HARVARD BUSINESS REVIEW

Why Great Innovations Fail to Scale

Breakthrough ideas need a special kind of leader to help them flourish.

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leather and drift
Hermès, crossing horizons
Publicis Et Nous


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CHRONOMETER
OFFICIALLY CERTIFIED
LONGINES SPIRIT
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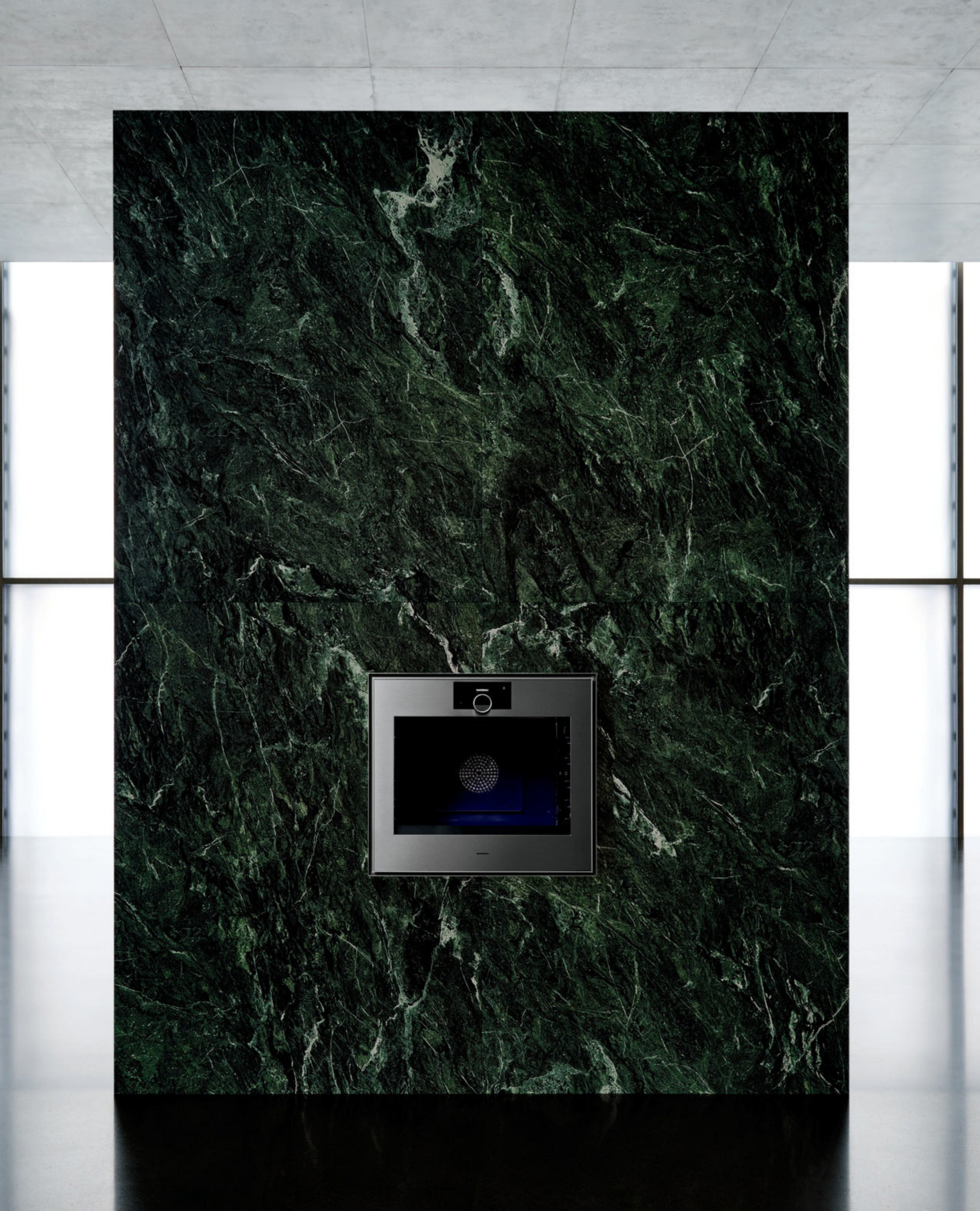


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Photograph by JACQUELINE HASSINK

March–April 2026

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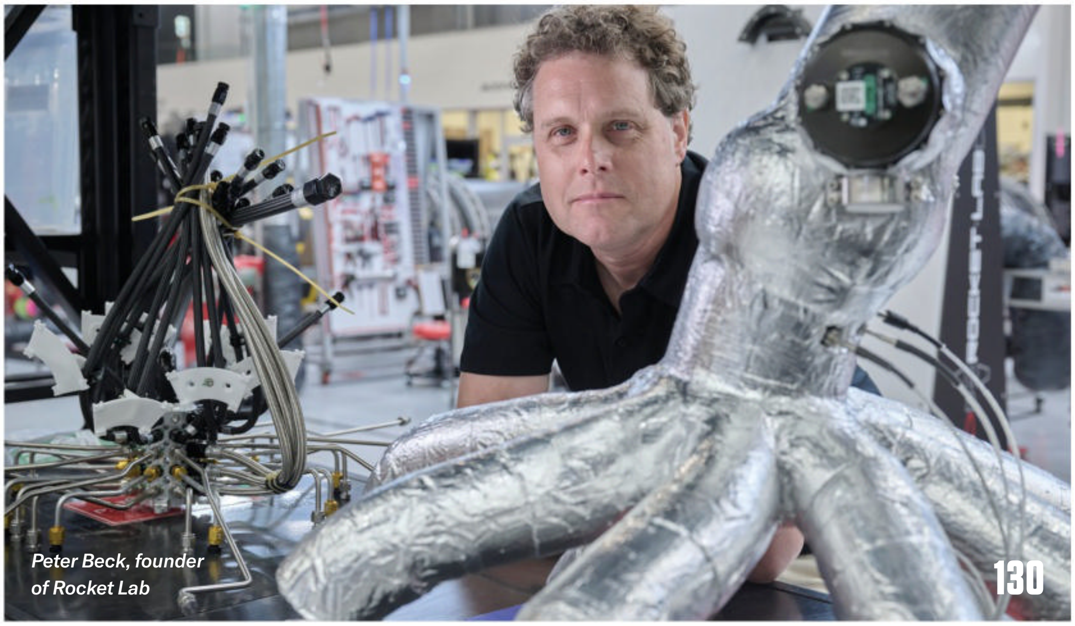

Peter Beck, founder of Rocket Lab

Departments

Photograph by ALISTAIR GUTHRIE

Amy Bernstein

What It Really Takes to Turn Ideas into Impact

WE ALL KNOW that breakthrough thinking alone doesn't guarantee success. The path from idea to product is fraught with difficulties—and for that reason, it's been endlessly studied. But when Linda Hill, one of the foremost experts on innovation, offers an insight on operationalizing new ideas, you owe it to yourself to pay attention.

In this issue's cover story, "Why Great Innovations Fail to Scale," Hill, her Harvard Business School colleague Emily Tedards, and Paradox Strategies partner Jason Wild explain why so many promising new products and services never see real success. "Innovation increasingly depends on partnerships," they write, and making those collaborations work smoothly is a challenge. As the authors explain, "New product teams are incentivized to experiment; compliance prioritizes adherence to regulatory requirements; IT speaks the language of operational reliability; senior executives require a compelling business case." When the innovation partnerships stretch across firms—especially when the mix includes startups and mature companies—the problems are only amplified.

What's the answer? Leadership, of course—but a very particular kind that the authors call "bridging." Bridgers use their highly developed powers of emotional and contextual intelligence to help partners understand one another and align expectations and goals. In the age of AI, bridgers do the uniquely human work of fostering the mutual respect essential to any productive partnership. As the authors say, "People don't take risks with those they don't trust."

Amy

Amy Bernstein
Editor in chief

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Contributors

A few years ago a trip to Silicon Valley changed **Ryan Nelson**'s career. While there, Nelson, a University of Virginia professor and an expert in IT project management, heard leader after leader insist that their companies didn't manage "projects," they managed "products." He began to study how a product-oriented model allowed empowered, interdisciplinary teams to focus on outcomes rather than outputs, making organizations far nimbler. In this issue Nelson and coauthor Thomas Davenport detail why organizations need to change their digital project models—and how to get started.

96 Why the Digital Product Model Beats Project-Based Approaches

Pedro Fontes Falcão, a professor at Iscte-Instituto Universitário de Lisboa, says his curiosity about boards was sparked by a simple question: Why do some boards vote to pay their CEO as much as a star athlete when many employees contribute to the firm's results? Later, as a director of several companies, he gained firsthand insight into how boards operate successfully, and today he studies the part that effective chairs play in guiding board decisions. Drawing on both research and experience, he and coauthor Randall Peterson outline the critical abilities chairs must hone.

114 The Skills Board Chairs Need Now

As a doctoral student at Harvard Business School, **Emily Tedards** studies how businesses, governments, and civil society tackle complex problems together. While observing organizational leaders with HBS professor Linda Hill, she and her colleagues saw that scaling innovations up likewise required working across teams, firms, and sectors. Leaders who excelled at holding alliances together made progress that no single group could achieve alone. Tedards, Hill, and coauthor Jason Wild describe how successful leaders of innovation drive collaboration across boundaries and how firms can support them.

74 Why Great Innovations Fail to Scale

Nearly 20 years ago **Oguz A. Acar** was a young engineer-turned-brand manager in Istanbul, helping build an AI-driven bot for a liquor brand. Although primitive by today's standards, the tool inspired real emotional bonds. That experience ignited an enduring fascination with how people relate to technology. Now a professor of marketing and innovation at King's College London, Acar studies the behavioral and strategic factors that shape AI adoption. In this issue he and coauthor David Schweidel explain how brands must adapt as AI agents increasingly mediate customer relationships.

86 Preparing Your Brand for Agentic AI

Raised in South Africa and now based in Alberta, Canada, illustrator **Mary Haasdyk Vooys** has always been drawn to projects that require her to grapple with new ways to visualize complex emotions. "I really enjoy trying to capture a sense of feeling in my illustrations," she says. For her work in this issue Haasdyk Vooys drew on muted colors and layering techniques to evoke the emotional withdrawal that often characterizes insecure leaders.

125 How to Manage an Insecure Leader

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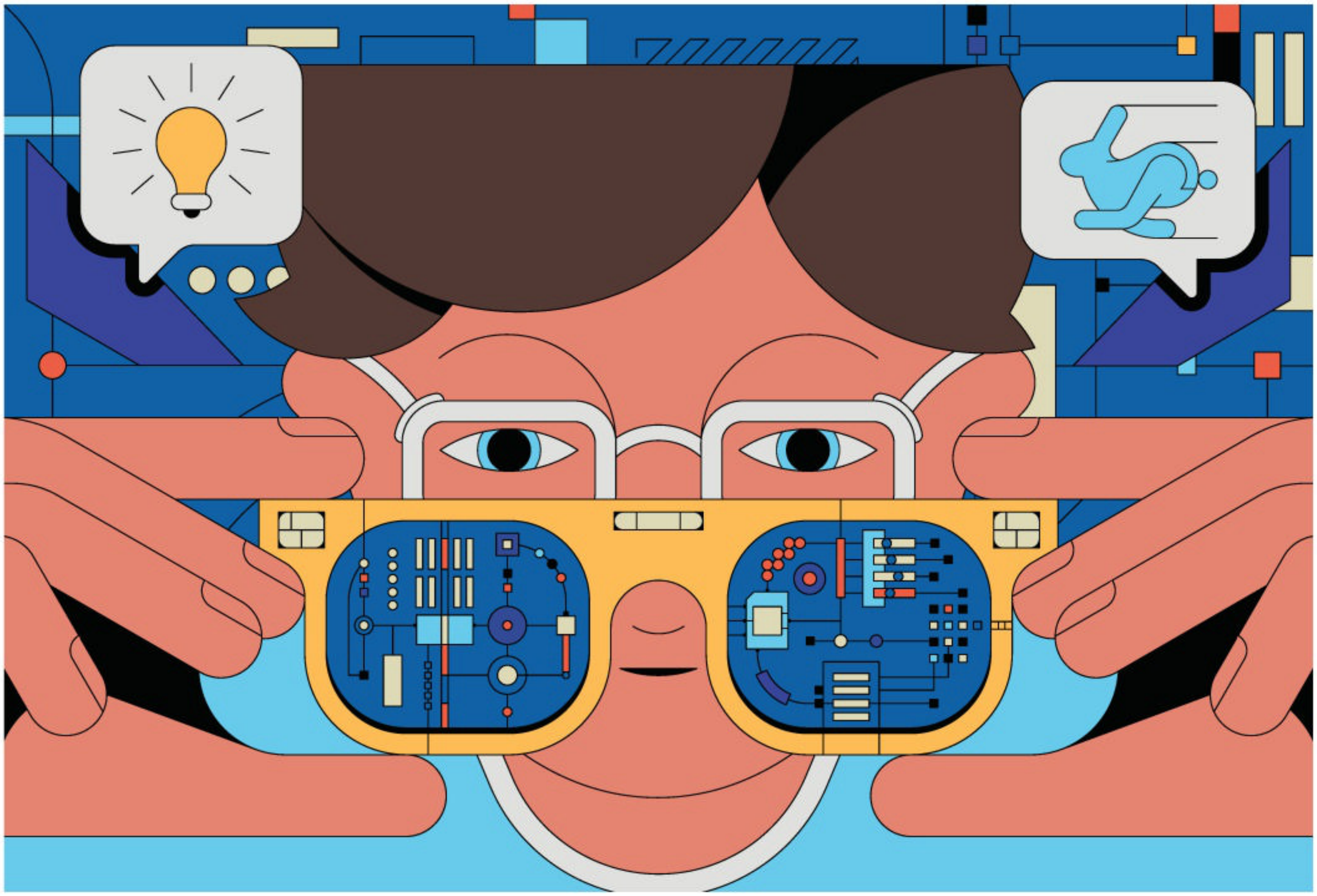

IN THEORY

Gen AI Won't Make Your Employees Experts

But it can help novices perform better and faster.

IN FIELDS RANGING from copywriting to software development, leaders are betting that gen AI can help employees take on more-advanced responsibilities. Research from MIT professor David Autor and others has shown that gen AI shortens the time it takes novices to gain competence at new tasks. But there's still much we don't know about the technology's potential to upskill workers, including one key question: Can it help them perform tasks as well as experts do?

Illustrations by CALVIN SPRAGUE

> The further removed workers were from the knowledge needed for a task, the less likely they were to perform as well as colleagues with relevant expertise.

To try to answer that, researchers from Stanford University and Harvard Business School's Digital Data Design Institute ran a controlled experiment involving 78 employees at IG Group, a United Kingdom–based fintech firm. They began by putting the employees into three groups: experts, adjacent outsiders, and distant outsiders. The experts were writers who regularly drafted articles for IG's website. The adjacent outsiders were marketing specialists from the writers' department who had no article-writing experience but had a general understanding of what the writers did. The distant outsiders were developers and data scientists who had no marketing or writing background at all. Each group was asked to complete two tasks: conceptualize and write an article like those found on the company's website. The researchers randomly assigned gen AI to help some participants but not others. IG executives then rated the results of each assignment on a scale from 1 (lowest grade) to 5 (highest).

When conceptualizing an article without help from gen AI, the writers got the highest average score (3.82), followed by the marketing specialists (3.04) and the technologists (3.02). Those results revealed a significant skill gap between the experts and the others. When the subjects were given gen AI assistance, however, the gap narrowed: Concepts developed by writers scored 4.12, on average, while those developed by marketing and technology specialists scored 4.18 and 4.05, respectively. In other words, marketers using AI slightly outperformed writers using AI—and all three groups that used AI outperformed writers who didn't.

However, when it came to writing the articles, the results differed. Without gen AI, the writers performed the best of all the groups. Yet even using AI couldn't help nonexperts produce the same quality of work as the experts. Writers, predictably, performed the best of those using the technology (3.96, on average). Marketing specialists aided by AI were close behind (3.92). But the technology specialists aided by AI didn't do as well; in fact, their scores with and without gen AI were essentially the same (3.38 and 3.42, respectively).

THE GEN AI WALL

Why did gen AI boost performance for one task more than for the other—and help the technology specialists so little at writing?

After conducting interviews with participants, the researchers concluded that the further removed workers were from the knowledge needed for a task, the less likely they were to perform as well as colleagues with relevant expertise—even with gen AI assistance. Nonexperts using AI did better at conceptualization because it required less expertise than writing did; people just had to understand whether a proposed topic was good enough. Writing an article, however, involved knowing how to convey the desired message in the right language. One participant offered a metaphor to illustrate this distinction: Conceptualizing is like imagining running a marathon, but writing is like actually running it, which calls for a completely different level of expertise.

And expertise, the researchers found, is what allowed humans to partner more effectively with the AI tools. The marketing specialists understood the general language the writers used and had enough domain knowledge to refine the gen AI–produced content. But the technology specialists (whose work had nothing to do with writing) could not effectively use or improve the AI's suggestions. They lacked the intuition and knowledge needed to make good decisions about what language to keep and what to discard. The researchers termed this phenomenon "the AI wall," the limit to how much gen AI can help people perform tasks outside their area of expertise.

This finding has implications for how organizations deploy gen AI tools. It challenges the assumption that the technology can flatten skill hierarchies and enable what academics call "universal task fluidity." Instead, the researchers contend, gen AI's effectiveness depends on the expertise distance between the user and the task domain—and they argue that the AI wall is relevant beyond the context of writers and technology specialists.

The researchers recommend two best practices for pairing gen AI with employees of varying levels of expertise:

Don't overestimate gen AI's abilities. It's critical for employees to have a general understanding of, and some experience with, the area they're applying AI in. Their knowledge should at least be extensive enough to let them assess and improve AI-generated work. During the writing study, for instance, many technologists simply copied and pasted gen AI's suggestions into articles, because they lacked the nuanced judgment for adjusting and integrating the language. "AI isn't a magic fix for everything at work if it is not able to fully automate tasks," says Luca Vendraminelli, the Stanford postdoctoral researcher who led the study. "When AI can't do the job alone and it replaces experts, it will help some people narrow the gap between themselves and experts, but only in certain situations and when the conditions are right. It's not a one-size-fits-all solution."

Rethink how work is done. Consider how your organization needs to change once employees start using gen AI effectively. To get the most value from it, the business may need to alter processes, decision-making approaches, and the ways teams work together. Gen AI tools may even blur job titles in related fields, such as SEO specialist and content strategist. Using them to bridge larger divides—such as those between marketing, sales, and product teams—is much harder, though, because those jobs are tied to different expertise, budgets, and power structures. Designing jobs to be broader and more flexible can help overcome that challenge, but making the shift requires structural and cultural changes.

And as you integrate gen AI into workflows, consider the human context: Who is using it? What do those people know? How well do they interpret and refine AI outputs? "AI can only take people so far," says Vendraminelli. "Expertise is irreplicable. No technology can substitute for it."

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ABOUT THE RESEARCH *"The GenAI Wall Effect: Examining the Limits to Horizontal Expertise Transfer Between Occupational Insiders and Outsiders," by Luca Vendraminelli et al. (working paper, 2025)*

IN PRACTICE

"Gen AI Shortens the Journey to Expertise"

Olga Pirog is the former global head of data and AI transformation at IG Group, the company where the writing study was performed. She has spent two decades using data, analytics, and AI to improve commercial performance. Pirog spoke with HBR about how her team at IG used gen AI and whether it helped close the gap between experts and beginners. Edited excerpts of the conversation follow.

How did gen AI help the marketers write articles almost as well as writers did? It gave them the hands-on skills they lacked. Marketers had the foundational knowledge because they knew what good content looked like, but they lacked the experience of writing it themselves. Gen AI acted as a bridge, allowing them to execute on par with our specialists. It democratized the craft of writing for those who already understood the concept of marketing.

What larger lesson did you draw from the experiment? Gen AI shortens the journey to expertise—but it can't replace real-world experience just yet. The AI system produced solid first drafts, which after the study freed the expert writers to refine the articles, adjust their tone, and make sure their SEO elements were right before publishing them.

Do you think gen AI could have eventually turned the marketers, or even the technologists, into expert writers? It depends on where they started. We saw a divergence: For adjacent roles like marketers, the gap effectively closed—they matched the experts. But for distant roles, like our technologists, the gap remained wide. Because they lacked the foundational context of marketing, they couldn't judge the AI's output effectively. This suggests AI accelerates expertise, but only if you are already in the neighborhood of that domain.

Given how much AI helped the experts, should companies hire fewer novices? That is the danger—many organizations are seeing a drop in junior hiring, but if we hire only experts to edit AI, we destroy the pipeline for cultivating future experts. You cannot develop taste or judgment without doing the work. My concern is that by optimizing for efficiency today, companies are eroding the training ground for tomorrow.

How did gen AI change your approach to training? My view on how apprenticeship should work has shifted. I used to think the only way to learn was through tactical execution, grinding through hundreds of drafts to build muscle memory. But we saw that for people with the right context, AI handles that execution. The real bottleneck happens when you lack foundational knowledge and can't judge if the AI is right or wrong. The training model should shift toward teaching people what makes the writing good rather than teaching novices how to write.

Illustration by JORI BOLTON

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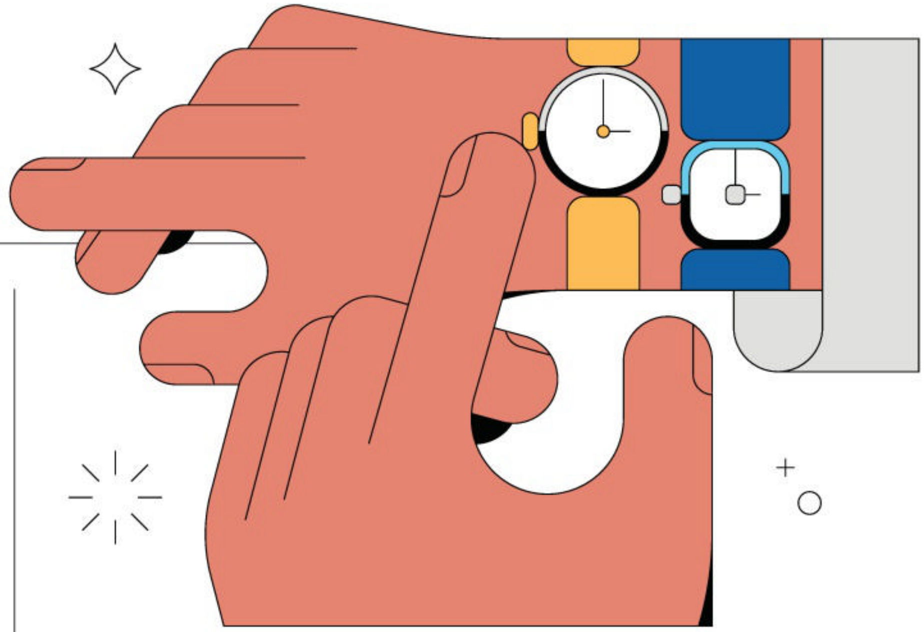


WORK-LIFE BALANCE

Don’t Choose Between Goals—Sync Them Up

Juggling personal and professional dreams may feel like a zero-sum game: Chasing one means sacrificing another. New research suggests there’s a better way to handle multiple ambitions: harmonize them.

In 11 studies across 10 countries, researchers explored what happened when they asked people to focus on the synergies among their goals. In one experiment 200 participants were split into two groups: In one, people listed ways their goals could complement each other (for example, a promotion funding a dream vacation), while people in the other listed ways their goals clashed. Those who explored connections reported stronger motivation to pursue their aspirations than those focused on conflicts.

In another experiment participants were asked to name three New Year’s resolutions and then rate on a scale from one to seven how much they felt the goals pulled in the same direction. Two months later those who saw the most compatibility were the most likely to have stuck with their resolutions. Further experiments found that even brief reflections on how goals connected lowered people’s stress and increased the anticipation they felt for the next day.

This happens because harmonizing goals reduces the anxiety that comes from conflict and time pressure, the researchers write. It also reduces the sense of loss that perceived trade-offs create. When people see their goals as symbiotic, they feel less guilty about neglecting something important.

The researchers also found that some cultures are better at encouraging goal alignment than others are. Participants from collectivist cultures—such as India, China, Indonesia, Egypt, and Mexico—reported more natural harmony and higher overall motivation and well-being than people from individualistic cultures like the United States, the United Kingdom, Australia, Germany, and the Netherlands. Collectivist cultures tend to prize balance and avoid conflict, which may explain why seeing connections between goals was more common in them.

“The most motivated people are not simply more disciplined; they are more strategic,” the researchers write. To capitalize on harmony’s benefits, they encourage people to find ways to “reframe and realign their important goals so they work in concert.”

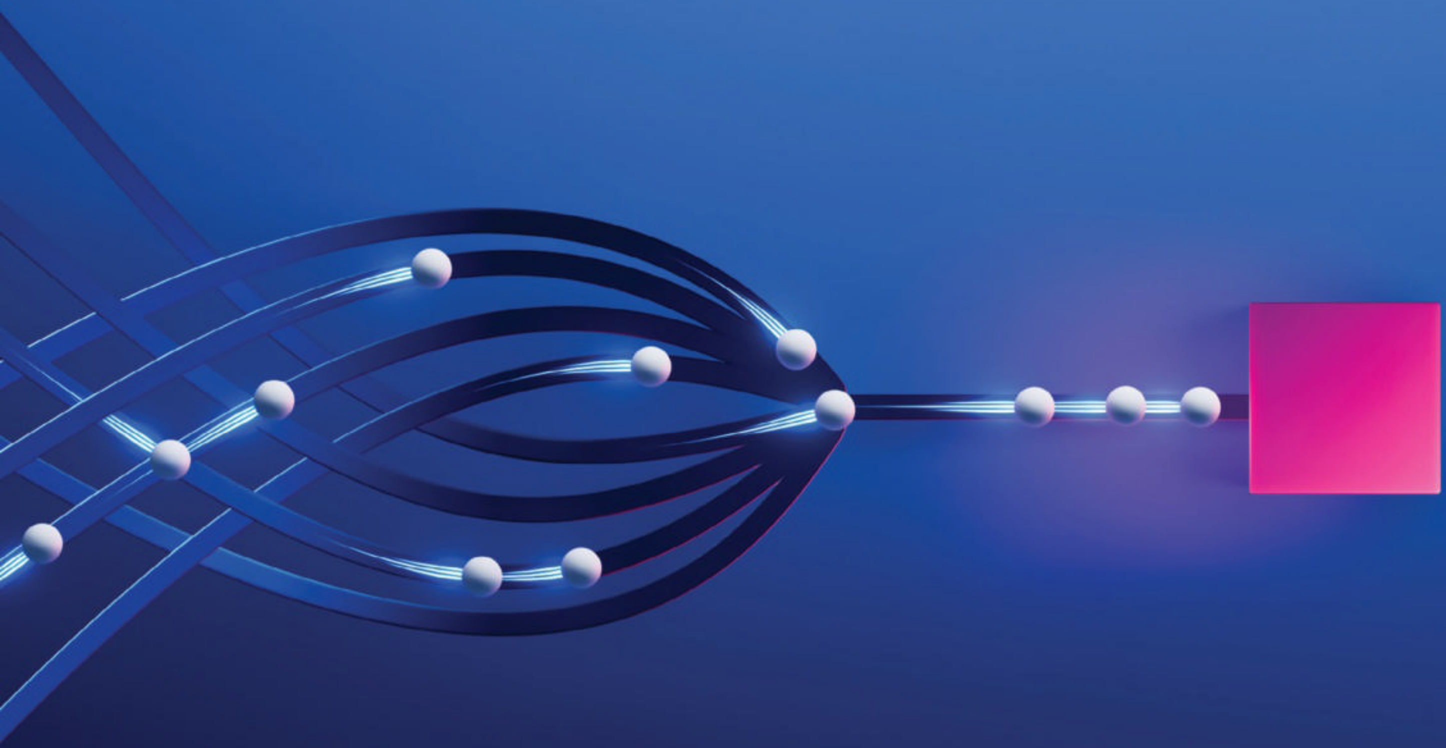
ABOUT THE RESEARCH *“Goal Harmony,” by Jiabi Wang and Ayelet Fishbach* (Journal of Personality and Social Psychology, *2025)*

INNOVATION

Why Managers Stifle Good Ideas

Employees with creative solutions often need their bosses’ backing to get their concepts in front of senior leadership. But are managers motivated to support them? Or are they too worried about their own image?

Those were the questions posed in a study examining who stands to lose or gain status (defined as respect and voluntary deference from others) when a manager endorses an employee’s idea. Across four experiments U.S. participants evaluated scenarios in which a manager supported an idea that either succeeded or failed. They found that when the manager championed a winning idea, both the employee and the manager gained status, but the employee gained more, narrowing the manager’s standing over the employee. When an idea failed, both lost status—but the losses for managers outweighed any potential gains from backing a winner. In other words, when managers support an employee’s idea, whether it succeeds or not, they lose status in some way.



That's because when an idea fails, people look harder for who was responsible than they do when an idea succeeds. After a flop, people found both the employee and the manager responsible, but with a win, credit went primarily to the idea generator.

A fifth study with 600 managers revealed that managers accurately predict the loss of status for supporting employees' ideas—whether good or bad—and the relative gains for turning them down.

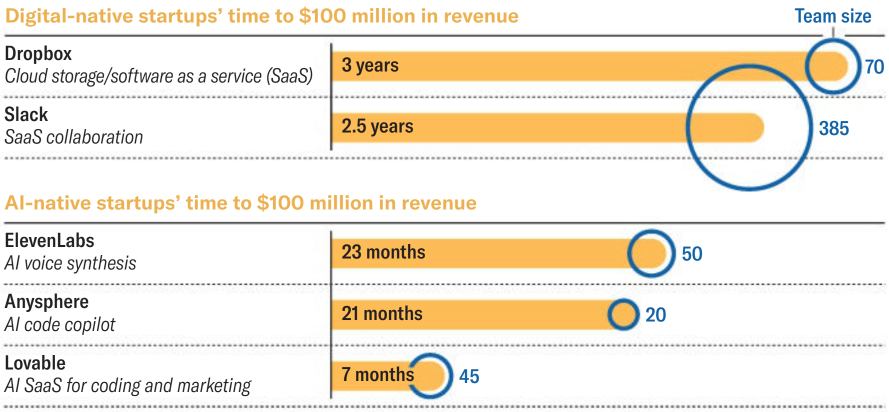
"These perceived status dynamics are a reason why even when both companies and managers want innovation, managers...may face incentives to reject the sorts of ideas that could lead to innovation," the researchers write. To prevent this bias from killing off promising new concepts, they encourage companies to set up blind review panels to evaluate them.

ABOUT THE RESEARCH *"The Idea Endorser's Dilemma: How Status Dynamics Disincentivize Creative Idea Endorsement," by Wayne Johnson and Brian J. Lucas* (Organizational Behavior and Human Decision Processes, *2025)*

ENTREPRENEURSHIP

AI Lets Startups Grow Quickly with Tiny Teams

It took digital-native companies, like Dropbox and Slack, multiple years—and many employees—to reach $100 million in annual recurring revenue. AI-native companies are hitting that milestone much faster and with leaner staffs.



Source: Dropbox, *Business Insider*, *Forbes*, *VentureBeat*, Index Ventures, Contrary.com, SaaStr.com, *The New York Times*, Bloomberg, Lovable, *TechCrunch*

LEADERSHIP AND MANAGING PEOPLE

Sudden Changes Make You Seem Less Authentic

When employees offer feedback, many leaders feel compelled to act on it immediately. But moving too fast may hurt their credibility, new research shows.

In three studies with 3,056 participants from the United States and the United Kingdom, researchers explored how the speed of leaders' behavioral changes affected perceptions of their authenticity. In one study 190 doctoral students were asked to imagine that their adviser had received anonymous advisee feedback during an annual review. Half the students were told that the adviser's behavior immediately changed in response, while the other half were told that the adviser's behavior altered more gradually. Although both scenarios described the improvements as lasting, the rapid change was seen as less authentic.

A second experiment with 2,000 participants confirmed this effect across eight leadership behaviors, including coaching, listening, and motivating. Sudden changes felt superficial because people assume that genuine change requires a deep shift in a leader's self-perception, which they believe takes time. Fast fixes seem like lip service.

In a third study the researchers found that speed mattered less for easy-to-modify behaviors (like sending a meeting agenda in advance) than for ones that were difficult to alter (like becoming a better listener). Additionally, when leaders moved too quickly to correct hard-to-change behaviors, participants reported being less willing to speak up in the future.

So should leaders slow down when it comes to feedback? The researchers say it depends. For easily modified behaviors, prompt action can still foster a feedback-friendly environment. But for more-complicated behaviors, gradual improvement signals sincerity. If leaders want to get started on hard changes immediately, the researchers say, they should articulate the reasons behind their actions to their team, which may offset the authenticity penalty by making changes seem well considered rather than hurried.

ABOUT THE RESEARCH *"Not So Fast? Rapid Response to Voice Leads to Perceived Inauthenticity," by Danbee Chon, Ovul Sezer, and Francis J. Flynn* (Academy of Management Journal, *2025)*

SUCCESSFUL AND STRUGGLING CEOS ARE LEAVING AT SIMILAR RATES

Top-performing CEOs tend to stick around their companies longer than underperforming ones do—but the difference is shrinking. In 2024 just 7% of higher-performing S&P 500 CEOs left their roles, compared with 18% of underperformers. In 2025 turnover rose to 12% and 14% for the two groups, respectively. "Strong Results, Short Tenures: The New Reality for High-Performing CEOs," by the Conference Board, Egon Zehnder, and Semler Brossy

COLLABORATION AND TEAMS

Your Team Should Focus on Learning or Performance—Not Both

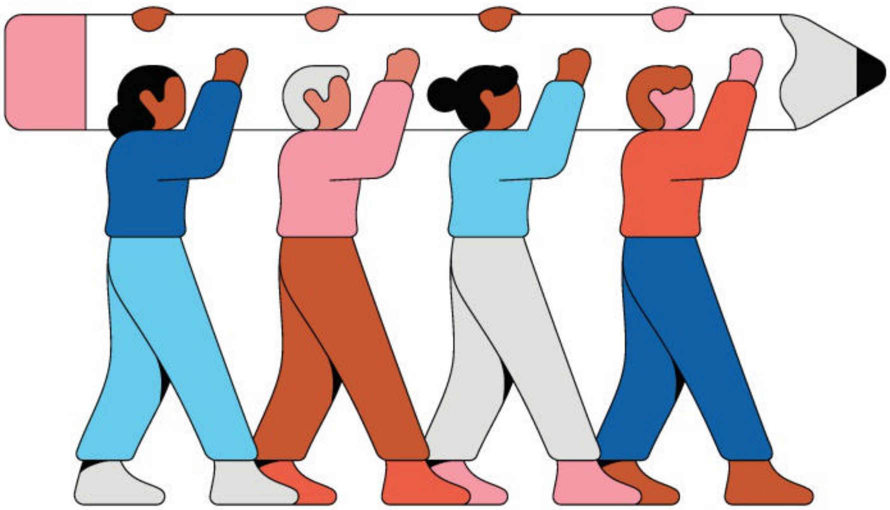
Does striving to learn new skills enhance a team's performance and sense of purpose? To find out, researchers studied 109 teams at a large North American mortgage company. Over a 16-week period the teams reported on the goals they prioritized, how well they collaborated, and whether their work felt meaningful. At the end of the study, managers rated each team's performance using standardized measures.

