

AI & Human resources management: changes & challenges.**Berrouche Youcef**

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Abstract:

Since the emergence of the human resources management profession and the confirmation of its importance and impact on the success of organizations, its evolution has not stopped. This is due to the rapidly changing external and internal environment, driven by technological advancements and evolving employee expectations. While these changes offer numerous opportunities for innovation and improvement, they also pose significant challenges that HR managers must effectively manage in terms of talent and organizational culture. Adapting to these changes requires a proactive approach, continuous learning, and a commitment to fostering an inclusive and engaging workplace.

One of the most impactful factors on the evolution of human resources management is the technological and artificial intelligence aspect, which has led human resources management to transition into digital HRM. This approach has supported some human resources management practices. Particularly in terms of time, quality, and crises, has been aided by this transition. However, the fundamental change that has had the most significant impact on most of its practices is artificial intelligence. The latter has almost touched upon all human resources management practices, from recruitment and development to retention of human resources. This impact carries both positive and negative implications, which we will explore in this article.

Keywords : Artificiel intelligence ; Human ressources management ; Talent management.**Jel Classification Codes :** O15 ; j24**ملخص:**

شهدت إدارة الموارد البشرية تطورا مستمرا منذ نشأتها، مدفوعا بالتغيرات المتسارعة في البيئة الداخلية والخارجية للمنظمات، وخاصة في ظل التقدم التكنولوجي وتنامي تطلعات الموظفين. وقد أفرزت هذه التغيرات فرصا واسعة للابتكار وتحسين الأداء، لكنها فرضت في المقابل تحديات جديدة أمام مديري الموارد البشرية، خصوصا في ما يتعلق بإدارة المواهب وتعزيز الثقافة التنظيمية. ومن أجل مواكبة هذه التحولات، أصبحت الحاجة ملحة إلى اعتماد نهج استباقي يقوم على التعلم المستمر وبناء بيئة عمل شاملة ومحفزة.

وفي هذا السياق، برز الدور المتنامي للتكنولوجيا والذكاء الاصطناعي كأحد أبرز محركات التحول في مجال إدارة الموارد البشرية، حيث أسهما في ظهور ما يعرف بإدارة الموارد البشرية الرقمية. وقد مكن هذا التحول من تحسين عدة ممارسات إدارية، خاصة من حيث الكفاءة الزمنية، جودة الخدمات، والتعامل مع الأزمات. إلا أن التأثير الأعمق والأكثر شمولاً جاء من الذكاء الاصطناعي، الذي طال جميع وظائف إدارة الموارد البشرية تقريباً، بدءاً من التوظيف والتدريب، إلى الاحتفاظ بالكفاءات. هذا التأثير يحمل في طياته مزايا وتحديات متعددة، وهو ما يسعى هذا المقال إلى تسليط الضوء عليه وتحليله.

الكلمات المفتاح : إدارة الموارد البشرية، الذكاء الاصطناعي، إدارة المواهب.

تصنيف JEL: O15 ; j24

I. Introduction:

Human resources management has evolved significantly due to various technological advancements and evolving employee expectations. The transition into digital HRM has aided HRM practices in terms of time, quality, and crisis management. Artificial intelligence has significantly impacted HRM practices, from recruitment and development to retention, with both positive and negative implications. Adapting to these changes requires a proactive approach, continuous learning, and fostering an inclusive workplace.

I.1. Research Objectives:

- To define the concept of artificial intelligence.
- To understand the importance of artificial intelligence in HRM practices.
- To study the changes of artificial intelligence in HRM.
- To study the challenges of artificial intelligence in HRM.

I.2. Research Methodology:

The research study is using descriptive research design. Data has been collected from research papers, published materials, online websites, books, and survey reports published by various research organizations.

AI encompasses a wide range of techniques, from algorithms and conversational AI to decisional AI and machine learning, to name a few. Moreover, the number of practical applications of AI is increasing rapidly. AI can be divided into weak AI and strong AI, with the latter also known as ‘general artificial intelligence’. This type of AI refers to a machine that is endowed with consciousness, sensitivity and intellect and is capable of solving any problem.

