



Welcome to the latest edition of our human capital management (HCM) journal 'HARMONY'. In this edition, we explore how artificial intelligence (AI) is impacting the world of human resources across applications, processes and practitioners.

A famous author once said, "The Karma of humans is AI"

Harnessing AI with machine learning (ML) in the internet age has thrown up endless possibilities of how this can be applied in different spheres of work and life.

Having gained traction in finance or

operations, AI and ML together are now making a significant impact on the human resources (HR) industry. Machine learning helps identify patterns, predict results and learn from the data that is being fed into it. Leveraging this, HCM systems that have

the capability to learn can improve their productivity. And with HCM rapidly moving towards cloud services, leading HCM cloud service providers are focusing more and more on AI and ML to help improve their product offerings.

How are AI, ML and deep learning related?

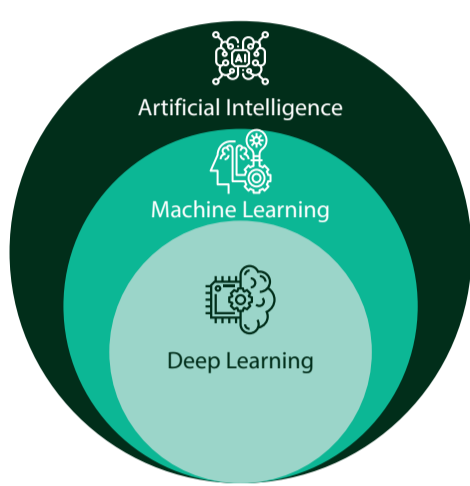
Artificial intelligence is a broader concept whereby machines are able to carry out tasks in a smart manner. Google's AI-powered Maps, ridesharing apps like Uber and Ola, and even the spam filters in your Outlook mailbox are all examples of AI at work.

Machine learning is more of a subset of AI that has emerged based on the

realization that, rather than teaching computers everything they need to know about the world and how to carry out tasks, it might be possible to teach them to learn for themselves. Thus ML is an application of AI that equips systems with the ability to automatically learn and improve from experience without being explicitly programmed. Deep learning is one of many approaches to machine

learning. Deep learning was inspired by the structure and function of the brain, particularly the interconnections between billions of neurons.

Artificial neural networks (ANNs) are algorithms that mimic the biological structure of the brain. In this journal we will focus on AI and ML and their impact on HCM.



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How AI and ML can transform human capital management

Over the past few years, AI has matured from purely analytical to predictive applications. Some new AI applications are even able to adapt themselves to user inputs and offer personalized experiences. The application of AI, ML and deep learning have already made a huge impact

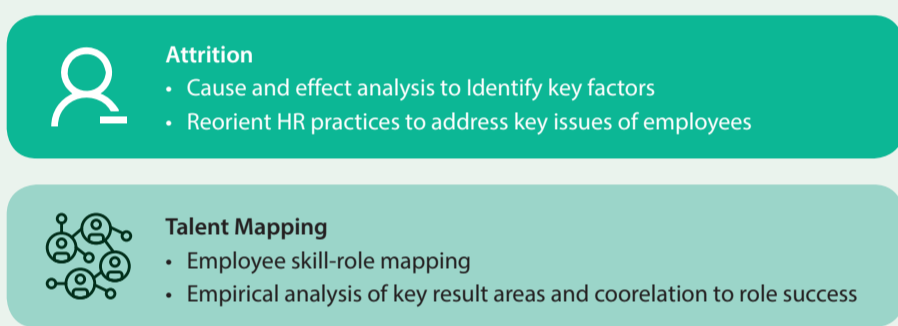
on HCM. Many leading HCM companies now incorporate these features as part of the product rather than as separate tools offered in the HCM solution. In the subsequent sections we take a closer look at the usage of AI and machine learning in HCM by dividing it into three

categories with two use cases in each of these areas:

- Analytical
- Predictive
- Adaptive

1. Analytical

Advanced analytics are aimed at giving businesses greater insight into their data through machine learning concepts than they can get through conventional means. HR data – particularly data that cannot be rendered into numerical formats – is difficult to analyze through traditional methods. AI and ML analytics can make a significant difference here as the following use cases show:



• **Employee Attrition** – Employee attrition is among the biggest negative costs from the HCM perspective. All the investment that goes into hiring candidates, training them and making them fit for various jobs is lost when employees leave the organization. Companies today are using concepts of advanced analytics, AI and machine learning to analyze whether an employee is likely to quit based on all the data points available such as patterns of work and performance, compensation,

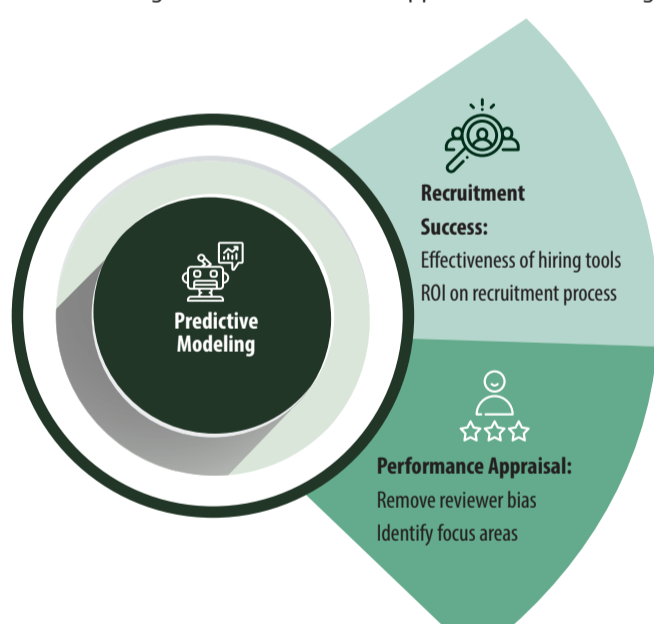
delays in promotion/progression, etc. This helps HR and management devise the right interventions to motivate and retain the employee. AI further helps in enhancing employee experience to reduce attrition

