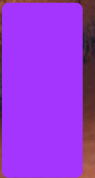




ARTIFICIAL INTELLIGENCE IN TALENT MANAGEMENT

Exploring opportunities
and limitations



AI IN TALENT MANAGEMENT

Artificial Intelligence (AI): a branch of computer science concerned with enabling computers to perform cognitive tasks that would normally require human intellect. While AI is not new, recent advances in computing power and digitalization have strongly increased the usability of AI in all business settings. Talent management being no exception.

The potential for AI to significantly enhance how we hire and develop talent is incredibly exciting. But let's be clear, the results to date haven't always been positive.

When high profile mistakes are made by companies using AI in hiring and development processes - sometimes with disastrous consequences - it's understandable why the talent world has yet to fully embrace AI techniques within its processes. In high stake situations that affect human lives and careers, there is still more to do before we can realize the full potential of AI-driven talent solutions.

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AI has raised skepticism and concerns regarding privacy, fairness and potential bias when used for predictions and decision making. For this reason, it is important to understand how to harness the benefits and avoid the pitfalls in using AI in talent management.

John Weiner

Chief Science Officer, Lifelong Learner Holdings

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In this overview, we explore the use of AI in talent management. We'll look at popular types of AI that are being used, where AI can add value, and what potential downsides are. Allowing you to fully understand the possibilities, so you can decide if - and how - you want to utilize AI in your talent processes.

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It is essential that organizations have a good understanding of how AI works, so they can make an informed decision about how to apply it to best help solve their HR challenges.

Wayne J. Camara

Distinguished Scientist for Measurement Innovation,
Talogy Science Advisory Board

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TYPES OF AI IN TALENT MANAGEMENT

While the name Artificial Intelligence is a little abstract, things quickly become more concrete when we start looking at specific types of AI. In this section we focus on three types that are currently commonly used in talent management:

1. Natural Language Processing
2. Machine Learning
3. Generative AI

1. Natural Language Processing (NLP)

Natural Language Processing (NLP) is a branch of AI focused on the interaction between computers and human language. It enables machines to understand, interpret, and generate language, helping us communicate with technology in a more intuitive and natural way. NLP has quickly become mainstream, seamlessly fitting into our daily lives through the likes of chatbots, virtual assistants, translators, text autofill features, and audio transcription tools.

Talent management professionals are increasingly using NLP to improve the efficiency and effectiveness of both simple and complex tasks, like writing job descriptions, screening resumes, interpreting assessment results, and personalizing the employee or candidate experience.

Benefits of NLP in talent management:

- Automating repetitive tasks saves **valuable resources**.
- Creating clear and relevant content helps foster **better communication**.
- Standardizing employment processes enables **objective, data-driven decisions**.
- Identifying potential risks and biases promotes **fair treatment**.
- Pinpointing areas of improvement creates **sustained success**.

NLP also carries risks, especially for demanding tasks. In high-stakes scenarios like hiring assessment, it is crucial that the NLP approach meets rigorous standards to mitigate limitations like:

- **Amplifying existing bias**. Models may magnify existing bias present in the training data.
- **Misinterpreting nuanced or context-specific information**. NLP models tend to lack contextual understanding and may struggle with ambiguous or complex language.
- **Variation in performance depending on individual characteristics**. The quality of NLP-based output may differ depending on distinct speech or writing patterns, individual cadence, audio quality, or linguistic background.
- **Processing of sensitive or non-job relevant information**. NLP models may use information that does not belong in certain decision-making processes to evaluate data and make predictions.

To mitigate these risks, professionals should carefully assess and monitor their NLP tools for accuracy and fairness, provide training on acceptable and ethical use, and validate NLP results with human interpretation. They should also remain vigilant about potential bias and ground all use-case decisions in science and theory. We recommend working with an expert in the field before introducing any form of AI technology into your organization.



2. Machine Learning (ML)

Machine Learning is an AI technique that gives computers the ability to learn from experience, without being explicitly programmed. An ML model looks for patterns within data, then learns that pattern. Next time the model is fed similar information, it uses the learned pattern to make a prediction.

ML can help simplify a variety of key HR processes, like predicting turnover, providing development recommendations, and scoring assessments.

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From an assessment perspective, utilizing ML techniques is very exciting. Having the ability to work with complex data in a way we couldn't previously do, allows us more scope in the way we design tests, and the level of prediction and fairness we can achieve with our assessments.

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Mary Mescal

Managing Research Consultant, Talogy

Although Machine Learning can create efficiencies, there are key considerations to keep in mind when considering implementing it:

- **Ensure you don't create or reinforce bias.** Badly monitored Machine Learning applications could create an undesirable status quo - for example a lack of diversity in your workforce.
- **Keep up to date with changes in the data, society, or job market.** To ensure greatest precision, algorithms need to be regularly updated and checked as more data becomes available.
- **Machine Learning techniques are not all created equal.** Avoid approaches that fail to establish a theoretical framework or lack validity evidence.
- **Don't blindly accept predictions.** Apply your own checks and further research.



Machine Learning in action: The Mindgage™ ability test series

WHAT?

Talogy's Mindgage cognitive ability test series utilizes ML techniques to ensure fair and accurate results.

HOW?

Using ML Principles in Mindgage's scoring helps optimize prediction and reduce the risk of adverse impact, while keeping the tests engaging and quick to complete.

WHY?

- Reduces bias associated with conventional measures of cognitive ability, which in turn can balance out exaggerated group differences across protected classes, such as race, age or gender.
- Provides increased understanding of large, complex data in a way that is not easily done with standard analysis techniques.
- Captures user activity data, such as where someone has clicked or time between clicks, which allows us to gain powerful insights into how individuals solve problems and navigate the assessments.
- Improves the quality of hiring decisions, with the collection of more data in a shorter period compared to conventional testing methods.