The researchers found that the teams that tried the hardest to maximize both learning and performance received the lowest scores from their managers, while the teams that leaned into either learning or performance (while de-emphasizing the other pursuit) scored better. Teams that focused on just one goal also were much more likely to say their work felt meaningful.

The researchers believe that prioritizing one aspect of work creates stronger team alignment. Innovation requires experimentation and tolerance for mistakes, while high efficiency demands precision. When teams are asked to achieve both, hesitation creeps in, leading to inconsistency and a lack of focus. When teams coalesce around a single priority, they know what to pursue and how to pursue it.

"For leaders, the message is simple: Don't overload your teams with conflicting signals," the researchers write. "When [teams are] given a focused direction...they're more likely to find meaning in their work, collaborate effectively, and achieve better results."

ABOUT THE RESEARCH *"Chasing Two Hares at Once: The Effects of Goal Orientation (In)congruence in Teams," by Wonbin Sohn and Jean-François Harvey* (Human Resource Management, *2024)*



GENDER

Pay Inequality Starts at the Initial Offer

Research has shown that wage gaps between men and women are due in part to women's less aggressive salary-negotiation tactics. In fact, the disparities emerge earlier, before negotiations even begin.

In a new study researchers analyzed data on 738,000 initial salary offers made to job seekers in the United States from 2017 to 2020. They found that women received offers that were 5.5% lower than men's, despite controlling for job title, employer, industry, location, and occupation type and the applicant's education, race, and experience.

To understand where the differences were most pronounced, the researchers analyzed task descriptions for 599 occupations. They found that the offer gap was wider for women in occupations with stereotypically "masculine" tasks—associated with traits like assertiveness and independence—than in those with stereotypically "feminine" tasks. That aligns with theories about how stereotypes influence employers: With roles characterized by masculine norms, they often undervalue women's competence, even when their credentials match men's.

The researchers say that their study helps overturn long-standing misconceptions about women's supposed complicity in their lower wages. "In finding that gender disparities in pay exist as early as the offer stage, our research provides a critical counter-argument to skill-deficit explanations

IT'S OK TO ADD THAT EXCLAMATION POINT!

Does using exclamation points in your writing make you seem unprofessional? Or enthusiastic? In a series of studies, researchers found that people who used the punctuation mark were viewed more positively than people who didn't and were preferred as collaborators. Though seen as less analytical and less powerful, exclamation-point users were rated just as competent—and notably warmer—than nonusers, regardless of gender. "Nice to Meet You.(!) Gendered Norms in Punctuation Usage," by Yidan Yin, Gil Appel, and Cheryl Jan Wakslak

for the gender wage gap," they write. If your company is looking to improve pay equity, instead of encouraging women to become better negotiators, it may help to look at the offers you've put on the table.

ABOUT THE RESEARCH *"Setting Up the Gap? Gender Differences in Initial Salary Offers in Hiring," by Shiya Wang and Adina Sterling* (Organization Science, *2025)*

SALES & MARKETING

High-Quality Store Managers Help New Products Succeed

A great amount of effort goes into designing, marketing, and launching a new product. To help it really take off, a new study shows, you should pay attention to who oversees its sales on the retail floor.

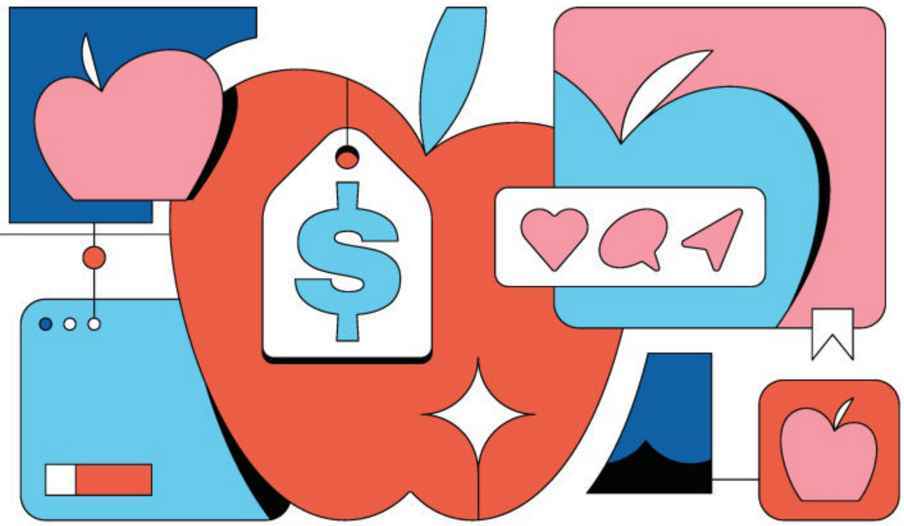
In the study researchers tracked the rollout of 4,093 new products that took place from 2017 to 2019 at a large Colombian grocery chain with 229 stores in 109 cities. They also followed the movement of its 616 store managers, who were centrally assigned and frequently transferred to different markets. The researchers uncovered a significant relationship between individual managers and store performance, finding that some were consistently associated with above-average store performance, even when they changed locations.

As is usual at large chains, new products weren't launched at all stores at once but normally started at a few stores and expanded to others if they were successful. The researchers found that when a high-quality manager arrived at a store, revenue per new product increased by almost 20%. In addition, new products initially allocated to good managers' stores expanded into 31% more additional stores within 11 months (the median product life span) than those launched in other stores did and were nearly 11% more likely to last longer than average on the market.

To find out how the good managers achieved superior results, the researchers conducted interviews and collected survey data. They found that high-quality managers excelled at forecasting future sales and managing inventory to match demand—which helped them ensure that in-demand new products were continually in stock.

While this study is based on one retailer, the researchers write, the chain's broad geographic and economic reach makes its implications relevant for large chains everywhere. In particular, they argue, their findings suggest that who manages a new product's introduction on the retail floor can be just as important as the product itself. A strong manager can elevate an average product, while a weak one may hold back even the most promising offering. They write that when evaluating a launch, retailers should take into account this unlikely source of friction in the rollout process—the differences in the skills of managers on the ground—which might make a product perform better or worse than its true potential.

ABOUT THE RESEARCH *"New Product Diffusion Within Retailers: The Effect of Managerial Quality on Rollout," by Tomomichi Amano and Jorge Tamayo (working paper, 2025)*



CONSUMER BEHAVIOR

The Real Reason Brands Should Be Multiplatform

Is your company wasting resources posting on Facebook when your customers are mostly Instagram followers? A new study finds that it really does pay to diversify—but perhaps not for the reasons you might think.

Researchers analyzed data from nearly 2,000 top U.S. e-commerce retailers from 2011 to 2018, including their web sales, site traffic, and social media presence across Facebook, Twitter (now X), YouTube, Google+, Pinterest, and Instagram. They also examined brand engagement on each platform by studying yearly user counts—a widely accepted proxy—and the traffic each drove to the retailers' websites.

Adding just one more social platform was associated with a 2% boost in web sales, or an average of roughly $8 million for the brands studied. Additionally, brands with above-average diversification (equally high engagement across more than one platform) saw an additional 3% lift in sales. That held true even after controlling for factors like product category, brand popularity, and average cart size.

But diversification didn't work by reaching new customers on different platforms. Analyzing publicly available data on users from Twitter and Pinterest, the researchers found that the sales bump came from users who followed brands *across multiple platforms*. The researchers say that the repeat exposure reinforced brand awareness, which nudged followers toward purchases.

"Retailers should not just simply adopt new platforms [to increase reach]," the study's authors write. "Instead, they should start from the existing followers [and] adopt the platforms that these followers have also been using [to] generate overlapping impressions," which in turn drives sales.

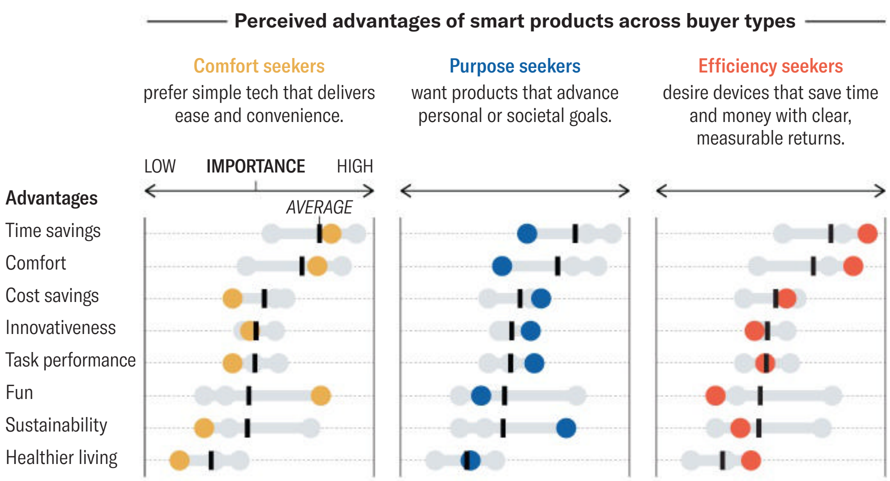
ABOUT THE RESEARCH *"Impact of Multi-Platform Social Media Strategy on Sales in E-Commerce," by Xiaoning "Gavin" Wang et al. (working paper, 2025)*

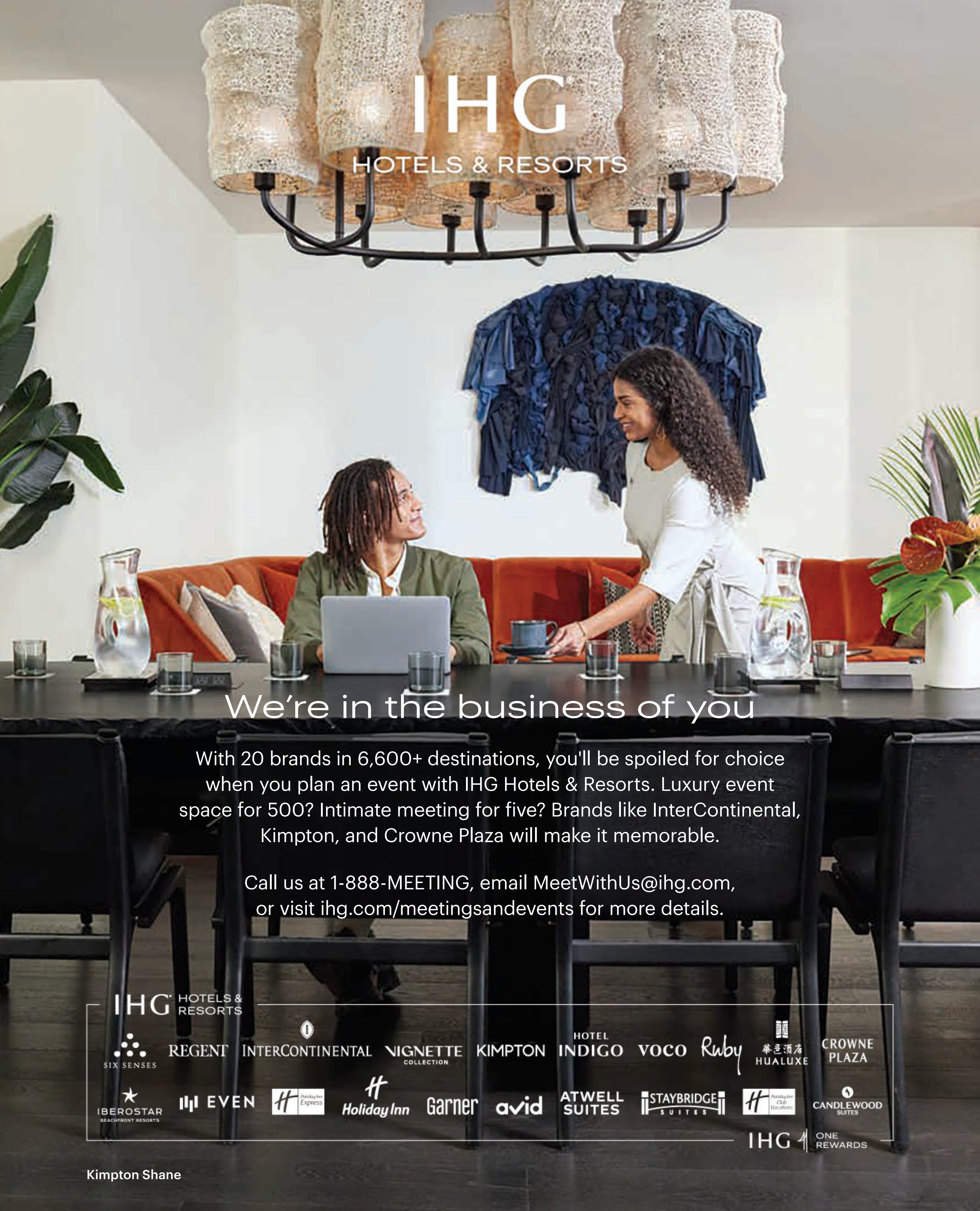
MARKET SEGMENTATION

What Buyers of Smart Products Want

When smart products first hit the market, their "smartness" alone was enough to appeal to tech-conscious consumers. Today brands must identify and communicate the specific ways their products will meet customer expectations. A survey of more than a thousand Swiss consumers identified the three main categories of smart-product buyers—and what each values.

Source: Michele Russo, Sophia Prix, Jonas Goergen, and Emanuel de Bellis

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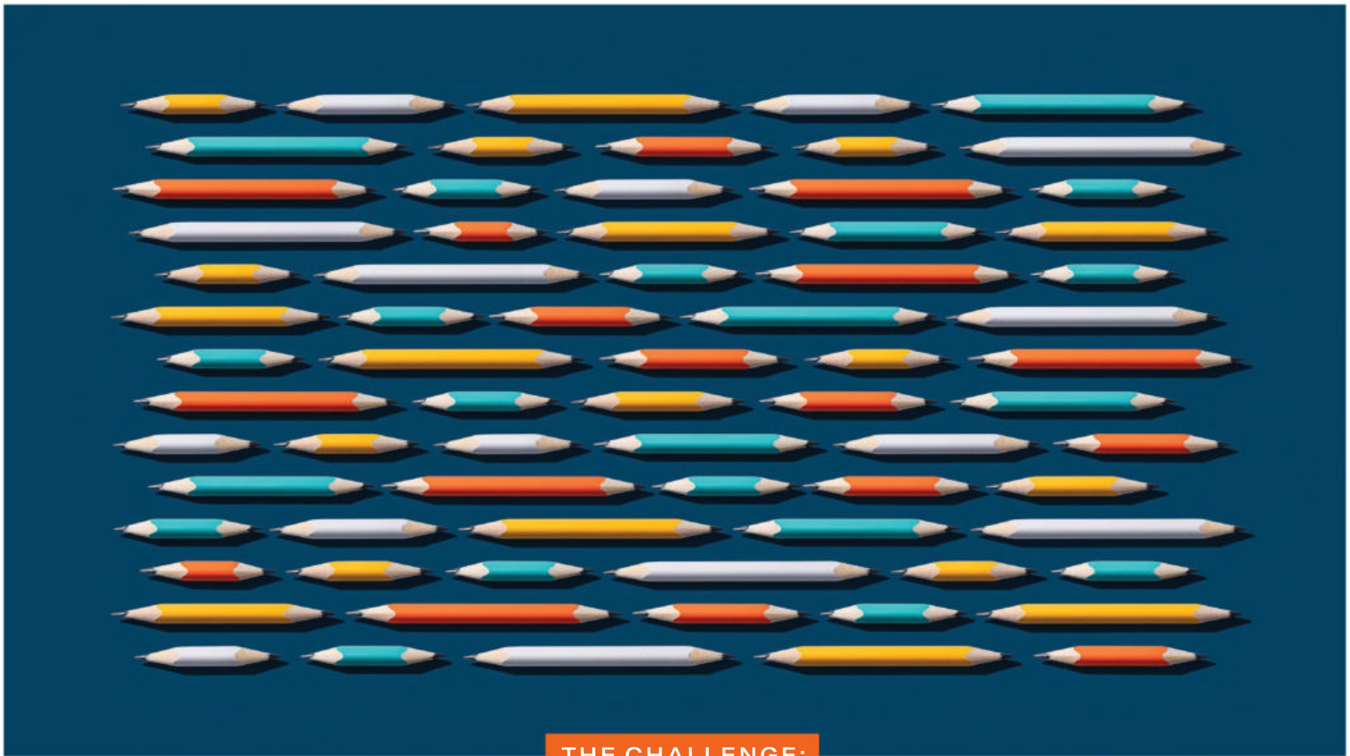

THE CHALLENGE:

How AI Is Changing Talent Management

Photographs by MirageC/Getty Images

These articles were selected from **HBR.org.**

The Perils of Using AI to Replace Entry-Level Jobs

BY AMY C. EDMONDSON AND TOMAS CHAMORRO-PREMUZIC

AS YOU'VE PROBABLY heard, if not also experienced, artificial intelligence is reshaping how we work. If you are a senior professional with status, sufficient reputational capital, and a deep social network, you may be relatively safe from being displaced by AI—at least for now.

However, there is mounting evidence that the same is not true for those with entry-level jobs. A Stanford University study found that employment for U.S. early-career employees in the fields most exposed to AI, such as software development and customer service, has fallen substantially in recent years. Research at the World Economic Forum suggests that AI can already execute 50% to 60% of typical junior tasks (report drafting, research synthesis, coding fixes, scheduling, data cleaning).

Why Organizations Should Redesign Entry-Level Jobs

We believe that slashing entry-level jobs simply to cut costs is dangerously shortsighted—for both companies and society. There is a strong case to be made that organizations must resist the temptation to eliminate them en masse; instead, firms should redesign them. There are at least four compelling reasons.

1. To build future midlevel professionals and leaders. Every capable manager and professional starts somewhere. The best leaders and the most impressive experts acquire the skills and perspectives they need to lead and solve important problems by learning the trade from the ground up. In any profession (or activity), people shift over time from being consciously incompetent, to competent, to unconsciously competent in a set of valued skills. At this point they are better able to see the larger picture and make high-stakes decisions effectively. Stripping out entry-level jobs severs this pipeline.

Imagine recruiting managers who have never worked on the front lines, handled customer complaints, written up notes from consequential meetings, or grappled with the minutiae of operational work. Leadership would become abstract, detached, and dangerously naive. Recall, if you will, the eureka moments in your own career, when the recurrence of similar patterns allowed you to glimpse an important cause-and-effect relationship—perhaps cementing an insight that made you more effective in your work or profession.

Simply put, most of today's entry-level jobs accomplish two essential

> The best leaders acquire the skills and perspectives they need to lead and solve important problems by learning from the ground up.

functions: getting tasks done and developing the people doing the tasks into more capable members of the organization—and society.

2. To fuel innovation from the ground up. Innovation often bubbles up from those closest to the work. Junior employees, unencumbered by legacy thinking, are uniquely well positioned to spot inefficiencies and suggest creative fixes. In technology this is called "dogfooding"—as in, eating your own dog food. Microsoft famously tested early versions of Word and Excel internally, using staff feedback to shape the products before their public release.

Entry-level workers generate similar value by stress-testing processes and discovering what is broken. Unlike AI, which delivers consistent outputs, humans introduce variability, which is sometimes messy but often the source of new ideas, improvement suggestions, and occasional breakthroughs. If your approach to innovation is to outsource ideation to the same machine or tool everybody can use to produce a very similar or even identical outcome, don't expect to produce a competitive advantage.

3. To enrich the organization's culture. Today's workforce is more intergenerational than ever, with up to five generations working side by side. This diversity of age and perspective enriches workplace culture and sparks creativity. Removing young people drains organizations of fresh energy and narrows the range of viewpoints. It risks producing sterile, homogeneous cultures in which established employees talk mostly to one another, and the cycle of renewal breaks down.

4. To protect society. Work is more than income; it provides purpose, structure, and belonging. Without entry-level roles, millions of young people risk drifting into idleness. We know from history that when large groups of able-bodied young adults lack meaningful occupation, societies pay the price in the form of alienation, unrest, and even crime. Protecting entry-level jobs is both a corporate and civic responsibility.

How to Redesign Entry-Level Jobs

To protect entry-level jobs, they must be reimagined so that they still deliver value in an AI-powered workplace. This involves four major steps.

1. Rethink tasks. Junior roles must no longer be defined by the repetitive, automatable tasks that AI can do better and faster. Instead, they should be designed to expose people to the *why* behind the work.

Take accounting. AI can reconcile transactions and draft financial statements, so most accounting firms have been deploying various forms of AI to redirect junior staff into higher-value activities like anomaly detection, fraud investigation, and client advisory work. That allows junior staff to still learn the mechanics, but their real work is to interpret what the machine produces.

Likewise, in the world of staffing and high-volume recruitment where one of us (Tomas) has worked, AI has been used for years as a tool that enables human recruiters to prioritize high-potential job seekers by sifting through millions of CVs, application letters, and prerecorded interviews. However, people, even junior recruiters, still play a key role in the "last-mile delivery" of the value chain by using the time they save not doing tasks outsourced to AI to conduct more-valuable human-to-human exchanges with short-listed candidates and clients.

These kinds of shifts align with McKinsey's estimate that, while 60% of occupations could see at least a third of their tasks automated, very few can be fully automated. The real opportunity lies in rethinking jobs so that humans spend more time where judgment, collaboration, and creativity are needed. In this way, human aptitudes are amplified by AI.

2. Focus on augmenting skills. AI is useful only when paired with critical thinking. Productivity gains are meaningless if they come at the expense of professional judgment. A recent study published in *Science* found that gen AI can boost output by as much as 40% in text-based tasks, but novices who accept the machine's suggestions uncritically perform worse than those who reason through problems themselves.

Consider banking, where most analysts use gen AI to draft presentations and reports. To complement that, training now includes "red teaming" exercises in which juniors are asked to test assumptions, identify weaknesses, and explain why the gen AI might be wrong. The goal is not speed alone but also judgment. The early-career analysts are asked to interrogate the AI's output the way a skeptic or competitor would—probing for incorrect assumptions, missing data, and logical flaws—and then defend their critique to senior colleagues. That turns the AI into a kind of intellectual sparring partner: fast and capable but fallible.

3. Redesign work. The default use of AI is substitution: Let the machine do the work and cut head count. A smarter approach is to modify workflows so that AI handles rote execution while humans focus on framing the problems, asking better questions, and building relationships.

In consulting, AI can synthesize market reports, but firms still embed junior consultants in workshops and interviews, where they develop interpersonal skills and a sense of context that no algorithm can provide. In software development, gen AI platforms are widely used to write boilerplate code, but junior engineers are steered toward debugging, system design, and pair programming (a collaborative technique for software development)—areas where collaboration and problem-solving matter most.

So far, most of the research on hybrid human-AI workflows suggests that the highest performance comes not from "AI first, humans second" but from a carefully structured division of labor by which machines accelerate routine work and people focus on uncertainty, novelty, and persuasion. That is consistent with Ravin Jesuthasan and John Boudreau's research on "work without jobs," which shows how organizations can move beyond job titles to adopt more fluid, skills-centric, and work-driven operating models.

4. Develop people. Perhaps the most important principle is that entry-level work should be designed to develop people as well as to get things done. Early exposure to pressure, ambiguity, and even failure is how professionals acquire resilience and judgment.

Consider medicine. Residents still endure long, exhausting shifts. AI may eventually automate charting or scheduling, but hospitals keep juniors on the front lines because these experiences build clinical intuition and empathy under stress. In journalism, AI can draft articles, yet young reporters still get sent to cover tedious community meetings or chase cold leads, because persistence and interviewing skills come only through practice.

Equally important is rediscovering the value of resilience and grit. If machines remove every obstacle, work becomes too easy, devoid of the challenges that make learning meaningful. As one of us (Amy) has argued in her research on failure, progress comes from intelligent failures: the false starts, stumbles, and disappointments that occur when tackling difficult, uncertain tasks. Entry-level jobs, which provide safe spaces to try, fail, and try again—where the stakes are lower than at the top—are vital for building adaptive and confident professionals.

Consider the analogy of education: If students outsource every essay to gen AI, they bypass the intellectual struggle that produces deep learning. It is like microwaving ideas: fast, convenient, and unsatisfying. The effort, even the pain, of thinking for yourself is what grows a student's capacity. The same applies in work. If we remove the stretch and discomfort of early jobs, we rob future leaders of formative growth that allows them to tolerate the stretch and discomfort of leadership roles.

Beyond the Organization: A Societal Shift

Almost 100 years ago John Maynard Keynes predicted that by the year 2030 technological progress would reduce the workweek to 15 hours. Although time may prove him right, people still argue today about (gasp) whether even a four-day workweek is too short. The evidence for the benefits (in productivity, well-being, and retention) of the four-day workweek is robust, but organizational norms (and mindsets) lag behind.

AI presents an opportunity to reset. Instead of extracting maximal "rent" from all workers, as if they were hourly machines, organizations could redefine value more holistically: quality of output, contribution to culture, and capacity for innovation. That requires not just fewer hours but smarter, better work, and entry-level roles are the foundation for where that shift must start.

The instinct to automate away entry-level jobs is understandable but shortsighted. These roles are not inefficiencies to be eliminated; they are investments in the future of leadership, innovation, culture, and society itself. As AI transforms work, our task is not to minimize human involvement but to maximize its value. And that starts with protecting, redesigning, and redignifying entry-level jobs.

For what it's worth, part of the challenge—and part of the reason professors haven't significantly adapted their courses to the seismic shifts created by AI—is that no one really knows how this will all play out. If the ultimate purpose of higher education is to prepare people to be effective contributors in the world, then it's profoundly difficult to do so without a crystal ball showing us what tomorrow's world will require. Today's content may soon be obsolete, but the habits of effort, self-discipline, and systems thinking that people will need to thrive in the future transcend the specific content being taught today.

The same is true for companies. Organizations are operating without certainty about what roles, skills, or even business models will define success in five or 10 years. None of us knows enough about the future we are preparing for to get it entirely right. That is why the old saying "The best way to predict the future is to create it" resonates more strongly than ever.

And that is precisely the imperative in front of us. Protecting entry-level jobs is not about defending tradition but about actively shaping a future in which work remains a site of growth, resilience, and shared human achievement. If we seize this moment with imagination and courage, the AI age can be not the end of opportunity but the beginning of a smarter, fairer, and more fulfilling world of work.

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AI Is Upending How Consulting Firms Hire Talent

BY ATTA TARKI AND JOSEPH RACZYNSKI

PROFESSIONAL SERVICES FIRMS such as blue-chip law firms and management consultancies have long relied on a simple talent strategy: Hire large numbers of eager and capable young associates to do the "heavy lifting" at the firm, freeing up partners and other senior staff to sell new work and set strategy. Those associates are then winnowed out over time. They either move on to other work (often with the firm's clients), burn out, or drop out because of the firm's traditionally unsupportive family-leave policies or, in rare cases, continue on to a lifelong career at the firm. When hired, those young associates are rarely assessed for their future potential to become partners. With such a numbers game based on high attrition, there's no need: Professional services firms count on large entry-level pools to eventually yield just a few partners, roughly one or two per 100 at the prestige firms.

But this talent-management approach is now under threat from artificial intelligence. In the belief that AI can automate much of the busywork, many professional services firms are slashing their entry-level hiring without a real idea of what this new hiring approach will do long term to their partnership pipeline. For instance, a top legal tech CEO revealed to us that many global law firms, alarmed by the speed and cost-efficiency of AI, are contemplating slashing their summer-associate hiring from a typical 100 down to just 30. Similar discussions are being held across firms

Companies need to become more deliberate in aligning candidates for the future roles they are being hired to fill.

of various sizes as well as diverse segments of professional services. For example, DeciBio, a 50-person specialized management-consulting firm, revealed to us that efficiency gains delivered by AI have allowed it to shrink its incoming entry-worker class from 15 people in 2021 to a planned four hires in 2026, despite the firm's revenues having grown double digits in this period.

Many questions related to AI's impact on the labor market remain unclear: Which workers are most likely to be impacted by AI, and how large will the workforce reductions be? Will private equity firms be able to replace the CEOs of their portfolio companies with AI, as OpenAI CEO Sam Altman recently predicted? Will political ministers be replaced by AI, as has already happened in Albania?

Regardless of which of the futuristic predictions seem plausible to you, the reality is that AI has already led to workforce reductions. Recent research, using highly accurate payroll data, estimates that entry-level jobs have declined by 13% in the fields most exposed to AI. This trend will surely continue as technology improves and the adoption rate increases. In May 2025 Anthropic CEO Dario Amodei urged business leaders to stop "sugarcoating" what lies ahead, stating that AI could eliminate 50% of white-collar entry-level jobs within five years.

With reduced volumes of entry-level hiring and the shrinking base of the talent pyramid, how should professional services firms think about their talent models? And more specifically, how should firms think about their pipeline of future partners and the revenues associated with those partners?

Hire for Leadership, Not Grunt Work

In the old model of hiring 100 associates with the expectation that only two would become future partners, professional services firms didn't need to screen very hard to hire people with the skills needed to be a future partner. When switching to more talent-efficient models with less churn, companies need to become more deliberate in aligning candidates for the future roles they are being hired to fill. There is a whole set of literature on how to do this. The most important steps are questioning old hiring practices, defining what predicts on-the-job success, deploying more evidence-based hiring methods, and being honest with candidates about what the future job you are hiring them for entails, something that very few first-year associates understand well.

Of course, winners in the AI era will also redesign the work, not just reduce the workforce. It seems preposterous to use the workflows of a pre-internet era for any of the current roles at a management consulting firm. Don't just expect that AI will complete individual tasks more efficiently; start thinking about how you can change entire workflows—and train, mentor, and incentivize your staff to perform better against these new goals. Technologists within an organization should be constantly learning about what is happening with technology inside and outside the industry, then bringing the technology back and training associates and partners on it. Business leaders should encourage that behavior. The law firm Latham & Watkins has formalized this practice by putting together an AI task force, which is tasked with bringing cutting-edge know-how on AI back to the organization and teaching the firm's associates at its in-house AI Academy.

If taking on this change feels too overwhelming, consider partnering with others. You can engage with legal startups or universities to test new workflows. One of Japan's leading insurance companies, Aioi Nissay Dowa Insurance Company, partnered with Oxford University to launch Aioi R&D Lab–Oxford. The program works to transform research in AI into industry applications by, for example, helping students gain internships that bridge that gap. Similarly, your lawyers, consultants, or accountants can engage with and learn from startups and universities to increase their technical acumen. You don't need to fund a university program to get access to such opportunities. The University of Alberta, in collaboration with Alberta Machine Intelligence Institute, has partnered with more than 300 companies on similar knowledge transfers.

Break the Rules to Build the Future

True innovation in the face of AI may take firms into uncomfortable territory—potentially even upending their business models. That is the hardest adjustment, because it goes beyond talent management. For example, many professional services firms base their fees on the number of hours of work performed. But AI clearly presents an opportunity for those firms to adapt their pricing strategies as AI starts completing much of the grunt work

performed by associates, resulting in fewer billable hours. One obvious solution is to charge a fixed fee for projects based on the value delivered or on what a less tech-proficient competitor would charge, not on how many hours it takes to complete the work. In some areas of professional services, such as legal services, fixed fees have become much more common, and even subscription-based fees are gaining traction.

Many of the most successful professional services firms have flourished by selling large, bundled projects with high price tags. However, the quality of professional services is notoriously difficult to assess before a purchase. As a result, an effective model for those firms has been to have a highly qualified partner, commanding high compensation, who spends tens if not hundreds of hours developing a trusted adviser relationship with a client. This model has a high customer-acquisition cost, though, so it has been more economical for most large professional services firms to focus on big projects. Small, unbundled services offerings have not been seen as worthwhile to pursue and have even been seen as cannibalistic to their main business model.

As you experiment with your business model and pricing strategy, you might discover that you need to make big changes to your talent model as well. You might not need a high-salaried partner to sell smaller unbundled services, especially if you can standardize the quality of those services. Many software-as-a-service firms, for example, use junior-to-midlevel professionals to sell smaller projects, while more-seasoned enterprise sales professionals focus on the larger accounts. Why assume only partners can cultivate client trust? In some industries midlevel professionals are given significant autonomy to manage client relationships early, which accelerates their commercial maturity. In advertising, early-career account executives are typically the day-to-day contact for clients. Doctors at independent clinics are expected to start building their own book of business in their first year on the job.

IN AN ERA reshaped by AI's transformative power, professional services firms face a short window of time to rethink their hiring strategies. Today's leaders must go beyond reducing entry-level positions to craft a deliberate, future-focused model. That means hiring and developing talent to find not just employees who can handle today's tasks but the adaptive, tech-savvy partners of tomorrow. By embracing this paradigm shift, rethinking workflows, fostering innovative learning, and incentivizing forward-thinking practices, organizations can unlock new levels of productivity and competitive advantage as everything continues to evolve. The future belongs to those who upgrade their hiring strategies now, positioning their people as the true differentiators.

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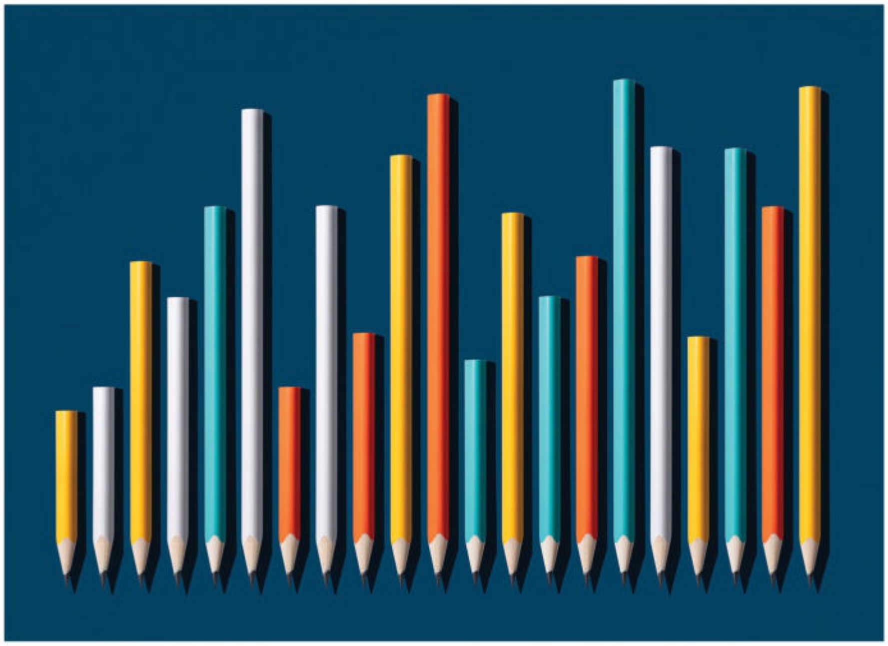

Job Interviews Aren't Focusing on AI Skills. They Should

BY JOSEPH FULLER, BEN SESSER, AND WILLIAM LEEDS

EVERY YEAR MILLIONS of job seekers carefully parse job descriptions, tailoring their résumés to match the specific skills and qualifications employers claim to value. Meanwhile, hiring managers conduct interview after interview, believing they're effectively evaluating candidates' qualifications.

