Unlocking Employee Potential:
How Companies Can Leverage AI in Performance Management

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What is the issue?

Traditional employee performance management relies heavily on managers' subjective judgement, making it subject to biases, cognitive limitations, and inefficiencies. While artificial intelligence (AI) has the potential to enhance performance evaluations and hiring processes, integrating AI tools with human judgement may not be easy.

Why is it important?

Companies increasingly adopt AI for recruitment and evaluation, with studies showing that AI can mitigate biases in hiring decisions, improve performance evaluations, and enhance employee engagement. However, trust in AI systems remains a barrier, as employees and managers may exhibit resistance to algorithmic decision-making.

What can be done?

To effectively integrate AI into performance management, managers should ensure transparency, accuracy, and human oversight. AI can enhance hiring and evaluations by reducing biases and improving efficiency, but fostering trust requires retaining human decision-making authority and balancing automation with human judgement.

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Introduction

Employee performance management is a key aspect of organizational success. Ultimately, achieving organizations' long-term objectives depends on the high performance and engagement of their employees. Performance management, however, has long relied on managers' subjective judgement – either performance reviews, target setting, or recruitment – processes that are often subject to biases, stereotypes, and cognitive limitations.

As companies increasingly leverage tools driven by artificial intelligence (AI) in diverse organizational processes, traditional performance management functions can potentially benefit from this data-driven technology. AI software can produce more accurate predictions, do it faster, and save costs. However, using output from AI-driven tools and combining that with human judgement may not be easy. Employees may remain skeptical of an AI tool evaluating their performance.

To help explore these questions, I review a number of studies on algorithm appreciation versus algorithm aversion that can help us gain some insights on how to integrate AI tools into performance management functions. Additionally, I refer to interviews I had with two industry professionals to discuss their experiences with AI tools: Anik Seth and Kiran Kadekoppa, co-founders of HUEX Labs, who have designed voice AI technology to automate the drive-through experience for top Quick Service Restaurant brands. Contrary to concerns about AI replacing human workers, the adoption of this AI technology has reduced employee turnover and increased sales per person.

> ### Algorithm Appreciation versus Aversion: What's the Difference?
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> **Algorithm Aversion** refers to people's resistance to use algorithms, even when algorithms outperform human judgement. It is largely driven by a perception that algorithms lack human abilities.
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> **Algorithm Appreciation** refers to people's preference for advice from algorithms rather than from people.
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> Source: Dietvorst, B. J., Simmons, J. P., & Massey, C. (2015). Algorithm aversion: People erroneously avoid algorithms after seeing them err. *Journal of Experimental Psychology: General*, *144*(1): 114–126; Castelo, N., Bos, M. W., & Lehmann, D. R. (2019). Task-dependent algorithm aversion. *Journal of Marketing Research*, *56*(5): 809–825; Logg, J. M., Minson, J. A., & Moore, D. A. (2019). Algorithm appreciation: People prefer algorithmic to human judgment. *Organizational Behavior and Human Decision Processes*, *151*: 90–103.

In this article I summarize their valuable insights into the potential of AI to enhance employee engagement. As well, I analyze the findings of research studies that can help us explore how AI can shape the future of performance management and how businesses can leverage AI tools to unlock the potential of their employees.

The Current State of AI in Performance Management

Employee performance management is relationship-based in nature and involves intensive interactions between managers and employees. While AI offers significant potentials in many cases, it cannot replace the human element in the loop. The strength of AI lies in its ability to provide objective, timely, and data-driven information to support managerial decision-making.

By collecting, analyzing data from diverse sources, and deriving insights, AI can assist with almost every function of performance management. AI is widely used in hiring processes to help companies screen a vast pool of candidates and find the right match for company positions. Moreover, once new recruits are onboarded, AI can help set attainable targets, select measurable metrics, track real-time performance data, provide tailored feedback, and inform learning and skill development opportunities. In fact, there are three recent surveys whose findings provide fascinating insights into the current state of AI in performance management:

- In 2024, the Society for Human Resource Management (SHRM) surveyed 2,366 HR professionals and found that 62 percent of their organizations began using AI to support HR-related activities. The survey identified the top three areas where AI can be used to support HR-related activities: recruitment, interviewing, and hiring (64 percent), learning and development (43 percent), and performance management (25 percent).[1]
- A 2023 IBM survey of global IT professionals found that 42 percent of companies had implemented AI screening tools to enhance recruiting and human resources, whereas another 40 percent of respondents were exploring the possibility of adopting the technology.[2]
- In 2024, *MIT Sloan Management Review* published a global survey based on responses from over 3,000 managers, which suggested that 90 percent of those who used AI to generate key performance indicators (KPIs) reported an improvement in their KPIs.[3]

