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WHAT LEADERS CAN DO THAT TECHNOLOGY CAN'T

Why management still matters in the age of AI

Plus:

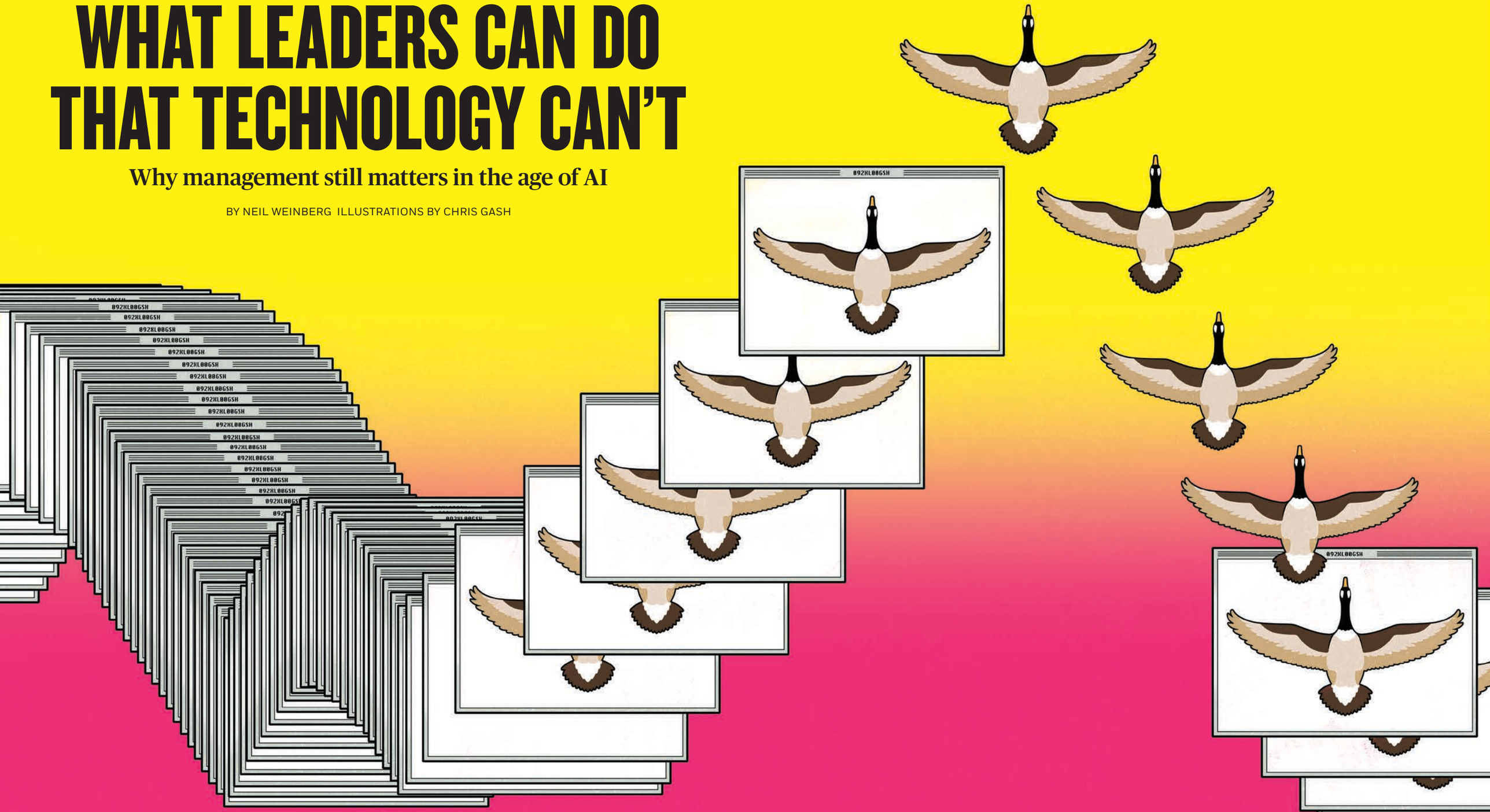
Can AI map Wall Street's genome?

Why the inflation rate could be understated

WHAT LEADERS CAN DO THAT TECHNOLOGY CAN'T

Why management still matters in the age of AI

BY NEIL WEINBERG ILLUSTRATIONS BY CHRIS GASH



Businesses across the US economy have laid off workers en masse. Investors are pumping vast sums into artificial intelligence, some with the expectations that server farms will soon replace white-collar offices. From Middle America to the Middle Kingdom, recent graduates in formerly hot fields such as computer science have been taking on gig work to make ends meet.

This would all seem to presage bad news for not just rank-and-file workers but their managers. If companies need fewer humans to carry out various tasks, they will surely need fewer people directing the traffic.

"The technology revolution has brought us a lot—dramatic improvement in what we know about customers and how we interact with them, markedly better information for making decisions, the ability to work through virtual teams scattered around the globe," according to London Business School's Lynda Gratton. "But its unseen legacy might be something much more fundamental: It has changed the very nature of how people work. One consequence seems clear: The classic job of the middle manager will soon disappear."