But what if this fundamental assumption about how hiring works is wrong?

For the first time we can answer that question with data rather than speculation. Thanks to advances in interview recording and transcription technology, we can now peer inside the black box of hiring to understand what actually happens when candidates and interviewers sit down together. The results reveal a disconnect that may be undermining hiring decisions across industries.

These results are drawn from a comprehensive analysis recently conducted by BrightHire in conjunction with Harvard Business School's Managing the Future of Work project, involving 23,000 interview transcripts across 44 companies and 1,311 positions. The analysis found that although job descriptions serve as detailed road maps for what employers claim to need, interviews often veer off course. Even more notable: As artificial intelligence reshapes the skills landscape at unprecedented speed, companies are largely failing to assess whether candidates have any AI experience at all.

The Illusion of Systematic Assessment

The numbers initially appear reassuring. After just one interview nearly 80% of the skills listed in job descriptions have been touched upon. By the second interview that figure climbs to 91%. On the surface that suggests a hiring process that's working as intended—systematically evaluating candidates against clearly defined criteria.

But this surface-level analysis masks a more concerning reality. When we dug deeper to measure whether skills were not just mentioned but meaningfully assessed, the picture changed significantly. A coverage gap that varied for different types of skills emerged. Soft skills such as communication and collaboration were discussed thoroughly in 76% of the multi-interview processes that were analyzed, but technical skills and experience requirements—often the most critical differentiators among candidates—received deep evaluation only 55% and 66% of the time, respectively, even after five interviews.

Moreover, the research found that even if skills are thoroughly covered in an initial interview, they're often revisited in subsequent interviews. Across all skill categories, 72% of well-covered skills are addressed again later, with each skill revisited an average of 1.2 additional times. That suggests that hiring teams have the time to evaluate more skills but instead are probing the same topics in multiple interviews. Whether that reflects an undisciplined process or an overfocus on a few skills that are viewed as particularly critical to success, the end result is the same: It puts the employer at risk of hiring a worker without fully vetting that candidate's qualifications.

One remarkable finding relates to the role of structured questioning. Skills that interviewers explicitly asked about ended up being well covered during the interview process only 53% of the time compared with just 1.6% for skills that were never asked about. This suggests that candidates should make sure that they mention significant attainments and emphasize points that they feel will advance their candidacies if interviewers aren't asking about them in detail early on. Looking more broadly, when both the "well covered" and "partially covered" categories are combined, asked-about skills were addressed 95.9% of the time compared with 11.5% for unasked-about skills.

The risk this creates is clear: At best, we find that almost half of the job offers extended after such a process will rely on incomplete or biased information. At worst, when a skill is never asked about explicitly, that share is over 90%. In this context, candidates who volunteer information about certain skills during their interviews may appear more qualified than those who don't, regardless of their actual capabilities.

The importance of probing a candidate's skills early in the process is made stark by the extent of interviewing actually undertaken. In our sample, the average number of interviews per candidate was 2.97, with a standard deviation of 1.50 interviews. Candidates have a very limited opportunity to present their credentials, so their odds of advancing in a recruiting process are likely to hinge on the effectiveness of their interviewers. Those who thoroughly cover more-important topics probably enhance interviewees' chances of advancing; those who meander or cover redundant topics probably undermine them.

The AI Blind Spot

Nowhere is the disconnect between stated priorities and actual assessment more apparent than in the realm of AI. While business leaders regularly proclaim that AI will transform every aspect of work, the hiring process tells a different story. Although AI is discussed in roughly 50% of interviews, candidates are rarely asked explicitly about their AI skills or experience. In 2024 only 0.4% of interviews included a direct question about AI usage. That figure more than quintupled in 2025 to 2.2%, but it remains notably low given the technology's purported importance.

The data becomes even more striking after multiple interview rounds have been completed. Even after three separate interviews—representing hours of evaluation time—93% of candidates have never been directly asked about their AI capabilities. That represents a significant blind spot in how companies assess candidates' readiness for an AI-driven future.

Interestingly, the types of roles most likely to include AI-related questions have shifted dramatically. In 2024 marketing candidates were the ones most frequently asked about AI usage. By 2025 recruiting and HR professionals were most likely to face such questions, which reflects AI's rapid adoption in talent acquisition itself.

When AI questions are asked, they typically fall into six categories: day-to-day usage, familiarity with specific tools, workflow integration, software-development assistance, strategic perspective, and prompt engineering. But those conversations remain the exception rather than the rule, representing a significant missed opportunity to identify candidates who could drive AI adoption within organizations.

Recommendations for Leaders

Our findings point to several concrete steps that organizations can take to align their hiring processes with their stated priorities:

Implement structured interview guides. Intentional questioning matters. Companies should develop comprehensive interview guides that ensure that all critical skills receive explicit attention and include mechanisms to track interviewers' compliance during the process.

Audit job descriptions against actual interviews. Organizations should review whether their interview processes assess the skills they claim to value. Audits should examine whether skills are evaluated in sufficient depth.

Integrate AI assessment into hiring practices. Given the technology's growing importance, companies should develop specific strategies for evaluating candidates' AI capabilities, comfort with technological change, and potential for developing AI-related skills.

Reduce redundancy while increasing coverage. Rather than conducting more interviews, organizations should make each interview more comprehensive and targeted. This might involve assigning specific skill categories to different interviewers or interview rounds.

Train interviewers on conducting comprehensive assessments. The research suggests that many interviewers may lack the tools or training to systematically evaluate candidates against job requirements. Investing in interviewer development could yield significant returns in hiring quality.

Creating a Fairer Evaluation

While many people have long suspected that hiring processes might be systematically flawed, this research provides concrete data to substantiate some of those concerns. Companies that fail to accurately assess candidate capabilities may be missing qualified candidates while hiring unsuitable ones. This is particularly problematic as organizations struggle with talent shortages and the need to build AI-ready teams.

The good news is that these problems are entirely solvable with a focus on intentionality, structure, and a commitment to measuring what matters. And technology can help significantly by making possible everything from automated interview recording and analysis to AI-powered assessment platforms that ensure comprehensive skill evaluation. Organizations that reform their hiring processes accordingly will gain competitive advantages through better hiring decisions and consequently teams that are better equipped for future challenges.

For candidates, improved interview processes mean fairer evaluation based on actual job requirements rather than chance conversations. When interviews assess the skills that matter most, qualified candidates have better opportunities to demonstrate their capabilities—and all job seekers can more confidently prepare for interviews knowing they'll be evaluated on relevant competencies.

The path forward is clear. It's time to close the gap between what we say we're looking for and what we actually evaluate.

HBR Reprint H08UWX

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How AI Assessment Tools Affect Job Candidates' Behavior

BY JONAS GOERGEN, EMANUEL DE BELLIS, AND ANNE-KATHRIN KLESSE

ACCORDING TO THE World Economic Forum, more than 90% of employers use automated systems to filter or rank job applications, and 88% of companies already employ some form of artificial intelligence for initial candidate screening. Take Unilever, for example. The consumer goods giant uses AI-driven tools from Hirevue to assess early-career applicants, saving 50,000 hours and more than $1 million in the process.

Most companies, when considering AI assessment tools, focus on the gains the tools bring in terms of efficiency and quality. But they don't factor in how AI assessment may change candidates' behavior during the assessment. Our new research, examining over 13,000 participants across 12 studies, reveals that this is a crucial blind spot. We looked at simulations of a variety of assessment situations in both the laboratory and the

> Job candidates consistently emphasize analytical traits when they believe AI is evaluating them.

field, and we collaborated with a startup platform called Equalture that offers game-based hiring solutions.

The results show that job candidates consistently emphasized analytical traits when they believed AI was evaluating them while downplaying the very human qualities—empathy, creativity, intuition—that often distinguish outstanding employees from merely competent ones. This drove candidates to present a different and potentially more homogeneous version of themselves, in turn affecting who was likely to succeed in an AI-enabled hiring process, with consequences for organizations using AI in hiring, promotion, and admission decisions.

Why This Matters for Your Organization

The implications of our findings extend beyond individual hiring decisions. When candidates systematically misrepresent themselves, organizations face several critical challenges:

Talent pool distortion. While AI is sometimes blamed for making biased hiring decisions (for example, discriminating against women in the selection process), our research suggests that knowing that one is assessed by AI also biases candidates, making them believe that they should prioritize their analytical capabilities. As a result, companies may be screening out exactly the candidates they need simply by using AI: The innovative thinkers or emotionally intelligent leaders you're looking for might present themselves as rule-following analysts because they believe that is what the AI wants to see.

Validity compromise. Assessment tools are only as good as the data they collect. When candidates strategically alter their responses, the fundamental validity of the assessment process might be undermined. Organizations may no longer measure authentic capabilities—instead, they may measure what candidates think AI will value the most.

Unintended homogenization. If most candidates believe AI favors analytical traits, the talent pipeline may become increasingly uniform, potentially undermining diversity initiatives and limiting the range of perspectives in organizations. Companies like IBM and Hilton, which integrate AI into both hiring and internal promotion systems, must now contend with whether such tools nudge employees toward formulaic self-presentation.

New transparency regulations such as the EU's AI Act, which requires organizations to disclose AI use in high-stakes decisions, make these outcomes all the more likely. When candidates are aware that an AI is assessing them, they are more likely to change their behavior.

What Leaders Can Do

Based on our findings, organizations can take several concrete steps to address the AI assessment effect:

1. Radical transparency. Do not just disclose AI assessment—be explicit about what it actually evaluates. Clearly communicate that your AI can and does value diverse traits, including creativity, emotional intelligence, and intuitive problem-solving. That might include providing examples of successful candidates who demonstrated strong intuitive or creative capabilities. Currently, few companies seem to be transparent about what exactly AI assesses—at least, this information is not easily accessible when clicking through career-page information on the websites of many major companies. That said, applicants discuss and share their intuitions on blogs and videos, which may be counterproductive because they may or may not align with actual practices. We advise companies not to leave their candidates to speculate.

2. Regular behavioral audits. Implement systematic reviews of your AI assessment outcomes. For instance, New York City has enacted Local Law 144, requiring employers to conduct annual bias audits of AI-based hiring. In response, Hirevue, one of the market leaders in AI-based hiring, reports their recent audits for race or gender bias across jobs and use cases. In addition to examining biases regarding demographics, we suggest using these audits to look for patterns indicating behavioral adaptation: Are candidates' responses becoming more homogeneous over time? Are you seeing a shift toward candidates showcasing analytical traits at the expense of other valuable qualities?

3. Hybrid assessment. Some organizations combine human and AI assessments. For example, Salesforce notes that besides technology, a human will review applications. Nvidia and Philip Morris International guarantee ultimate assessment and decision-making through a human. One of our studies shows that while this hybrid human-AI assessment does reduce candidates' tendencies to highlight analytical capabilities, it does not eliminate them. To close the gap, you need to train your human hirers to compensate for the AI effect.

The Path Forward

As AI becomes increasingly embedded in organizational decision-making, we must recognize that these tools do not just change processes—they change people. The efficiency gains from AI assessment may come at the cost of authentic candidate presentation and ultimately the human diversity that makes organizations innovative and resilient. The irony is striking: In our quest to remove human bias from hiring, we may have created a system where AI introduces a new form of bias. The solution is not to abandon AI but to design assessment systems that account for and counteract these behavioral shifts. Only by keeping humans—as well as metrics—at the heart of our assessment strategies can we build hiring systems that truly identify and nurture the diverse talent our organizations need.

HBR Reprint H08T1B

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What Happens When AI Sets Wages

BY MAXIME C. COHEN, EDDY HAGE-YOUSSEF, AND WARUT KHERN-AM-NUAI

GEN AI IS moving from drafting emails to shaping labor markets. On platforms such as Fiverr, Freelancer, and Upwork, millions of workers rely on hourly rates to compete for jobs. As AI increasingly influences pricing recommendations, business leaders face a critical question: Do large language models (LLMs) make these pricing decisions fairly? Or do they perpetuate the same biases and inequities that have long plagued human labor markets?

In a recent study, we conducted a large-scale experiment where we fed 60,000 freelancer profiles into eight widely used LLMs, asking each model to recommend an hourly rate. We then tested how different prompting approaches affected potential bias, instructing models to consider or ignore specific nonskill attributes such as gender, location, and age. Across all variations we generated nearly 4 million AI wage decisions through application programming interface queries.

The Research in Brief

Scope. We used 60,000 profiles from a leading marketplace across six categories: accounting and bookkeeping, full-stack development, general virtual assistance, data analytics, graphic design, and social media marketing. Each profile included services, skills, experience, and location.

Models. We prompted eight LLMs: GPT-4o, GPT-4o mini, Gemini 1.5 Flash, Gemini 2.5 Flash, Claude 3.7 Sonnet, GPT-5 mini, DeepSeek-R1, and Llama 3.1 405B. The baseline prompt asked them to recommend an hourly rate in U.S. dollars based on a profile detail.

Design. We created controlled duplicates that varied only one nonskill attribute at a time—gender, geography, or age—while holding all other content constant. We then introduced prompt variants that either (1) asked models to consider the attribute, (2) asked them to ignore it, or (3) strongly and explicitly enforced a stance.

What We Found

AI pushes prices up. Across the board AI priced freelancers higher than humans did. The average human-set rate was $23.60 an hour. The AI-generated recommendations were much higher, ranging from $30 to nearly $46, depending on the model.

This price inflation presents a strategic paradox. At first glance inflated wages might appear beneficial for freelancers. However, higher prices don't automatically mean better outcomes. If clients balk at inflated rates, workers may end up with fewer opportunities. For employers this shift means that adopting AI-based wage tools could inadvertently drive up hiring costs or distort market expectations.

Gender bias isn't an issue. One of our central questions was whether AI would undervalue women workers compared with men. Surprisingly, the answer was no. In fact, across hundreds of thousands of tests, we found no significant gender-based wage gaps. Even when we pushed the models by explicitly prompting them to factor in gender, we continued to observe no gender-based wage gaps. Only under highly biased instructions did the AI models produce gender-based disparities, and then they tended to overcompensate women by giving them higher wages than men.

This is a rare bright spot. At least in terms of gender, current LLMs may already be tuned to avoid gender-based discrimination.

Geography still drives big gaps. Location, however, told a different story. Take two identical profiles: one based in the U.S., the other in the Philippines. The U.S. freelancer received an average AI-recommended rate of $71. The Philippines-based freelancer? Just $33. More than 50% lower!

Even more striking, when we switched the same Filipino freelancer's location field to "U.S.," the freelancer's recommended rate more than doubled. This pattern repeated across multiple countries. Workers from affluent regions consistently received higher AI-driven wages than equally qualified peers from lower-income regions.

Interestingly, we could alter this outcome by using strategic prompt interventions. When we explicitly instructed the models not to consider geographical location in their recommendations, the disparities shrank dramatically. In some cases the wage gap between U.S.-based and Philippines-based freelancers fell by more than half.

Age bias favors older workers. Age turned out to be another source of bias. A 60-year-old freelancer was priced nearly 46% higher than a 22-year-old and 8.1% higher than a 37-year-old with the same profile. Unlike with geography, however, our prompt interventions barely made a dent. Telling the model to "ignore age" did little to close the gap.

This suggests that age-related assumptions may be deeply embedded in training data and thus harder to scrub out simply with prompt design.

What Prompts Can—and Can't—Do

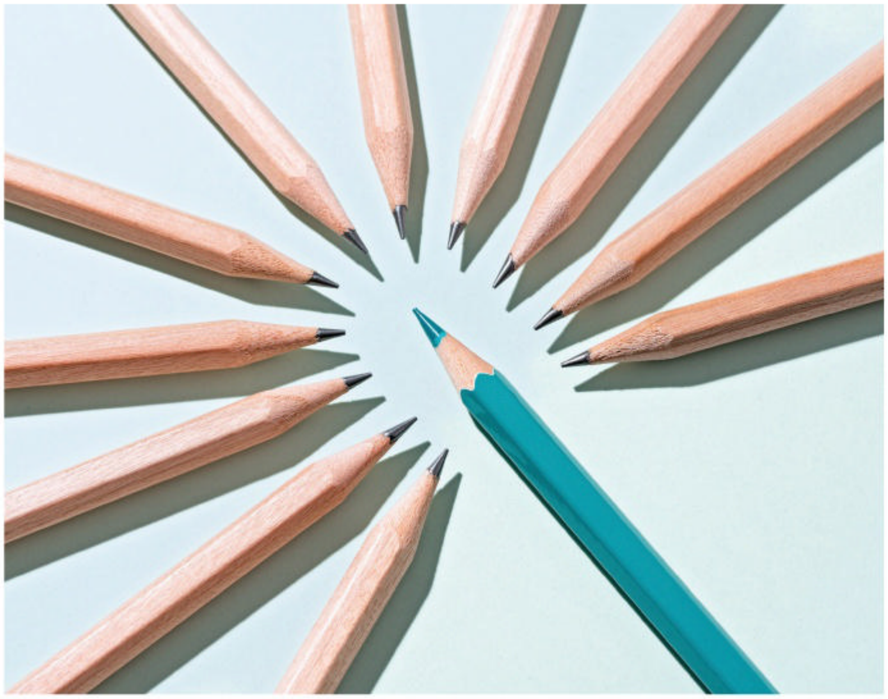
One of the most encouraging insights came from testing different ways of instructing the models. When we told them to ignore location, disparities shrank dramatically. In some cases, the U.S.-Philippines wage gap dropped from over 100% to just 25%.

But with age, no amount of prompt emphasis seemed to change outcomes. This highlights a critical point for leaders. Prompts can shape AI behavior but only to a point and only in certain situations. Some biases are easier to mitigate than others. For employers and platforms, this means that prompt design isn't just a technical detail; it's a governance lever that can either reinforce or reduce inequality.

Beyond Freelancers

In a follow-up study we explored whether these patterns hold in the context of yearly salaries for full-time jobs versus hourly rates for freelancers. The story was largely the same for gender and geography: no systematic bias by gender but persistent disparities based on location.

Age, however, flipped the pattern. While 60-year-old freelancers were priced higher than their peers in their late thirties and early twenties, LLMs interestingly favored full-time workers in their late thirties over the two other age groups. Why? One explanation is that AI appears to treat wages differently depending on the employment relationship (freelance versus full-time). For freelancers, pay may be seen as a one-off expense (instead of an investment in a long-term relationship), where greater experience commands a premium. For full-time employees, wages resemble an investment. Middle-aged (37-year-old) workers can be seen as offering both experience and longevity, making them more attractive to employers. This subtle distinction also underscores that LLMs can separate age from work experience, a sign that these systems aren't just copying human heuristics but applying context-dependent reasoning in ways that deserve close scrutiny.



What This Means for Freelancers, Employers, and Platforms

Freelancers should know that AI may inflate their recommended rates. That can be a bargaining chip but also a risk if it prices them out of reach. In global markets freelancers who work outside developed countries may want to think carefully about how much location data they reveal.

Employers should treat AI wage suggestions as advisory, not authoritative. Otherwise, they risk systematically overpaying some workers and undervaluing others based on nonskill attributes.

Platforms embedding AI into their pricing engines face tough design choices. They'll need governance layers—prompt audits, transparency requirements, and possibly worker-appeal processes—when AI-driven rates appear discriminatory.

Policymakers should note: LLM-driven pricing is not neutral. Geography- and age-based disparities suggest a need for regulatory attention. Requiring prompt disclosure, clarifying protected attributes, and mandating worker-facing transparency could all be on the table.

GEN AI IS no longer just automating text; it is shaping paychecks, livelihoods, and access to opportunity. Left unchecked, these systems risk reinforcing, or even widening, global inequalities. The takeaway is simple but urgent: AI-based wage setting can be fairer, but only if we design and govern it that way.

HBR Reprint H08X6J

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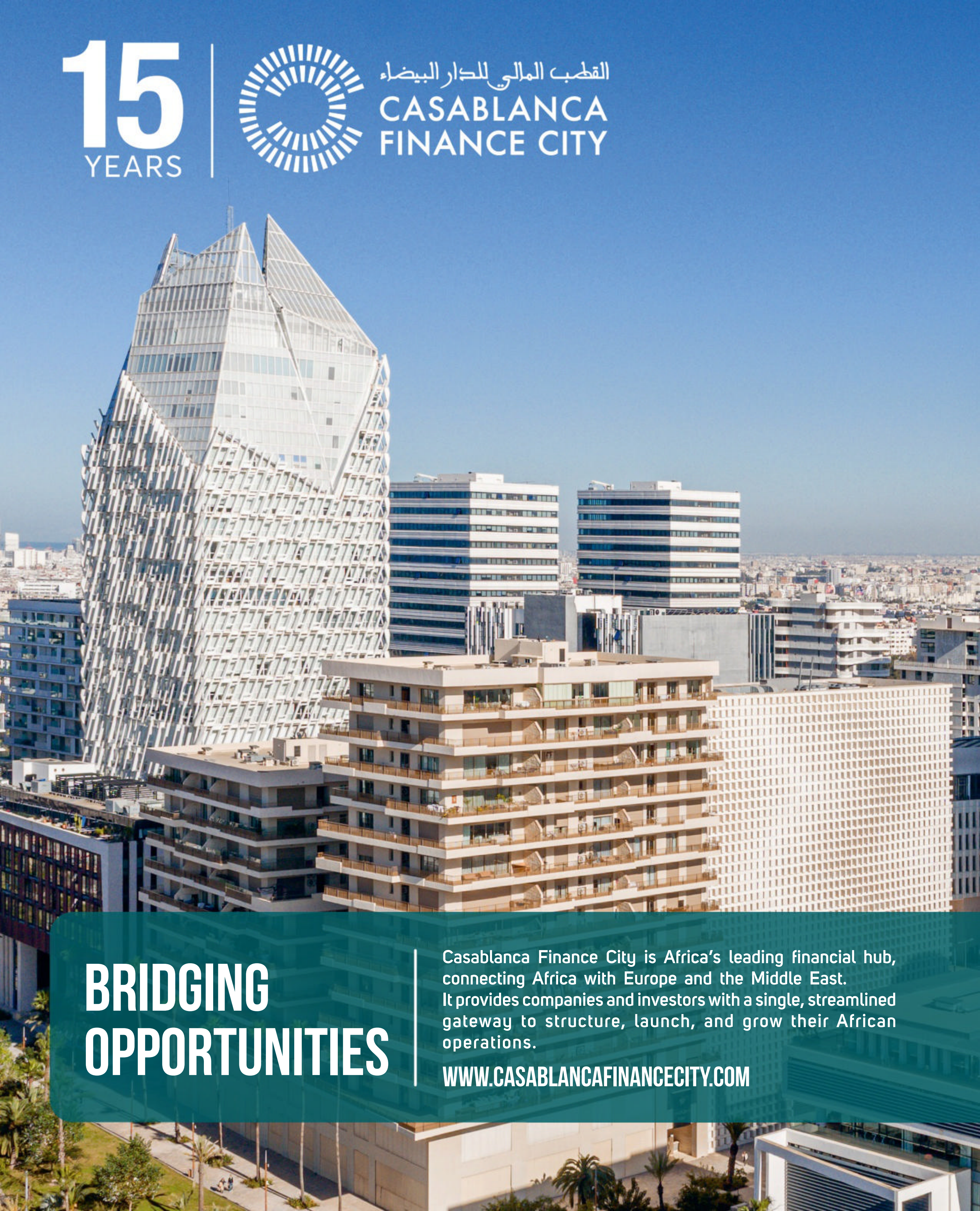
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"Listen to Your Gut"

Before stepping down as CEO in January, **Doug McMillon** led Walmart, the world's biggest company in revenue terms, for 12 years. He delivered substantial growth in sales and earnings and transformed the brick-and-mortar retail giant into a digital powerhouse as well. He spoke with HBR editor at large Adi Ignatius at HBR's most recent Future of Business event shortly before announcing his departure. This edited version of the interview includes several follow-up questions about McMillon's decision and his legacy.

PHOTOGRAPHER VINCENT TULLO

The HBR Interview with *Doug McMillon*

HBR: You surprised many of us when you announced that you would be stepping down as Walmart's CEO. What prompted that decision?

MCMILLON: John Furner was ready to take over as chief executive. He has the vision, experience, and emotional connection to take us to the next level. More waves of change are coming, and he can see many of those through. When you see someone who can run the laps ahead better and faster, the right thing to do is to hand them the baton, step aside, and cheer them on.

What skills and perspectives does John bring that are different from your own?
We have a similar passion for our people and our business, and we both grew up doing lots of different jobs in the company. But John has a unique ability to learn about emerging technologies and apply them quickly in our business. At Walmart we say that we're people-led and tech-powered, and John is wired to execute against both dimensions better than I ever could.

With AI disrupting business models and with endless geopolitical uncertainty, what does it take these days to lead consistently?
It's important to remember who you are but also to be open to change. When generative AI first captured everyone's attention, our mindset was balanced between offense and defense. That shifted over time to being more offense- and growth-oriented. We're excited about AI: There's a great opportunity for us to change how people shop and to save them time. As for geopolitical issues, there's been turbulence for quite a few years, and I think we've learned how to operate in this environment.

Talk more about Walmart's view of AI.
The e-commerce experience hasn't changed that much since it started back in the 1990s with a search bar and a laundry list. Now we have an opportunity to create a multimedia experience that's more personalized and contextual.

One can imagine that AI will offer tremendous efficiencies but at the expense of jobs.
I think that every job we've got is going to change in some way—getting the shopping carts off the parking lot, how our technologists work, at the leadership level. AI will change those jobs. And it will create new jobs. We want to equip everybody so they can make the most of the new tools available—to learn, add value, drive growth. We've given our associates access to ChatGPT and other tools so that they can learn and go through this process with us as a company. We want to still be a really large employer years from now.

Since its founding by the Walton family, Walmart has always been purpose-driven. How did the sense of purpose shift during your time as CEO?
When Sam Walton accepted the Presidential Medal of Freedom, in 1992, he articulated a purpose for the company that basically said, "We'll show people around the world what it's like to save money and have a better life." Those words have been distilled to "Save money. Live better." We wake up every day trying to create value for our customers, but the "live better" part of the equation, to your point, has changed over time. In the mid-2000s CEO Lee Scott made us a more sustainable company. These days we think not only about saving people money but also about saving them time, strengthening communities, strengthening the planet, playing a role in healthcare. We now have a more specific view of what "live better" means.

How difficult is it to keep purpose front and center when you have both short-term and long-term profit pressures?
A little over 10 years ago, we made a number of sizable investments. We invested billions of dollars in our people: in higher wages, free education, and

> **“My P&L benefited by $50 million in one year because we had learned something.”**

John Furner and Doug McMillon

Courtesy of Walmart

other benefits. We invested billions in lowering prices. We invested billions in e-commerce. And we invested to modernize our tech stack. As we did those things, we took the profitability of the company down. Sam Walton once famously danced the hula on Wall Street because the management team had hit a target of 8% on operating margin. When I moved into this role, we were at about 6%, and with all those investments, we went down to just a little north of 4%. Those were dramatic investments that our shareholders paid for so that we could change the company. It was cool to watch the Walton family and our board work with the management team to make those choices—to reduce profitability so that we could position Walmart for the future and fulfill our purpose. Our business model has changed, e-commerce has created membership and advertising opportunities, and we've been able to move that operating margin back up while keeping prices low and continuing to invest in wages. We were able to live our purpose and, at the same time, transform the company.

If anything in this conversation inspires you to do the hula, feel free.
That won't happen.

Walmart gets praised for pursuing environmental and social goals, and it gets criticized for it, depending on who's commenting. How have you navigated the evolving expectations for how companies think about their engagement in those areas?
It hasn't been difficult because it's all super practical. The work we were doing before was good for the P&L, and it still is. When this whole conversation started, back in the early 2000s, Lee Scott and Rob Walton got us to start thinking about our big footprint and the things we could do to make our business better while also strengthening the planet and strengthening communities. I was leading Sam's Club at the time, and I'm embarrassed to tell you that we were paying people to haul off the corrugated cardboard behind our stores. But we went through a learning journey, visiting landfills and getting more informed, and we realized how much value there was in that material. We went from paying somebody to take it to charging them because it was worth so much. My P&L benefited by $50 million in one year because we had learned something. So if we're getting criticized, I just get practical. Wouldn't you expect Walmart to be eliminating its waste? It helps us save money so that we can lower prices. It's a good business choice.

You had to navigate through a number of shocks, including the pandemic and its effect on your supply chain. These days Walmart faces significant tariff pressures. What did you learn from the Covid era that's relevant now?
The pandemic showed how capable our associates, including our leaders, are. I was impressed with their judgment and how fast they could make decisions. During the pandemic, everything sped up. There were so many decisions to make about how to keep people safe, how to manage the supply chain, how to help with Covid testing, how to help

“You have to set yourself up to change all the time, not just once. That means constant learning.”

with immunizations. Operating on Zoom, the leadership team moved from a weekly cadence to a daily one. We were together every morning, surfacing choices that needed to be made. With tariffs, the team is showing again that they can make good decisions quickly: managing quantity decisions, changing the country of origin, moving production as needed, making good choices about timing and flow. Our inventory has been well-managed during the past year, which is so important for a retailer.

How do you handle the uncertainty around tariffs when it’s often unclear whether the countries you buy from will face U.S. tariffs of 10%, 50%, or more?
Take yourself back to last spring and pretend that you’re the Halloween costume buyer for Walmart. How many do you buy? Where do they come from? At what price points? By the time you receive them, the tariff number could have changed. So, we run what-ifs. “If the tariff is this amount, here’s what would happen with pricing.” Then, “How many units would we sell if we had that price? Where else could we source from? What will people buy if they’re under inflationary pressure?” We’ve learned over the years, for example, that families prioritize the children and pets over the parents. A mom usually puts herself last. So we were confident there would be trick-or-treating and that children’s costumes would sell, but we knew we might not sell as many adult costumes. We talk through these independent decisions and hold hands, pick a number, and make a decision. So far, everyone’s done a good job of generally getting things right.

What advice would you give to CEOs trying to lead major transformations?
Listen to your gut. The thing that most of us regret is not going faster. I was initially focused on how to build an e-commerce business and turn it into an omnibusiness leveraging the assets we had, including the stores. What I didn’t understand was that it was going to lead to big changes in the way the company worked. I had to figure that out with our team and take steps to get faster and more digital. I was sometimes slow to act because I was worried about what someone thought or whether the organization could handle that much change. I’ve learned that people can handle it.

Above: McMillon meets with Ved Patel, an assistant manager, and Venessa Yates, the president and CEO of Walmart Canada.

Courtesy of Walmart

You need to go hard. You need to go fast. And when you know in your bones that something’s right, you need to act on it without much delay.

How do leaders drive continual innovation without just lurching from project to project as new technologies and opportunities arise?
You have to set yourself up to change all the time, not just once. That means constant learning, constant mindset shifts, changes to structure, and new capabilities, along with a faster pace of organizational change so that you don’t fall behind again.

When I moved into the CEO role, our Supercenter business in the United States was seeing a drop in same-store sales.

We didn't have much of an e-commerce business. We had international challenges. And there were questions about strategy and transformation. The list of things that needed to change was long, and if we started talking about it all, it would feel overwhelming. So the leadership team decided early on to explain to everyone what wouldn't change. We said, "We believe in the timeless purpose that our founder Sam Walton gave us. We will stay committed to helping people save money and live a better life. The Walmart that you joined is going to stay consistent in terms of how people are treated and how we want you to lead." Everything else, though, was open for change. If customers didn't want stores in the future, we wouldn't have stores.

As we started playing catch-up in e-commerce, we literally had to change the way we worked. We needed design as a capability. We needed product management. We needed roles that technology companies had that we didn't. We'd grown up with most big decisions being made by operations, by our store leadership team, by our merchants. Now we needed to put the customer in charge and work backward to build the right tech. That caused more organizational change than I had anticipated.

When you were first trying to become a digital powerhouse, you hosted an event at the World Economic Forum at Davos where you said, "We're good at brick-and-mortar. We're not good at digital. Help us out." It was refreshing. Nobody goes to Davos and says, "We're not good at something." Are you happy with where you are now in terms of digital commerce?
No, but remember, I'm compensated to be dissatisfied. That's the nature of the work. We've made progress, and our customers are having a better experience. But we can be so much better.

What threw you for a loop when you first became CEO?

On my second day as CEO I showed up early to the CEO's office, which used to be Sam Walton's. I'd been going in there for years, when I reported to Lee Scott and then Mike Duke, but I was so intimidated that I couldn't sit behind the desk. After some encouragement from Mike, I was able to sit there on day three. The responsibility for Walmart meant so much that it was a bit breathtaking.

What advice would you give new CEOs?
Job one is to surround yourself with the very best leaders. Don't rest until you have the strongest possible direct reports. I was blessed to have amazing people as teammates on the leadership team. They deserve a ton of credit for the good things that happened. Job two is to listen very carefully and ask the right questions. Job three, where I had room to improve—especially in the early years—is to make decisions, take risks, and make sure everyone knows those decisions are made so you can resource the priorities and get on with it. Speed is a big deal.

What is it that people don't seem to fully appreciate about Walmart?
There's no way for people outside Walmart to fully appreciate how our long-term associates feel about one another and our company. When we bring people together who have been part of the company for 25, 30, or 45-plus years and hand them a microphone, they never fail to inspire and encourage. We say that our people make the difference, and that's actually true. Sometimes we get busy working and miss opportunities to have a conversation with our customers. But if they all knew the company that I know, they would feel even better about shopping with us.

Let's talk about your legacy. What accomplishment are you most proud of?
I'll pick two. First, creating opportunity for our people, starting with an initial investment in wages and training in 2015 and building on those in the years since with additional investments in wages, the launch of Live Better U [Walmart's education program], enhanced parental leave benefits, and more. Second, preparing the company to be financially stronger through investments in e-commerce and technology. Investing in people and technology helped us grow over the past decade, and we wouldn't have been able to do it at the scale we needed without the support and push from our board and the Walton family.

You've achieved a lot, and you're only 59 years old. What's next?
I've described my priorities for a long time as "faith, family, and Walmart." I'm grateful to remain an associate for this coming year, to help John in any way he wants, and to serve on the board for a bit longer. It would be even harder to leave cold turkey. My wife, Shelley, and I are going to take a break for a few months, and then I'll explore some opportunities to help others through a combination of business and philanthropic activities to fill in the space left by all the time I've been giving to Walmart.

HBR Reprint R2602A

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Features

→ March–April 2026

"The more innovation relies on collaboration across groups and firms, the more initiatives are likely to stall—or worse, fail—because the partnerships meant to deliver them break down."