I.3. Clarifying the differences between: "digitalization & artificial intelligence" in HRM:

Many confuse between digitalization & artificial intelligence, through the following, we will highlight the most important differences between them. we can define them as follows; digitalization is the process of converting analog information into digital formats. It involves the use of digital technologies to transform business operations, processes, and model. While AI refers to the simulation of human intelligence in machines designed to think and act like humans. It involves the development of algorithms and models that enable machines to learn from data and make decisions.

Table (1): Major differences between: “digitalization & artificial intelligence”

Aspect	Digitalization	Artificial Intelligence
Focus	Converting analog to digital	Simulating human intelligence
Scope	Broader, including various technologies	Specific to learning, reasoning, and decision-making
Purpose	Improve efficiency and accessibility	Automate complex tasks and provide insights
Examples	Document digitization, e-commerce	Machine learning models, chatbots

Source: by addressing several researchers' opinions

While digitalization transforms processes by making them digital, AI enhances those processes by enabling machines to learn and make intelligent decisions. Together, they can drive significant innovation and efficiency in various sectors.

We can describe “Digital HR” is the new professional nomenclature for those HR departments that embrace these new technologies Empowered by technology, HR is evolving toward:

- Ongoing employee learning, enabling a learning environment that is flexible and on demand;
- Modern, dynamic, and networked organizations that thrive on organizational structure based on small, agile work teams;
- Enhanced employee engagement that thrives on technologies such as social networking, prescriptive analytics, and cloud-enabled access to resources;
- Performance appraisal models that offer continuous (not periodic) feedback; and An HR experience that thrives on mobile applications, Artificial intelligence (AI), and other innovations.

From the above, we can say that artificial intelligence is one of the tools used by human resources management within the framework of digitalizing of HRM. To establish a definition, let’s consider what true AI looks like from Oxford’s English Dictionary: “The capacity of a computer to perform operations analogous to learning and decision making in humans”.

II-AI & Human resources management:

AI technology is important to streamline the HR processes and improve the efficacy of the organization. The process of making the machines intelligent enough to decide is done by feeding the right set of instruction set. Many useful insights can be drawn from the knowledge gained from the process. most organizations are now implementing technology it is for HR professionals to embrace the technology and prepare themselves for the huge diversification.

II-1-Recruitment and Onboarding:

Today’s hiring climate is a candidate’s market, which was confirmed in a recent research interview with the founder of a talent acquisition technology firm. In the discussion, the founder explained that he is seeing incredible pressures not just in normally challenging fields like software engineering or nursing but in other areas as well, such as sales or skilled trades. His belief is that candidates have more power than ever to demand what they might want in a role, and those demands change how the company recruits and interacts with the candidate population.

Talent acquisition is often practiced by HR professionals that have a measure of innovative thinking and a healthy appreciation for getting results. They also have low rules orientation – this essentially means they are less interested in following a policy manual and instead seek autonomy in how they accomplish their work.

Sourcing candidates is one of the most data-heavy aspects of recruiting. Consider the process a sourcer or recruiter often uses to find talent, the various systems that data can be stored in, and the stages of communication that exist, and you’ll quickly understand why sourcing is the low-hanging fruit of the talent acquisition world. A normal recruiter spends an inordinate amount of time sourcing is the act of combing through resumes and connecting with potential candidates.

Having tools on hand to sift through massive amounts of data is highly valuable. Like sourcing, matching is another time and labor-intensive activity for recruiters that can be best augmented by the right technology. Matching is the process of pairing applicants with jobs and ranking them based on their qualifications. In the past, most matching was done by simple resume keyword extraction. The more key- words you have in the resume, the higher your rate for job fit. While this isn't a bad place to start, there should be additional considerations in the process. As someone that has had to review keyword- stuffed resumes in the past for unqualified candidates, there must be a better way to separate the wheat from the chaff.

This is also a critical point because as we get closer to an official hiring decision, companies would in theory be less and less comfortable with allowing AI to be the final say in the conversation. After all, at the end of the day the HR team and the hiring managers at the firm are the ones on the hook from a compliance standpoint for hiring decisions. Who's going to put an algorithm on trial for disparate im- pact or discriminatory hiring? For that reason, the closer we get to a hiring decision the more humans will interact with the systems to make a joint decision on the best candidates using the intuition both systems can offer.