1   Society for Human Resource Management (SHRM). (2024). *2024 Talent trends: Artifical intelligence in HR*. https://shrm-res.cloudinary.com/image/upload/AI/2024-Talent-Trends-Survey_Artificial-Intelligence-Findings.pdf
2   IBM. (2024, January 10). *Data suggests growth in enterprise adoption of AI is due to widespread deployment by early adopters, but barriers keep 40% in the exploration and experimentation phases*. https://newsroom.ibm.com/2024-01-10-Data-Suggests-Growth-in-Enterprise-Adoption-of-AI-is-Due-to-Widespread-Deployment-by-Early-Adopters
3   Schrage, M., et al. (2024, February 12). The future of strategic measurement: Enhancing KPIs with AI. *MIT Sloan Management Review*. https://sloanreview.mit.edu/projects/the-future-of-strategic-measurement-enhancing-kpis-with-ai/

Thus, AI is rapidly gaining momentum as a tool to monitor performance management. Companies across industries are moving away from the traditional, retrospective approach to a more proactive and forward-looking approach to handle their hiring and performance management processes. Given the current status of AI tools, in the following section we focus on two key areas of AI application in performance management: hiring and performance evaluation.

What AI Means for Hiring

Many businesses are increasingly relying on AI-driven tools in their hiring process to identify the right match for open positions. A recent survey from Resume Builder projected that about 70 percent of companies are expected to use AI to acquire talents by the end of 2025.[4] The survey highlighted statistics about which AI applications are being used in hiring, with the most popular application being the initial screening of candidates' resumes:

- Review resumes – 82 percent
- Review candidates assessments – 64 percent
- Scan social media or personal websites – 42 percent
- Chatbots to communicate with candidates – 40 percent
- Onboarding new hires – 28 percent
- Conduct interviews – 23 percent

While companies are less likely to delegate interviews entirely to AI tools, they widely use algorithms to screen resumes and chatbots to communicate with candidates. This transition is driven by the belief that the new technology can reduce costs, improve efficiency, shorten the time in processing resumes, and remove biases in the hiring process. However, questions remain about how AI will affect both recruiters and job applicants and whether AI can ultimately improve hiring quality. In general, AI has the potential to reshape recruitment in two notable ways: reducing biases in recruiting and shifting the focus of recruitment.

Reducing Biases in Recruiting

In traditional hiring processes, companies often set up hiring committees and it is the committee members who screen the hundreds of job applications that come in for one popular position. In this process, recruiters are often subject to some well-documented, conscious or unconscious, deficiencies in human decision-making. First, recruiters can exhibit cognitive limitations in hiring decisions, resulting in a failure to take into account

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4   Resume Builder. (2024). *7 in 10 companies will use AI in the hiring process in 2025, despite most saying it's biased*. Last updated October 22, 2024. https://www.resumebuilder.com/7-in-10-companies-will-use-ai-in-the-hiring-process-in-2025-despite-most-saying-its-biased/

all relevant information about the candidates. Second, recruiters may have certain biases or personal preferences, resulting in an overemphasis on certain characteristics of the candidates. There are several notable research studies that have documented these potential biases in the recruitment processes.

One of the most famous studies on hiring biases is the 2004 study by economists Marianne Bertrand and Sendhil Mullainathan of the University of Chicago. In their field experiment, they sent fictitious resumes with randomly assigned African American–sounding or white-sounding names to potential recruiters. They found that applicants with white-sounding names received 50 percent more callbacks for interviews than those with African American–sounding names. While race and gender are among the most apparent sources of bias, biases towards less observable characteristics – such as work or personal experiences – are much harder to detect.[5]

In this regard, AI can be potentially helpful to address the heuristic biases and cognitive limitations in human decision-making. After all, changing people's minds is no simple matter, but software on computers can be updated. As such, companies are using new technology in hiring practices in order to mitigate the potential biases and improve the quality of employee selection.

AI software can provide predictions for suitable candidates based on matching scores of candidates' qualifications with job requirements. Drawing on data from past applications, AI tools can proactively identify potential candidates as soon as a new job posting becomes available, even before candidates apply. This approach allows a more personalized way of reaching out to prospective job applicants and finding available positions that are a good fit for the candidates. Such capabilities provide a more productive and efficient way to navigate the job applications while enhancing the match of candidates with company positions.