And yet, how soon is soon? Gratton wrote this more than a decade ago, in "The End of the Middle Manager," which appeared in *Harvard Business Review* in early 2011. The big question at that year's Consumer Electronics Show was which tablet would overtake the iPad. Apple hadn't launched Siri yet. Alexa wouldn't be out for another three years.

Gratton is far from alone in having predicted the manager's demise, and yet managers still exist. Businesses remain a long way from replacing them with machines that can run hospitals, oversee big-box stores, or mentor sales reps in the finer points of client relations. Companies continue to pay top dollar to attract executives with proven track records or who honed their managerial skills at leading investment banks and consumer products companies. The death of management, to paraphrase Mark Twain, has been greatly exaggerated.

Artificial intelligence will change how managers behave, sure, but research suggests it will fail to replace them and could even solidify their role. Chicago Booth's Virginia Minni and other academics have been looking at management practices in various ways. "The future is not managerless firms but AI-assisted managers," she says. If anything, research suggests that inherently human managerial ability may become an even more important factor in driving performance in the age of AI.

They're productivity boosters

Putting hard numbers on the difference managers make to a company's performance is a big challenge. Worker productivity is, after all, the sum of numerous inputs and circumstances.

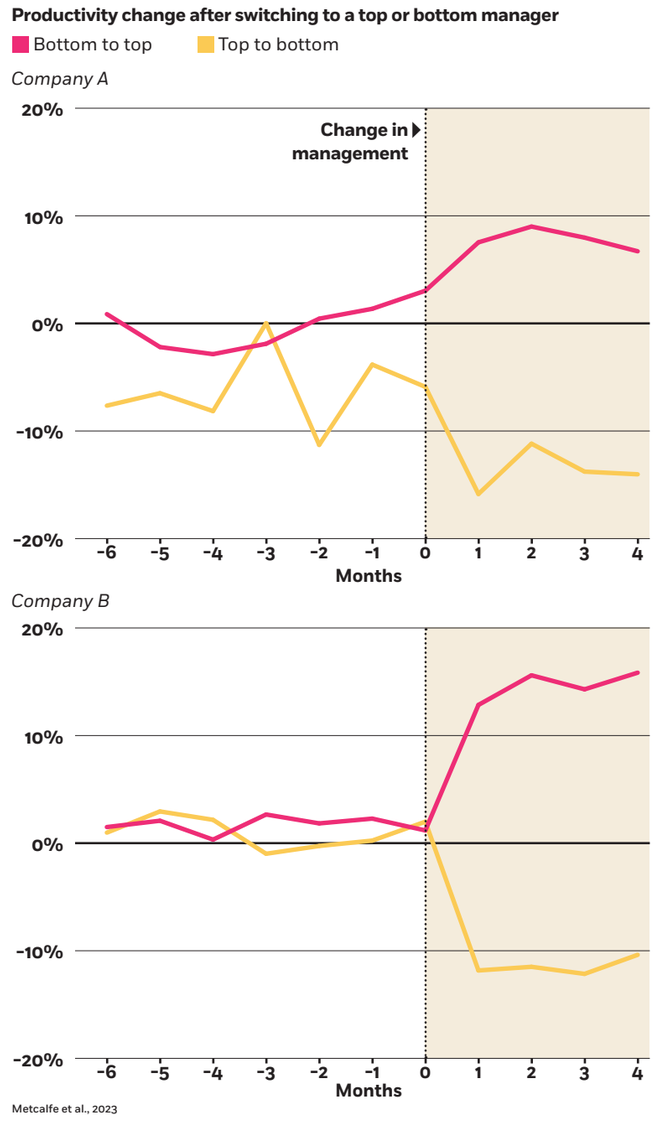
One way to look at it is by asking what changes when a business replaces a poor manager with a good one. In broad terms, it's equivalent to adding a fifth employee to a team of four, according to a 2023 study by Columbia's Robert D. Metcalfe, the International Monetary Fund's Alexandre B. Sollaci, and Booth's Chad Syverson.

The researchers analyzed store-level data—including sales, employment, and location size—for two retail chains, one British and one American. The study tracked manager transfers at both companies. During the periods analyzed (April 2014–May 2017 for the UK retailer, and April 2018–December 2020 for the US one), more than half of each company's stores saw at least one such transfer. Given that the chains' management practices were otherwise unchanged, the analysis revealed the effects that individual supervisors had on store-level performance.

