approved legislation requiring businesses to check for biases in their AI-powered hiring tools. Businesses who break this law will be fined [8,9].

4. Upsides of Artificial Intelligence to the Human Resource Department

Even though change might be intimidating, HR departments can benefit greatly from AI solutions since they streamline processes and promote better decision-making [10-12]. Among these advantages are the following:

i. Improved Efficiency: HR specialists can concentrate on developing strategies by using AI to automate time-consuming and repetitive duties. Additionally, AI enhances decision-making by providing insightful data through predictive analytics and human resources. AI, for instance, can improve hiring efficiency by expediting the process of screening and choosing candidates. Algorithms may evaluate resumes, identify the best prospects, and provide data to recruiters so they can make more informed recruiting decisions.

ii. Reduced Costs: Large data sets can be analysed by AI-powered software to find patterns and trends and recommend economical fixes. AI, for example, provides information about your hiring sources that provide the best candidates, allowing you to adjust your hiring budget or eliminate inefficient recruitment avenues. According to the McKinsey Global AI Survey, 27% of HR respondents claimed their implementation of AI reduced costs by less than 10%, while 23% reported an average revenue rise of 6% to 10%. Workforce deployment, talent management optimization, and performance management, and organization design were the HR domains included in this survey.



iii. Better Decision-Making: AI makes it possible for your HR procedures to gather and analyze data, removing prejudice and speculation and ensuring that you are selecting the top candidates or providing the finest benefits and compensation package. For instance, using recruiting data mining to identify problems enables you to approach them unbiasedly. Observing your hiring metrics, you are able to:

- To cut hiring costs, pay attention to metrics related to costs, such as the effectiveness of job advertisements and the cost per hire
- To speed up hiring, focus on speed-related key performance indicators (KPIs), such as time to fill and time to hire
- To increase the quality of hires, pay attention to KPIs related to quality, such as the new-hire retention rate and turnover rate

Conclusion

On route to final thoughts, we conclude that the majority of HR leaders nowadays use AI across a wide range of tasks, like employee records management, payroll, recruitment, on boarding, and performance management. AI might eventually be able to hire and fire workers in addition to handling more complicated jobs like responding to employee inquiries from HR and sharing wage information in the coming future [13]. Using AI in Human capital management has many advantages, but there are drawbacks as well like AI solutions have limitations and are vulnerable to cyberattacks. Therefore, this article explores various ways the knowledge of AI can be utilized for HR professionals and employers with a view to improving current HR processes and considerations while switching to AI-powered HR tools.

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