Consistent with the growing adoption of AI tools in hiring, recent research has shown some promising results regarding the efficacy of AI in enhancing employee selection. For instance, Changyi Chen and Bin Ke from the National University of Singapore conducted a field study of a medium-sized bank in China. They showed that machine learning (ML) models outperformed human recruiters in identifying both exceptional job candidates and those with a low commitment to the firm. Additionally, the ML models reduced the biases against disadvantaged groups.[6] Similarly, using multiple online experiments with over 1,000 participants, Jason Brown, Joe Burke, and Ashley Sauciuc from Indiana University found that under-represented minority groups were more likely to apply for jobs when companies used AI instead of traditional managers in performance evaluations.

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5   Bertrand, M., & Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *American Economic Review*, *94*(4): 991–1013. http://www.jstor.org/stable/3592802

6   Chen, C., & Ke, B. (2024, April 10). Machine learning as a management control mechanism: The case of employee selection. *SSRN.* http://dx.doi.org/10.2139/ssrn.4789953

Furthermore, these minority candidates exhibited a greater willingness to provide higher effort after joining the company.[7]

Thus, what comes to light from these studies is a more complementary view of AI and human decision-making. Instead of saying AI reproduces the biases in human judgement, multiple studies have indicated that AI can help mitigate biases – both when using real ML models and in employee perceptions. This is especially important for individuals from disadvantaged groups, as AI can contribute to a more equitable hiring process.

Parallel to the research findings noted above, conversations with industry practitioner Kiran Kadekoppa, co-founder of HUEX Labs, highlight a holistic approach of AI applications in performance management. Kadekoppa suggested the potential of AI to predict employees' *progression* within the company by analyzing vast amounts of data and providing insights into long-term performance trends and training needs. In the context of recruitment, AI can contextualize matching rules to align job profiles with candidate applications, thereby improving the recruitment precision.

> **A Holistic Approach to Performance Management**
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> By analyzing vast amounts of data, AI has the potential to predict employees' *progression* within the company, providing insights into long-term performance and training needs.
>
> – Kiran Kadekoppa, co-founder of HUEX Labs

Shifting the Focus of Recruitment

Along with the growing trend of using AI tools for initial resume screening, the focus of recruiters in the recruitment process has been shifted. As AI effectively matches keywords related to capabilities and skills, recruiters may no longer prioritize candidates' credentials or degrees, but instead focus on personalized interactions with candidates and assessing soft skills such as communication, leadership, and the "cultural fit" between the candidates and the company.

There are studies that provide evidence for the potential shift in attention brought about by AI adoption. For example, recruiters who use AI screening tools may develop a very different focus and make hiring decisions that are different from those made without such assistance. Specifically, economist David Deming from Harvard University analyzed labour market data and found that between 1980 and 2012, the labour market increasingly rewarded social skills, whereas math-intensive occupations shrank.[8] Similarly,

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7   Brown, J., Burke, J., & Sauciuc, A. (2024). Using artificial intelligence to evaluate employees: The effects on recruitment, effort, and retention. Kelley School of Business Research Paper No. 2021-25. *SSRN*. http://dx.doi.org/10.2139/ssrn.3861906

8   Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal*

within the accounting profession, a 2024 study by Kelvin Law and Michael Shen from Nanyang Technological University and National University of Singapore examined data from employees in audit offices across the United States. They found that the use of AI was associated with an increased demand for soft and cognitive skills in auditor jobs.[9] These findings highlight the nuanced implications of incorporating AI into recruitment and the growing focus on soft skills with the application of AI.

This shift in job requirements also carries significant implications for college education in preparing the workforce for an era with AI integration. Consistent with the findings from the research studies discussed here, conversations with industry practitioner Anik Seth, co-founder of HUEX Labs, highlight the importance of equipping students with soft and cognitive skills. Specifically, competencies such as understanding business environments and effectively interpreting AI-driven insights are becoming essential for career success in the evolving job market.

> **Preparing the Workforce for AI Integration**
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> For students entering the workforce, understanding AI is becoming increasingly essential. Teaching future professionals to ask the right questions, analyze data inputs effectively, and interpret AI-driven insights will be critical in maximizing the potential of these tools.
>
> – Anik Seth, co-founder of HUEX Labs

What AI Means for Performance Evaluations

One of the enduring challenges of performance management is designing a performance review system that can keep employees motivated without compromising job satisfaction. Traditional performance reviews often require managers to assign a numeric score to each employee based on their judgement and opinions of the employee's performance over the year. The challenges of this process are that any performance score can suffer from issues of potential biases, incomplete observation, employee-influencing behaviours, managers' preferences, and the time-consuming nature of justifying any unfavourable evaluations to employees.