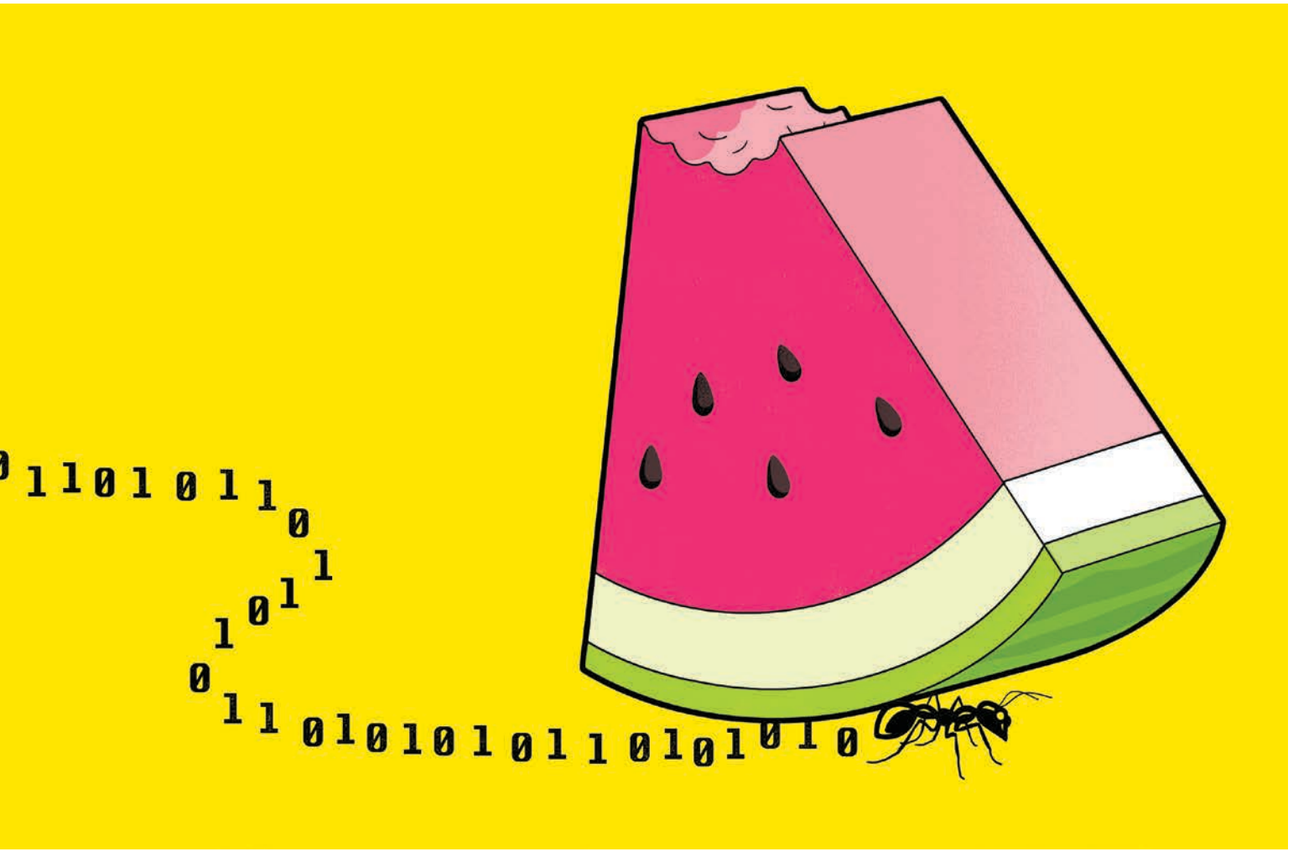
The best-performing ones stood out, improving operations in a number of ways. Managers who booked relatively high sales per employee, for example, also tended to excel at limiting energy costs. At the US retailer, managers who did well during times of stable growth also shone as the COVID-19 pandemic unleashed economic turbulence. Bottom line: Good managers improved productivity relatively quickly and in ways that could not be attributed to each company's overall practices.

Good managers help productivity

At two retail companies, replacing bottom-performing (below-median) managers with top-performing (above-median) ones boosted sales per employee. The reverse reduced productivity.



Metcalfe et al., 2023



The managers observed in the study used several levers to outperform, including deciding whom to hire, promote, and fire; motivating employees; and influencing how technology was used. All told, variations in stores' productivity were so large that if it were possible to turn 10th percentile managers into 90th percentile ones, the overall productivity of the stores they oversaw would have increased 22-82 percent, the researchers estimate.

However, the exact ingredients that turned a manager into a stellar performer remain elusive. The researchers tracked tenure, gender, distance to the nearest competing store, and wages. None had a statistically significant effect on quality.

One factor that did seem to be related to manager quality was a store's ratio of part-time to full-time workers–but with different outcomes at the UK and US retailers. This highlights a potential trade-off, the researchers write. "Part-time workers offer more staffing flexibility, while full-time workers tend to be better trained and might reduce moral hazard issues." Which type of worker is more appropriate at a particular store might be the kind of decision that a manager makes to improve productivity.

Putting the right people in the right roles

Whether managers run a store or work in human resources, sales, or accounting, what they all have in common is that they take the place of the free-market pricing mechanism in determining how to allocate resources, notes Booth's Minni in a recent study.

Seeing workers as key resources, Minni began her research with the premise that the decisions middle managers make about how to assign people to specific jobs within a company are key to understanding persistent differences in productivity.

She focused on the operations of a European-based consumer products company with more than 200,000 employees in more than 100 countries. The company shared a decade's worth of data (2011-21), including anonymized individual performance evaluations in its talent-management system, the manager each employee reported to (also anonymized), and total earnings for each worker. The compensation data showed considerable variation within given jobs, which could reflect, at least in part, differences in performance among workers.

The study categorized about a quarter of managers as "highflyers." These were workers aged 30 and under who earned promotions to management roles quickly, and who tended to rise further in rapid succession. This pattern positively correlated with a number of metrics, including future pay raises and high performance ratings.