• **Talent Mapping** – Organizations frequently rely on internal hires to fill open positions within the company as there are several benefits of promoting from within. Not only do existing

employees adjust faster to new positions, but it motivates the entire workplace as others become aware of the growth opportunities. AI helps figure out which talents matches with the open opportunity through predictive analytics tools. This further ensures that skilled employees within the company are mapped to the roles they fit best resulting in greater employee satisfaction. The bottom line is optimum talent utilization within the organization

2. Predictive

Predictive modeling works by analyzing historical and current data and generating a model based on this to help predict future outcomes. In the HCM domain, these models and the outcomes can then be used to make existing business processes more efficient. AI and ML can be used as predictive modelling tools for an innovative approach to the following areas of HCM:



• **Recruitment success** – Machine learning can be an important tool for companies to improve their hiring success. The data companies store of successful and unsuccessful hires, applicants' resumes and social media activities, interviewer details, etc., can be fed into an ML software. The patterns that emerge can be studied to improve hiring success. This analysis can throw up interesting data insights such as:

- The particular jobs website that provided the best candidate and greatest hiring success for the company
- The interviewer who was most successful in identifying the right talent
- Interview questions that can be asked by analyzing the data of successful hires in the company
- Likelihood of a certain candidate being hired (based either on similar profiles

of candidate hired in the past, or on the degree of match between resumes and job description)

- Likelihood of a candidate performing well in a job (based on whether they stay after being hired, perform well once hired as per performance scores or job-based performance metrics, or end up being promoted quickly)
- **Reducing bias in appraisals and career progression** – One of the many challenges for supervisors during performance reviews is for them to remain impartial. To support this process, algorithms can be trained to perform appraisals through regular, unbiased performance reviews. AI algorithms evaluate performance data without any personal bias for the candidate. Further, organizations can leverage AI to map employees' career paths and prepare them for career progression. AI can also examine past performance trends of individuals, teams, or departments and predict future outcomes. This information can give HR insights into the steps to be taken to improve performance or morale when the tool identifies potential problems

3. Adaptive

Software applications that adapt to user inputs are not a new concept. However, AI can take this several steps further by incorporating time taken in user inputs, user preferences along with natural language processing. In areas where active user interaction is needed, HR is benefiting from adaptive AI. The use cases below show how:



• **Improving workforce learning** – Thanks to AI, personalized learning experiences have become a reality in the learning industry. For instance, AI can determine whether employees are watching their video lessons in one sitting or stopping midway. Accordingly, adjustments can be made to make these learning videos shorter. Tests and quizzes can be adapted to the learner's inputs, key performance indicators analyzed and a training curriculum suggested towards increasing employee productivity. One can also collect data on the time an employee spends on a quiz question, and which questions most employees get wrong. Such insights can be crucial to determining what should be revised in the training material and process.

While AI can improve the overall training process for employees, it can also provide measurable results of the training itself. For instance, in addition to tracking the rate at which employees complete their compliance training such as food safety and sexual harassment courses, AI can monitor whether violations and complaints are actually decreasing in the workplace

• **HR assistants and chatbots** – Conversational agents and chatbots are probably the most common examples of how AI can be leveraged to improve productivity. These bots allow for a question-based search term to be entered and the tool displays a predetermined response, or a

predetermined list of responses based on the history of questions entered. This works like an FAQ or help facility, but in a more interactive manner that offers greater accuracy in finding the correct answer or solution. Similarly, HR chatbots could help facilitate conversations with candidates as they explore career options, or manage the logistics of scheduling interviews and coordinating travel for any on-site interviews or engagements. The onboarding process that often requires several steps to be taken within a limited amount of time. Conversational agents that raise reminders in chat-based applications, can help streamline these onboarding processes for new employees

Conclusion

After the cloud, artificial intelligence and machine learning are the new disruptive forces in the HCM space. HR organizations that harness these effectively will have the edge in the war for talent. Despite the noise over the possibility of AI and ML making humans redundant, in reality they are freeing up the workforce for higher value jobs. This has resulted in a

fundamental shift in the way organizations look at their workforce and processes.

Consequently, a growing number of companies undertaking digital HR transformations are now looking at actively leveraging AI and ML in their journey. Organizations today expect their HCM applications to help them

maximize productivity through automated processes/transactions that do not need human interventions. The larger objective is to enable the human workforce to focus more on critical and strategic areas. Leading HCM products have also started incorporating AI and ML as core features. More about this in the next edition of HARMONY

Look out for our next issue where we discuss how organizations can prepare for this change with the help of technology enablers and process transformation.