While human interactions remain an essential component of performance reviews – we need the human touch and empathy to deliver review outcomes and feedback to employees – performance reviews actually represent one of the most fascinating areas for AI application. In this context, AI has the potential to enhance the process by

of Economics, _132_(4): 1593–1640. https://doi.org/10.1093/qje/qjx022

9   Law, K. K., & Shen, N. (2024). How does artificial intelligence shape audit firms? _Management Science. Articles in Advance_: 1–26. https://doi.org/10.1287/mnsc.2022.04040

providing support for both managers and employees.

From the managers' side, ChatGPT and other forms of GenAI can help managers prepare performance reviews by compiling and summarizing data from various sources. The initial synthesis provided by AI serves as a productivity aid, streamlining the administrative aspects of the performance review process. From the employees' side, AI can compare performance across multiple employees, suggest success models, and help map the career development. Essentially, AI can help provide feedback for continuous improvement for employees.

However, combining the advice provided by AI tools with human judgement may not be easy. Managers and employees may embrace the technology to different extents. Research has shown that people exhibit very different perceptions towards algorithmic versus human predictions. People generally view algorithms as dehumanizing and don't believe they can properly consider individual characteristics. As a result, integrating AI tools into the performance review process and fostering acceptance among managers and employees may turn out to be more challenging than expected. The past two decades of academic research on algorithm appreciation versus algorithm aversion may provide valuable insights into the challenge of utilizing AI output.

> **ChatGPT and GenAI**
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> ChatGPT is a generative artificial intelligence chatbot developed by OpenAI and launched in 2022.
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> It is one of the new technologies of GenAI. GenAI is a subset of artificial intelligence that uses generative models to produce text, images, videos, or other forms of data.
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> Companies using these technologies include Microsoft, Morgan Stanley, Amazon, and BMW.
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> Source: Wikipedia: https://en.wikipedia.org/wiki/ChatGPT; Wikipedia: https://en.wikipedia.org/wiki/Generative_artificial_intelligence; Miller, A. (2024). *15 companies using generative AI for business efficiency*. Last updated July 16, 2024. https://indatalabs.com/blog/companies-using-generative-ai

Algorithm Aversion

The transparency and perceived fairness of the evaluation process are key components for any performance review system. As such, employees evaluated by algorithmic systems, as well as managers assisted with algorithmic decisions, may be well concerned with the fairness and trustworthiness of the algorithmic evaluation systems. While studies comparing the efficacy of algorithmic versus human predictions consistently show that algorithms outperform human judgements, people may exhibit widespread resistance towards the algorithmic approach.

Dating back to the 1990s, psychologists William Grove and Paul Meehl conducted a meta-analysis that compared the accuracy of human judgement with algorithmic predictions over 136 studies. What they found was that the algorithmic approach was

almost invariably equal or superior to human judgement. However, they also noted that algorithms were generally perceived as incapable of incorporating qualitative data and individual characteristics, whereas human judgment was seen as more holistic.[10]

Consistent with these earlier findings, David Newman, Nathanael Fast, and Derek Harmon conducted a 2020 study that confirmed aversion towards algorithmic decision-making. Based on large-scale experiments in both lab and organizational settings, the three organizational behaviour researchers found that algorithmic decisions were perceived as less fair than human judgements. Those being evaluated by algorithms perceived that the process overlooked qualitative information and lacked contextual understanding.[11]

In line with the studies exploring resistance to AI applications in performance reviews that require significant human judgement, insights from practitioners emphasize the critical role of human oversight in safeguarding how AI is used. Conversations with Kadekoppa highlight that human oversight is essential to ensure AI systems operate within ethical and predictable parameters. Governance plays a central role in addressing biases. Adopting a governance-oriented approach helps align AI tools with organizational values and regulatory standards, thereby reducing the risks of unintended consequences.

> **The Role of Humans**
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> Governance plays a key role in mitigating biases, particularly in sensitive areas like loan decisions. Starting with a governance mindset ensures that AI tools align with organizational values and regulatory requirements, minimizing the risks of unintended consequences.
>
> – Kiran Kadekoppa, co-founder of HUEX Labs

Algorithm Appreciation

If we know that people generally exhibit resistance towards algorithmic applications, but certain types of algorithms do support decision-making, the next question is, How can we ensure managers' and employees' acceptance and internalization of AI output? Although the research in this area is at a very early stage, there have emerged some interesting and optimistic insights.