AI helps in phasing out the first step of recruitment like filtering out the job applications, the HR process starts with calling out the right job applications.

organizations have started embracing AI technology for smart recruitment where many mid-levels sector organizations are still dependent on referrals. The percentage of the best-in-class recruitment process is less than 10% in the majority of companies. It elaborated on the use of AI for creating a job application process in a user-friendly manner to keep a check on the number of abandoned applications which are incomplete. With the implementation of AI in HRM, the recruitment process is easier and simpler, giving more rationale to the user and all other stakeholders. This further helps in improving the application completion rates. Many follow-up emails and the discovery of the right candidate for a particular skill set can be set with the help of AI. AI helps in analyzing the existing pool of campuses that fit the job role and soon triggers the advertisement as the requirement comes up. This helps in identifying the qualified prospective employees to the fullest and with one simple click as compared to the traditional way of hunting the candidate. Once the HR managers find the best out of the entire pool the next level of the recruitment process starts. The onboarding process starts and with the advent of AI, the process is not restricted to only the working hours of the organization. This is another big advantage of using technology in the recruitment process.

AI technology has integrated the chatbots with the application process allowing the candidate to understand the process and apply with ease. It has helped the candidate to remotely support the overall process at any time in the day and reduced the administrative burden and fastened the process.

II-2-Internal Assessment, Intra Mobility and Retention of Employees :

Another feature of AI is to boost internal employee assessment. This includes minor factors like attendance, leave pattern, employee punctuality, funds and benefits provided to improve employee retention. The process is automated with continuous feedback and for employee engagement to identify the employees for the higher and remote job roles for shorter- or long-term duration. Job satisfaction and employee engagement in the company process are more required in today's scenarios than ever. Continuous feedback helps the organization and the HRM to improve the process and match the right candidate with the right job profile.

This not only saves enormous time but also reduces the overall talent acquisition cost of the employee's organization. AI has also helped in understanding the reason for quitting the job, as the indicators are well present with the software implementation, and having this information beforehand helps in deploying the retention benefits to the specific employees.

II-3-Training and Skills: Personalized Career Paths:

The use of AI in employee training is revolutionizing the way businesses acquire and develop skills. By utilizing learning analytics, companies can track and measure how quickly employees learn and the depth of their standing. This data can then be used to customize career paths and training techniques for each individual. AI is also allowing for improved internal mobility, allowing employees to pursue their desired pathways, positions and programs for developing their skills. Solutions such as AI-powered assessment, training and suggestion programs are becoming increasingly popular, however, these are limited in countries with strict data protection regulations such as France due to the General Data Protection Regulation (GDPR). Elsewhere, these solutions can be tailored to the individual. The impact of AI is discussed on skills development training imparted to various government officers. This feedback is crucial for the improvement of the training program and the technology-enabled process is helping the organizations to go ahead with quicker solutions and easy implementations.

II-4-Motivation and Social Climate: Towards a Better Understanding of Commitment:

AI is revolutionizing the way we manage our employees. The challenges are associated with the building of effective teams in the virtual world and the role of technology in strengthening team cohesiveness. By leveraging AI, managers can gain insights into the engagement levels of their teams without knowing who said what. With AI-powered tools, managers can quickly identify employees who are at risk of resigning, as well as gain a better understanding of the underlying social phenomena in the workplace. These tools allow for real-time indicators, helping managers to act quickly and take corrective action when needed. However, the use of AI in HR management is still in its early stages, and questions and criticisms remain. Issues such as data privacy, return on investment and algorithmic governance must be addressed for AI to be effectively and ethically implemented in the workplace.

III-Challenges Faced in Implementing AI in HR:

Technology always has its merits but on the same side, they have its limitations also. One of the major concerns is the handling of data and keeping it private and secure. In a survey, 31% of the respondents expressed that it is difficult to interact with the automated system at times due to technical glitches faced during the process. Another prominent expression from HR leaders is that interaction with a human can never be replaced with HR. Technology somehow can never be ignored and at the same time, HR has to move forward and understand the implication and be

prepared for the change. Another important aspect involved with the HR process is the handling of the sensitive data of the company and employees. Here AI can be used to draw useful knowledge at the abstract level and also get data on various segments at the same time.

The recent adoption of AI by human resources has been a big topic of discussion. While start-ups have been pushing the boundaries of innovation, and virtual reality is currently all the rage, technology still faces many obstacles when it comes to HR. According to a survey of HR managers and digitization project managers in large companies, there are three main potential issues with AI in the HR field: The risk of AI becoming a gimmick is also a major concern.