"WHY GREAT INNOVATIONS FAIL TO SCALE," PAGE 74

Illustration by **JASON SCHNEIDER**

TECHNOLOGY & ANALYTICS

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Why Gen AI Feels So Threatening to Workers

And what leaders can do to ease the anxiety.

TECHNOLOGY
& ANALYTICS

As gen AI takes over tasks that were once considered uniquely human, workers are starting to perceive their roles and their organizational value differently. Is that a good thing or a bad thing?

To explore that question, we integrated psychological theories of motivation, performance, and well-being at work and interdisciplinary research on how gen AI affects knowledge, tasks, and the social characteristics of worker productivity and work itself. We found that a lot depends on whether workers feel that gen AI satisfies or frustrates three key psychological needs: *competence* (the feeling of being effective and capable); *autonomy* (the feeling of being in control of one's actions); and *relatedness* (the feeling of having meaningful interpersonal connections). When those needs are met, employees embrace gen AI as a helpful tool and copilot. But when they're not, employees feel threatened, at times even existentially, and balk at using gen AI.

Today many workers fall into that second camp. According to a 2025 survey by the IT-infrastructure-services company Kyndryl that spanned 25 industries in eight countries, 45% of CEOs believe that most employees are either resistant or openly hostile to the use of gen AI in the workplace. A significant part of the problem is that most companies lack a change management strategy for implementing gen AI and don't provide formal training to help employees use it. Given those deficiencies, it's not surprising that a rift has opened between leaders and managers on the one hand and workers on the other: A 2025 survey conducted by Boston Consulting Group (BCG) found that 85% of leaders and 78% of managers regularly use gen AI, whereas only 51% of workers do.

To help leaders address workers' resistance, we've developed a framework for integrating gen AI at work. In this article we'll explain how gen AI can support or threaten three basic psychological needs. Then we'll introduce our framework and describe how to use it to increase workers' receptivity to gen AI, their motivation to use it, and their level of engagement.

PSYCHOLOGICAL IMPACT

Research has shown that in rapidly evolving workplaces, leaders who can satisfy employees' need to feel competent, in control, and connected are able to foster adaptability, learning, and well-being on their teams. The experiences of physicians and screenwriters—two professional groups whose responses to gen AI have received a lot of attention—support this idea. Let's look at their differing reactions to AI integration efforts.

IDEA IN BRIEF

THE PROBLEM

As gen AI performs more creative and interpersonal tasks, many workers feel that their competence, autonomy, and sense of connection at work are under threat. That psychological disruption leads to resistance, disengagement, and even sabotage.

THE SOLUTION

Use the AWARE framework to integrate gen AI at work: ***Acknowledge*** *worker concerns,* ***watch*** *for maladaptive coping behaviors,* ***align*** *support systems with employee needs,* ***redesign*** *roles around AI-human synergies, and* ***empower*** *workers through transparency and inclusion.*

THE PAYOFF

By supporting workers' core psychological needs, organizations can increase receptivity to gen AI—transforming it from a perceived threat into a trusted copilot.

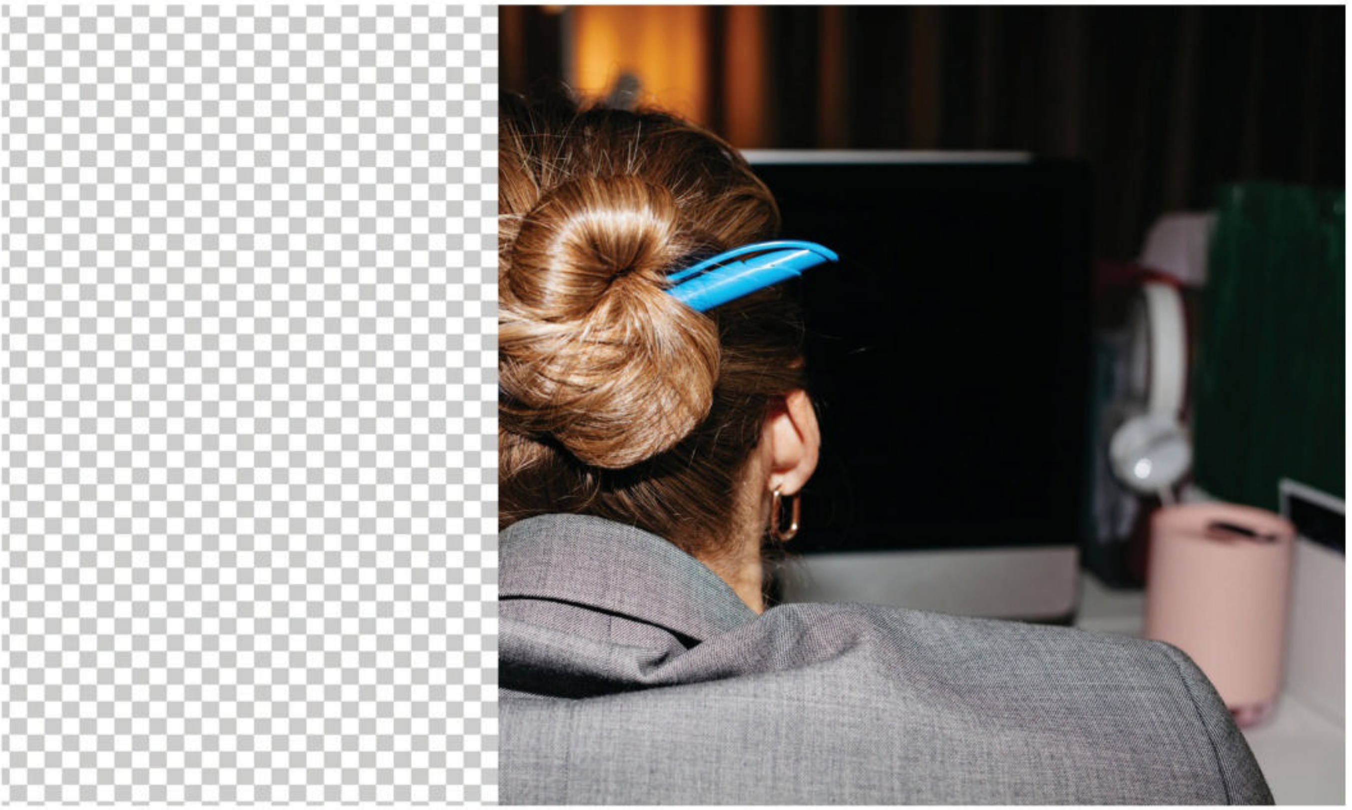
Previous spread: Viktor Solomin/Stocksy; this page: Sergey Narevskin/Stocksy

Competence. Gen AI enables all kinds of workers to boost their capabilities. It can help those without technical expertise to perform high-skill tasks and those with expertise to expand their competencies. The result, as Mark Zuckerberg said last year, is that gen AI makes it possible for motivated workers to "accomplish way more than they ever could before." Research led by one of us (Stefano)—an annual, large-scale survey by Wharton and GBK Collective of senior decision-makers at large U.S. companies—confirms that most leaders share this sense of unfolding possibility: Eighty-nine percent of respondents say that gen AI enhances employees' skills.

According to the American Medical Association's most recent AI sentiment report, that's also the predominant view among medical professionals: They're optimistic that AI will improve patient care. "Multimodal AI will allow us to create a high-resolution view of a human being," the physician Eric Topol said in a 2024 address, "delivering individualized medicine that spans the patient's entire life." The evidence seems to suggest that gen AI is indeed boosting the competence of medical professionals: It can assist and improve diagnostics, patient interactions, and medical forecasting.

However, because gen AI can automate many routine tasks and support complex ones, its integration in the workplace can be experienced as a threat to workers' competence. This often happens when gen AI redefines the capabilities that workers need or when it seems on track to replace them entirely. Worries about this outcome are common. In the Wharton and GBK survey of senior decision-makers, 71% said that they believe gen AI will lead to the atrophy of employee skills and will replace employees, at least for some tasks. Even some highly skilled employees worry that gen AI is reducing workers' competence. For instance, in screenwriting and other creative industries, competence is demonstrated through accumulated professional experience. If gen AI replaces employees doing entry-level work, then how would the younger generation acquire competence or credibility? According to Danny Tolli, a TV writer and executive producer, "There is no way the company is going to give a show running opportunity to a writer who has no credits on their résumé."

Autonomy. Gen AI can enhance worker autonomy by automating repetitive, routine, and potentially unfulfilling tasks, thereby reducing cognitive load and monotony. Most physicians are excited by that prospect: They believe gen



Viktor Solomin/Stocksy

Automating tasks that previously relied on interpersonal collaboration can evoke feelings of loneliness and reduce team cohesion.

TECHNOLOGY & ANALYTICS

AI's greatest benefit will be to reduce their administrative burden and free them to focus on more-meaningful tasks. In one study of radiologists, for example, a gen AI model identified urgent cases just 24 seconds after patient data was entered; it takes a human radiologist 24.5 minutes on average to do the same. In radiology and in many other medical fields, demand outstrips supply, and so many physicians are embracing gen AI. According to Curtis P. Langlotz, the president of the Radiological Society of North America, "These advances can upskill us all, reduce burnout, and bring better care to underserved areas."

When companies introduce gen AI in ways that make workers feel that they are losing their autonomy, however, they encounter resistance. Mandating gen AI use, as companies such as Microsoft and Shopify have done, can exacerbate the threat to autonomy, particularly if the rules create an "algorithmic cage"—that is, a set of standardized procedures that limits workers' ability to tailor tasks to their particular needs. Holding workers responsible for AI-generated output can further undermine their sense of autonomy.

The problem is acute when workers feel as if they have been cast in a supporting role to the technology. AI introduced in this way threatens employees' professional identities and the sense of ownership they feel over their work. Unfortunately, that's exactly how many screenwriters feel. "If we can have some protections where we, the workers, can control the automation," Raphael Bob-Waksberg, the creator and showrunner of *BoJack Horseman,* has said, "then the automation can be used to help us do our jobs. I don't think anyone would be against that. We're not saying we want to go back to the rotary phone....We're saying we need to hold the keys. Because when companies hold the keys, we get cut out."

Relatedness. When gen AI frees up bandwidth for workers, it enables them to focus more on the social and relational aspects of their work. Gen AI can also meet people's need for connection when it communicates in a human-like way that builds the warmth, trust, and motivation people usually experience when working with others. This suggests that gen AI can provide some of the same benefits as teamwork. Additionally, some professionals working with AI have reported feeling as good as or better than those who work only with other people. Physicians have reported, for example, that when they use gen AI tools to draft responses to patient messages and assist with documentation, they have more time and energy for direct patient care—the part of their work that strengthens relatedness.

But gen AI can also disrupt the social dynamics of work, which can threaten workers' feelings of connection. Automating tasks that previously relied on interpersonal collaboration can evoke feelings of loneliness and reduce team cohesion. It can also spark worry that workers' values, perspectives, and experiences will be obscured. Workers may feel as if they are being treated like objects (less warmly and with less empathy or intention). These dynamics all played a role in the 2023 writers' strike in Hollywood.

In addition, workers may find themselves divided by inequalities in gen AI access, usage, and training. And they may feel generational gaps widening: Experienced workers think younger colleagues are misusing gen AI, while younger workers view senior ones as resistant to change. Conflicting perspectives can foster resentment and weaken collaboration. What's more, workers harbor a natural bias: They tend to think that *their* use of gen AI is legitimate and that they deserve credit for what they do with it but that others who use it in the same way deserve less credit.

BE AWARE

To help leaders facilitate the adoption of gen AI in the workplace, we've designed the AWARE framework, which consists of five actions leaders can take. Leaders should *acknowledge* workers' psychological needs; *watch* for adaptive and maladaptive coping behaviors; *align* support systems with the psychological needs of their workers; *redesign* roles to foster human–gen-AI complementarities; and *empower* workers through transparency and participation. (See the exhibit "The AWARE Framework.") Let's examine each of those actions more closely.

Acknowledge. The first step toward successful integration of gen AI in the workplace is acknowledging how the technology may affect employees' competence, autonomy, and relatedness needs. Managers should approach workers proactively, creating space for an open dialogue about how gen AI might affect their tasks, roles, and feelings of self-worth. The point is to anticipate how workers will feel in the face of significant change. When introducing a gen AI tool that automates writing or coding, for example, you might first acknowledge that the tool could feel threatening to some content creators or engineers and then open a discussion about its implications. By using your leadership role to surface rather than suppress concerns, you can demonstrate that you value your workers and have their interests in mind. Doing so builds an environment of psychological safety and reduces quiet resistance.

It is never too late to acknowledge how the changing workplace is affecting people. When Duolingo announced an "AI-first" strategy, the rollout generated confusion and anxiety among employees. Acknowledging that misstep, Luis von Ahn, the company's CEO, stated, "AI is creating uncertainty for all of us, and we can respond to this with fear or curiosity." He reframed the change by affirming that AI would not replace employees but would "accelerate what we do, at the same or better level of quality."

Watch. Managers need to identify and understand the coping strategies used by workers when facing gen-AI-related threats. Some of these strategies are adaptive and involve behaviors such as enhancing skills (to address competence needs), adjusting tasks and workflows (to address autonomy needs), and collaborating with colleagues to collectively learn, implement, and refine gen AI solutions (to address relatedness needs). But many are maladaptive and involve behaviors such as task avoidance, withdrawal, and disengagement. Only leaders who recognize those behaviors will be able to take steps to rectify them. GitHub, an online collaborative platform for developers, provides a useful model. By monitoring the adoption and usage metrics of GitHub Copilot, managers assess their onboarding efforts and track how developers engage with the tool. That helps them detect both adaptive engagement and early signs of disengagement, enabling timely support.

It's vital to be on the lookout for maladaptive behaviors because they can signal underlying difficulties and stress, which can lead to outright sabotage. According to a 2025 cross-industry survey of 1,600 U.S. knowledge workers, half of whom were in the C-suite, 31% of respondents admitted to actively working against their company's AI initiatives. (Forty-one percent of the Gen Z workers in the survey admitted the same.) Team members who consistently decline gen-AI-related assignments may be dissociating—withdrawing psychologically or reducing their identification with the domains in which they feel threatened—in response to a competence threat.

A worker who isolates from collaborative teamwork involving gen AI may also be engaging in "shadow" AI use—secretly adopting unsanctioned tools without organizational approval. In the 2025 BCG study referenced earlier, more than half of respondents (54%) said they would use AI tools without formal approval, a tendency especially pronounced among Gen Z and Millennial employees. Ivanti's global *Tech at Work* report found that nearly a third (32%) of respondents who use gen AI at work are keeping it hidden from their employer. Some keep it secret to give themselves a "secret advantage" (36%); some, to avoid being fired (30%);

The AWARE Framework

As companies roll out gen AI to handle more tasks, many employees perceive it as a threat, which can lead to resistance, disengagement, and even efforts to sabotage AI initiatives. Savvy leaders understand that they need to focus on helping workers adapt emotionally and socially to it. The AWARE framework can help.

A	W	A	R	E
Acknowledge how gen AI may affect workers' feelings of competence, autonomy, and relatedness.	**Watch** for maladaptive behaviors so you can intervene before performance declines.	**Align** the supports you offer with the psychological needs of workers.	**Redesign** workflows to make the most of human-AI collaboration.	**Empower** workers to shape how gen AI affects their work lives.
Create a space for open dialogue about gen AI's impact.	*Understand the coping strategies workers engage in.*	*Create support systems that reinforce adaptive coping strategies.*	*Craft jobs with workers to help them feel ownership, inclusion, and motivation.*	*Be transparent about the use of gen AI, how roles may evolve, and decision-making.*
Surface concerns; don't suppress them.	*Monitor behaviors like task avoidance and withdrawal, which can signal underlying stress.*	*Offer training and feedback that address psychological needs.*	*Design roles and tasks to strengthen synergies between humans and gen AI tools.*	*Have workers participate in the implementation process.*

It's vital to be on the lookout for maladaptive behaviors because they can signal underlying difficulties and stress, which can lead to outright sabotage.

Hernandez & Sorokina/Stocksy

and others, to assuage impostor syndrome or to preempt colleagues questioning their abilities (27%).

Watching is about actively listening and attending to how workers feel and what they do when navigating gen-AI-induced changes. If you can meet maladaptive behaviors with empathy, then you can intervene constructively before motivation or performance decline.

Align. Organizations should respond to signs of psychological threat by creating support systems that enable and reinforce adaptive coping strategies. The goal should be to align training, mentoring, job design, and feedback processes with the psychological needs of workers. For instance, if a senior marketer begins emphasizing strategic vision over gen-AI-enhanced content creation, it may signal a desire to reassert autonomy and competence. In response you might provide that person with training in data-driven strategy and gen-AI-augmented analytics.

At PwC, the My AI initiative builds employees' skills and generates enthusiasm for AI by using a mix of gen AI tools, training, and practical experience. It has a dedicated "playground" and holds "prompting parties," where employees can experiment with gen AI in real contexts. These sessions build competence and autonomy and foster social learning. Colleagues exchange prompting strategies and best practices. PwC appoints "activators"—trusted peers who help their coworkers understand, discuss, and adapt to AI—across the firm to ensure that support is embedded in day-to-day work.

Citigroup has created the Citi AI suite of tools and initiatives, which it has expanded to more than 80 markets and offers to some 175,000 employees. More than 2,000 of the firms' employees take part in AI Champions and Accelerator programs to ensure that colleagues receive peer support. These examples illustrate how companies can align their support offerings in ways that reinforce their workers' needs for competence, autonomy, and relatedness.

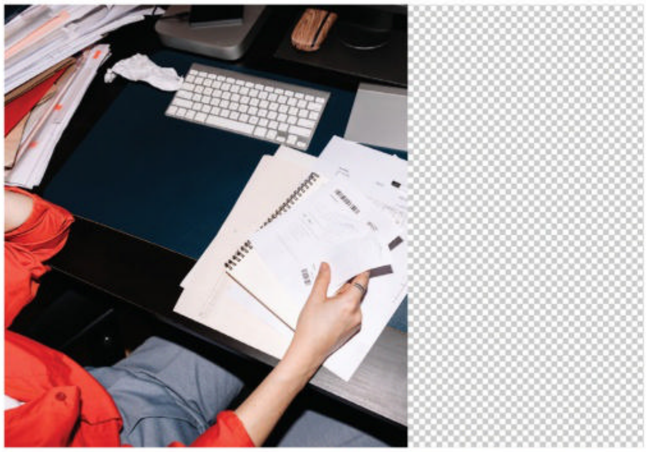
But they are exceptions, not the norm. The BCG survey found that only 36% of employees felt properly trained to use gen AI tools. Many respondents described their training as too short or superficial.

A large number of leaders and managers feel the same way. According to the Gen AI Adoption Index released by Amazon Web Services last year, 52% of IT decision-makers don't understand what they need to do to train employees on gen AI. This is not for lack of interest. A 2025 survey conducted by Kyndryl found that 80% of CTOs and CIOs consider upskilling their existing workforce a top priority, and 57% of CEOs agree.

Employers need to close these training and skill-development gaps. But only by aligning support to meet psychological needs and foster adaptive responses can they pave the way for skill development and professional growth—and avoid maladaptive responses to threats.

That alignment requires flexibility. One-size-fits-all programs fail to address differences in skill levels, learning styles, or readiness for gen AI. A better approach is to offer workers personalized learning journeys, peer coaching, and role-specific development pathways, all of which can help workers integrate gen AI meaningfully and confidently. Soliciting feedback from workers on these programs, in turn, can help you refine them and improve their effectiveness.

Redesign. It's tempting to fit gen AI into existing workflows by using plug-and-play solutions—libraries of gen AI tools with preset prompts, for example. But according to BCG, companies that focus on end-to-end workflow redesign rather than tool deployment report higher levels of training effectiveness, leadership support, time savings, and overall worker engagement with AI. The bioscience company Moderna has taken the redesign approach. It merged its technology and HR departments into a single one called People and Digital Technology. The new structure was created to design AI workflows collaboratively and to decide what work should



Top: Hernandez & Sorokina/Stocksy; middle and bottom: Viktor Solomin/Stocksy

Gen AI's human-like capabilities make workers view it not just as a new technological system but as a social actor—even a teammate—in the workplace.

remain human-led and what should be automated across functions (such as trials, staffing, and operations). The computer giant Dell has also taken a workflow-level approach: Before it introduced gen AI tools, it simplified sales processes, consolidated content and systems, and eliminated redundancies. Bringing in AI at that point increased efficiency even further and freed up sales teams to spend more time on strategic customer engagements.

To improve your workflows, work with your employees to redesign their roles and tasks in ways that facilitate complementarities and synergies with gen AI. Firms such as Workhelix and Soroco can help organizations identify tasks and roles that can be optimized with gen AI, but the general division of labor is often obvious: Give gen AI repetitive and data-heavy tasks, and give workers tasks in which skills such as empathy, creativity, critical thinking, and ethical judgment are indispensable. Recent research shows that the most effective redesign balances automation and augmentation: AI automates simpler tasks and assists workers on tasks that people and AI can perform similarly, freeing people up to devote more of their attention to difficult and ambiguous tasks. This approach helps workers feel ownership, inclusion, and motivation, and it will ensure that their psychological needs are met—competence through meaningful contribution, autonomy through increased agency, and relatedness through collaborative, human-centered roles.

Redesigning work is not a onetime intervention. As gen AI capabilities evolve, so must workflows and expectations, supported by ongoing feedback, iteration, and collaboration. Redesigning processes around synergies between humans and gen AI will ensure that the technology enriches rather than erodes the meaning and experience of work.

Empower. Workers must be empowered not only to use gen AI but also to shape how it will affect their work lives. This begins with transparency from leaders: clear and honest communication about what gen AI tools will do, how decisions are made, and how roles may evolve. When workers understand the why and the how behind gen AI implementation, they experience less uncertainty and are more open to adoption and collaboration.

Empowerment is strengthened when workers participate in the implementation process, as they develop a sense of ownership and commitment. Colgate-Palmolive, Rent a Mac, and Johnson & Johnson have all involved employees in their gen AI implementation efforts, recognizing that workers are best positioned within their own business units to evaluate which use cases have the most potential for value creation. Other companies are experimenting in similar ways, but they're in the minority. Only 44% of business leaders currently involve workers in the implementation process.

At the cultural level, organizations must build an inclusive environment where everyone—across roles, departments, and seniority levels—has access to gen AI tools, training, and opportunities. The financial services firm BNY follows that principle. As its CEO, Robin Vince, has explained, "We want AI to be able to be for everyone in the company, because we view it as a real powerful leverage tool for everyone." BNY has opened access across the workforce: About 60% of employees have onboarded themselves to the gen AI platform, and 5,000 of them—including half the engineering team—have already built their own agents. This kind of systematic inclusion, which trusts workers and supports them as cocreators of gen AI transformation, prevents resentment and promotes a shared sense of purpose.

THE GEN AI revolution is redefining the boundary between people and machines. Its human-like capabilities make workers view gen AI not just as a new technological system or software but as a social actor—and even a teammate—in the workplace. As a result, leaders can't think about integrating gen AI in purely technical, operational, or cost-efficiency terms. The AWARE framework enables leaders to respect the psychological realities of change, foster psychological safety, and ensure that the technology augments, rather than replaces, human workers. In the end we all must recognize that gen AI is not merely a tool, and workers are not merely users. They should be partners in cocreating the future of work.

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Will Your Investors Support Your Strategic Pivot?

Here’s how to figure that out.

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STRATEGY

STRATEGY

ABOUT THE ART
Photographer James Day's series Deconstructed Ping Pong *playfully dissects the graphic elements of a ping-pong table.*

Most companies carefully cultivate close relationships with their investors.

Corporate leaders, alongside their investor relations support staff, deliberately craft their communications to attract shareholders that support their firm's business model, risk profile, and strategic narrative. Throughout earnings calls, investor days, and private meetings, shareholders are sold on a particular vision, and they're expected to invest with the intention of seeing it realized.

But when a company pivots strategically, this carefully nurtured alignment can quickly disappear, creating a misfit with the investor base. Legacy investors—those drawn to the company's original strategy and vision—can find themselves at odds with its new direction. In extreme cases the tensions can derail the company's plans and cost top managers their jobs.

The French dairy-products giant Danone offers a cautionary case in point. Shortly after being appointed its CEO, in October 2014, Emmanuel Faber unveiled a plan for transforming the company into a global leader in stakeholder capitalism and socially responsible business. As part of it he set out to make the company the largest B-Corp-certified multinational and launched One Planet, One Health, a framework for addressing global environmental and health challenges. He also restructured the company's business portfolio to focus more heavily on plant-based

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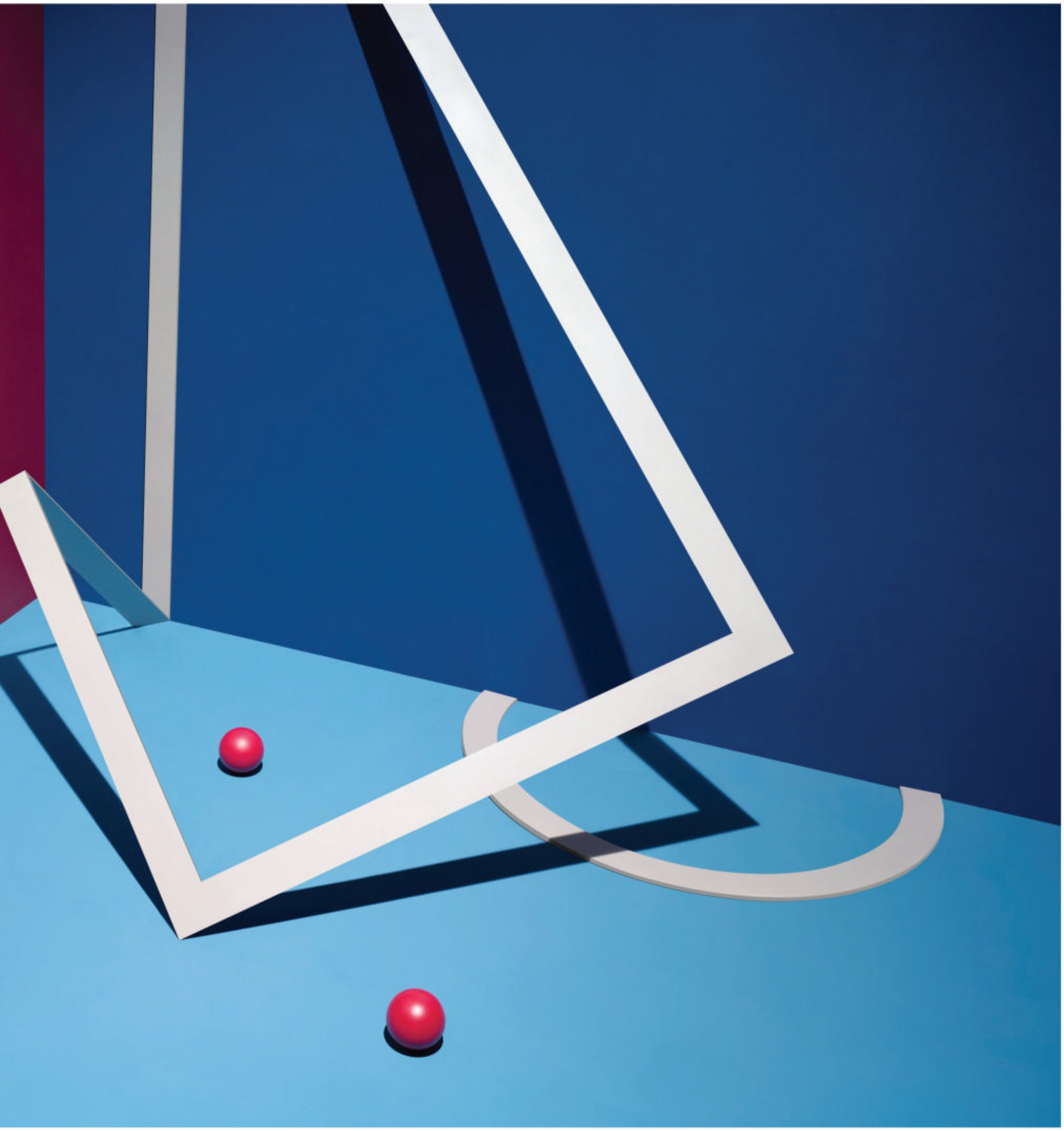

IDEA IN BRIEF

THE PROBLEM

Strategic shifts often fail—not because of poor ideas or execution but because key shareholders don't support a company's change in direction.

WHY IT HAPPENS

Companies fail to understand and take into account the deeply embedded preferences of their investors.

WHAT TO DO ABOUT IT

Begin every strategic change by assessing your investors' preferences with a scorecard that captures them on five dimensions. Then manage your transition using a three-part framework to build shareholder support for the new direction.

alternatives to dairy products, like the milk, yogurt, and desserts offered by the company's Silk and Alpro brands.

In many respects, Faber was pushing the company further along an already established course. Danone had often promoted its environmental and social values, after all. And the initial reaction to his reinvention was upbeat. Sustainability advocates applauded it, the company's environmental, social, and governance (ESG) ratings improved, and Faber became a celebrated figure in global corporate-reform circles.

But beneath the surface, a different story was unfolding. When the activist investor Corvex purchased a $400 million stake in Danone in August 2017, expressing the belief that its stock was significantly undervalued (despite a 21% price increase from October 2014 to July 2017), the share price jumped roughly 7%, suggesting that other investors welcomed an activist-driven strategy overhaul. In 2018 and 2019 discontent was simmering openly. During the company's 2018 investor day in London, analysts grilled Faber on how the new strategy was affecting margins. Pierre Tegnér of Oddo BHF bluntly asked Faber whether "money and gaining more money" was a top priority for the company. Later, in a 2020 letter to Danone's board, Bluebell Capital argued that the company had failed to "strike the right balance between shareholder value creation and sustainability," attributing the company's underperformance to Faber's transformation effort and his "questionable capital allocation choices."

The growing mismatch between the CEO's strategy and investors' expectations for sales and profit growth eventually led to major changes: Faber was forced out, and Danone's board quickly reversed course, refocusing the company's priorities to better fit investor preferences. In the end the strategic shift resulted in a distracting campaign to remove a corporate leader, a half decade of lost strategic momentum, and a multibillion-dollar decline in market valuation.

The moral of the story is that CEOs initiating major strategy pivots need to assess the preferences of their investors more rigorously. In the following pages we'll describe how they can do that through a structured analysis of shareholders' past investments and behavior. Using this approach, companies can compute an *investor fit risk score*—a multidimensional measure that allows companies contemplating a change in direction to pinpoint *which investors* will push back, *on what issues,* and *how much friction* to expect.

What's New About the Approach?

A critical mistake we frequently see when business leaders introduce a new strategy is that they become so focused on enumerating market opportunities, product demand, and earnings that they forget why their investors bought shares in their company in the first place.

In the case of Danone, Faber's strategy wasn't necessarily the problem. The long-term logic of moving the business toward a more-sustainable model, organic product lines, and underserved markets was reasonable and arguably prescient. The trouble was that the strategy clashed with the more slowly evolving preferences of shareholders who had invested in Danone for stable financial returns and strong margins; even with gradual changes to the company's strategy, they expected it to stay on a course similar to that of its peers, like Nestlé. Eventually, Danone's management realized that. When one of us (Mark) spoke with Danone senior officers in the company's Paris headquarters, they acknowledged the new and growing friction with their shareholder base. From the executives' perspective, the transformation of Danone was jarring to many legacy investors and had created concerns about the company's ability to compete in its market space.

Could Faber and Danone's leadership have predicted that development? Although CEOs and boards of directors usually make sincere attempts to understand their shareholders, the conventional metrics and techniques they rely on don't provide adequate insight into what investors want. Most investor relations analyses begin by identifying who owns the stock, using regulatory reports (such as SEC 13F reports in the United States or major shareholding notifications in the United Kingdom). To understand their shareholders' attitudes, companies then might purchase ownership analytics from third-party vendors and firms that conduct quarterly perception surveys, which capture the views of investors on a macro level but don't clearly reveal their individual preferences. Around proxy season, companies may further enlist proxy solicitors and advisers to develop investor communication strategies and forecast voting outcomes.

Yet such efforts typically miss important nuances in shareholder preferences and assume they're the same across *all* companies. Moreover, surveys of investors' views on

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companies are plagued with bias and are backward-looking. They often capture sentiment only after a strategic decision has already affected performance, revealing discontent when it's too late to respond proactively. So it's unlikely that the feedback his investor relations team had access to could have helped Faber anticipate that so many shareholders would react so negatively to the strategic pivot. That would have been especially improbable given that the company's ownership base was fairly fragmented and held by many investors whose pulse was hard to monitor with conventional tools.

Our approach, in contrast, offers a direct look into investors' likely reactions to a contemplated move. By analyzing the past portfolio changes investors made after strategic pivots by the companies they owned, investors' voting and engagement patterns at annual shareholder meetings, and investors' public reactions to moves by activist shareholders, it models investors' *future* responses to any given change. Drawing on a wealth of publicly available data and leveraging modern statistical techniques, companies can create detailed scorecards that capture each investor's unique leanings.

Danone's disclosures in the aftermath of the upheaval revealed that the company was ramping up its dialogue with shareholders, suggesting that its previous approach had failed to capture mounting investor dissatisfaction. Faber himself seems to have felt ambushed. As he later reflected in an interview with *Time,* "What happened was a few people saw a window of opportunity and for personal reasons pursued that opportunity at the moment where it was easy to destabilize the governance of the company." But had he applied our approach, he might have foreseen the negative reception from Danone's shareholders and developed a plan to address it. At least he would have stood a much better chance of doing so.

To manage strategic change with an investor-informed lens, leaders should implement a three-step framework.

STEP 1

Create Investor Scorecards

Most investment funds have definite ideas about the specific kinds of strategies they want the companies in their portfolios to pursue. These will be shaped by the time horizon and objectives of the fund in question. Growth-oriented funds, for example, tend to invest in firms that make large-scale acquisitions or aggressively seek new markets, while value-oriented funds generally buy stock in companies that make consistent, incremental capital investments. Although some investors describe their strategic preferences in public disclosures, the decisions they actually make are a more reliable indication of their leanings, especially since disclosures can be tailored to enhance reputation or credibility.

Our approach involves identifying the companies in an investor's portfolio and then scoring each of them on multiple measures across five categories: corporate risk tolerance, diversification, competitive aggressiveness, prosocial activity, and political engagement. We then weight each company's scores according to its size in the portfolio and calculate an overall average score for the portfolio on each measure. We run the same exercise with all the other investors in our database, which includes a wide range of variables for thousands of institutional investors, such as mutual funds, pension funds, insurance companies, bank trusts, endowments, and hedge funds. (We constructed it with information from proprietary data vendors and corporate filings and metrics generated by applying machine learning to text disclosures.) Then we compute an average score for all investors for each measure.