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10   Grove, W. M., & Meehl, P. E. (1996). Comparative efficiency of informal (subjective, impressionistic) and formal (mechanical, algorithmic) prediction procedures: The clinical–statistical controversy. *Psychology, Public Policy, and Law*, *2*(2): 293–323. https://psycnet.apa.org/doi/10.1037/1076-8971.2.2.293

11   Newman, D. T., Fast, N. J., & Harmon, D. J. (2020). When eliminating bias isn't fair: Algorithmic reductionism and procedural justice in human resource decisions. *Organizational Behavior and Human Decision Processes*, *160*: 149–167. https://doi.org/10.1016/j.obhdp.2020.03.008

Psychologists Berkeley Dietvorst, Joseph Simmons, and Cade Massey conducted a series of experimental studies to understand how to overcome people's aversion to algorithms. In their 2015 study, they found that people lose confidence in algorithmic predictions more quickly than in human predictions after seeing the predictions make mistakes, even when the algorithm outperforms a human forecaster.[12] Similarly, economist Michael Yeomans and colleagues conducted a study on recommendation systems and suggested that for people to rely on these systems, it is not enough for the system to be accurate, it also must be understood.[13] Both studies highlight that the accuracy and transparency of algorithmic systems is needed in increasing people's trust and usage of the systems.

The aforementioned studies focus on the characteristics of algorithmic systems themselves in increasing people's trust in the system. Dietvorst, Simmons, and Massey conducted a follow-up study in 2018 that highlighted the interaction between organizational design choices and the use of algorithmic systems. They explored how people can overcome algorithm aversion when given the discretion to modify algorithmic predictions. They found that allowing participants to modify an imperfect algorithm made them feel more satisfied with the forecasting process, more likely to believe the algorithm as superior, and more likely to choose the algorithm for future forecasts.[14] These results offer interesting advice for the usage of AI systems: to encourage people's use of the system, it is important to retain people's decision-making rights rather than fully delegating decisions to artificial intelligence.

Thus, as discussed above, the earlier work sparked further research into algorithm aversion versus appreciation. What we have learned from the more recent research is that in most cases with concrete standards of accuracy, people tend to feel more comfortable with algorithmic advice, whereas in the more subjective decision-making domain, people prefer maintaining decision rights over algorithms. However, what we know is still an incomplete puzzle. As conversations with frontline AI practitioner Anik Seth reveal, the challenge often lies in striking a delicate balance between automation and human judgement.

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12 Dietvorst, B. J., Simmons, J. P., & Massey, C. (2015). Algorithm aversion: People erroneously avoid algorithms after seeing them err. *Journal of Experimental Psychology: General*, *144*(1): 114–126. https://psycnet.apa.org/doi/10.1037/xge0000033

13 Yeomans, M., et al. (2019). Making sense of recommendations. *Journal of Behavioral Decision Making*, *32*(4): 403-414. https://doi.org/10.1002/bdm.2118

14 Dietvorst, B. J., Simmons, J. P., & Massey, C. (2018). Overcoming algorithm aversion: People will use imperfect algorithms if they can (even slightly) modify them. *Management Science*, *64*(3): 1155–1170. https://psycnet.apa.org/doi/10.1287/mnsc.2016.2643

> **The Human Touch**
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> Employees value automation when it complements, rather than replaces, human interaction. To maintain this balance, AI systems must be highly accurate – ideally 99 percent – to avoid frustration and maintain user confidence. This blend of automation and human oversight enhances accountability while ensuring the final decision rests with a person.
>
> – Anik Seth, co-founder of HUEX Labs

Conclusion

Artificial intelligence is revolutionizing how organizations engage with their employees. The integration of AI tools into performance management has the potential to enhance efficiency, reduce biases, and improve decision-making processes. From recruitment to performance evaluation, AI tools provide data-driven insights that complement human judgement. However, the success of AI tools depends on balancing the new technology with human oversight.

There still can be skepticism and aversion towards algorithms, especially in subjective decision-making areas. Studies emphasize the need for transparency, accuracy, and retaining human control to foster trust and acceptance of AI systems. When thoughtfully implemented, AI systems can assist human decision-making, and businesses can leverage AI tools to unlock employees' potential.

In the end, to quote Einstein's words, "the more we learn, the more we realize, the more we don't know." The past decade of research and study has provided valuable insights into employing AI systems to assist with performance management. However, what we have learned is still an incomplete picture. Savvy managers need to know how to balance automation and human judgement. The journey forward lies in leveraging AI's strengths while preserving the human elements that define organizational success.