Minni matched the company's job titles with O*NET, a US Labor Department database of worker attributes and job characteristics. The exercise indicated that workers exposed to highflyer managers were more likely than the average employee to make large changes in their roles, such as switching from a job in computer services to one in manufacturing engineering, or from supply-chain logistics to customer service. These switches were crucial, Minni finds. Under good managers, employees switched into roles that led "to large and persistent gains in workers' career progression and productivity."

The data from the company's talent-management system indicated that workers exposed to highflyers were more prone to explore new roles, teams, and skill sets and to participate in short-term projects outside their core teams. In interviews that Minni conducted, these workers credited good managers with acting as mentors, offering structured feedback, fostering autonomy, and creating opportunities consistent with employees' own skills and aspirations. These actions, in turn, led to large, persistent gains in the workers' career-development paths and productivity.

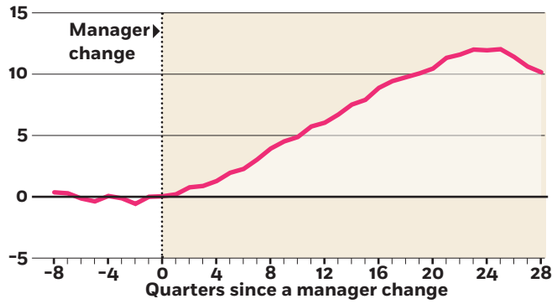
A 'highflyer' puts employees on the fast track

When workers at a multinational company switched managers, the ones who gained a highflyer manager (someone who had been promoted by age 30) made more lateral career moves and saw faster salary increases and higher pay and bonuses.

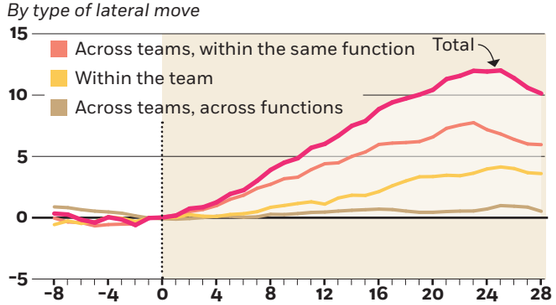
Effect of gaining a highflyer manager

Difference in the **number of lateral moves per 100 workers** compared with switching to another lowflyer manager

Total lateral moves

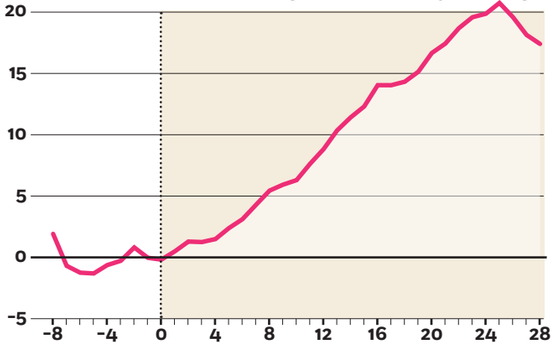


By type of lateral move

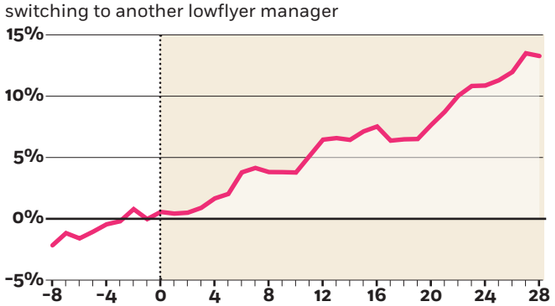


Minni, 2025

Difference in the **number of salary-grade increases per 100 workers** compared with switching to another lowflyer manager



Percentage difference in **pay and bonuses** compared with switching to another lowflyer manager



Seven years after a highflyer was assigned to oversee a team of workers, and even if they moved on during that time, lateral moves among the team's employees were 40 percent higher than before the manager arrived, and salaries were 13 percent higher. A separate review of sales staff in 15 countries showed that working for a good manager improved employee pay and productivity. The effects were lasting. Workers who performed well under highflyers continued to do so even after these managers were replaced by other managers who hadn't been promoted as quickly.

Time-use data indicate that the good managers spent nearly 20 percent more of the workday than average in one-on-one meetings with subordinates, and communicated and multitasked more. They tended to be particularly strong in strategizing and in managing talent, rather than in running projects.

Highflyers had the biggest positive influence on young employees working in the same office and in larger offices covering a greater diversity of tasks. The improvements extended to workers whose pay did not rise quickly, indicating that good managers uncover hidden talent even among subordinates who don't receive recognition.

Good managers create a more productive workforce by better matching people to roles, Minni concludes, such as identifying workers with strong social skills and moving them from paycheck processing to sales. This ability provides businesses with a particularly beneficial way to improve productivity. After all, it's no more expensive to manage a team well than to manage it poorly. By contrast, the alternative methods that many companies use to reshuffle jobs–hiring, firing, and training–all come at a high cost.

The effects that progressive managers had on narrowing the gender pay gap lasted beyond their time overseeing a team.

Influencers of workplace culture

If putting people in the right jobs is crucial, culture becomes particularly important. Good managers can get more out of their teams by reducing the gender bias that often casts women in roles in which their skills are underutilized, other research suggests. A study by Minni, Northwestern's Kieu-Trang Nguyen, Booth's Heather Sarsons, and University of British Columbia PhD student Carla Srebot finds that managers from countries with relatively progressive attitudes significantly narrowed the gender pay gap by promoting women at relatively high rates.