Next we determine how much each investor's average score on each measure deviates from the average score of all other investors, which provides a benchmark. This calculation, known as *z-standardization,* shows exactly what features a given investor favors (or is averse to) in the companies it invests in, relative to other investors. The number indicates how many standard deviations above (a positive number indicates a relative preference) or below (a negative number indicates a relative aversion) the average of all investors the individual investor's score for the measure is. The scores indicate to a company how receptive a given investor is likely to be to specific changes in its strategic orientation. The company can see how much of a misalignment there is between its proposed strategy and a given investor's preferences.

Now let's explore in more detail the five categories of preferences the scorecard examines.

STRATEGY

Corporate risk tolerance. To measure an investor's appetite for bold strategic moves that involve a high degree of uncertainty, we look at the level of its portfolio companies' R&D spending, capital expenditures, and acquisition activity and even the language their executives use during earnings calls and other forums. A high tolerance signals openness to longer-term bets and innovative but risky initiatives; a low tolerance may suggest a preference for operational stability and near-term returns.

Diversification. To learn whether an investor favors a focused or expansive company strategy, we look at whether it predominantly holds firms with narrow product lines and regional concentration or those with broader product lines and global footprints. Insights into those tendencies allow companies to tailor their strategic messaging and choices to align—or deliberately contrast—with them.

Competitive aggressiveness. The scorecard also captures investors' attitudes about how forcefully companies compete. Some investors gravitate toward firms that make frequent price changes, leap into new markets, or innovate rapidly. Those who hold more-stable, conservative firms may value strategic discipline and steady execution. Understanding these preferences can help executives not only choose strategies that better fit with investor expectations but frame competitive moves in ways that resonate with their shareholders.

Prosocial activity. To gauge the degree to which an investor values corporate engagement with environmental and social issues, we examine the investor's own history of filing shareholder proposals as well as the environmental and social profiles and sustainability-related investments of its portfolio companies. Investors with strong prosocial preferences may push for initiatives around sustainability or community involvement—while others may prioritize financial performance.

Political engagement. We also assess how comfortable an investor is with companies' efforts to influence regulation, public policy, or public opinion. That can be inferred from the investor's own lobbying efforts, the lobbying intensity of the firms it holds, its public engagement with politicians, and its involvement in shareholder proposals related to political activities. Understanding how much tolerance an investor has for corporate political strategies can help

One Institutional Investor's Scorecard

This scorecard captures the likes and dislikes that the New York State Common Retirement Fund (NYSCRF), a large U.S. public pension fund, has for the firms it owns stock in. The card organizes investor preferences into five strategic categories and scores each on how strong it is relative to the average preference of all investors. (A positive number indicates an investor favors a strategy; a negative number suggests it dislikes it.) The scores show that NYSCRF strongly favors firms that pursue prosocial strategies and are active political lobbyists. In contrast, it is averse to firms that compete aggressively. It also has a slightly higher appetite for corporate risk and diversification than the average investor does.

Categories of preferences	**Relative preferences of NYSCRF** (standard deviation from average of all other investors) DISLIKE ← → LIKE
Risk tolerance	
Firms' R&D/revenue	-0.041
Firms' capital expenditures/revenue	-0.022
Firms' acquisition spending/revenue	0.000
Firm executives' use of risk-oriented language in earnings calls	0.245
Sum of components	**0.182**
Diversification	
Firms' product segment diversity	0.013
Firms' geographic diversity	0.190
Sum of components	**0.203**
Competitive aggressiveness	
Number of firms' new product launches	-0.193
Number of firms' market entries or exits	-0.132
Number of firms' capacity-expansion or downsizing initiatives	-0.103
Sum of components	**-0.428**
Prosocial activity	
Firms' ESG (environmental, social, governance) ratings	0.273
Whether investor has filed an ESG-related shareholder proposal in prior three years	1.000
Sum of components	**1.273**
Political engagement	
Whether an investor has engaged in lobbying in prior three years	0.000
Firms' lobbying spending	0.295
Whether an investor has filed political-activity shareholder proposal in prior three years	1.000
Sum of components	**1.295**

Note: Numbers for firms are weighted averages.

> Understanding an investor's unique preferences can help executives anticipate pushback, tailor engagement efforts, and even adjust elements of a strategic plan to secure support.

executives calibrate how assertive they can be politically without risking backlash.

STEP 2

Diagnose Your Investor Fit Risk

Once they understand each investor's strategic preferences, companies can diagnose their overall investor fit risk for a strategic move under consideration. If a strategy involves only modest adjustments, standard investor communications may suffice. But when the move is more radical, a deeper analysis across the shareholder base is necessary.

Strategic pivots that depart from a company's historical trajectory or break with industry norms unsettle investors. For example, shifting from an asset-heavy model to one centered on AI or intangible investments may appear visionary internally but feel jarring to long-term shareholders accustomed to physical infrastructure and stable cash flows. Likewise, the decision to divest a flagship business line or exit a major market may clash with the expectations of legacy investors, even if desired by others.

The response of the New York State Common Retirement Fund (NYSCRF), a large U.S. public pension fund, to the moves of one of its holdings reveals how even well-thought-out strategic changes can conflict with an investor's underlying preferences. NYSCRF's scorecard (see the exhibit "One Institutional Investor's Scorecard") shows that it mildly favors corporate risk and diversification; strongly favors prosocial initiatives and political engagement; and is averse to competitive aggressiveness. In 2016 a company it owned stock in, Papa John's, launched a wide-ranging set of initiatives aimed at strengthening its position in the highly contested pizza market. They included ramped-up digital marketing campaigns, renewed commitments to cost leadership, and customer loyalty guarantees—all hallmarks of an aggressive, offense-oriented strategy.

Despite the pizza chain's convincing rationale, 13F filings with the SEC show that NYSCRF reduced its stake in Papa John's by 61% the following year, signaling discomfort with the direction the company was taking. While there's no formal statement on record explaining NYSCRF's reasoning, an analysis of its SEC filings shows a strong and consistent preference for firms that pursue steady, risk-moderated growth rather than rapid-fire competitive escalation. For a fund that tends to favor companies with measured strategic pacing, the moves by Papa John's most likely triggered concern rather than confidence.

Compare that to NYSCRF's reaction to new initiatives at the Danish medical devices maker Micrel. In 2024 the company announced an elevated commitment to sustainability and published new metrics capturing its energy use, CO_2 emissions, water consumption, and waste generation. The response from NYSCRF was swift and positive: The fund increased its stake in Micrel by 185%, reflecting its strong preference for prosocial strategies. It most likely saw Micrel's actions as a credible signal of alignment with its values and stewardship goals. (Note: NYSCRF declined to comment on its investor preferences and the motivations behind its moves with regard to Papa John's and Micrel.)

The individual investor scorecards are especially valuable when a shareholder has a significant ownership stake or a history of voicing dissent. Understanding that investor's unique preferences can help executives anticipate pushback, tailor engagement efforts, and even preemptively adjust elements of a strategic plan to secure support. And aggregating the individual scorecards (weighting investors' scores according to the percentage of stock they own) allows companies to evaluate the overall investor fit risk for a proposed strategy across the broader shareholder base. It provides executives with a practical gauge of whether a given strategy is broadly aligned with shareholder preferences or likely to generate tension.

Consider a hypothetical global industrial firm with a decades-long reputation for asset-heavy operations, which historically has owned a lot of manufacturing equipment and physical infrastructure and generated stable, predictable cash flows in mature markets. Facing slowing growth and increasing pressure to innovate, its executive team is contemplating two bold strategic options: (1) spinning off its capital-intensive division and repositioning the company around AI-driven, data-centric services; and (2) doubling down on its core capabilities by expanding into high-growth, asset-heavy markets overseas.

On paper both options appear promising. The AI pivot offers higher margins, scalability, and alignment with future-facing trends. The global expansion leverages the company's operational expertise and unlocks access to fast-growing customer bases. But which path will the company's investors support?

Understanding the company's overall investor fit risk can help executives answer that question. While the AI pivot appears innovative and capital-light, it might alarm the existing investor base, which favors long-term, tangible assets and predictable cash flows. For those investors—primarily pension funds, sovereign wealth funds, and income-focused institutions—the shift into fast-evolving, intangible-heavy markets would raise concerns about business-model risk and volatility.

In contrast, the international asset expansion aligns with large investors' preferences for capital-intensive, infrastructure-driven growth in emerging markets, offering upside without undermining familiar fundamentals. When making their choice, the executive team and board should weigh not just the merits of each strategy but also investor compatibility. Compatibility may help swing the decision, but if not, the company will at least know that a move may upset investors and can take steps to manage that risk.

STEP 3

Develop an Engagement Strategy Informed by Investor Risk

Once a company has diagnosed the investor fit risk of its intended strategic move, the next step is to make a plan for engaging investors. It should reflect the degree of alignment (or misalignment) between the proposed strategy and the current investor base while also identifying new investors who can support the pivot and accelerate transformation.

If investor fit risk is low, the strategy is well aligned with current shareholders. But even in these cases, firms should not remain passive. Proactive communication—via earnings calls, investor presentations, press releases, and one-on-one meetings between the CEO and key shareholders—should emphasize elements of the new move that are in sync with shareholders' preferences. That will reinforce their support and strengthen their long-term commitment to the company.

If investor fit risk is high, a more targeted approach is needed. Firms should consider a three-pronged strategy:

Engage likely supporters among current investors. Highlight how the new strategy builds on the company's existing strengths, and craft a clear, regulation-compliant narrative that underscores the value of the shift and communicates its long-term potential.

Address the concerns of "future-misfit" investors. These are the investors that are likely to exit owing to misalignment. Explain how the strategic move complements the firm's historical trajectory and aligns with their preferences on dimensions where there is some degree of fit, even if the overall fit is low. Transparent communication may not prevent all turnover, but it can reduce the risk of panic selling or activist agitation.

Identify and attract "future-fit" investors. These are potential shareholders whose strategic preferences strongly align with the proposed pivot. They can become important allies during a transformation and should be sought out proactively.

Critically, this last step turns investor scorecards into recruitment tools. By assessing the profiles of the broader shareholder universe, executives can uncover high-potential investors they may have previously overlooked—or that may be unaware of the company's evolving strategy. These strategically aligned investors not only help stabilize a stock during a period of change but also can lend credibility to a transformation, influencing other shareholders to stay the course.

TOO OFTEN, COMPANIES treat investor fit as an afterthought—something to manage after the strategy is set or an activist has entered the picture. But in moments of transformation, capital alignment is just as critical as strategic clarity. The most successful leaders understand that the viability of a bold new direction often depends not just on its logic but on whether a firm's shareholders are willing to join the journey and how many other investors are eager to follow suit.

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INNOVATION

Why Great Innovations Fail to Scale

Breakthrough solutions aren't enough. New ideas can't flourish without "bridgers"—leaders who excel at collaborating across boundaries.

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INNOVATION

ABOUT THE ART
For his series Inflation, *Miroslav Vrzala photographed hot-air balloons being inflated for New Jersey's Festival of Ballooning.*

Innovation increasingly depends on partnerships.

As complexity and specialization rise and technologies such as AI reshape workflows and product portfolios, no single team or company has all the capabilities, tools, or authority needed to move ideas from prototype to scale.

Organizations must "partner or die," as one executive told us. But sharing the driver's seat is difficult. The more that innovation relies on collaboration across groups and firms, the more initiatives are likely to stall—or worse, fail—because the partnerships meant to deliver them break down.

Consider the experience of Sarah, a high potential appointed to lead a highly visible growth initiative at a large consumer goods company. (This is a composite story drawn from our research for illustrative purposes.) Her team of business strategists and cutting-edge digital and AI talent prototyped a promising new product that tested well. After working tirelessly for three months, Sarah's team proudly handed the product off to their colleagues in IT, marketing, and other departments that would be involved in the implementation phase. But those teams struggled. The product was built on an advanced technology stack that was incompatible with the business's legacy systems. It was designed to serve an unfamiliar customer segment. What's more, some company leaders worried that the innovation was too incremental to gain a foothold in a rapidly evolving market. The once-promising initiative looked like it was about to be stopped in its tracks despite the investment Sarah's team—and the company—had made in it.

We've seen this kind of breakdown time and time again. That's because scaling innovation requires partners to collaborate in the face of diverging priorities, capabilities, and constraints. New product teams are incentivized to experiment; compliance prioritizes adherence to regulatory requirements; IT speaks the language of operational reliability; senior executives require a compelling business case. When collaborating externally, the gaps are even wider. For startups, time is money; they value speed. The corporations that partner with them prioritize reliability; they move at a more measured pace to mitigate risks.

Indeed, when we ask executives what keeps them from offering new products and services, or from implementing new technologies to improve efficiency or revenue growth, they describe how painful it can be to work across organizational boundaries. At best, bringing multiple partners together results in splitting differences or making compromises, which can lead to mediocre results. At worst, persistent misalignment among partners leads to deep-seated conflict, hardened politics, slowed momentum, and the loss of credibility. Opportunities are lost, and investments are wasted.

To address these problems, leaders often over-rely on formal structure. They appoint dedicated project managers and cross-functional teams, or they establish innovation labs to orchestrate collaboration across boundaries. They invest significant time ironing out IP agreements and other

> At best, bringing multiple partners together results in splitting differences or making compromises. At worst, persistent misalignment leads to deep-seated conflict.

IDEA IN BRIEF

THE PROBLEM

Success in innovation increasingly depends on collaboration. Too many breakthrough ideas fail to scale because cross-boundary partnerships stall—plagued by conflicting priorities, misaligned incentives, and a lack of trust.

THE SOLUTION

The key to overcoming these barriers is a specific leadership capability: bridging. Bridgers use their emotional and contextual intelligence to build mutual trust, influence, and commitment among diverse stakeholders. They curate partners, translate across differences, and integrate efforts to maintain a project's momentum.

THE PAYOFF

Organizations that identify, develop, and support bridgers move promising innovations from prototype to impact faster, meeting rapidly changing customer demands with transformative solutions more quickly than their competitors.

Bridgers have strong emotional and contextual intelligence, which enables them to build the trust and commitment across partners that are essential to move innovation forward.

governance contracts with outside collaborators. But innovation fundamentally requires all involved—not just the originators of the idea—to experiment and learn (activities that require risk-taking). People don't take risks with those they don't trust, and structural efforts fail to create the social connection required to build that trust.

There is another way. Our study of firms that get innovation right finds that a particular type of leadership—what we call "bridging"—drives collaboration effectively across boundaries. (We first offered a brief description of bridgers in "What Makes a Great Leader?" [HBR.org, September 19, 2022], and we explore the role more fully in our book, *Genius at Scale* [March 2026, Harvard Business Review Press].) Bridgers have strong emotional and contextual intelligence, which enables them to build the trust, influence, and commitment across partners that are essential to move innovation forward.

If Sarah (the composite character we introduced) were to start acting like a bridger, her story could have a happy ending. Here's how that might play out: Sarah embeds members of her team into the IT and marketing groups. By working directly with their colleagues, they learn about each team's scope of work, IT's past challenges with integrating new technologies, and what new capabilities marketing needs to cater to new customers. Sarah also begins to manage up. She identifies key senior leaders to meet with regularly and shares up-to-date data about competitors with them. During those talks she advocates for the resources the IT and marketing teams need, such as training in the use of new UX tools. Her relationship building pays off: Sarah and her team are able to break down product launch tasks in ways that are better aligned with the marketing and IT teams' operating models. Sarah articulates the project's goals in language that resonates with her higher-ups: It will meet evolving customer needs while also addressing IT's and marketing's concerns. Most important, through these efforts Sarah and her team earn trust and commitment from their colleagues and senior stakeholders. The product's launch is ultimately a success, and Sarah's bridging approach becomes the standard for future innovation projects.

Our combined decades of research and practice have shown us what exceptional innovation leaders look like, and we've also seen many leaders who have missed the mark. We've learned that organizations that place bridgers in key innovation leadership positions are more likely to scale new ideas with speed. That's because bridgers perform three critical functions: They curate partners, translate across boundaries, and integrate partners' disparate efforts. But far too few companies have this critical type of leader. In this article we'll describe each function in detail, identify what skills are needed, and explore how companies can develop and support bridgers.

What Bridgers Do

Curating partners, translating among them, and integrating their efforts are not discrete, consecutive steps. Rather, bridgers move fluidly between the three activities throughout the innovation process.

The relationships that bridgers build through these activities are critical to getting partners to take risks and invest their time and effort beyond their core responsibilities. Specifically, bridgers are skilled at fostering the following:

- *Mutual trust.* Because innovation across boundaries carries risk and can make people feel vulnerable, bridgers create an environment where people are willing and able to tackle the inevitable conflicts and missteps that arise.
- *Mutual influence.* In a collaboration, no single party has all the answers. Bridgers build a sense of joint ownership by inviting partners and stakeholders to share in key decisions, continuously balancing the need for participation with the need for expediency.
- *Mutual commitment.* Commitment to innovation can wane, especially after setbacks or during conflict. Bridgers maintain engagement and motivation by keeping partners focused on their shared intention and by standing alongside them to fight the fires that emerge along the way.

Curating partners. Bridging begins with selecting and attracting the right partners—the stakeholders who will be needed throughout the innovation process. That includes individuals who will provide access to key capabilities as well as those from whom support or buy-in is needed.

Bridgers foster broad and diverse personal networks they can leverage. When they are in exploration mode, they tend to cast a wide net; when a particular initiative is well-defined, they target their outreach. For example, when testing new product ideas, they'll use their personal network to identify who, if anyone, in manufacturing has experience with digital twins or IoT devices, elements of the advanced manufacturing processes required to produce the new solution. Sometimes bridgers know they will need to expand their external networks to achieve a goal, but they aren't yet sure which partners will be required. In those cases they might issue an open call, such as establishing an accelerator program to surface startups or university research labs whose technology could complement their firm's.

Bridgers vet potential partners as they build relationships with them, inquiring about their goals and needs to discover points of alignment and friction. But making an accurate assessment—and ultimately getting partners to commit to co-creation on a project—is possible only when partners trust them enough to share what truly matters to them, including their appetite for risk.

Bridgers earn that trust by listening deeply. In conversations, they try to see the world through their partners' eyes and speak their language. For example, if a tech-savvy bridger is seeking the support of a business stakeholder who isn't as technically fluent, the bridger avoids using technical jargon and explains the business case through vivid stories that speak to the stakeholder's priorities. Bridgers assume their partners are well-intentioned; they empathize with stakeholders by explicitly acknowledging the costs and risks a collaboration would carry. (See the sidebar "The Key Skills of a Bridger.")

Engaging partners in this way is a constant exercise. Not only do bridgers recruit new partners as fresh needs emerge, but they also actively maintain their commitment and engagement throughout the process. Bridgers have to make tough judgment calls, deciding when there's enough trust to take action.

Take, for example, the partnerships curated by Raja Al Mazrouei at the Dubai International Financial Centre (DIFC). Al Mazrouei, who would become the executive vice president of DIFC Fintech Hive, was tasked with launching an accelerator that would bring fintech startups to the region. Her goal was to secure the future of Dubai as a financial hub by ensuring that established financial institutions were world-class.

The Key Skills of a Bridger

Innovation is a voluntary act. Our research over the years has shown that leaders cannot force people to innovate; they can only create an environment that encourages them to do so. To set the conditions for different groups to successfully co-create, bridgers need two sets of skills: emotional intelligence and contextual intelligence.

Emotional intelligence. Innovating through partnerships means navigating ambiguity and conflict without being in direct control—a condition that can grate on bridgers' innate sense of urgency. But their strength lies in their ability to manage their emotions, stay motivated and optimistic, and take the long view as they build relationships.

Bridgers' humility allows them to serve in positions in which they collaborate and share credit with others. They focus on outcomes, not recognition. When they make mistakes, they are the first to own up to and work to repair them. They are committed to continual self-development.

Above all, their empathy is foundational to understanding the needs, perspectives, and feelings of those they seek to connect with and influence. It informs their conflict management skills and underpins their ability to collaborate across differences.

Contextual intelligence. Bridgers take the time to discover each innovation partner's unique context. Instead of making assumptions, they learn through inquiry and observation how that context shapes their partner's mindset and behaviors. How have performance metrics, values, and culture—especially unspoken rules, informal social networks, and power dynamics—affected the partner's perspective, motivation, or actions? Bridgers seek to understand the forces that underlie the differences among stakeholders, and then they make those differences explicit and work to reconcile them.

Perhaps most important, bridgers use their contextual intelligence to anticipate and respond to signals of resistance. Knowing, or inquiring to learn, why partners are dragging their feet or pulling back on agreed-upon support is the critical first step to addressing the problem.

Finally, bridgers vigilantly observe changes in their partners' contexts, adjust to shifting priorities, and focus their influencing strategy and tactics accordingly to drive the innovation forward.

Al Mazrouei and her team identified three key groups that would need to work together to achieve this ambition: local financial institutions, which would effectively sponsor the startups and thereby gain access to innovative solutions; startups, which would bring promising new technologies and business models to the region; and the DIFC's regulatory bodies, which would build the legal framework necessary to test solutions with customers. Al Mazrouei's team knew that getting those partners to innovate together would be challenging. Implementing innovative solutions always carries a degree of risk, and financial institutions and regulators were understandably risk-averse. Startups had little interest in adapting to the pace of larger, more bureaucratic firms. And the startups and financial institutions were leery of partnering because they saw one another as potential competitors.

To overcome those barriers, Al Mazrouei began by learning what each stakeholder was excited about and what kept each one up at night. In Dubai she and her team set up one-on-one meetings with C-suite executives at more than 20 established financial institutions. Al Mazrouei asked leaders about their strategic priorities and their views of fintech, listening for common threads and challenges. Her team shared a proprietary benchmarking study of fintech globally and in the region to demonstrate the possibilities to execu- tives and to create a sense of urgency around adopting new technologies.

Using insights from these conversations, Al Mazrouei leveraged her network to recruit startups from around the world, listening intently as founders described their ventures and the resources they would need from an accelerator program. And while regulators tend to be an afterthought for many innovators, Al Mazrouei and her team engaged them from the beginning. They shared what they were learning about emerging financial technologies and actively listened to their concerns about data privacy and compliance. Ultimately, they worked together to develop a novel testing license for new ventures.

After months of meticulous curation and active engagement with all parties, 11 startups joined the inaugural accelerator program. (The consort was selected by a committee from the financial institutions; regulators attended the session but did not vote, to avoid conflicts of interest.) Fintech

Hive has since grown into one of the most successful programs of its kind in the Middle East. Perhaps the clearest testament to Al Mazrouei's impact as a bridger came from a CEO who described his amazement during an onboarding session led by her team. At the meeting, sponsors—financial firms that were direct competitors—were "sitting around the same table and openly sharing their strategy about [what it would take to] modernize the banking environment in the country."

Translating among partners. Bridgers recognize that partners differ in their priorities, strengths, and tolerance for risk. Differences along these dimensions often create misunderstandings and operational friction, whether in the form of misread cues about why one party continues to press an issue or in substantive divergences in timelines or goals. To avoid conflicts and address those that cannot be prevented, bridgers translate across differences to build common understanding.

They don't simply seek to ease frustrations; bridgers try to uncover and address the root causes of issues. Instead of minimizing differences, they expose them through dialogue. They ensure that partners' contexts are understood by all involved, making it less likely that the intentions behind behaviors will be misinterpreted. Bridgers rely on strategic storytelling to make future opportunities tangible for their stakeholders. This approach is invaluable for partnerships between technical experts, who easily grasp technical possibilities, and nontechnical partners, who need those possibilities framed in terms of their business implications.

Bridgers know that persuading someone to embrace a new idea requires appreciating not just what they say but what they value, what they fear, and what they are motivated by. By making underlying motivations and fears explicit, bridgers turn operational issues into opportunities to problem-solve together.

Take Garry Lyons, who joined Mastercard when it acquired his fintech startup, Orbiscom. As Mastercard's executive vice president of research and development, he founded Mastercard Labs to deliver breakthrough technologies for the firm. As a bridger, he understood that he had to actively prime colleagues to innovate in what was then a staid core business if they were to embrace and scale the prototypes coming out of Labs.

To capture his colleagues' imagination and create a sense of urgency, Lyons translated the possibilities of emerging technology into language they could understand. He brought tangible prototypes to board meetings and investor days to illustrate emerging technologies such as the cloud, blockchain, and tokenization, which felt like abstract technical concepts to many. Using physical prototypes of smart watches and digital vending machines, Lyons guided Mastercard colleagues and investors through immersive journeys into the future of digital payments.

When Lyons realized that some colleagues hesitated to ask questions in front of others, he spent time with them one-on-one to personalize his explanations to their background and experience. He didn't talk down to them. The firm's board chair at the time, Richard Haythornthwaite, told us that Lyons never alienated nontechnical leaders by making them feel like "second-class citizens." He met people where they were, earning their trust and commitment in the process so they could participate in creating Mastercard's future.

Lyons's intensive translating efforts paid off. Because the company's executive team and board now spoke the language of digital technology, conversations about new firm acquisitions shifted. Instead of needing multiple hour-long presentations, acquisition decisions became robust and efficient exchanges, since everyone was already on the same page. And because leaders were ready to embrace new technologies, operational teams became more willing and able to launch or commercialize the prototypes generated by Labs expeditiously. Accordingly, revenue streams from new digital products and services led Mastercard's market cap to explode from $6 billion to $390 billion during this timeframe.

Integrating disparate intentions and ways of working. As bridgers build shared understanding across partners, they also address the practical challenge of getting them to collaborate effectively. They help define a shared intention, or north star, and they coordinate partners' efforts so that projects can proceed. This work is ongoing throughout the partnership; there is no one-time fix.

Most obviously, collaborators need a common operating model that accounts for each partner's capabilities and constraints. Rather than dictating what this model will be,

> Bridgers know that persuading someone to embrace a new idea requires appreciating not just what they say but what they value, what they fear, and what they are motivated by.

however, bridgers invite stakeholders to co-create it. They facilitate negotiations in which partners jointly define their division of labor and decision rights, articulate how handoffs will work, and establish explicit shared technical standards, language, and metrics. Often the most difficult conversations are about choosing criteria to assess key milestones, including when to green-light or kill experiments, features, or even whole projects. But putting joint criteria in place can significantly accelerate decision-making down the road. For example, to guide collaborations with the core business, the Mastercard Labs team introduced a shared risk-assessment framework that measured customer value-add and desirability, technical feasibility, and viability or alignment with the corporate strategy. "DFV," as the team called it, became a shorthand that helped Labs and its partners make joint investment decisions faster.

Bridgers, though diplomatic, maintain a ruthless focus on what each side needs to move forward. They won't allow their projects to get trapped in endless analysis and debate. They make nuanced judgment calls about which matters warrant discussion and are willing to speak difficult truths to a partner. Finally, bridgers stay abreast of competitors'

> Because bridgers focus on making their partners the heroes, their contributions can go unrecognized. That's why their superiors must deliberately surface their achievements.

moves that might affect their partners or their relationships. They establish regular feedback loops and conduct premortems and postmortems to know when to adapt their approach.

Although coordinating tasks is critical, building social glue—that is, the shared values and norms that dictate how partners interact and problem-solve together—is equally important, and it often goes unappreciated. Bridgers repeatedly articulate and remind partners of their shared intention, such as "to meet patients' needs, we will become the most innovative hospital" or "we will revolutionize the way customers make payments." They also make explicit the link between that shared intention and partners' priorities. The shared intention often serves as a tiebreaker when debates get heated, and it keeps partners energized throughout the ups and downs of the innovation process.

Nicole M. Jones, who built and led The Hangar, Delta Air Lines' first global innovation lab, faced integration issues head-on when her group took up the challenge of producing both incremental and breakthrough innovations at Delta. In its first project, her team received a mandate to develop a biometric-based boarding pass ready for customer testing within 90 days. Executing this project required the coordination of a host of internal and external stakeholders, including Clear Secure (the startup that supplied the biometric technology that's the backbone of Clear+), numerous internal Delta colleagues, and officials from the U.S. Transportation Security Administration and U.S. Customs and Border Protection.

Tensions arose multiple times during the project. At one point, for example, as Clear produced its technology deliverables on time, Delta's IT team was missing deadlines. When Jones and her team investigated the cause, they learned that their IT colleagues were reluctant to participate because of a deep-seated aversion to risk. They had survived a costly tech outage the previous year, and maintaining operational metrics such as system uptime was their single priority. Opening their systems to a startup felt too risky.

To keep the project moving forward despite this resistance, Jones and her team frequently reminded the tech team and other stakeholders of their shared ambition: improving the experience of the millions of customers who traveled through airports daily. They also showed each party how this joint goal aligned with their own priorities. For the IT team, maintaining uptime was fundamental to delivering an exceptional end-to-end customer experience. As the stakeholders did the exacting work to mitigate risks to system stability, Jones positioned IT as an active partner that could shape the project rather than as a service organization merely delivering a technical integration. She was quick to point out that Delta could not deliver an exceptional end-to-end customer experience if the IT team could not maintain uptime.

Taking what she learned from that experience, Jones designed an intake form for future innovation projects to capture the fundamentals that partners agree upon and to define a shared north star. The form, which the team called the "Initiative Canvas," included fields such as a description of the problem the project is meant to solve, an assignment of deliverables, the name of the executive sponsor, and the names of potential skeptics. Articulating these details for each new project often took many rounds of debate. The prompts that led to the richest discussions asked partners to describe their vision of success; one asked the preparer to "describe whom we want to wow with this solution." Participants often found that their discussions forced them to reconsider some of their initial agreements. But doing that work up front paid off: The Hangar soon exceeded its goals for producing both incremental and breakthrough innovations. In fact, Jones and her team had many more requests from Delta colleagues to partner with them than The Hangar could handle. That year, it conducted more than 30 explorations and scaled several solutions in the core business, and a year later Delta became the first major airline to headline the Consumer Electronics Show.

How to Develop Bridgers

Companies looking to scale innovation quickly need bridgers in roles throughout the organization, from senior executives tasked with overhauling innovation internally to midlevel managers serving on innovative projects as the interface for their function or business unit.

But it can be difficult to persuade people to take on these leadership roles. Innovation leaders we've talked to perceive bridging to be demanding, painstaking, and often frustrating work. Because bridgers focus on making their partners the heroes, their contributions can go unrecognized—especially when things go well. That's why their superiors must deliberately surface their achievements and reward them. Too few companies know how to reward collective activities and results, which can lead to burnout for the leaders holding partnerships together. So how can executives develop potential candidates and support and engage them in these roles?

To identify potential bridgers among your employees, begin by looking to the people who already work successfully at boundaries: those who assemble cross-functional or other cross-group teams, build robust networks with peers and senior stakeholders, and volunteer in diverse activities outside the company. With some reflection, you may realize you already know who they are.

To develop potential bridgers, place individuals in roles that require them to work across functions, business units, or geographies so that they gain experience in contexts with different operating models and power dynamics. Encourage zigzag career paths and role rotations as well as involvement in external communities (such as in industry associations, local entrepreneurship, or communities of practice). Give them stretch assignments that teach them to work across difference. More informally, encourage social opportunities throughout the enterprise. Especially in virtual and hybrid work environments, deliberately create opportunities for them to broaden their perspectives and cultivate their networks. Delta's Jones, for instance, had rotated through positions in digital content strategy, marketing optimization, and retail strategy before taking charge of The Hangar. That experience gave her a holistic, corporatewide view of Delta and the customer experience and a clearer understanding of how decisions were made across the business. Outside of work, she was an active member of the Atlanta startup community. She brought the insights gleaned from all these experiences, as well as her diverse relationships, with her to The Hangar.

Once bridgers take on leadership positions, give them air cover and step in with support when needed. Bridgers are pulled in all directions by the partners they are trying to engage and influence. Executives can offer some relief. For example, Mastercard's former CEO Ajay Banga explicitly created a "moat" between Labs and the company's CFO for the initiative's first two years to give Lyons and his team an opportunity to gain some traction. Lyons could focus singularly on the delivery of breakthrough innovation rather than short-term financial goals. Additionally, encourage bridgers to conduct postmortems with their colleagues to figure out what practices can be put in place to make curating, translating, and integrating easier for all leaders.

Finally, give bridgers visibility. Not only do they deserve it, but doing so will encourage others to embrace innovation. At Delta's debut at the Consumer Electronics Show, the airline's CEO, Ed Bastian, invited Jones to share the stage to describe how The Hangar had helped Delta realize its goal of reinventing the airport experience. This sent a message that innovation—and bridgers like Jones—were valued at the company.

IN TODAY'S WORLD of fast-evolving customer expectations and emerging technologies, innovation is an imperative. Bridgers are no longer a nice-to-have; they are essential to a company's success. We've already seen, for example, that forward-deployed engineers, who bridge IT and business teams during AI deployments, have the hottest job in tech. Across an organization, frontline salespeople orchestrate cross-boundary collaboration to execute commercial partnerships, revenue operations leaders span sales and marketing, and chiefs of staff link executives to operations. Companies that develop these leaders deliberately—finding potential bridgers, giving them boundary-spanning experiences, and providing executive backing—will outpace their competitors in turning bold ideas into market realities.

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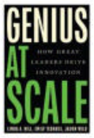

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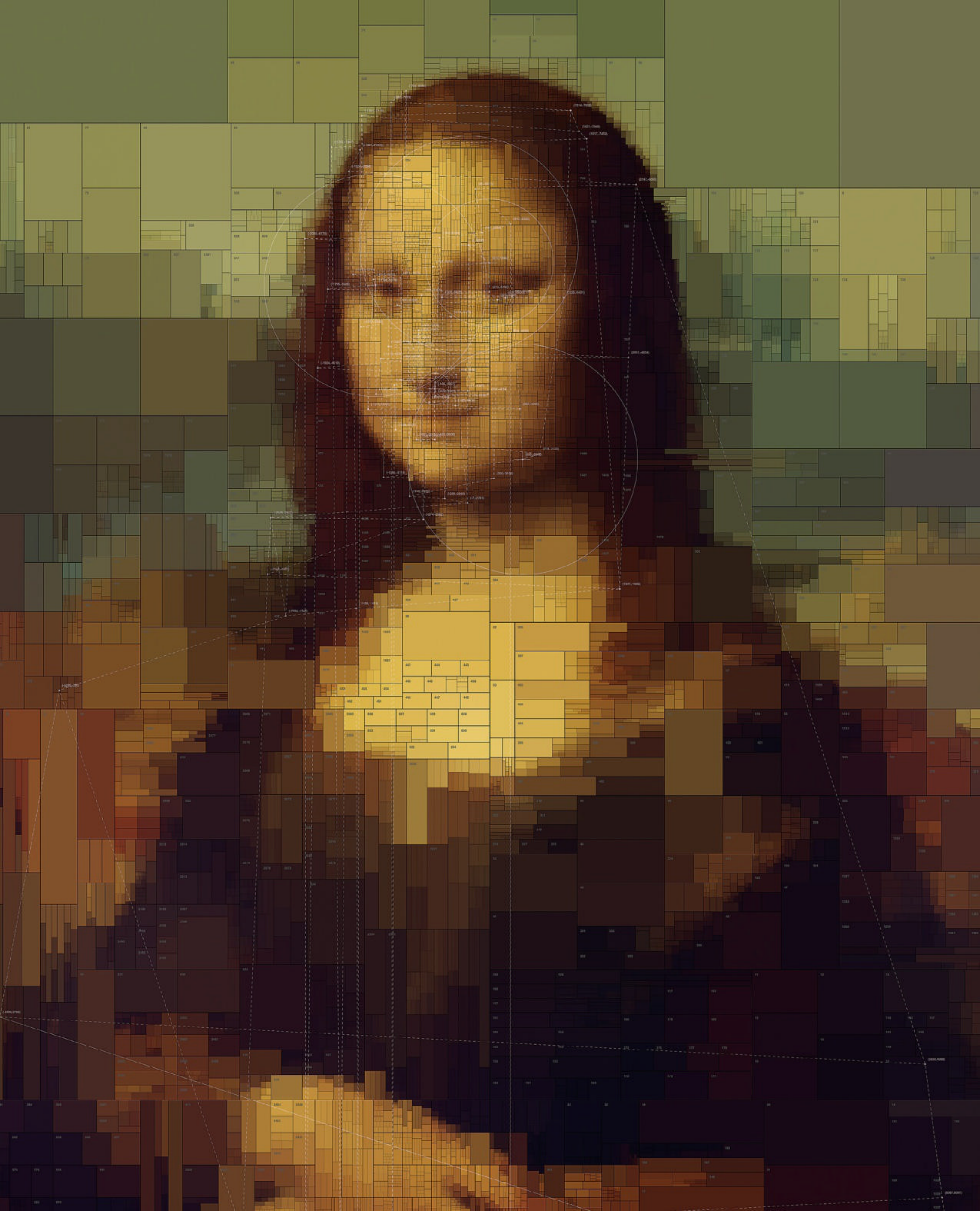

Preparing Your Brand for *Agentic* AI

TECHNOLOGY & ANALYTICS

ARTIST
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LLMs and agents are reshaping how consumers research and buy. Most companies aren't ready.