Companies may be tempted to use AI to give the appearance of being innovative, without really integrating it into the way they manage their employees. This could lead to the technology being used ineffectively or not being taken seriously by employees.

III-1-The Risks and Disruptive Role of Artificial Intelligence:

Data is essential for AI to work effectively, and its quality is critical for the accuracy of the results. The data sets in the HR field tend to be more limited than in other areas. The number of people employed in large companies is much lower than the number of purchases made by customers, making it difficult to use large data applications. This is unlike predictive maintenance, where expert systems can detect signs of wear in a machine before humans, and just-in-time interventions can be made to overhaul the machinery. However, in human systems, the actions and reactions of individuals are not usually tracked and can sometimes be unpredictable. Therefore, it is important to take into consideration both the quantity and quality of data, as well as how to use it in a context and time frame that can support analysis and decision-making.

- Biased systems:

An important point to remember is that AI does not inherently understand the concept of bias. The algorithm runs an operation, comes to a conclusion and presents that information. It's up to us as developers and implementers of AI solutions to be aware of bias and where it might rear its ugly head. Biased algorithms are a real danger and one that we must be vigilant about as more AI technologies enter the workplace. After all, the worst that can happen to the system is to be shut down. However, the human in charge of making the decisions based on the system's recommendations can lose their job if the errors and decisions are grossly biased and unaddressed by the ultimate decision maker, resulting in unfair and discriminatory employment practices.

- Technological complacency:

AI has the capability to improve human resources dramatically not just through automating tedious processes but by providing key information and insights that talent leaders need at critical times. However, he explained that as vehicles get smarter and smarter at driving autonomously, there is less and less need for human interaction at the wheel. This can create critical weaknesses in our ability to navigate situations and take over in times when the vehicle runs into an unpredictable situation. Our senses and skills can become dull without practice.

- Algorithm aversion:

Algorithm aversion has a confounding effect on our hope to adopt and leverage AI-powered software in the workplace, and it is similar to the example of prioritizing external hiring. In essence, algorithm aversion is the term to describe our mistrust of the prediction's algorithms offer. In several studies, researchers have shown that we are less likely to believe in algorithms than in human judgment, especially if we have seen them. This is the same decision we make when we avoid promoting our internal workers and instead seek an outside candidate for a role.

While the experiments were focused on several different prediction scenarios, let's apply this to the world of HR that we live in. As you dig into some of the results and information from the experiments below, look at them through the lens of predicting the right candidate, helping a worker choose the right development path, or finding the right engagement method for an employee. Try to look at these findings through a common prediction challenge you face, because it will make the concepts more tangible.

- Data privacy and AI:

Here is a clear line of sight between the information gathered and the value we receive back from those systems. The question we should all be asking as HR and business leaders is what kind of value we're offering back to our employees and how we can communicate that, so they understand and approve of the way we're using their data. In order to utilize

AI to its fullest extent and make accurate predictions about the future, we need to have access to comprehensive data sources. This issue of data privacy is cropping up at just the right time, because it will force employers to be clear about the data they gather, how they plan to use it and (if they're smart) how that will benefit the employees and candidates the data comes from.

APIs are a way for technology providers to allow other systems to access portions of the database, enabling data to flow in from one system to the other or even bidirectionally if designed for that purpose. The problem? The artificial intelligence many vendors are offering is making recommendations based only on data that lives in their system, because they don't have the ability to read and access other systems. That said, some vendors are trying to make headway in this area by prioritizing this.

The takeaway for you is to talk with your own vendors and potential future partners to let them know this is a priority for you. Imagine being able to see performance, learning, survey feedback and compensation data in one place so that you understand if you're paying your managers in an equitable way. Or having your learning and recruiting systems connected so that your internal employees can see the open jobs and the training they could take to improve their competitiveness for those open roles.

VI. Conclusion:

As demonstrated above, even though there are numerous artificial intelligence tools that support human resources departments in organizations with hiring, training, assessing, and retaining employees, these tools also present risks and challenges, particularly with regard to personal data and information and the absence of the human element that was inherent in conventional HRM techniques. As a result, it is crucial to constantly weigh the advantages and disadvantages of new management techniques and tools.

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