Armed with the same company data Minni analyzed in her study of highflyer managers, the researchers examined the influence of gender norms on workplace culture and the gender gap across countries. In this case, they reviewed information about supervisory relationships to reconstruct the organizational hierarchy, including the managerial chain and team structures.

They also capitalized on an international-assignment rotation policy among senior managers. By analyzing cross-border manager rotations, the researchers were able to estimate the impact that managers' attitudes had on gender pay gaps within their teams. The World Values Survey, which explores people's values and beliefs in over 100 countries, provided a baseline of gender attitudes for specific countries and age ranges.

The researchers find that managers from relatively gender-progressive countries narrowed the pay gap by 5 percentage points compared with the gap observed in groups overseen by supervisors from countries that were 1 standard deviation less progressive. Managers shrank the pay difference primarily by promoting women at higher rates. The divergence in attitudes observed was roughly equivalent to the discrepancy between the views of American and Chinese managers or between Chinese and Indian managers born in the 1980s, the researchers calculate.

The effects that progressive managers had on narrowing the gender pay gap lasted beyond their time overseeing a team and were concentrated in countries with more conservative attitudes about women in the workplace. Moreover, local managers in these areas who interacted with but were not overseen by foreign managers began to reduce pay gaps on their own teams. This indicates that foreign supervisors with progressive attitudes influenced local staff and played a critical role in shaping corporate culture, the researchers conclude. More broadly, the results highlight the important role middle managers play in spreading managerial practices.

Setting flexible benchmarks

Recognizing and harnessing talent is clearly a big part of managing. For virtually every manager, a core duty involves trying to influence the performance of others and evaluating the results. INSEAD's Nadav Klein and Booth's Ed O'Brien conducted research into how well supervisors handle this challenge, focusing on predetermined standards people often use to evaluate others' behavior. Their work finds ways that managers stumble and offers lessons for those seeking to avoid the pitfalls.

DOES AI BEAT HUMANS AT RECRUITING?

An important aspect of management is the ability to infer and recognize workers' skills. But some research suggests that artificial intelligence is developing the capacity to do this.

In the realm of hiring, AI voice agents are being used to collect information from talking directly with humans. These agents do a better job than humans of detecting hiring-relevant signals, and candidates interviewed by AI are more likely to receive job offers and stay at their jobs, suggests research by Carnegie Mellon's Brian Jabarian (a former principal researcher at Chicago Booth) and Luca Henkel of Erasmus University Rotterdam.

Utilizing a partnership Jabarian established with recruiting firm PSG Global Solutions to study the real-world impacts of AI in labor markets, the researchers randomly assigned 70,000 applicants for customer service positions to be interviewed by either a human recruiter or a voice-AI agent, or to have their choice between the two. Regardless of the interview method used, humans assessed each applicant's performance in the conversation and on a standardized test, and ultimately made the hiring decision.

The researchers also surveyed professional recruiters from PSG, finding that most predicted AI would perform worse or at least no better than humans at recommending, engaging, and retaining talent. About 60 percent of the recruiters expected AI-led interviews to be of lower quality. About half of the recruiters expected that AI and humans would make similar offer rates, and about one-third expected AI to offer less. Meanwhile, only 40 percent expected retention among hired candidates to be equal between human and AI interviewers, and about half thought retention would be worse for AI-interviewed candidates.

But the results favored AI. Candidates interviewed by a voice-AI agent rather than a human were 12 percent more likely to receive a job offer, 18 percent more likely to start the job, and 17 percent more likely to remain at work after 30 days. Of the candidates who actually accepted an offer and started the job, those screened by AI were 6 percent more likely to stay in their roles at least 30 days.

What's more, most applicants—80 percent—chose voice AI over a real person for their interview. The researchers cite three reasons applicants may have preferred AI: the perception of fairness or objectivity, a more standardized interview process, and convenience. "The attractiveness of AI is that it's always available," Jabarian says. (For more, listen to "Are AI interviews better?" on the *Chicago Booth Review Podcast*.)

He points to an advantage to automation that came through in the research: AI interviewers elicited more interactive, engaged responses from candidates while helping them steer clear of negative conversational habits such as vague answers. Participants who engaged with AI agents spoke more clearly and directly, used fewer filler words, and provided more relevant information than participants in human-led interviews.

It's important to note that once these applicants were hired, they performed well when interacting with humans in customer service positions, Jabarian points out. In other words, AI didn't give a boost to applicants with weak people skills. Rather, "the pattern is more consistent with improved signal extraction: AI changes how information is expressed in the interview, and that information predicts real match quality," says Jabarian. "AI is better at picking up on linguistic features—like interactivity during a conversation—that actually matter for a job decision made by humans."

He also notes that the AI interviewers appear to have avoided some of the biases that have plagued AI in other studies, according to a participant survey. "The reported gender discrimination is half for people who got job interviews with an AI than with a human," Jabarian says.