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TECHNOLOGY
& ANALYTICS

In 2024 **GOKCEN KARACA**, the head of digital and design at Pernod Ricard, was surprised to learn that two-thirds of Gen Zers and more than half of Millennials had started using large language models (LLMs) to research products. It was time, he figured, to formally study what the LLMs were saying about his liquor brands. So he teamed up with the digital marketing services agency Jellyfish to analyze how the leading AI models represented his brands. The findings dismayed him. LLM data was often incomplete or incorrect. One popular AI model, for instance, miscategorized Ballantine's Scotch whiskey, an affordable mass-market offering, as a prestige product.

To counter this problem, Karaca and his team launched an initiative to monitor and reshape what they call "share of model"—the measure of how often and how favorably brands show up in AI results compared with their competitors. To improve its' brands' share of model, Karaca's team now prompts all popular models regularly, asking questions about Pernod Ricard's products and cataloging the models' responses. Team members then update website and advertising copy in order to get LLMs to echo their messaging. Through painstaking iteration and adjustment, they were able to fine-tune the AI models' perceptions of the company's portfolio of brands. Ballantine is now correctly identified as a more affordable Scotch by LLMs.

Pernod Ricard's experience illustrates a fundamental shift facing every brand. Over the past two decades brands learned to optimize their keyword strategies so that they would appear at the top of search engine results. They now face a new challenge: optimizing for AI. As Karaca and his team found, many consumers already use LLMs to research products or compare prices. A July 2025 survey of 750 U.S. consumers, conducted by the management consulting firm Kearney, found that 60% of shoppers expect to use agentic AI to make purchases within the next 12 months. Every major AI company is developing agents in anticipation of mainstream adoption. To cite one example, OpenAI is collaborating with payment processors like Stripe and PayPal and retailers like Walmart and the shopping platform Shopify to facilitate purchasing within ChatGPT. It is laying the groundwork for an automated and complete customer journey. That means companies will soon be managing their brands in an era when agentic AI, built on top of LLMs, works on behalf of customers, completing transactions without human assistance.

Most brands are unprepared for this shift. Executives will have to ask themselves critical questions, such as: How do we adapt our communications strategy when our primary audience may not be human? What happens to brand relationships in a world mediated by AI agents? How can we prepare for a future in which both sides of the customer relationship are increasingly managed by AI? This issue won't be solved with a simple technical fix. Companies must fundamentally rethink how brands, customers, and AI interact.

In this article, drawing on our extensive research with thousands of consumers from multiple countries, including the U.S. and the UK, and on our work developing AI adoption frameworks for companies and startups, we lay out

IDEA IN BRIEF

THE RISK

AI agents have changed how consumers research, choose, and buy products. Brands that haven't optimized for this reality face diminished visibility and incorrect representation by agents.

THE CHALLENGE

Brands need to monitor and adjust their representation on all major AI tools. This is difficult to do when each agent functions differently and consumers use different tools for different tasks.

THE SOLUTION

Brands must build or buy their own agents. They should also integrate their AI systems with third-party agents to deliver accurate personalized shopping experiences on all platforms. And they should monitor information across platforms and work to adjust it as needed.

> Brands must decide if consumers actually want to interact with an agent. Deploying AI when customers prefer human interaction can actively damage brand relationships.

the spectrum of brand-consumer relationships emerging through the use of AI agents. We show how forward-thinking companies such as AG1, Lamborghini, and ServiceNow are already adapting their strategies to optimize for AI. And we provide a road map to help executives get started.

The Three Types of AI Agent Interactions

Most consumers aren't delegating the act of purchasing to AI yet. But they are increasingly using LLMs like ChatGPT the same way they use Google: for prepurchase research. They're asking about product features, comparing options, and reading AI-synthesized reviews before making their own buying decisions. As the Pernod Ricard example shows, companies must monitor and optimize their AI presence whether or not consumers are delegating purchase decisions. The agent types we will describe represent the natural evolution of this research behavior, as passive information-gathering matures into active intermediation. Fortunately, many of the strategies that help companies manage agentic AI shopping will also help them fare better with consumers who are doing basic research using LLMs.

As AI agents become more prevalent, the traditional relationship between brands and consumers is giving way to a new set of interaction modes—some mediated by AI and others driven entirely by it. In addition to direct, human-to-human engagement, three emerging types of interaction are beginning to coexist in the marketplace.

In the first type of relationship, *brand agents* engage directly with human customers. Unlike traditional AI chatbots that simply answer questions, these agents help consumers explore products, make decisions, and access services in new ways. Capital One's Auto Navigator Chat Concierge is an excellent example. It can check dealership inventory, schedule test drives, estimate trade-in values, and answer financing questions. Customers can complete most of the buying journey through an AI agent before ever stepping into a dealership.

In the second type, *consumer agents* act on behalf of individuals across multiple brands. Claude's "computer use" capability, for example, allows an agent to autonomously navigate screens, fill out forms, and complete purchases. It acts almost as the consumer's personal digital representative.

In the third type, *full AI intermediation,* AI agents interact autonomously on both sides of the transaction without direct human involvement. In this mode human intentions, emotions, and preferences are prefiltered using algorithms. We're seeing the early stages of this already: ChatGPT's agent searches OpenTable, selects restaurants, autofills reservation details, and completes bookings. Hostie's AI concierge manages inquiries, assesses availability, and sends reservation confirmations on behalf of restaurants. Human oversight may be the norm today, but these systems are early examples of fully autonomous processes, from beginning product research to completing the transaction.

Brands must evaluate which aspects of traditional customer relationships to preserve and which ones to evolve. To guide this shift, brand managers should focus on three critical stages of agentic adoption. First, determine if you need to deploy an AI agent at all. Second, if you do, you must persuade consumers to use your brand's agent instead of their own. And third, for consumers who prefer their own AI agents, you must ensure that these autonomous intermediaries choose your brand.

STAGE 1

Decide Whether You Need an AI Agent

The first question brands must answer is whether their consumers actually want to interact with an agent. Deploying AI in contexts where customers prefer human interaction is ineffective and can actively damage brand relationships. The answer depends on several factors: the nature of your product or service, the consumption context, the importance of human connection in your value proposition, and your customers' perceptions of AI.

Research by academics Bingqing Li, Edward Yuhang Lai, and Xin Wang suggests that people are willing to use AI agents in contexts with low stakes, routine decisions, and predictable outcomes. Few companies understand this better than Amazon, which has been quietly automating such decisions for nearly a decade. In 2015 Amazon launched the Dash Button, a small Wi-Fi-connected device that customers could tap to instantly reorder household items. As customer expectations evolved, so did Amazon's approach. The company introduced Virtual Dash Buttons and Dash Replenishment services,

ABOUT THE ART

Inspired by an information visualization method called treemapping, Dimitris Ladopoulos created an algorithm that digitally divides paintings on the basis of the density of their visual information.

allowing smart devices to reorder supplies automatically on the basis of usage. But the real leap came with the expansion of Subscribe & Save in 2019, which let customers automate recurring deliveries in hundreds of product categories, from baby wipes to razor blades, at intervals of their choosing. In 2024 23% of U.S. Amazon customers had an active Subscribe & Save order. Today Amazon is entering a new phase in its agentic strategy with Alexa+ AI, an intelligent assistant designed to interpret intent, make decisions, and execute multistep shopping tasks autonomously. A prompt such as "restock my groceries" can trigger a chain of actions, including checking pantry levels via smart-home integrations, referencing past orders, selecting preferred brands, and confirming delivery times—all without user intervention.

Brands must be cautious in domains where consumers are less receptive, or even resistant, to AI. Li, Lai, and Wang's research, which spans multiple studies and 119,000 participants, highlights several such contexts. Reluctance tends to be high during personally meaningful purchases—when consumers, such as hobbyists whose personal identity is associated with the purchase, prefer direct involvement. Similarly, in domains where human effort signals care and thoughtfulness—such as gift giving or writing personal messages—AI involvement feels impersonal because people value the perceived human effort in emotionally significant interactions. High-stakes decisions are another domain of resistance: Consumers tend to prefer maintaining control over consequential choices. For example, research from both Boston University and a Salesforce consumer survey reveals that people are often hesitant toward AI in the healthcare domain. People are also more comfortable using AI for tasks they perceive to be objective (such as analyzing data or giving directions) rather than subjective (like recommending a romantic partner or a movie). Opposition is higher in domains in which human relationships and personalized service are critical, such as luxury products or premium experiences. In these situations people are often paying as much for the human guidance as for the product itself.

AI preferences differ across generations, cultures, and product categories, and they change as technology advances. Because LLMs can evolve quickly, brands must monitor customers' shifting attitudes so that they can adapt their methods to use AI in ways that actually meet customers' needs. Lamborghini exemplified this in its approach to autonomous driving technology. While companies like Tesla have made self-driving capabilities a cornerstone of their innovation road map, Lamborghini has deliberately charted a different course. "The purpose of a car like a Lamborghini is to drive it, not be driven in it," CEO Stephan Winkelmann once said. He believes that its customers' core motivation is not convenience or efficiency but the visceral experience of controlling a high-performance machine. The same logic applies to premium shopping experiences, where consumers often value the journey of discovery. A customer purchasing a Patek Philippe watch or an Hermès bag enjoys the research process, the anticipation, and the in-store expertise. That journey should not be automated by an AI agent.

Your choice doesn't have to be binary. Even in domains where consumer resistance might be expected, AI can play an important role. Carefully designed AI-human hybrid experiences, for example, allow for both AI efficiency and human guidance.

When AG1, the global nutrition company formerly known as Athletic Greens, began facing tens of thousands of customer inquiries amid rapid global expansion, the pressure on its support team was intense. Leala Francis, the senior vice president of customer insights and member experience, saw a chance to rethink how the brand could serve customers. Instead of making an either-or choice between automation and personal service, she developed a selective AI strategy that preserves the human connection central to the brand's mission. The plan rests on two principles. First, train the AI agent as if it were any new support representative. Give it access to back-end systems, imbue it with the brand's tone of voice, and guide it with real-time customer data. For instance, if someone is going on vacation, the agent can suggest pausing a subscription or offer travel packs. Second, keep community-building interactions strictly human. For example, AG1's human team personally responds to every customer review. Since its launch in 2024 the program's results have been encouraging: AI agents achieved perfect scores in 99% of interactions, matching the brand's high human-service standards. And rather than encountering resistance, AG1 has seen customers embrace the change. The company has logged a double-digit percentage shift from

email interactions to interactions with its AI agent. Most important, the efficiency gains have allowed human representatives to devote more time to complex customer issues that benefit from empathy and creative problem-solving.

Vuori, a premium activewear brand, faced similar pressures on its customer support operations. In early 2023 the firm partnered with the customer service platform Kustomer to develop AI agents tailored to reflect the brand's voice, carefully defining parameters for language, tone, and knowledge access. Like AG1, Vuori adopted a hybrid approach: It deployed AI for routine queries and escalated complex issues to human specialists. The results were encouraging. With AI managing about 40% of chat conversations, workers could focus on interactions where personal attention created greater value and deeper customer connections.

We anticipate that most companies will adopt a hybrid strategy. AI agents will handle some requests. They will also direct customers to workers when necessary or when favorable to the customer. The strategic question is how to deploy them appropriately: Where do customers value direct involvement? When does AI assistance enhance the experience? Getting this balance right requires ongoing experimentation and customer feedback.

STAGE 2

Get Customers to Use Your Agent

Once your customers are open to using AI agents, you face a new challenge: persuading them to choose your brand's agent over third-party alternatives. Consider the choice between Amazon's Rufus and ChatGPT's agent. Both can assist with shopping, but they reflect fundamentally different dynamics. Rufus is controlled by Amazon, whereas ChatGPT's agent is a consumer agent designed to act on behalf of users. ChatGPT's agent has access to personal information provided by the user and was not designed to serve Amazon or any particular retailer. From the consumer's perspective, independent AI agents offer inherent advantages in two areas: trust and data. People naturally trust agents they control directly, perceiving the agents as unbiased advocates acting solely in the users' interests, much like financial advisers with fiduciary duty. By contrast, people may view brand agents skeptically because the agents are designed primarily to serve the company's goals. Consumer Reports, the nonprofit known for independent reviews of products ranging from cars to home appliances to software, has already recognized this trust challenge. "The most compelling use case for personal AI agents is their ability to advocate on behalf of consumers without bias or conflicting interests," said Dazza Greenwood, the protocol lead at Consumer Reports Digital Lab. The organization has launched AskCR, a chatbot to help consumers reach trusted information quickly, and it is exploring AI agents built specifically to "prioritize user interests above all else," drawing on long-standing regulatory frameworks that anticipated the rise of electronic agents acting on behalf of individuals.

Consumer agents also hold a data advantage. They can collect, analyze, and leverage data that spans multiple domains and brands. That gives them a more comprehensive understanding of an individual's preferences and behaviors. ChatGPT's memory function, for example, enables it to retain user information from past conversations, forming a detailed profile of the user over time across all brands. This breadth and depth of insight allows it to make highly tailored, context-aware recommendations.

The inherent advantages of consumer agents create a strategic tension: Brands want to have direct relationships with customers through their own agents for greater control, whereas consumers have strong reasons to favor independent agents. To navigate this challenge, brands must double down on capabilities that personal agents cannot easily replicate. One significant advantage of brand agents is their ability to draw on deep, proprietary product knowledge. Unlike general-purpose agents such as ChatGPT, which rely on third-party data and generic product information that may be outdated, brand agents have access to real-time, structured product data and can respond to nuanced queries with a level of precision that generic tools cannot. When combined with first-party customer data, these agents can deliver consultative, personalized experiences grounded in a rich understanding of each customer's preferences, behaviors, and history with the brand. It would make more sense to converse with a financial adviser's agent about investment decisions, for example, than with the standard professional version of ChatGPT. The challenge for brands is to convince consumers of this logic.

When consumers have positive prior experiences with a brand, they are more likely to trust that brand's agent. But trust must also be earned by the AI agents themselves.

When Sephora set out to integrate AI into its customer experience, the company built on its existing strengths. Originally launched in 2012 and upgraded with advanced AI capabilities in 2021, the agentic system leverages proprietary assets that generic agents cannot access, including a product catalog with detailed shade and formula taxonomies, Color IQ technology that differentiates 140,000 skin tones, and first-party profiles from more than 34 million Beauty Insider members. When a customer asks for foundation recommendations, the AI references that person's specific skin tone, previous purchases and returns, and real-time store inventory. Sephora customers using these tools are three times more likely to complete purchases. The tools have also helped reduce product returns by 30%.

Another powerful differentiator for brand agents is the ability to incorporate the human-in-the-loop model. Brands that build agentic systems that maintain human oversight and seamlessly escalate complex issues to human experts can gain an edge over consumer agents and narrow the trust gap. This kind of hybrid model is typically unavailable to consumer agents, because the only people involved are the consumers themselves.

The AI agent created by ServiceNow, a workflow automation company, exemplifies this approach. The company deployed an AI agent capable of autonomously resolving 80% of incoming queries such as order updates, system access, and basic troubleshooting. For the remaining 20%, which involve greater complexity or nuance, the system automatically escalates the issue to workers who review AI-generated outputs, apply expert judgment, and make final decisions. This fusion of agentic AI and human intervention has reduced the resolution time for complex cases by 52%, demonstrating how brands can enhance efficiency while maintaining trust, accuracy, and control.

Importantly, traditional brand equity still matters for getting customers to use your brand's agent. When consumers have positive prior experiences with a brand, they are more likely to trust that brand's agent. But that foundation alone isn't enough. Trust must also be earned by the AI agents themselves. A recent Salesforce survey found that most consumers don't believe companies will use AI ethically, and 72% of respondents demanded transparency about when they're interacting with AI rather than a person. This presents a strategic opportunity. Brands that adopt and clearly communicate responsible AI practices can not only build trust in their own agents but also close part of the inherent trust gap between brand agents and consumer agents.

To explore how responsible AI influences consumer choice, one of us (Oguz) worked with colleagues to conduct three large-scale discrete-choice experiments involving 3,268 participants from the UK. Consumers were asked to make realistic trade-offs between AI products with varying levels of responsible AI features—such as privacy, auditability, and understandability—against other common attributes like price, performance, personalization, and autonomy.

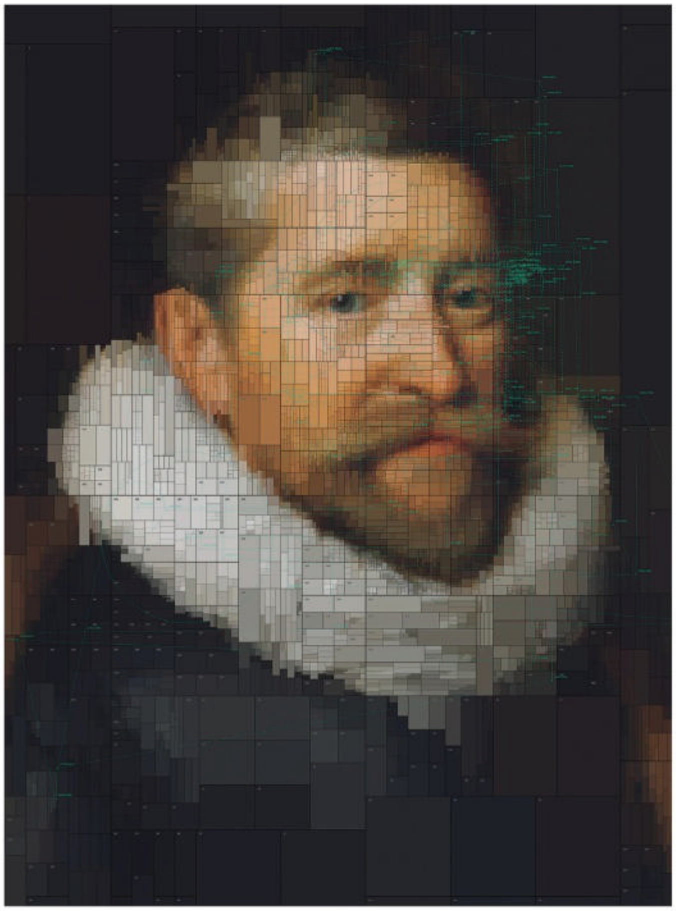
The findings were striking. In one study, focused on an AI-powered pension-planning app, privacy emerged as the most influential factor in decision-making (31%), followed by auditability, or human oversight (26%). In another study, one that involved an AI-driven investment tool, privacy was again a top driver, nearly matching price in importance. Even when high-performance options were available, responsible AI attributes significantly shaped consumer preferences. Perhaps most tellingly, when responsible AI features were embedded into product design, predicted adoption rates jumped from 2.4% to 63.2% for the pension app and by 27.5% for the investment app.

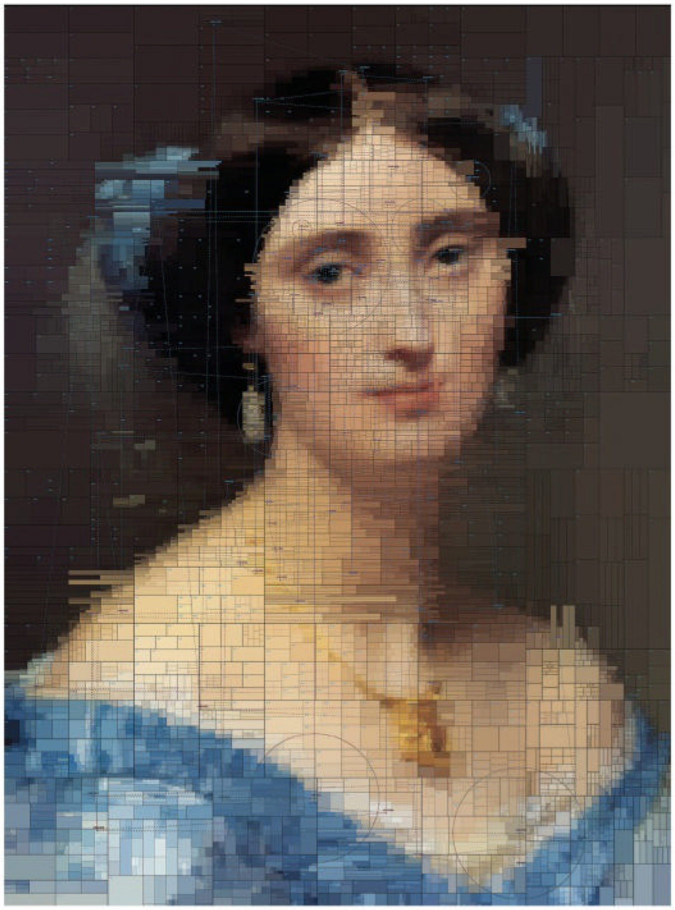
Persuading consumers to choose your agent over independent alternatives requires two best practices. Brands must leverage what independent agents cannot replicate: highly contextualized experiences driven by proprietary product knowledge. They must also build flexible systems that allow agents to escalate conversations to human experts. Offering this level of personalization and adaptability gives customers an intelligent option that they can use—or override—depending on their preferences.

STAGE 3

Make Other AI Agents Choose Your Brand

Even as brands promote their own AI agents, many consumers will likely choose to rely on independent ones such as ChatGPT, Claude, or Gemini. This creates a new strategic imperative: ensuring your brand is visible to, and ultimately recommended by, consumer AI agents.





Achieving that requires more than building your own agent. Brands must also develop seamless integration points with the broader AI ecosystem. Consider Instacart's rapid adaptation to AI-assisted shopping. When OpenAI introduced ChatGPT plug-ins, in 2023, Instacart responded with a dual strategy. It built Ask Instacart, a ChatGPT-powered search tool within its app. It also developed a ChatGPT plug-in that allows users to add items directly to their cart during conversations with the chatbot within the ChatGPT app. Customers start with a query, such as "How do I make an easy carrot cake?" Instacart's plug-in then provides a recipe and automatically places ingredients into a shopping cart within the ChatGPT app. This approach underscores why developing integration points with consumer AI agents is essential. By embedding its services across its own app and external AI platforms, Instacart effectively positioned itself to fulfill a wide range of food-related queries for many consumers, regardless of where the conversation started.

Getting brands ready for AI agents also requires ongoing learning, experimentation, and adaptation. For example, when OpenAI introduced custom GPTs (generative pre-trained transformers; here, specialized versions of ChatGPT), Instacart adapted again, launching its own GPT to maintain its position in the platform. A core part of adaptation is evaluating the performance of your brand in leading LLMs and optimizing for them. Similar to Pernod Ricard's approach, Danone regularly monitors how LLMs portray its brands and makes targeted interventions to manage AI-driven perceptions in real time. When discrepancies or misrepresentations arise, Instacart makes specific adjustments in its marketing communications and tracks measurable improvements in how AI agents describe and recommend its products.

Recent Harvard Business School research explores additional tools for managing how AI agents perceive your brand. In one study, the researchers examined the use of a strategic text sequence (STS). Put simply, an STS is an algorithmically generated text sequence, often nonsensical to human readers, that is added to a product's information page to increase the likelihood of the product being listed as the LLMs' top recommendation. The investigators

Connections that once formed the foundation of brand relationships are being reshaped, often mediated, and sometimes entirely managed, by AI.

TECHNOLOGY & ANALYTICS

tested two fictional coffee brands, ColdBrew Master and QuickBrew Express. ColdBrew was initially excluded from suggestions because of its higher price, but it became a top-recommended option after the insertion of an STS. QuickBrew Express, which already appeared in results, also benefited from an STS insertion and rose in prominence on the LLMs. Other studies highlight AI's positive biases toward global brands or AI-generated content, providing more levers for brands to pull.

Next-generation reasoning models add another powerful tool to the brand optimization tool kit. These models reveal LLMs' decision-making process, allowing brands to understand why certain products are recommended over others. Consider a practical example: a consumer using Perplexity's R1 model to search for a wireless charger in the UK. When prompted, "What are the best products available online?" the model transparently displays its process. It shows that it draws information from reputable media sources and walks the customer through criteria such as price, compatibility, and user reviews. Its top recommendation in this case was the Ugreen Qi2 charger. For product managers at competing brands, this offers a blueprint for alignment.

By emphasizing the features consumers care about (like Qi2 charging or support for multiple devices) and by pricing your product in a way that feels fair to buyers, you can ensure that it shows up when AI systems are queried—and greatly increase the chances that AI assistants will choose it. But optimization efforts risk failing if there is no clear understanding of how consumers actually prompt AI agents. Recent research from Carnegie Mellon shows that even subtle changes in search wording can significantly alter brand recommendations. The researchers used synonyms to alter basic prompts, such as "Help me choose the best VPN service," and found that even simple rewording could increase the likelihood of consumers choosing a brand by as much as 78.3%. In short, knowing how consumers formulate their queries should be the foundation for refining and optimizing marketing content. That means regularly testing how product information performs across different prompt variations as well as monitoring, through search logs and customer service interactions, the actual phrasing that consumers use. As AI systems evolve, prompt-based optimization will need to be an ongoing effort, not a one-time exercise.

Looking ahead, brands should begin adopting emerging standards for AI accessibility. One proposal gaining traction is llms.txt, a machine-readable format designed specifically for LLMs. Unlike traditional web content, llms.txt allows brands to structure and surface product information in ways that AI agents can easily parse and prioritize. Forward-thinking brands like Cloudflare, HubSpot, and Stripe are already doing this. Early results are promising: Some brands have seen measurable benefits, ranging from a 12% uptick in AI-generated traffic within two weeks to a 25% increase in organic traffic.

Brands should also prepare for the emergence of AI-based monetization models. Pay-to-play frameworks, similar to those in search engine advertising, may influence which products AI agents recommend. To stay competitive brands will need strategies for maintaining visibility in AI-mediated marketplaces while also ensuring transparency around paid promotions, in line with evolving global regulations.

THE RISE OF AI AGENTS is fundamentally redrawing the contract between companies and consumers. Connections that once formed the foundation of brand relationships are being reshaped, often mediated, and sometimes entirely managed, by AI. To succeed, companies must operate effectively across the full spectrum of encounters—from fully human exchanges, to interactions with brand agents and consumer agents, to fully autonomous AI intermediation.

Consumer use of agents will vary based on a customer's relationship with the brand and the nature of the product or service. Even within a single brand, a consumer might prefer mixed modes, such as delegating routine tasks to consumer agents, consulting brand agents for detailed inquiries, and concluding important transactions with human associates. Consider which options work best for your customers, and use them at the right times to help your brand succeed. ■

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Why the **Digital Product** Model Beats **Project-Based** Approaches

IT MANAGEMENT

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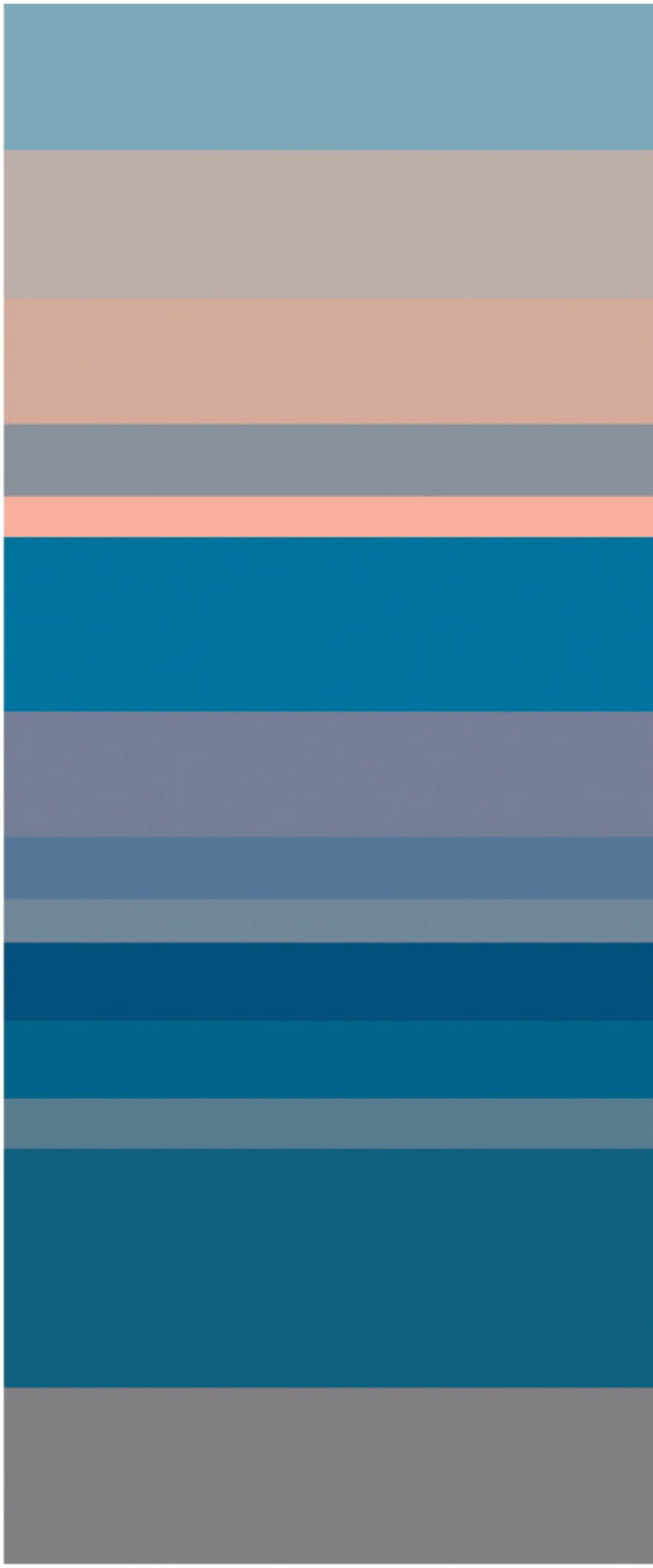
Temporary teams can build new systems, but permanent ones can both develop them and manage them after launch.



ARTIST **SERGE HAMAD**

IT MANAGEMENT

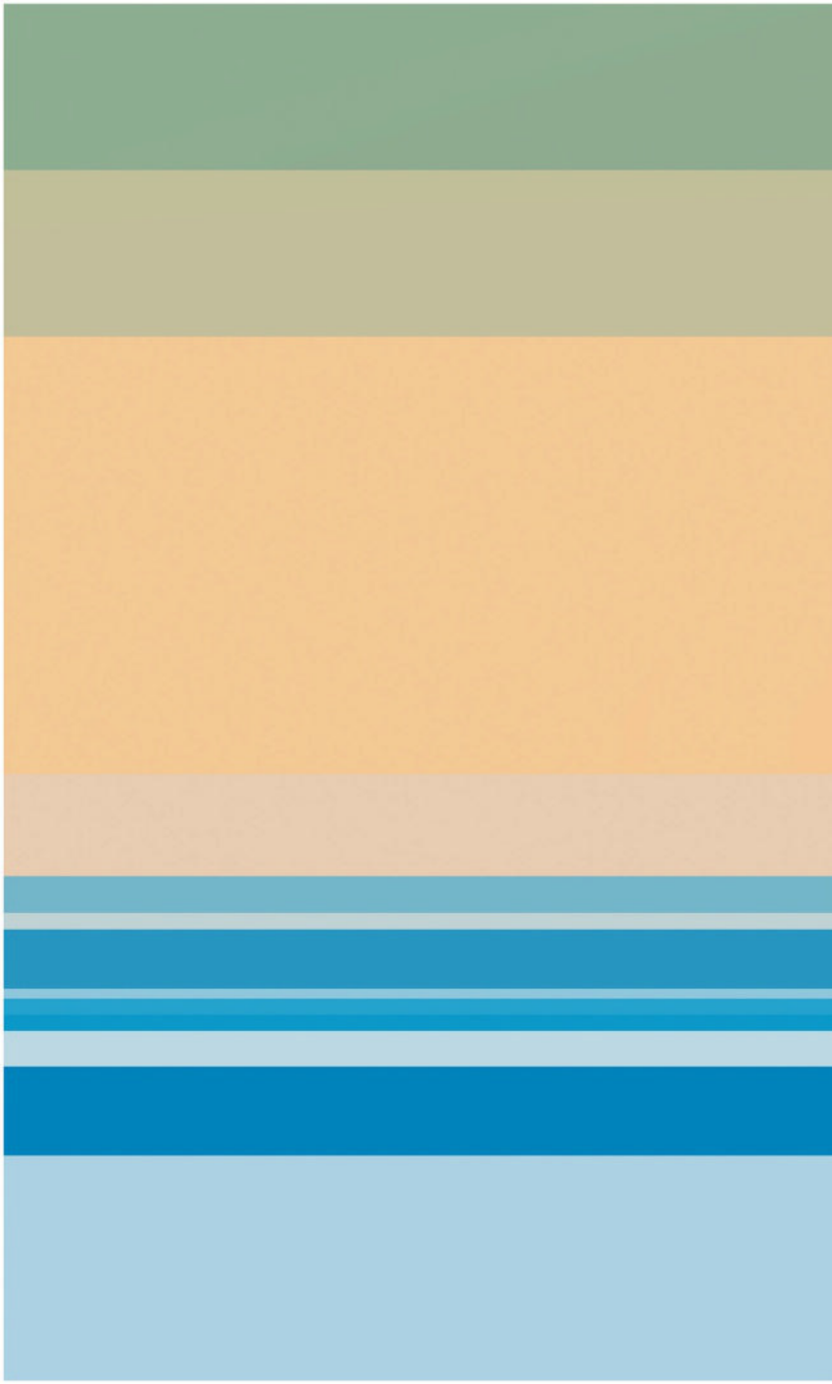
ABOUT THE ART
Serge Hamad's series Temporal Perception *plays with color and form to create a dialogue between realistic photographs and digital abstractions.*

IN 2011,

The New York Times was facing declines in both ad sales and print circulation, and it desperately needed to find new revenue streams. In March of that year, bucking industry trends, it decided to implement a paywall and begin charging users to read its content online. But its new digital subscriptions were slow to take off: At the end of the year only 406,000 had been sold, producing just $44 million in revenue, or 1.9% of the company's top line. As the 160-year-old enterprise began focusing on how to aggressively increase those numbers, it realized it needed to find a different way to operate.