Because Mindgage modules are much more behaviorally complex than traditional cognitive ability tests, they can capture more criterion-relevant behaviors beyond those captured by traditional assessments, providing a nuanced understanding of how examinees solved a task, for instance, by identifying strategies or behavioral patterns that reflect successful performance.



Kristin Delgado

Research and Development Manager, Talogy



3. Generative AI

Generative AI is a technology that can create content, including text, images, audio, or video, when prompted by a user ([source](#)). While it has been on the rise for several years, the use of Generative AI exploded in 2023, when ChatGPT made it simpler than ever for people around the world to start using this specific type of AI. This led to a wide range of generative AI tools becoming available to the general population,

focused on improving productivity and efficiency. Highly likely, the number of these tools will continue to grow.

There are many opportunities to employ Generative AI in talent management, for example to help with generating assessment content, creating chatbot-based recruitment processes, or even to serve as a digital work coach.

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Generative AI has huge potential to transform how we assess and develop talent within organizations. At the same time, we need to be careful to continue to apply the core scientific principles that have always underpinned talent assessment: ensuring the fairness, reliability, accuracy, and efficacy of assessments.

Dan Hughes

Senior Director of R&D, Talogy

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As with any AI technique, Generative AI has its limitations, and especially in the high-stakes world of Talent Assessment, these are essential to keep in mind while designing your processes:

- **AI generated content has its flaws.** While it provides a useful starting point and can save some time, the content it generates also tends to have flaws, so human experts need to review and refine it.
- **Human interaction in talent management is key.** Use of AI always needs to be balanced with human-to-human interaction or touchpoints, to foster effective candidate or workforce engagement.
- **Generative AI does not understand emotion.** Generative AI can't fully replicate all of the qualities of human interaction, and in contexts where empathy and emotional intelligence is needed to make a real difference, generative AI may be less suitable.



A NOTE OF CAUTION

Using AI in talent management

As shown in the previous section, Artificial Intelligence can significantly enhance processes anywhere in the talent lifecycle – from hiring and development, to engagement and organizational development:

- Improved, more personalized participant experiences.
- Automating time-consuming routine tasks and processes.
- Discovery of organization-wide data patterns and insights.
- Detection and potential reduction of unconscious bias.

While there are many possible benefits to the use of AI in talent management, there are a number of risks to be aware of – and open about.

- **Biased input creates biased output:** Understanding the data going into your AI models is crucial.
- **High complexity reduces transparency:** The more complex the model, the more challenging it is to understand and explain.
- **Large amounts of data required:** Continuous collection of large volumes of data is needed to underpin AI models, all collected in an ethical, 'privacy-first' way.
- **Repurposing AI processes can lead to errors:** Translating AI from other parts of the business to fit within talent management needs to be done with care.

By staying consistent with best practice in these areas you will reassure candidates, and your existing employees, that AI and related technologies will always be used in a responsible way.



Striking a balance between technology and human judgment is an essential part of working with AI. We will have more success in talent management if we can get that integration right. That starts with being transparent, being curious, and being proactive.



Dr. Kimberly Silva

Senior Research Consultant, Talogy

PhD in Industrial and Organizational Psychology

STRIKING THE RIGHT BALANCE

Using AI in HR is a balancing act between science and technology. As talent management professionals, we need to maintain focus on measuring the right things and not be distracted by shiny new tech. This way we can harness the incredible potential of AI, while staying alert to the potential pitfalls.

When such high stakes decisions are involved, scientific rigor and a measured approach are vital. As is complete transparency and making sure we take our people with us when we adopt any new technology. Human intervention is needed, and HR professionals will still need to apply skills that computers do not have.

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We employ best practices to ensure our models are as fair as possible, and this concern is built in to our design process. We believe that we have a responsibility to be conscious of potential bias, and to work actively to address its existence.

Kristin Delgado

Research and Development Manager, Talogy

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Expertise in computer technology and AI isn't enough. You need an AI implementation partner who provides a rounded view across a wide variety of fields. To use AI that is fair, accurate and legally defensible, you need a partner who understands more than just the technology and the data; one with a proven history in assessment science and theory, global legal and compliance, and User Experience (UX) design.

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Views about AI in talent management have been a swinging pendulum. When AI started to trend, adoption was enthusiastic but often rushed. Mistakes were made, and so the pendulum swung back. The priority now is to use AI in the way we measure people and make decisions about them in a way that is fair, accurate, and legally defensible.

Dr. Ted Kinney

Vice President of Research and Development, Talogy

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Our expert team

With our strong scientific background, the Talogy team is here to unpack AI and how it can help your organization's talent processes. Our philosophy for the future of AI in talent management is to keep using it, experimenting where appropriate, and pushing the boundaries. At the same time, our team of PhD level I/O Psychologists and expert Data Scientists ensure that legally defensible science is at the core of everything we do.

With this expertise in place, you will be best positioned to capture the potential of new technology. Helping you to improve candidate engagement, increase efficiency, accelerate processes and use data to improve your talent strategies and outcomes.

When the assessment industry seeks a voice on when, how, and where to use emerging technologies, Talogy is the thought leader they can turn to.

We have:

- Published on emerging trends in the Handbook of Personnel Selection and the International Journal of Selection and Assessment.
- Guest edited the Journal of Managerial Psychology.
- Presented on panels at The Society for Industrial and Organizational Psychology and The British Psychological Society conferences every year.

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We have seen AI in talent management take a number of wrong turns over the past few years. That's why Talogy has brought together a team of experts. To approach it in the right way. And that team has already responded with a slew of innovative and interesting developments.

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Dr. Ted Kinney

Vice President of Research and Development, Talogy