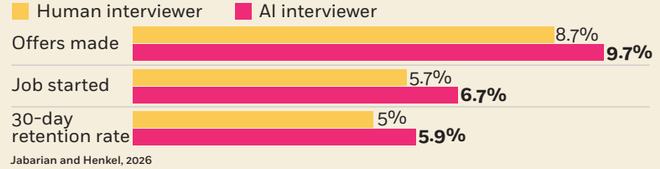
He points out that voice AI, as it currently exists, is likely best suited for high-volume, structured roles, but the technology's rapid evolution suggests that it could soon play a part in many kinds of hiring. For now, human judgment remains essential, and most final decisions are made by recruiters using AI-generated transcripts rather than voice-AI interviews.—*Hal Weitzman*

Brian Jabarian and Luca Henkel, "Voice AI in Firms: A Natural Field Experiment on Automated Job Interviews," Working paper, January 2026.

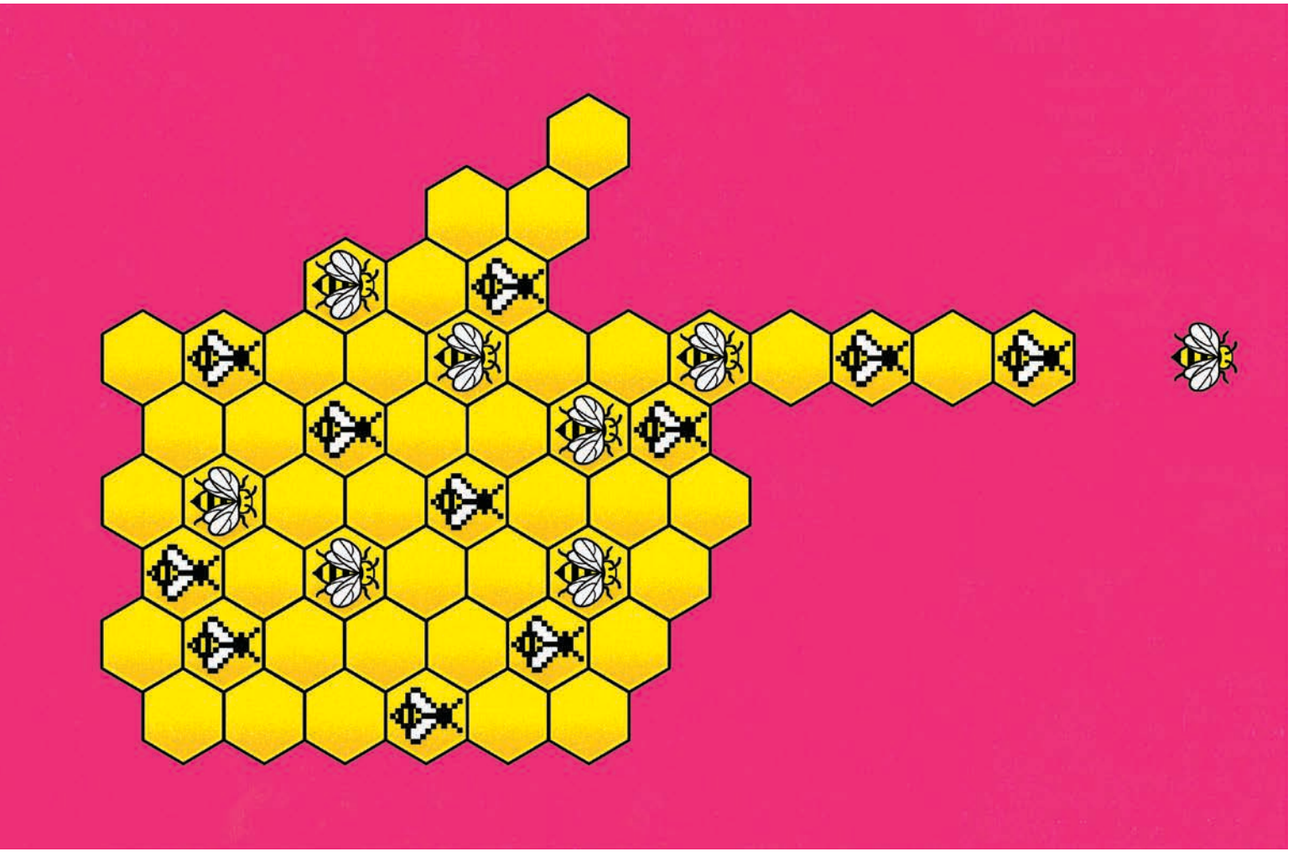
AI collected better hiring signals

More consistent interviews by voice-AI agents led to a higher likelihood of job offers, job starts, and employment retention for at least 30 days.

Key recruiting outcomes, by interviewer type



Jabarian and Henkel, 2026



In the workplace, managers set what are known in social psychology as social-judgment thresholds to encourage some forms of behavior and discourage others. They might offer bonuses to employees who hit sales targets and dock the pay of workers who repeatedly arrive late. Previous studies by Klein and O'Brien suggest that managers establish these thresholds based on simplified assumptions about the future—then later apply the thresholds using a more complex set of actual, after-the-fact considerations.

Their newer research details why managers make those assumptions: In short, it's hard to appreciate complexities that the future can hold.

The researchers conducted 10 online experiments involving about 5,500 participants. In a typical experiment, they asked a participant to role-play as a manager and to establish a policy for how many times an employee could show up late for work before being punished. They encouraged a participant to keep in mind the many ways an employee could act upon arriving late. A participant might say that after five tardies in a 10-day period, an employee would get in trouble.