Historically, *The Times* had relied on traditional methods of managing digital projects. Making its content accessible on computers, iPads, iPhones, and other devices required immense amounts of technical labor, so the company assigned temporary IT teams to work on it, asking them to meet predefined timelines and budgets. When a project ended, its team members disbanded and moved on to the next one. But that approach wasn't working well, according to published reports and a member of the product management team that we interviewed. In many cases, leaders felt, the IT teams had too little stake in the long-term success of a new offering, and projects missed deadlines and went over budget too often. To fix this, the company decided to try a new approach: digital product management.

As a first step, *The Times* assembled interdisciplinary teams, pairing editors with product managers, designers, engineers, and analysts. Then, instead of moving them from project to project, it gave the teams long-term assignments; after they launched a product, they'd grow it as a business



> When companies have a product orientation, they optimize work for measurable business impact—such as an increase in revenue—across a longer horizon.

IDEA IN BRIEF

THE PROBLEM

Traditional IT projects have high failure rates, suffer from a short-term focus, and generate little ongoing learning or adaptation. Only 31% of global IT projects succeed, and failure rates may rise as organizations experiment with emerging technologies like AI.

THE OPPORTUNITY

Leading companies are moving away from temporary project-based IT teams and toward long-term digital-product-management teams. Such teams' funding is ongoing and tied to generating measurable impact. They continually create new iterations of offerings based on user feedback.

HOW TO REALIZE IT

Create a product vision, form empowered teams, build permanent structures to support them, and treat the shift in approach as a journey, not a one-off initiative.

with its own P&L. The product managers were given the authority to create product and tech road maps and to make decisions based on what they learned from experimentation. As the teams became skilled at this approach, the company's ability to introduce successful offerings increased. In 2014 it launched NYT Cooking, an online repository of thousands of recipes, and a specialized subscription to its daily crossword puzzle. In 2016 it acquired *Wirecutter,* a product review website, which it aggressively expanded, and then moved beyond crosswords to create multiple games for readers. (Its game business grew even faster after its 2022 acquisition of Wordle.) In 2017 the company launched a new podcast, *The Daily,* and after its listenership exploded, expanded its podcast lineup. Today *The Times* is a rare media success story—one that illustrates how a digital product approach can help a company quickly grow beyond its legacy business. More than 12 million people now subscribe to its products, and it brings in more than $1.2 billion in digital subscription revenue annually—roughly half its top line.

In the IT field, project management has long been the foundational operating model. The waterfall approach, a defined linear and sequential software-development process, became popular in the 1970s. Since 2000 it has been supplemented by agile and user-focused methods. Whatever the methodology, IT projects have traditionally been temporary initiatives undertaken to create unique technical solutions.

There are several big problems with this model, however. First of all, only 31% of global IT projects are successful, according to the Standish Group, and other sources indicate that their failure levels may be as high as 85%. As companies experiment with emerging technologies like generative AI, failure rates will most likely rise if firms continue on the same path. Beyond that, IT projects have a number of drawbacks: They're usually defined as efforts to build a system rather than to achieve a business outcome. Their focus is on pleasing internal stakeholders, and their customer or intended user is often ambiguous and engaged with only when necessary. Assuming the system is launched successfully, the project ends, the team that built it is redeployed, and there is little effort to learn how the new solution is being used or needs to evolve over time—much less any ongoing sense of ownership or investment.

In response to those problems, a growing number of companies have adopted a product rather than a project approach to creating digital offerings. They may call them "data products," "analytics products," or "AI products," but all essentially are technology-powered digital products. Digital products can be B2B or B2C. They can be internally or externally focused. And they may not be purely digital: Many are blends of online and offline experiences, such as apps that allow users to find a ride, get a home loan, complete a sales transaction, or send an overnight package.

In some industries the digital product approach isn't new. The commercial software industry began adopting it decades ago, and today digital-first companies employ thousands of product managers. In the past decade, however, the approach has moved beyond tech companies and into legacy industries; it's been applied by financial services companies like ING, retailers like Target, and even government agencies like the U.S. Centers for Medicare & Medicaid Services. Still, many companies have yet to adopt it. A 2023 Planview report found that just 8% of enterprises had successfully made the move from projects to products.

Most of the companies that haven't made the switch lack a C-suite mandate for a product operating model. Our research suggests it's time for senior leaders to give them one.

In this article we'll explore the difference between the project and product mindsets, and we'll describe how the smartest companies we've observed made the shift from one to the other. Then, using examples, we'll provide a step-by-step framework for setting up digital product management at your own company.

WHAT IS DIGITAL PRODUCT MANAGEMENT?

Traditional IT projects optimize for scope, schedule, and budget, and as we've noted, the work is complete when the new solution is launched—end of story. But when companies have a product orientation, they optimize for measurable business impact—such as an increase in revenue—across a longer horizon. They establish teams that continue to manage new applications after they go live. The focus isn't simply on getting new products out there; it's on delivering ongoing value to customers.

The differences extend beyond staffing models and goals. While IT projects are given onetime budgets that incentivize managers to ask for everything up front, IT products are funded with ongoing investment. Additional investments in them are tied to how users interact with the products and whether they generate returns. IT governance moves from milestone inspection to outcome review, examining questions such as, What changed for customers? What did the team learn? What should we build next?

IT projects treat change as scope creep; IT product teams treat change as discovery. Managers shift from talking about "tasks" to "problems to solve."

The differences also include organizational culture and language. IT projects treat change as scope creep; IT product teams treat change as discovery. The focus of risk management shifts from delivery issues (schedule slips and cost overruns) to value-related failures (building the wrong thing, poor usability, low willingness to pay, weak market fit). Managers shift from talking about "tasks" to "problems to solve" and from "new features" to "new outcomes." Teams put less emphasis on coding speed and more on rapidly learning and achieving impact, which they measure by looking at customer retention, Net Promoter Scores, conversions, cycle time, and unit economics.

The result of these shifts is a system tuned for durable advantage, not one-and-done delivery. Leaders that adopt a product mindset are more likely than project-oriented managers to succeed in their roles, according to both our observations and industry data. McKinsey research has found that companies with a strong digital-product focus produce total shareholder returns roughly 60% higher and operating margins 16% higher than those of their peers with a weak focus. In addition, the product-oriented companies report faster time to market for new offerings, with runways that are 40% to 70% shorter. They also build higher-quality solutions, align technology and business needs more closely, have higher employee engagement, and respond to market changes better.

HOW TO GET STARTED

In our research on the experiences of hundreds of organizations in a variety of industries, we've discovered five essential steps for transitioning from IT projects to digital product management:

1 **Start with small wins.** Identify a few initiatives that could benefit from a product-oriented approach. Look for ones that require continual innovation, rapid customer feedback, and frequent updates or improvements. Some leaders have found that a product lens is a poor fit for short, one-off infrastructure work, such as a transition to the cloud or rewriting a program in a new language. Such efforts rarely have a well-defined internal or external customer and usually don't justify a long-term,

cross-functional team. They're best run as time-boxed projects with a clear end state. Products, however, earn their keep by delivering, and improving, constantly.

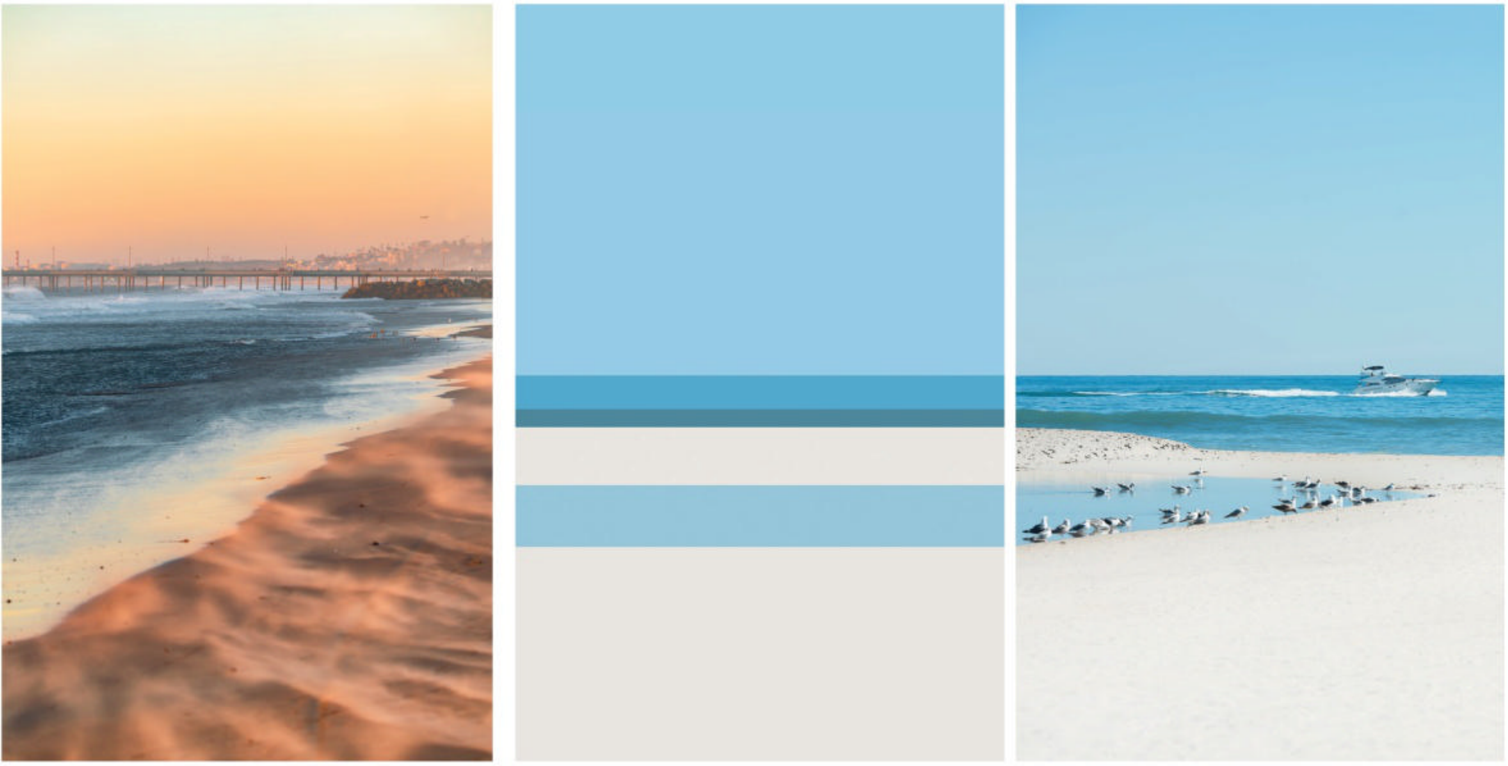
Next, set up one or two teams, give them the resources and support they need to succeed, and have them answer these questions: Will the product be of value to both the customer and the business? Will it help us achieve business outcomes? Do we have the technical capability to build it? If so, will it reach scale?

Once the teams' products are successes, share stories about them internally. That will demonstrate the value of the product approach, build momentum for it, and help you expand it across the business.

CarMax, the largest retailer of used cars in the United States, adopted a digital product orientation in the early 2010s. With guidance from the product management expert Marty Cagan of Silicon Valley Product Group, CarMax started with small changes and scaled up as they succeeded. The very first pilot was a four-person, six-week experiment to test whether a product team could conceive, design, and release a meaningful improvement faster than the old kind of project team could. Leaders saw enough potential in that one sprint to keep going. After establishing more product teams, they institutionalized "open houses," 15-minute show-and-tell sessions at which the teams shared what they had launched, what they had learned, and what they'd try next. Those biweekly sessions created significant momentum by providing a stream of visible evidence of, not opinion about, the success of the product approach. To prevent progress from stalling at the seams between functions, the company also set up "two-in-a-box" leadership, which paired product and technology leaders up and down the organization.

Capital One, the large U.S. financial services firm, similarly staged its transition to a product operating model. In 2013 it created small, cross-functional, agile teams that

A product lens is a poor fit for short, one-off infrastructure work, which doesn't need a long-term, cross-functional team. Products earn their keep by delivering constantly.



tested new offerings' value quickly and built momentum product by product. A year later the company doubled down on the product approach by acquiring Adaptive Path, a user experience technology that helped product managers discover new customer needs and develop solutions for them. This was another "start small, learn fast" move that raised the bar on customer-centric design.

2 **Create a product vision.** Begin by defining the high-level objectives of your digital products, along with the measures you'll use to assess their success. After communicating them, collaborate with your teams to set more-granular goals and key performance indicators.

The vision of *The New York Times,* for instance, was to become a digital media company. Its digital product managers pursued that goal by creating offerings that fit its traditional brand but could also be stand-alone products exclusively for digital users. For instance, people can subscribe to the NYT Cooking app or the NYT Games app without subscribing to the company's news products.

Before its shift to a product approach, CarMax—like many large companies—had followed annual road maps and had been driven by executives' pet projects. Teams often built what had been requested months before, not factoring in newly arriving information. CarMax decided to incorporate real-time feedback from customers into its product vision and reframed it around fulfilling a simple promise to them: "Shop anywhere, finish anywhere." That meant making CarMax's national scale feel local. A shopper in Phoenix could fall in love with a car in Cleveland and click to have it shipped to a store back home. CarMax now has 255 stores across 42 states nationwide, and 80% of its retail sales are digitally supported. Sixty-six percent are a mix of online and in-store, and 14% of sales occur fully online. The company has successfully operationalized its product vision on a large scale and reinforced it quarter after quarter.

Regions Bank likewise employs a product approach for most of its large-scale digital initiatives. The Alabama-based financial services company's vision is to create internal products that deliver substantial economic benefits. One such product, an anomaly detection tool, is being used to find errors in the hundreds of thousands of ledger transactions Regions Bank processes daily. Given that volume, manual reviews for financial accuracy aren't feasible, so the bank developed a general ledger anomaly detection (GLAD) application, which leverages advanced analytics to identify transactions deviating from established norms and business trends. The Regions Bank accounting team uses it as an intelligent, automated review and research tool, and it has helped reduce the average time to identify transaction errors from approximately 30 minutes to just five. The transition from a manual, reactive process to a proactive, data-driven approach has significantly improved operational efficiency at the bank and provided deeper visibility into transaction patterns across the general ledger.

3 **Form long-term, cross-functional product teams.** Each one should include a product manager, one or more product designers, technology engineers, and other critical players, such as subject matter experts, developers, and data scientists. Unlike project teams, product teams should stay together for the life of a product, and they need to have the autonomy to decide how to achieve their goals.

Each team should be led by a digital product manager. This role is common in software companies but still relatively rare in organizations that use software rather than sell it. Product managers usually aren't anyone's boss; their job is to bring all the team members together to solve a customer problem. That requires a mix of skills, including design and engineering capabilities and diplomacy (for working with multiple stakeholders across lines of business). Good digital product managers will understand the problem their product addresses and the technologies that make the product work and will be fluent in design thinking, agile methodology, and DevOps approaches, which help teams deliver offerings faster and satisfy customers better. Business schools, including Stanford, Northwestern, MIT, and the schools where we work, the University of Virginia and Babson College, are training students for this role through hands-on projects that simulate the cadence, constraints, and cross-functional frictions of actual product work. The students end up with real skills and portfolios of work, not just a new vocabulary.

CarMax has built its product organization around cross-functional teams that have a stable core of a product manager, a designer, and a lead engineer. From a few early teams, it has grown to more than 70 product teams that span retail, supply, and operations functions. They work on multiple customer journeys in parallel—without the need for constant team reorganization.

4 **Establish permanent team leaders, infrastructure, and performance metrics.** It's best to keep digital product managers on their products for the long haul. Otherwise you run the risk that products will be abandoned rather than iterated upon and improved with time.

A digital product team works best when it sits on a product-friendly backbone. CarMax built business and tech applications that all its product teams could use to optimize search results, pricing, online sales, home delivery, and customer relationship management. These capabilities are available through easily connectable APIs and allow teams to make small changes quickly without having to rebuild applications from scratch.

Gen AI helps the teams speed things up even further. For instance, the company uses it to create summaries of thousands of vehicle reviews, which capture reliability, performance, and other information. Thanks to gen AI, what would take 11 years of manual effort can be compressed into months. More recently, product teams began using it to spin out quick no-code prototypes of product concepts and run user tests in hours. And after delivering a product, they lean on low-code tools and gen AI assistance to roll out enhancements safely and quickly.

At CarMax, measures of product health aren't just financial. The company also gathers data on customers throughout their car-shopping journey, capturing their

> Digital product management can improve innovation, shorten time to market, and generate new revenue. But it isn't simply another methodology. It's a new mindset.

engagement levels, conversion rates, interaction behavior, and likelihood to recommend CarMax to other people, among other metrics.

Vista, a global design and marketing firm, is another company that has created robust metrics and infrastructure for its digital product teams. When the company adopted a focus on what it calls "data products," more than five years ago, it put each business unit in charge of managing its own data assets and making them available to the rest of the organization to use as needed. That required setting up processes to ensure data quality, consistency, and security for all the different units. Vista now has 25 teams overseeing roughly 200 digital products, 120 of which are in deployment. To gauge their success, the company developed a framework that measures their business impact. For instance, it shows that one of Vista's products, which automates paid search across countries, helps users' advertising campaigns achieve a 75% higher return on investment. Another digital product, which helps manufacturers with forecasting, reduces the error rate for labor and material planning in production plants by 20%. And a third, which combines customized product content with gen AI, can handle 33% of all customer support chat sessions. Overall, the framework shows, the data products have yielded $100 million in incremental profit for Vista.

5 **Treat the shift as a journey.** Transforming traditional IT strategies into product visions and road maps is a large-scale organizational effort that calls for changes in organizational structure, strategic planning, funding processes, and ways of working. It can be expensive and difficult to manage and requires the complete buy-in of top management. And it doesn't happen overnight.

Capital One approached its shift to digital product management as a multiyear operating-model change, not a one-off initiative. Its senior leaders publicly reframed the organization as *a technology company that does banking* and then backed that redefinition up with steady moves toward agile ways of working and in-house software engineering. Leaders' top-down signals and patience in letting practices crystallize over several years created the air cover that product teams needed to form, learn, and scale up.

CarMax's transition has been a decade-plus journey of testing and learning. Teams piloted complex new offerings, such as the home delivery of digitally purchased cars, in a few stores to learn how to choreograph them operationally, then used what worked in a national rollout. After new capabilities launched, they refined the processes and systems involved to work well at scale. The "experiment, scale, and stabilize" approach helped turn a big physical network into a flexible digital business. Now when new technologies emerge, CarMax layers them into existing products or develops new ones based on them. Recent examples include Skye, a 24/7 virtual shopping assistant that helps consumers locate the cars they want and secure financing; and Rhodes, an employee-facing chatbot that puts information on policies and answers to questions at workers' fingertips.

AS COMPANIES LIKE *The New York Times* have shown, digital product management can improve innovation, shorten time to market, and generate new revenue. Consider that while much of the media industry has faced revenue declines, *The Times* has been growing at more than 5% a year; digital products have been driving that growth. But a digital product approach must be adopted slowly, carefully, and in a coordinated fashion across a business. It isn't simply another methodology. It's a new mindset for technological invention.

Successful companies choose their digital product initiatives and managers wisely. They start with small products developed by diverse cross-functional teams. They establish systems and infrastructure for building and managing digital products, and they experiment and adapt as needed.

By adopting our framework, digital product managers can strengthen their companies' ability to delight customers and increase revenue. Traditional IT project teams, meanwhile, may find themselves left to focus on service tickets and short-term tasks.

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THE SOLUTION TO SERVICE-WORKER CHURN

MANAGING PEOPLE

Many companies' scheduling practices are broken. New research shows that analytics can help.

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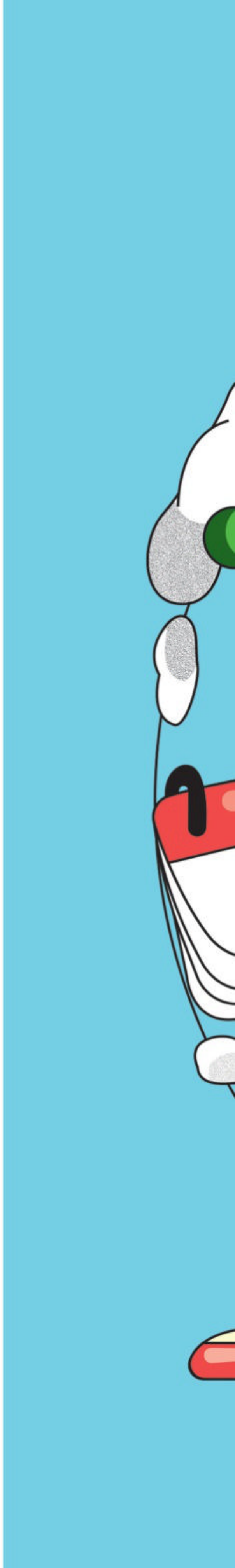


MANAGING
PEOPLE

Retailers have long known that high turnover among frontline employees is expensive, draining both time and money as managers constantly recruit and train new staff.

Conventional wisdom holds that scheduling is a major driver of turnover. To reduce churn, retailers are urged to post schedules earlier; create consistent, predictable, and fair work schedules; and ban “clopenings”—schedules that call for an employee to work a closing shift and then an opening one the next day. Those steps can help, but a study we conducted of 280 million shifts worked by 1.3 million employees across 20 major U.S. retail chains found that reality is far more nuanced. Different aspects of scheduling affect each store differently, and only an analysis of data can determine which ones are the most important for a given site, and even to what degree scheduling is the culprit fueling turnover.

To date, most efforts to address turnover have been blunt, uniform, and not informed by data on the local workforce in question. With data-rich workforce systems, managers now have the tools to do much better. They can use analytics to design locally tailored schedules that boost both employee satisfaction and staffing efficiency. In this article we show how to identify, prioritize, and act on the scheduling levers that matter most in each operation. Although our data comes from retail, the same dynamics apply across frontline service industries where scheduling instability drives turnover.

The approach we are advocating doesn’t require collecting more data or building new infrastructure. It just entails having the necessary analytical capability. Nearly every retailer already has the raw data needed to understand turnover at specific sites: timestamps (electronic or physical records of when an employee started a shift, took a break, completed a task, or ended the workday), shift patterns, approvals, and absences. However, most companies use the systems that collect this data only for payroll or to prove they are complying with government laws and regulations. To our knowledge, no organization has fully embraced the data-driven customization our research prescribes. Consequently, the approach we outline in this article offers companies with high turnover among frontline workers a remedy that could quickly have a major positive impact on their businesses.

The High Cost of Turnover

Employee retention varied dramatically across the 20 retailers we studied. Annual rates ranged from just 30% to 73%, with an average of 52%, and median tenure stretched from five to 13 months. By comparison, in many white-collar jobs, annual retention rates typically exceed 80%, and even in logistics or manufacturing work, they often remain above 70%. Persistent churn in frontline retail creates a host of problems, such as chronic understaffing, training pipelines that never fill, and service inconsistencies that customers feel immediately.

The direct costs of high turnover include time and money spent recruiting, onboarding, and training. The indirect costs are more subtle but just as damaging: Sales are lost because there aren’t enough sales associates to keep shelves stocked, assist shoppers, and keep stores organized. Meanwhile, supervisors spend more time replacing workers than coaching existing ones. Widely cited estimates by the SHRM Foundation and Gallup peg replacement costs for frontline roles at anywhere from 50% to 200% of annual wages, depending on role complexity and ramp time (the period it takes for a new employee to become fully

> If firms monitor scheduling patterns just as they monitor customer satisfaction and inventory turnover, they can spot retention risks before serious problems arise.

proficient)—enough to erase the thin profit margins typical in the service sector.

Scheduling data can act as an early warning system, but the signs are not always easy to read. Stores with erratic scheduling (frequent last-minute changes, inconsistent shift patterns, and limited advance notice disrupt employees' ability to plan their lives) often experience large fluctuations in turnover, absenteeism, and customer service scores. But operational noise—the small, everyday variations in demand, staffing, or logistics—can make schedules appear unstable even when systems are functioning as they should. The challenge for leaders is to distinguish between normal variability and structural problems that undermine retention. Managers should watch out for signs of weak communication, strained middle management, and a culture that prioritizes short-term efficiency over consistency. If firms monitor scheduling patterns just as they monitor customer satisfaction and inventory turnover, they can spot critical morale and retention risks before serious problems arise.

An analysis of scheduling patterns can reveal not only where problems exist but *why*. And by drilling deeper into shift-level records, managers can identify the specific mix of factors driving turnover in a particular store or region.

Rely on Data, Not Intuition

Each of the retail chains we studied uses a workforce management tool to generate and track the details of the schedules of every shift: when they were posted, whether they changed, and how those changes aligned with employee requests or local conditions. Unlike survey-based studies that rely on what people say about their schedules, these records capture what actually happens. We found that even within the same retail sectors, scheduling practices and turnover rates varied widely—far more than most executives realize.

To identify which aspects of scheduling truly predict employee turnover, we used LASSO regression, an advanced statistical method designed to cut through hundreds of potential variables and isolate the few that matter most. Drawing on prior research in operations, labor economics, and organizational behavior, we built a comprehensive set of metrics spanning five dimensions of scheduling quality:

- **Week-to-week consistency (or stability) of work routines:** whether an employee worked the same days, started and ended at similar times, and received hours comparable to previous weeks.
- **Predictability:** the amount of advance notice employees received.
- **Control:** the degree to which employees could influence their schedules through requests for time off and changes in their availability—measured by how often managers accommodated such requests.
- **Physical fatigue:** the strain created when shifts are sequenced poorly, such as when a worker has short rest periods between shifts, is assigned clopenings, and works long strings of consecutive days.
- **Fairness:** whether employees received equitable treatment compared with their peers in the same store—measured by whether they received shorter notice of their schedules, less-favorable shifts, or fewer approved requests for schedule changes than colleagues did.

Together these measures provide a multidimensional view of how scheduling affects workers' attitudes at particular

IDEA IN BRIEF

THE PROBLEM

High turnover among frontline service workers—especially in retail—stems partly from unpredictable, inconsistent, and unfair scheduling. Companies recognize the issue, but most rely on blunt, uniform scheduling fixes that ignore local context and miss key drivers of attrition.

THE SOLUTION

Apply analytics to existing scheduling and workforce data to pinpoint the factors—such as advance notice, flexibility, and fairness—that have the most impact on retention at each location. Managers can then tailor schedules to balance operational needs with employee preferences.

THE PAYOFF

A data-driven, localized approach to scheduling improves employee satisfaction, reduces costly churn, and enhances operational efficiency—yielding a durable competitive advantage in service industries.

MANAGING PEOPLE

> Only by pinpointing which factors matter most in their specific context can organizations design schedules that are both fair and effective.

locations and impacts turnover at them. In simple terms, the statistical analysis functions as a truth detector: It distills 166 scheduling variables down to the smallest set that best explain which workers stay and which leave.

Among the retailers in our study, scheduling practices varied a great deal, and so did their impact. Take predictability. In some firms, shifts were posted nearly three weeks ahead; in others, workers got less than a week's notice. Overall, we noted a 12-day divide between the most and least predictable workplaces. Broadly, longer notice periods aligned with lower turnover: Retailers offering two to three weeks' notice averaged monthly attrition around 5%, compared with 7% to 8% for those giving less than a week's notice. Yet the relationship wasn't absolute. Another retailer kept monthly turnover below 4% with a 12-day notice window, while one that offered a similar lead time lost nearly twice as many employees. Predictability helped, but it wasn't the whole story.

An additional aspect that varied a great deal was managerial flexibility: how readily supervisors accommodated employees' requests to change their work schedules. (This is the practice we used to measure the dimension of control.) Across the 20 retailers, approval rates for such requests ranged from below 50% to nearly 100%, reflecting two fundamentally different management philosophies.

Companies whose managers routinely approved scheduling changes tended to retain staff longer than those whose managers didn't. Retailers that both approved a high proportion of requests for schedule changes and provided frontline workers with ample advance notice of their schedules experienced a turnover rate that was almost half that of their less-flexible peers. Still, a company that approved only two-thirds of requests achieved the lowest attrition rate in our sample.

These findings highlight a central lesson: Data, not intuition, should guide scheduling practices. A data-driven examination of turnover drivers will help managers of individual local operations move beyond simple rules of thumb (such as "more notice is good" or "denying change requests is bad") to understand the real trade-offs that shape both operations and employees' lives. Only by pinpointing which factors matter most to workers in their specific context can organizations design schedules that are not just fair but also effective.

A Playbook to Customize Scheduling

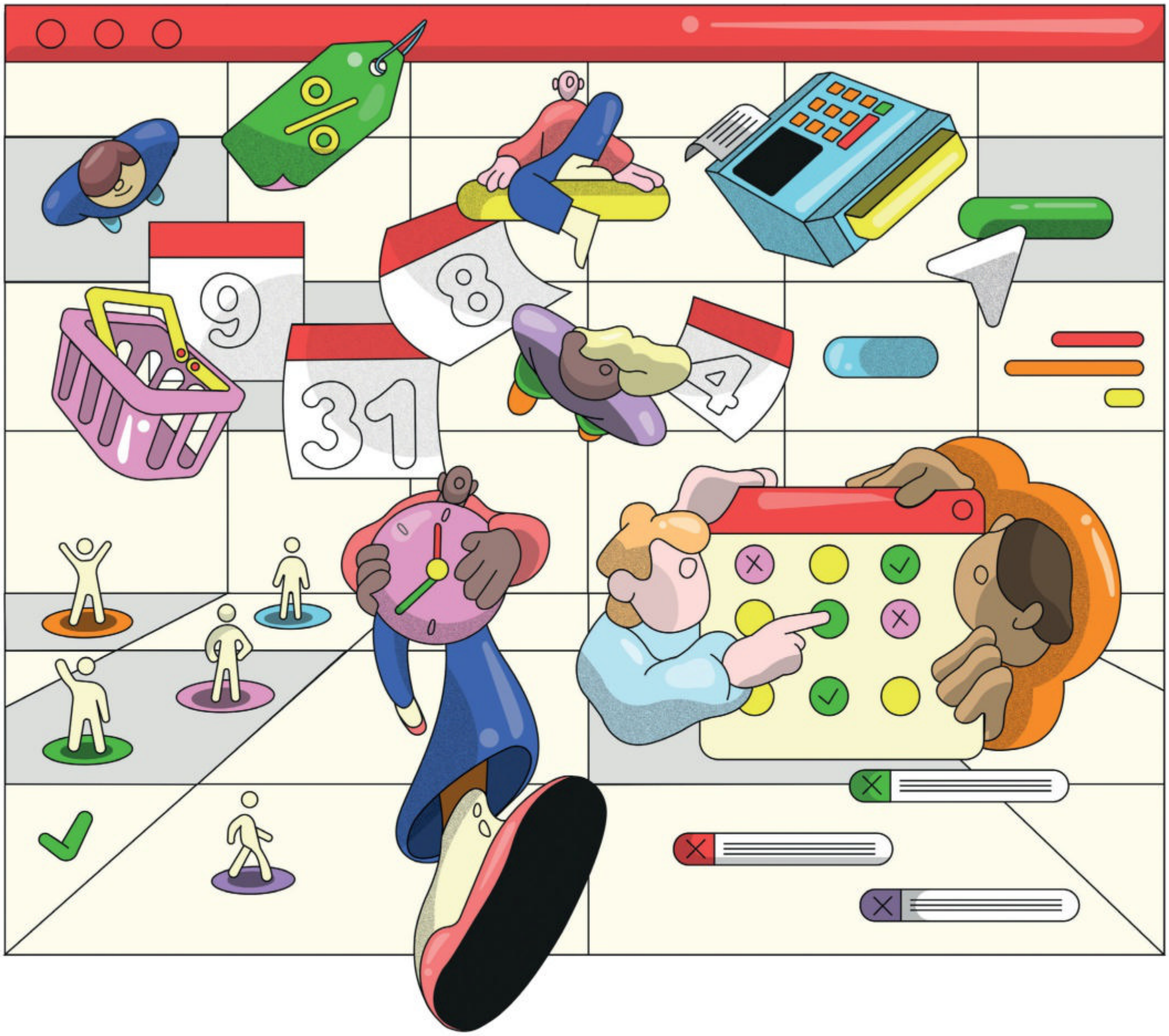
Here is a playbook for understanding which aspects of scheduling are fueling your turnover in local operations so that you can create a tailored approach to curbing it. This endeavor is especially worthwhile because compared with remedies for other drivers of turnover—such as increasing compensation and hiring more people to reduce workloads—better scheduling practices don't add to costs.

1. Identify the factors driving local turnover. To determine which aspects of scheduling are contributing to turnover, start by mining your workforce data and zeroing in on different employee segments and locations. Let your data reveal what really predicts turnover. Many firms already apply advanced analytics to pricing, assortment, and logistics; it's time to bring the same analytical discipline to the human side of operations.

We conducted our LASSO analysis separately for each company, its operations in each state, and each worker group (part-time, full-time, newer, and longer-tenured) to see when and where specific practices mattered most. We found that each retailer had its own distinct pattern. In some organizations, even individual regions or store formats showed unique drivers—clear evidence that the forces behind retention are deeply dependent on the local context.

The variation isn't random; it reflects how different operational models and workforce realities interact. For example, in high-volume grocery or convenience formats, physical fatigue and lack of rest between shifts drive turnover; in fashion and cosmetics retail, where employees rely on commissions and client relationships, fairness and consistency weigh more heavily. Even within the same company, stores serving different neighborhoods can experience different dynamics: Those in lower-income areas tend to see stronger effects from fatigue-related variables like short rest windows, while those in higher-income markets respond more to fairness and predictability.

We found the same variety of factors when we examined worker segments. Part-time and newer employees were most affected by having short rests between shifts, a long string of consecutive workdays, or unstable start times. Full-time and longer-tenured employees, by contrast, responded more



to fairness and consistency: whether their schedules were equitable relative to those of peers and whether changes were communicated routinely. In short, employees leave for different reasons across retailers. Treating the entire workforce as if everyone values the same schedule features leaves major potential retention gains untapped.