Then the participant clicked through screens to experience how reality, or a version of it, played out. Depending on random assignment, the participant might see an employee who showed up late six times, or one who was late four times. The first employee might have been respectful about it while the latter was rude.

The researchers then asked whether the employee should be punished. "Our key finding is that participants violated their preset thresholds depending on the kind of reality that unfolded," says O'Brien. They hesitated to punish an employee who maybe showed up late six times but was nice about it and jumped to punish a person who didn't violate the threshold but was disrespectful.

The finding highlights the problem that authority figures including managers face when they set initial thresholds but later adhere to another standard. Bosses might view altering workplace standards on the fly as a rational response to the way events actually unfold. Employees, by contrast, might be left wondering why the original thresholds were applied loosely to some colleagues and harshly to others. "Making exceptions to the rule may often be the rule—for better or worse," the researchers write. Such flexible practices can create social conflict, harm morale, and lower productivity, but few managers appear to grasp the implications, according to the study.

One way managers can minimize the ill effects is by building flexibility into their thresholds at the outset, O'Brien says. This could mean setting flexible bonus thresholds that change with industry conditions as they unfold during the year as well as on hard numbers. When managers make it clear up front that the goal posts are movable, it's more transparent to everyone.

Choose the right pay structure

Deciding on a pay structure is another potential pitfall for managers. Some research finds that managers may take a hit because of a preference for how they pay workers, and the problem is worse when a deadline is involved.

In many labor-intensive industries such as retail, hospitality, machine shops, and auto services, managers face the choice of compensating employees for time spent on the job or for completing specific tasks, regardless of how long they take. University of Buffalo's Indranil Goswami (a graduate of Booth's PhD program) and Booth's Oleg Urminsky wondered whether managers choose well between the two payment options for both short- and long-term projects.

For employers, the stakes are high. Consider the construction contractor given the choice between paying laborers a flat fee for the completed roofing job or a metered amount per hour. When managers underestimate the resources needed to complete a project, it can delay or preclude its completion. If they overestimate what's needed, it can cause a business to overcommit costly resources.

The researchers devised economic games and psychological tests to gauge how efficiently managers select pay schemes. Study participants were assembled using Amazon's Mechanical Turk, a gig-work platform, and some were given a lump-sum budget to hire workers to complete jigsaw puzzles. For each game, they were offered a choice of paying workers a flat fee or a per-minute rate, and were given a short time limit or a longer one. Any part of the budget remaining after workers completed the task was counted as manager profit.

The profits turned out to be significantly higher when participants opted to pay workers by the minute rather than per completed puzzle. What's more, the financial benefit of paying for time worked was significantly higher for the longer projects. Even so, four out of five participants preferred to pay flat fees, with this option even more popular for the longer projects than the shorter ones.

Participants overestimated how long workers would take to complete projects, the researchers conclude. Longer deadlines yielded higher estimates of how long tasks would take and therefore even greater bias. In another experiment, the researchers introduced a quality component to the task assigned, and the findings still held true. And in a third, participants did not see themselves as biased toward flat fees, even when presented with contrary evidence.

The bias in favor of paying per unit of output was highly robust. Across six experiments, this was evident among lay participants who played the games and also among actual, experienced managers. It was also true in nine previous studies cited by the researchers. Goswami and Urminsky find that the bias was eliminated only when the work assigned was disconnected from deadlines.

Behind participants' financially unfavorable decision-making were not only inaccurate predictions about the scope of tasks but also concerns that paying employees for their time would encourage bad behavior. Workers with longer time limits could have earned more by working slowly, or slacking. However, they did not do so, the research indicates. Nevertheless, participants opted to pay for time worked only when employees had no incentive to drag out their tasks, the researchers point out.

The failures of participants—to set effective benchmarks and pay structures—is a reminder that managers are only human. They are imperfect and make mistakes. Could AI do better?

Minni isn't sure and says it remains an open question. "AI can get good at predicting fit," she says, adding that she feels it will likely develop to get better at inferring workers' skills, something research has shown good managers excel at. A recent paper finds that AI interviewers seem to do a good job of just that. (Read more in "Does AI beat humans at recruiting?" on page 31.)

With AI's help, people could be freed up, or relied upon, to do the highest value-added tasks. And as technology progresses, "the comparative advantage of humans will shift even more toward people-centered tasks, and social skills are probably most revealed in interaction," Minni says. "Hence, AI will get better at executing, but it will probably raise the returns to inherently human capabilities." Someone who can lead, design a workflow, set goals, and interact with employees could be particularly valuable. In other words, in the AI era, management—and managing efficiently—could prove more important and distinctively human than ever before.—CBR

Go to **chicagobooth.edu/review** to see citations for research mentioned in this article.

DOES THE AI WORLD HAVE ROOM FOR PEOPLE?

Wine Access, a Napa Valley-based online wine retailer, began experimenting in 2023 with using artificial intelligence to write marketing newsletters, in which the bot ably described bottles of wine, complete with varietal details and tasting notes.

AI did so well at this copywriting gig that paid marketing writers might want to brush up their résumés, suggests research by Chicago Booth's Jean-Pierre Dubé and Booth PhD student Ariel Xu. In their study, which put AI and writers in a head-to-head test, AI's copy was just as good as what the three staff writers came up with–and cost a fraction of their $125,000 salaries (page 10).

But the rise of AI is also illuminating the skills that are uniquely human and harder to automate. Booth's Virginia Minni, one of the researchers featured in our cover story about managing in the age of AI, isn't ready to count out people quite yet. While AI proved itself with marketing, she finds that people have other skills that are crucial in management, such as sizing up employees and moving them to roles that play to their strengths. "The future is not managerless firms but AI-assisted managers," Minni says (page 24).

And if you're in management, how exactly should AI be assisting you? In an essay, Booth's Linda E. Ginzel says to think carefully about what tasks you choose to offload to AI. After all, she explains, if you sent a robot to the gym in your place, it clearly wouldn't help you build muscle–so don't rely on AI to the point that your leadership skills atrophy either (page 45).

In a similar vein, Susan Lucia Annunzio, Nicole Yelsey, and Tim Seabrook–who coteach High Performance Leadership, an executive education course at Booth–argue that corporate and organizational leaders must center human capabilities while implementing AI or risk losing their most valuable long-term asset and resource: the people who work for them (page 47).

On the theme of AI, our other feature explains how transformer models, a type of AI deep-learning architecture, are radically improving market predictions. Booth's Ralph S. J. Koijen is among the researchers using these models to understand what moves stock prices (page 34).

This issue also covers the latest research on school choice (page 18), inflation (pages 20 and 21), and the risk of career overspecialization (page 16). Visit us online to catch up with the full breadth of our coverage. Stay up to date by subscribing to our newsletter and podcast, and by following our videos. However you choose to learn about the latest research, please share your insights and reactions with us at **review@chicagobooth.edu**.

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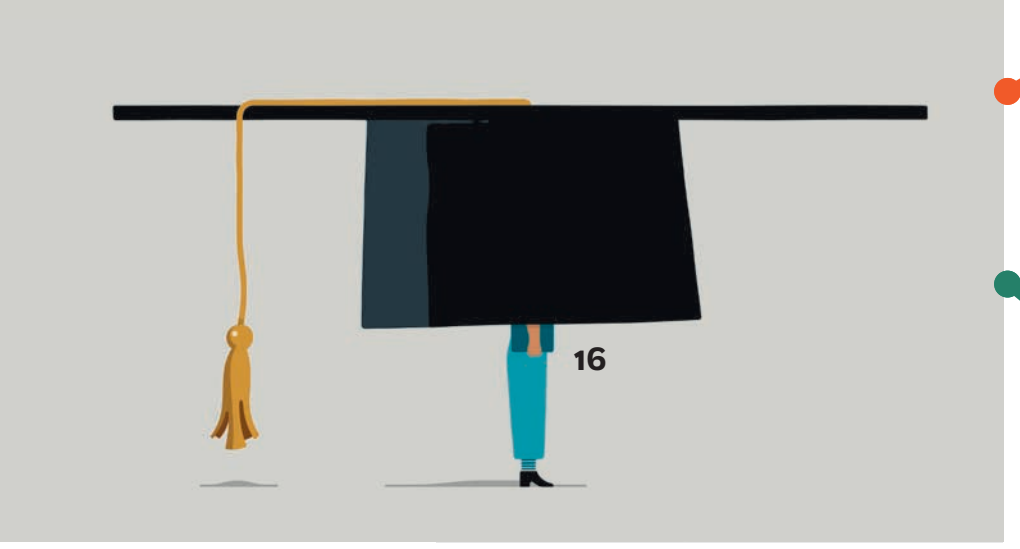
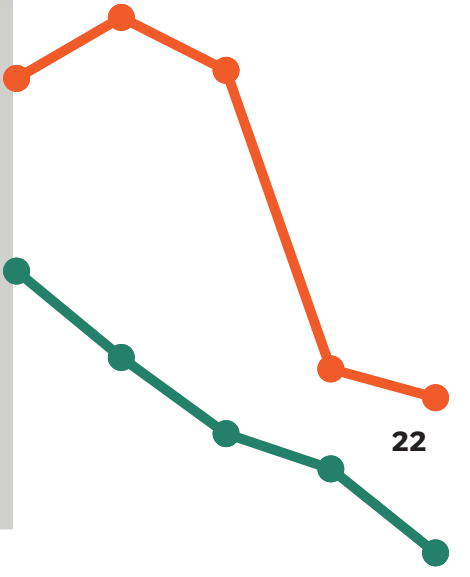
DEPARTMENTS

DATAPOINTS





Featured Faculty

Chang-Tai Hsieh, the Phyllis and Irwin Winkelried Distinguished Service Professor of Economics and the PCL Faculty Scholar, studies economic growth and development. He is a research associate at the National Bureau of Economic Research, a senior fellow at the Bureau for Research & Economic Analysis of Development, and a member of the steering group of the International Growth Centre in London. (Pages 21 and 61)

Virginia Minni, assistant professor of economics and an Asness Junior Faculty Fellow, researches questions in labor, organizational, and development economics. She collaborates with organizations to examine the factors that determine the allocation and production of talent in labor markets and the role individual leaders play in shaping this process. She joined the Chicago Booth faculty in 2024. (Page 24)