The characteristics of regional labor markets add yet another layer. We mapped results across all 50 U.S. states to see how local labor markets shape the importance of scheduling factors. In the Midwest and the South, turnover was most strongly linked to irregular schedules—for example, when an employee was scheduled on Monday and Thursday one week but on Saturday and Sunday the next. On the coasts, what mattered most was how fair schedules felt—whether some employees consistently received more advance notice of their shifts or more desirable assignments, such as preferred hours or days, than others. These regional contrasts reflect not just economic conditions, such as tighter labor markets or higher costs of living, but also cultural expectations about work-life balance and the influence of local labor policies. In many coastal cities, "fair workweek" laws require employers to give employees at least two weeks' notice of their schedules and compensate them for last-minute changes, creating both higher expectations of fairness and different operational constraints. For multistate employers, the lesson is clear: Uniform scheduling policies rarely deliver uniform results.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The best schedules are engineered locally, tested continuously, and refined using evidence, not assumptions.

What's more, as everyone knows, scheduling is not always the factor causing churn. Our analysis of two retailers showed almost no scheduling effect on turnover. If your data suggests that's true for your organization, you'll need to explore other factors, such as compensation, advancement opportunities, the design of jobs, leadership, and culture.

2. Prioritize, test, and scale. Once you've diagnosed the key drivers, focus on the scheduling factors that matter most to employees and that are operationally feasible to improve. Concentrating on a few high-impact changes can help achieve early wins and build momentum for broader adoption.

Pilot targeted changes in a select group of sites. Use A/B testing or phased rollouts to observe how schedule adjustments influence retention, performance, and morale. Treat testing as a learning lab: Measure what works, learn why, and refine before scaling up.

Once results are validated, expand proven practices first to the stores or employee groups where they'll have the greatest impact. Communicate the rationale behind the changes so that employees understand the tailored, evidence-based approach.

3. Empower frontline managers. Organizations cannot implement localized scheduling without empowered, capable frontline managers. These managers are the translators of strategy; they turn the lessons drawn from analytics into the daily reality for their teams.

Algorithms suggest patterns, but humans must determine whether those patterns make sense in practice. The most effective store managers use data not as a mandate but as a guide, balancing individual workers' preferences with operational needs to make scheduling reforms succeed on the ground. Only store managers can understand who is juggling childcare, who has a two-hour commute, or who thrives on extra shifts. A model might flag "rest between shifts" as a key predictor of attrition, yet only a local manager knows which employees are volunteering for extra hours and which are being overscheduled. Translating data-driven insights into daily scheduling decisions requires judgment, empathy, and trust—qualities that no algorithm can replace.

4. Continuously improve. Organizations should turn scheduling into a learning system. They should monitor patterns, build feedback loops between analytics teams and store managers, review retention metrics quarterly, and refine scheduling rules accordingly. In effect, scheduling should be a living experiment rather than a static policy.

Data-Driven Leadership

Research on fair and stable scheduling shows that predictable hours improve frontline workers' morale, their performance, and sales. Our findings don't overturn that wisdom; they sharpen it. Stability and fairness matter, but not equally and not everywhere.

Although our data comes from retail, our lessons extend to any setting that depends on coordinated, shift-based work: hospital wards, hotel front desks, airport ground crews, call centers, factory floors, and many others. In all these environments, small changes in the design or perceived fairness of schedules can translate into large gains in retention, service quality, and productivity.

Retailers have long known that localizing product assortments and tailoring merchandise to neighborhood tastes can dramatically improve sales. Our research shows the same principle applies to scheduling. Just as customers in different markets want different products, employees in different locations value different aspects of their schedules.

The broad message is clear: Scheduling is not a universal formula; it's a portfolio of tailored practices. The best schedules, like the best operations, are engineered locally, tested continuously, and refined using evidence, not assumptions. With today's workforce analytics, managers can design locally relevant schedules that reflect operational realities, employee preferences, and regional labor dynamics. It's imperative for senior leaders to use their company's data to pinpoint which levers truly move the needle in local settings. The companies of leaders who do so will gain a decisive advantage in the form of higher employee satisfaction, retention, and productivity; improved service quality; and lower operational costs.

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PHOTOGRAPHER **JACQUELINE HASSINK**

LEADERSHIP

The Skills Board Chairs Need Now

They must juggle competing stakeholder priorities, adapt as new technologies upend strategies, and help a diverse group of directors find common ground.

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LEADERSHIP

Being an effective board chair is harder than ever.

Today chairs have to manage a growing and increasingly diverse group of stakeholders whose demands often conflict, while the environment their firms operate in has become more and more chaotic. With new risks emerging from climate change, technologies like artificial intelligence, and political instability, the number and complexity of problems their companies face have risen dramatically.

ABOUT THE ART
Jacqueline Hassink's Table of Power *series explores power and authority in images of the boardroom tables of major European multinational corporations.*

IDEA IN BRIEF

THE PROBLEM
Because board chairs have to contend with increasingly diverse and conflicting stakeholders, address more-complex risks, and lead agile, high-performing teams of directors in volatile environments, their job has become much harder.

THE SOLUTION
To succeed chairs must foster a learning culture that provides psychological safety and promotes open discussion; manage a diverse mix of directors; address stakeholders' conflicting interests; and partner closely with CEOs—balancing authority with trust—to reduce the chief executives' load.

THE PAYOFF
Chairs who evolve with the role can transform board dynamics and better equip their organizations to thrive amid uncertainty, complexity, and continual disruption.

Meanwhile, the directors that chairs must work with have become more diverse too. All these developments have made the chair's job not only more difficult but also more time-consuming than it was just a decade ago.

An ongoing research project that the Leadership Institute at London Business School began in 2021 confirms that the demands of the role have changed substantially. Interviews with more than 100 FTSE-listed directors, including 30-plus chairs, revealed that classic strengths, such as deep executive experience and a track record of setting and executing strategy, have become less critical to chairs' success than the ability to synthesize massive amounts of information, identify patterns in complex data, listen to and reconcile competing perspectives, and manage apparent contradictions.

In the decades we've spent working with and studying more than 1,000 directors, including hundreds of chairs, and serving as directors ourselves, we have similarly seen board requirements change. Just like companies, boards now have to be more agile and much more skilled at dealing with complexity and conflict. The most effective chairs address that challenge by creating a culture of learning and modeling ways to monitor a wide variety of stakeholder voices and collectively solve problems. They also engage more intensely with their CEOs, to help them manage the greater—sometimes overwhelming—demands that boards

Effective chairs understand that multiple, even conflicting, perspectives can be useful for unpacking complex issues. At the same time they strive to achieve consensus.

are making on them. In this article we'll share our insights into how some chairs—especially nonexecutive chairs—are successfully playing this role.

CREATING A CULTURE OF LEARNING

Boards now confront a world where there are very few right and wrong answers, where better and worse answers can change overnight, and where strategy can be upended by the events of a single day. To thrive in this environment, they must be able to pivot quickly, and to do that they need to get all their members to contribute fully and collaborate in a positive, respectful way. As a result, chairs need to establish a psychologically safe environment, orchestrate constructive debates where directors feel free to express different points of view and challenge one another, and at the end of discussions, synthesize everyone's input and get the board to make a collective decision. Here's how effective chairs do that.

They facilitate feedback. All directors (including the chair) need to get meaningful feedback about their boardroom behaviors. Most directors know this should happen, but in practice it rarely does. Smart chairs tackle this task in several ways. They get together informally and privately with individual directors to give and gather feedback and help them reflect on how to add more value to discussions.

At the end of board meetings, they immediately conduct a general debrief with the whole board. Last, they commission formal assessments: For instance, some have an external professional interview all directors, analyze their responses, and then hold a discussion with the directors about how to improve boardroom interactions and culture. And a few boards have even begun using AI to gain additional insight into how they operate. (See "How Pioneering Boards Are Using AI," HBR, July–August 2025.)

They embrace contradictory views. Effective chairs understand that multiple, even conflicting, perspectives can be useful for unpacking complex issues. At the same time they strive to achieve a consensus on decisions rather than resorting to a vote where the majority prevails. The chair of an energy company told us he always leaves time at the end of board meetings to return to agenda items for which no consensus emerged during discussions. He said that allows tempers to cool a bit and rigid positions to soften. However, if the directors still can't reach consensus on an issue, and it's not urgent, he'll propose that the board postpone a decision on it. Though chairs that do this may be perceived to be avoiding difficult choices, they also avoid the negative impact on the board's culture that dividing the directors with a vote on a contentious proposal can produce.

They influence but do not manipulate. A robust culture of learning cannot take hold if chairs position themselves as the boss and try to impose their ideas on the board, whether aggressively or subtly. This can be tempting to do when they have more information than the other directors do, which tends to be the case because they have more conversations with the CEO and more individual discussions with directors than anyone else on the board. The best chairs encourage all directors to voice their thoughts in meetings and know how to share their own ideas without making others feel manipulated. One chair we interviewed realized how important that was after serving on a board where after some time she started feeling like a puppet whose strings were being pulled by the chair. She then quit.

Effective chairs offer their perspective without making it seem as if it's the default answer. They express it in a manner that invites additional viewpoints—or they wait until other perspectives are aired first. One chair told us that he used to be the first to present on each topic but started getting the feeling he was biasing the boards' decisions, since his opinions tended to "win" on most occasions. So he focused on facilitating the discussion instead and presented his views only near the end of it—and only if similar ideas had not yet been offered. His board's discussions then began to flow better, with more and richer contributions from all directors, and ended up producing better decisions.

MANAGING DIVERSE KINDS OF KNOWLEDGE

As increasing complexity drives a need for a wider range of knowledge in the boardroom, boards are becoming more diverse, both demographically and in terms of functional expertise. Chairs need to ensure that diversity on the board is relevant—not just tokenism—and foster an inclusive culture that challenges assumptions about what directors look like, the experience they bring, and where they come from. (See "Is Your Board Inclusive—or Just Diverse?" HBR.org, September 28, 2022.) Here's how the effective chairs we've studied accomplish that.

They do skill audits. The best chairs regularly assess the current directors' capabilities, experience, industries, and views to ensure that as a whole they align with the company's culture, strategy, and competitive position. The results of those audits then inform the nomination committee's work recruiting and selecting new directors. The chair should play a major role in establishing a process for filling nonexecutive board roles with needed skills and diverse perspectives. Despite recent public pushback, most directors we interviewed still felt strongly that diversity was important, in part because nonstatutory board committees have grown in number and now include committees on subjects that require more-specialized knowledge, such as sustainability.

That said, a variety of backgrounds and perspectives can be difficult to manage. Understanding who directors are, including their personalities, values, and functional backgrounds, is vital to dealing effectively with them individually and as a group and getting them to work well collectively. (See "6 Kinds of Board Members—and How to Influence Them," HBR.org, December 23, 2023.) One chair we interviewed noted: "It's like managing a stock portfolio, where you have to ensure all stocks have some general key

Chairs should make sure that any novel points of view raised are taken seriously—that good ideas are not overlooked because only one person initially advocates for them.

characteristics while having diversity. But the goal is not diversity for its sake because in the end the portfolio as a whole must have high performance."

There will probably be desirable skills and knowledge that the board will lack; inviting external experts to advise the directors can address those gaps. Such experts can help board members understand the increasing number and types of risks that don't get covered by corporate auditors, owing to time pressure or lack of know-how.

They ask directors with expertise to teach others. Directors historically have been generalists with broad experience as executives, but as we've noted, boards are increasingly adding specialists in areas such as cybersecurity, the use of AI, and other advanced technologies. The temptation is for other directors to defer to those experts whenever they discuss a topic in the experts' domains. The problem is, board decisions are never isolated; there are always trade-offs to be made about resources, competing demands from other projects, and so on. One director told us that when his board deferred to a director who was a cybersecurity expert about a major purchase, it resulted in serious underinvestment in the rest of the business over the next three years. The company had the best cybersecurity money could buy, but it lost ground because it had underfunded the core business.

A better approach is for chairs to encourage their boards' experts to share key insights, observations, and information about risks with the other directors before board meetings at which an issue will be addressed. This should be done in the form of briefings or reading materials. Then the meetings themselves can be devoted to value-added discussions of trade-offs and challenges involving the proposals related to the issue.

They promote curiosity. Asking good questions has long been an important part of the directors' role, of course. In the past decade it has become even more essential. That's why board meetings should leave plenty of time for directors to raise questions that might unearth diverse insights. Because of this chairs need to see that most information is shared far enough in advance of meetings that directors can review and reflect on it. That allows meeting presentations to be kept short (with no long PowerPoint decks). Chairs should also make sure that any novel points of view raised are taken seriously—that good ideas are not overlooked because only one person initially advocates for them.

After supplying papers by internal and external experts to the nonexecutive directors in their meeting-preparation packages, chairs can use side conversations before the meeting to figure out questions that the whole group should discuss. (See "Back Channels in the Boardroom," HBR, September–October 2019.) To minimize the risk of being surprised by a director's opinion during the meeting and to anticipate potential conflicting views among directors, one exemplary chair we observed contacts all board members two to three days before each meeting to ensure they're prepared and find out if anything makes them uncomfortable. That helps the chair plan and manage the board's discussions.

MANAGING TRADE-OFFS AMONG STAKEHOLDERS

Issues such as diversity, sustainability, the use of AI, and maximizing profits present complicated trade-offs for boards. The fact that stakeholders often hold strong and contradictory positions on them makes this challenge a paramount one to address.

Consider water companies in the United Kingdom. A nonexecutive director of one told us that in that sector boards have to contend with shareholders looking to maximize profits, ratepayers seeking lower bills, and environmentalists wanting fewer sewage leaks. Many boards have chosen to prioritize the demands of one group over those of the others, mostly favoring shareholders, he said. But because they never worked through the trade-offs that would have been required to address stakeholder groups' different demands, regulators are now doing it for the companies, and they face a raft of new regulations protecting customers and the environment.

To avoid similar predicaments, effective chairs do two things:

They explore stakeholders' conflicting interests. Consider Paul, who has chaired several boards and currently heads one at a large utility company. He told us that he gathers key stakeholders' perceptions of and expectations for their relationship with the company. "This not only gives me a better understanding of stakeholder views but also makes stakeholders feel heard and valued even if board decisions are not as they would wish," he said. Then he asks the risk committee to map the different demands and expectations of these stakeholders and organize a discussion with the full board to analyze them in the context of the company's culture and strategy.

They assess stakeholders' potential to harm the company. While boards should try to maximize value for all stakeholders, it obviously is impossible to please all of them all the time. Consequently, chairs should ensure that boards evaluate the damage that any one stakeholder group could inflict on the company if a decision goes against its wishes or interests and consider how to mitigate the potential fallout. Paul and the CEO of the utility formulate a plan for how and when to engage with strategic stakeholders and, if possible, how those who get the short end of the stick might be compensated in some way.

EASING THE CEO'S WORKLOAD

Boards now make greater demands on CEOs and senior executives than ever before. They're asking for more and more information—for instance, on geopolitical risk and technical matters like AI and cybersecurity. Because of this, chairs need to serve as an intermediary between CEOs and directors. And the chair's job now entails more than being an executive coach or adviser; the chair must actively share some responsibilities with the CEO (and top executives)—and as a result needs to be aligned with the CEO on how to approach them. Here's how exemplary chairs work closely with CEOs.

They manage boards' demands. The growing number of board committees, which now include those that focus on specific areas such as innovation, sustainability, and science and technology, has increased the chief executive's workload over the past decade. It's important for the chair to make sure the committees' output doesn't impose too much on the CEO and other executives. Ideally, the chair and the CEO will coordinate on managing the workload, with the chair helping to limit board requests for information and the CEO making sure that the volume of board work doesn't distract the firm's executives from running the business.

This new way of working is somewhat at odds with the traditional notion that a nonexecutive chair should be independent from the CEO. One remedy is for the chair to appoint a lead, or senior, independent director to be a liaison between the nonexecutive directors and the chair. That director would also typically oversee the processes for assessing the CEO and for finding successors to the CEO and the chair, replacing the chair on the nomination and remuneration committees.

Some chairs have even extended this model and asked other nonexecutive directors to serve as stewards for other members of the management team. A good example is Sophia, the chair of a large U.S. clothing retailer's board. When the company hired a new executive whose responsibilities included e-commerce, Sophia and the CEO promoted meetings between the executive and a female board member who had considerable e-commerce experience. The director offered to discuss key issues whenever the executive wished. At first the executive only occasionally asked to meet with her. But over time, after he realized that she could help him gain the board's approval for e-commerce initiatives, he increased his interactions with her.

They coordinate stakeholder management with the CEO. As stakeholder groups grow in number and power, the job of dealing with them has become bigger and more complex. It now spans the boardroom and the C-suite, and the chair must partner with the CEO (or with the senior or lead independent director if the chair is also the CEO) and the CFO to manage it. One chair we interviewed named Sarah meets regularly with her CEO to discuss how to tag-team some of the more-difficult stakeholders and when she might fill in for the CEO if his schedule doesn't allow him to meet with them. However, she consciously avoids situations where she would be meddling in more-operational issues.

Tensions may arise when the chair meets with stakeholders besides shareholders, especially if the CEO believes the chair is intruding into the responsibilities of the management team. To minimize this risk, the relationship between them needs to be open and based on trust and cooperation.

Consider Anne, who chairs the board of a large financial services company. As soon as she was elected, she met with the CEO and told him she had no intention of stealing the limelight from him. She said she wanted them to have an open, win-win relationship. In practice, that would mean always being available to him, informing him of any meeting she'd like to have with any executives, talking to the media only when the CEO believed it made sense, and meeting with stakeholders only to address corporate governance issues—and always letting him know beforehand.

The chair's job also now entails more than being an executive coach or adviser; the chair must actively share some responsibilities with the CEO.

All photos courtesy of the estate of Jacqueline Hassink and Benrubi Gallery

Another chair one of us worked with goes even further to maintain trust between the CEO and the board. He allows the CEO to clarify issues with the directors in meetings but intervenes if the CEO seems to be heading into an argument with any nonexecutive director. By ensuring that no harsh words are exchanged, he reduces the risk that the relationship between the CEO and the directors will be damaged, which would affect his ability to successfully manage the board in the future. "I, not the CEO, do the arguing with directors, if needed," he told us.

TODAY BEING AN effective chair demands more work than ever. Chairs must manage a more diverse team, have closer relationships with CEOs, and balance often-conflicting interests of stakeholder groups. They also have to contend with complex risks such as climate change, political instability, and the disruption caused by new technologies like AI. But when the right person is in the job, filling the larger role we have just described, a board can increase the odds that a company will succeed.

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The Myth of Cloud Resilience in the Age of Intelligence

BY ANSH KANWAR

Last October, two of the world's largest cloud platforms went dark within one week. The first disruption potentially cost billions in lost productivity and halted operations. Days later, a second platform's broad outage took thousands of services and applications offline worldwide. Both of these cloud providers offer mechanisms that reduce the odds of downtime in the face of failures.

"The promise of cloud resilience doesn't mean resilience by default," says Manish Sood, CEO and founder of Reltio. In the Age of Intelligence, these protections need to be incorporated by design and with intent.

The question is, what should business leaders do before the next outage strikes?

From IT Problem to Boardroom Crisis

For decades, organizations across every industry have been moving mission-critical operations to several large global cloud providers, drawn to their flexibility, scalability, and reliability. But even companies running a hybrid or multi-cloud infrastructure may depend on software-as-a-service (SaaS) platforms tied to a single provider. And if one region falters, the ripple effect can freeze the entire digital nervous system of a business within minutes.

When an outage strikes, customer relationship management systems fail. Mobile applications go dark. AI pipelines stop processing. Beyond immediate service disruptions, businesses face reputational damage, increased regulatory scrutiny, and lost competitive advantage. Even brief interruptions of the continuous flow of data may compound into existential threats.

Indeed, industry analysts have been sounding the alarm for years about cloud concentration risk. Research group Forrester called the October 2025 outages "a wake-up call for cloud resilience." So what now?

Regulators Demand Proof, Not Promises

Recognizing these systemic vulnerabilities, regulators have moved to mandate action. The Bank of England requires financial institutions in the U.K. to show they can operate and move critical systems even if a major cloud provider goes down or leaves the market. Similarly, the European Union's Digital Operational Resilience Act requires companies to demonstrate they can handle disruptions at the provider level.

In the U.S., regulators have issued guidance rather than hard mandates, but the Treasury Department's ongoing concerns about cloud concentration risk suggest stricter requirements may be on the horizon.

Cloud resilience is a clear business risk and a board-level risk-management imperative that requires strategic planning, measurable safeguards, and continuous verification.

Resilience as a Continuum

Enterprises need to design architecture that dials resilience up or down based on business criticality, regulatory requirements, and risk tolerance so their most critical data is continuously available across regions and cloud providers with automated replication and zero downtime.

The key is reframing resilience as a configurable business capability rather than a fixed technical specification. Enterprise technology and data leaders should look for data architecture that continuously synchronizes, enriches, and delivers trusted data in real time. Organizations may choose multiple levels of resilience. They can start with foundational protection and scale up to multi-region or multi-cloud deployments as needs evolve.

Four Questions About Resilience

To determine what level of cloud resilience their organizations need in the Age of Intelligence, every executive should be asking four questions.

1. Can we quantify the business impact of losing access to our primary cloud provider for one hour, eight hours, 24 hours?
2. Do we have documented, tested procedures for maintaining operations if our cloud provider suffers a regional failure?
3. Can our mission-critical applications run on multiple providers, or are we locked into proprietary services?
4. Are we compliant with evolving regulatory requirements for cloud resilience?

The answers are business-critical in an era when digital operations underpin every aspect of business performance.

Resilience in the Age of Intelligence

The massive 2025 outages were a stress test organizations didn't know they would be taking. Some passed. Many didn't. And the urgency around resilience is heating up with AI that depends on continuous data flows. When AI agents make real-time decisions—approving loans, routing shipments, personalizing customer experiences—any downtime breaks the automation that business models depend on.

In the Age of Intelligence, organizations that plan for continuous operation have a competitive advantage. The time to act is now. After the next outage will be too late.

Ansh Kanwar is Chief Product Officer of Reltio.

To see how Reltio enables trusted continuity and confidence across the cloud, visit www.reltio.com and access the full strategic playbook for success.

RELTIO

MANAGING YOURSELF

How to Manage an Insecure Leader

Three steps for dealing with anxious or avoidant executives.

by Jeffrey Yip and Dritjon Gruda

YOU'RE A COMPETENT, strategic professional. You think clearly, execute well, and deliver results. But there's one part of your job no one prepared you for: managing an insecure boss or colleague.

This is a more common problem than organizations like to admit—even at senior levels of the hierarchy. Recent research suggests that about 36% of adults have an insecure attachment style. And a 2024 Korn Ferry report found that 71% of U.S. CEOs and 65% of other senior executives experience

Illustrations by MARY HAASDYK VOOYS

> Anxious leaders may micromanage, emotionally withdraw, resist feedback, or seek excessive praise.

symptoms of impostor syndrome—the persistent fear of being exposed as incompetent. Leaders, including CEOs, other C-suite executives, and board chairs, may appear confident and charismatic, but under pressure their unresolved fears of inadequacy and rejection quietly distort decision-making and can undermine collaboration. They may micromanage, emotionally withdraw, resist feedback, or seek excessive praise.

If you work for or with such individuals, you're not alone. According to a 2023 report from Pew Research Center, more than a third of American workers describe their bosses as somewhat or extremely "dismissive" or "unpredictable"—traits often linked to insecurity. When teams are negatively impacted by those kinds of managers or colleagues, it can lead to pervasive stress, higher burnout, and increased turnover.

However, when insecurity is driving the behavior of someone who is senior to you or more powerful, it is possible to "manage up." Drawing on our peer-reviewed research into attachment dynamics in organizations and on our work with executives, we've created a practical framework for addressing two common forms of insecure leadership and building a more functional working relationship with any insecure manager, peer, or team member.

TWO TYPES OF INSECURITY

Insecurity is fundamentally relational. It's shaped by early life experiences and amplified under stress. Our research has explored two common insecure attachment patterns—anxious and avoidant—and how they show up in work relationships.

Anxious leaders crave an affirming, constant, and often unrealistic connection, lighting up with praise but spiraling when they feel excluded or criticized. They may micromanage, overapologize, or change direction abruptly in reaction to the latest conversation or imagined slight. They pull teams close and then, when overwhelmed, push them away. Their energy can be infectious, even inspiring, but it can also be draining, as teams feel dragged into emotional turbulence.

Katharine Graham, the late former publisher of *The Washington Post,* began her leadership journey with anxious insecurity. After her husband's suicide, in 1963, she unexpectedly took control of the paper. She admitted to being terrified in meetings and hesitant to speak up. Her own account and biographies note that she was seen as an "insecure woman thrust into a man's world" and made mistakes as a result, including mishandling the 1975 pressmen's strike. However, in part because of her relationship with then-editor Ben Bradlee, she began to overcome those anxieties.

One of us (Jeffrey) coached a senior finance executive whose challenge was not technical competence but visible anxiety anytime the CEO questioned his recommendations. This executive struggled to separate professional disagreements from personal rejection, another common problem.

Avoidant leaders, by contrast, tend to appear calm and rational, projecting an image of control and independence. But beneath that surface is a discomfort with vulnerability that keeps them distant and hard to reach. They pride themselves on being self-reliant, shun open dialogue, reject criticism, and rarely show uncertainty. To work with them is to work around a wall built from a fear of needing others too much. They may shut down when challenged or become hypervigilant when the stakes are high.

Steve Jobs, the late cofounder of Apple, was sometimes described as displaying avoidant tendencies: emotional distance, rapid withdrawal when challenged, and a strong need to preserve control. Reports suggest that few colleagues felt secure enough to fully connect with him because he rarely acknowledged his mistakes or showed emotional openness. However, some of his collaborators, such as designer Jony Ive, were able to break through.

We can find good examples of subordinates working to counteract insecure leadership in the political realm, too. Consider Henry Kissinger, arguably the 20th century's most influential American diplomat, who spent much of his career managing the brilliant but deeply insecure president Richard Nixon, a man known to be distrustful of many and in need of constant reassurance. Of course, Kissinger did not prevent Watergate, but he did push Nixon toward meaningful foreign policy successes, including the withdrawal of U.S. troops from Vietnam, the establishment of relations with China, and a détente with the Soviet Union, which otherwise might not have been achieved.

COMMON PITFALLS TO AVOID

Many people who work with insecure leaders or colleagues respond in counterproductive ways. In our research we've identified three common traps that people fall into, thereby exacerbating the negative dynamics in their workplaces.

Overaccommodation. When leaders feel uncertain, it's natural to want to ease their anxiety by anticipating their

experience

needs, agreeing quickly, or glossing over bad news. When they are withdrawn or unpredictable, you might avoid bringing them in on issues, shield them from criticism, or limit their exposure to others. But overaccommodating often leads to blurred boundaries and unrealistic expectations. It reinforces the leader's insecurities and, for you, can result in burnout, frustration, and diminished credibility.

Consider a strategy director who, worried about an anxious chief executive's reaction, quietly rewrites the investor deck himself after every minor comment and removes any data that might trigger concern. The CEO becomes even more dependent on him to "fix" things and increasingly intolerant of ambiguity, while the director burns out and loses respect with peers who see him as serving one person's anxiety more than the organization's needs.

Withdrawal. Your instinctive response to neediness or volatility from a boss might be to pull back—disengaging emotionally, communicating only when necessary, withholding feedback, or tuning out altogether. This creates a vacuum, reducing transparency and trust, and may reinforce leaders' beliefs that they can't rely on others.

We see this happen often with avoidant leader relationships. A regional sales head, for example, stops bringing tough pipeline issues to her distant SVP, reasoning, "He doesn't want to engage anyway." She sends short, cryptic emails instead of having real conversations. While this self-protection is understandable, it cuts the leader off from information and contact, undermining trust.

Confrontation without calibration. Attempting to confront an insecure leader's behavior head-on can backfire. Even well-intentioned advice can be perceived as a threat, leading to defensiveness, retaliation, or a further breakdown in communication. What matters is timing, tone, and strategic empathy. Addressing issues too bluntly or too soon can close doors rather than open dialogue.

Consider a scenario one of us (Dritjon) observed involving a talented operations manager and his avoidant VP. Frustrated by the VP's lack of engagement and delayed decision-making, the manager confronted him during a tense project review: "Your unavailability is paralyzing the team, and we need clear direction from you now." Though the feedback was accurate, the VP experienced it as a public challenge to his competence. He shut down, cut the conversation short, and then became even less accessible, gradually sidelining the manager from key decisions. What had been intended as a plea for collaboration was interpreted as a direct threat to authority.

Now, let's look at how you can operate more like Bradlee, Ive, and Kissinger to build more-productive relationships with and better manage both anxious and avoidant leaders.

THE 3R PROCESS

We teach people a three-step process—regulate, relate, reason—for managing the insecure behaviors of others. It's based on a framework developed by Bruce Perry, a psychiatrist and neuroscientist specializing in attachment and brain development. This "3R" sequence recognizes that when people are under pressure—as most leaders often are—they revert to relying on their instincts, which can hinder logical thought. Before you can connect with and exert influence over insecure leaders, you must first help them regulate their nervous systems. After that, you can relate through connection and then, and only then, reason through the issue at hand.

Here's how the model works in practice.

1 Regulate. When people feel danger, no amount of logic or strategy will get through to them until their brains are calm. That is especially true for insecurely attached leaders, who may be more likely to perceive feedback or ambiguity as threats. An avoidant leader may need space and predictability. An anxious leader may need soothing nonverbal signals.

With *anxious leaders,* your role is to anchor the conversation with steadiness. A grounded, confident tone and a clear message can ease their anxiety. Consider phrases like "We have time to address this." Avoid mirroring their anxiety or dismissing their concerns. Instead, acknowledge the concerns and slow down the pace.

With *avoidant leaders,* regulation involves minimizing perceived intrusion and emotion and emphasizing structure. Consider phrases like "I've analyzed the options and have a recommendation." That signals clearheaded thinking rather than emotional turmoil and conveys respect for their space and authority while demonstrating competence.

2 Relate. Because insecure reactions are rooted in early attachment patterns and stem from a disrupted sense of belonging or worth, they require a relational response. This doesn't mean becoming overly personal or indulgent. It simply being present, attuned, and trustworthy. Leaders who feel safe are more likely to listen, reflect, and grow.

With *anxious leaders,* consistency matters. Check-ins, follow-through, and predictable behavior create the scaffolding they need. Use inclusive language ("Let's explore this together") and signal shared commitment. Be cautious with sudden changes or ambiguity, which they can read as abandonment.

Being physically present is also important because it calms an anxious nervous system. Put away devices, maintain appropriate eye contact, and lean in slightly. Move away from your desk to sit beside the anxious person during difficult discussions. These proximity cues work at a preverbal level, signaling availability and engagement in ways that words alone cannot.

With *avoidant leaders,* respect their preference for independence and predictable, emotionally undemanding relationships while creating subtle opportunities for connection. Instead of asking, "How do you feel about this?" try "What's your take on this?"

Before challenging their plans, first align with their intent: "I see how this supports the efficiency targets you set last quarter. I've been thinking about one potential side effect we might want to mitigate. The idea is to signal "I'm on your side," which makes it more likely they will stay engaged when you eventually raise concerns.

Relating also means respecting their preferred channels. Some avoidant leaders genuinely do better with written communication than with frequent meetings. Working side by side in a shared document or sending a brief update instead of insisting on another call can be a way of "being with" them that feels safe enough for them to stay available.

3 Reason. When leaders feel regulated and connected, they're ready to engage their prefrontal cortex—the part of the brain responsible for executive function, reasoning, and planning. This is when you introduce feedback, strategy, or problem-solving.

Frame your reasoning within the relationship you've built. Communicate clearly and ask for input. This not only invites collaboration but also strengthens the leader's sense of agency. It's key with both anxious and avoidant executives.

With *anxious leaders,* frame problem-solving collaboratively: "Now that we've identified the concern, what options do we see?" Then think aloud: "I'm weighing three factors: the client's history, the email content, and our relationship context." This transparency reduces the uncertainty where anxiety flourishes. Document decisions to prevent post-meeting spirals. Send a simple follow-up email confirming agreement, which they can return to when doubt creeps in.

With *avoidant leaders,* present information in a way that maximizes their autonomy: "I've identified two paths. Option A optimizes efficiency, whereas B maximizes stakeholder buy-in. I am leaning toward A...but what is your opinion?" This framing positions you as a thinking partner rather than someone seeking emotional or practical caretaking. Build arguments systematically and dispassionately. Clear logic and empirical evidence are key: "If our goal is market penetration, then consumer survey research shows that A is the way to go. If it's margin improvement, then the financial data indicates that B makes sense." This approach respects their need for intellectual control while opening doors for collaboration.

Accounts indicate that Kissinger practiced the 3Rs in his interactions with Nixon. In the face of the president's volatility, he offered calm, structured analysis. He would publicly reinforce Nixon's sense of control and legitimacy, even when privately pushing for a different course of action.

Ive also seems to have employed the 3Rs at Apple. Instead of pushing Jobs into open-ended conversations about feelings or team morale, he centered nearly every interaction on the work itself and invited Jobs into a highly structured design process, where visits to the studio revolved around concrete prototypes and clear product questions. That preserved Jobs's sense of control while still giving Ive regular access to his judgment. Graham has described receiving similar support from Bradlee during *The Post*'s coverage of the Pentagon Papers and Watergate: unwavering reassurance, regular detailed updates, and thoughtful discussions of his opinions as editor and her choices as publisher.

> Before you can connect with insecure leaders, you must first help them regulate their nervous systems.

The operations manager we mentioned earlier also received 3R guidance from a senior colleague who coached him to first give his VP space, interacting through structured emails, and then to build rapport by focusing on common interests and shared wins before finally proposing solutions in the form of clear options that preserved the VP's autonomy.

The 3R framework is adaptive. Some situations require rapid cycling through all three phases, while others may need an extended focus on regulation. In a hallway escalation with an insecure coworker, it is possible to move through all three steps in five minutes: first, a calming comment and steady tone (regulate), then a brief affirmation of partnership (relate), and finally, a choice between two options (reason). But when you're trying to work toward a major strategic decision with an insecure boss, you might have to spend more time on each of the 3Rs. The point is not to apply a rigid script but to be conscious of which mode you are in and not to skip ahead. You must read your leader's attachment cues and respond accordingly.

Remember, too, that instinctive patterns intensify under stress. When feeling pressure, avoidant bosses can become even more distant and controlling, whereas anxious leaders need even more reassurance and are more easily thrown off course. In those moments, you need to resist being pulled into their pattern. If you can stay grounded enough to regulate first, relate second, and reason last, you are far more likely to achieve a constructive outcome.

WHETHER YOU'RE MANAGING up, down, or across, understanding the psychological roots of insecure behavior can transform how you relate to those displaying it. Instead of labeling a boss, peer, or employee as "difficult" or "emotional," you can see dysregulation for what it is: a psychological state.

Kissinger's approach to Nixon, Ive's partnership with Jobs, and Bradlee's relationship with Graham all followed that logic. They calmed their leaders' insecurities, invested in the relationship before pushing for change, and chose their moments for reasoning carefully.

You may not be redesigning the iPhone or negotiating treaties alongside your insecure leader or colleague, but the same process applies. Regulate first. Relate next. Reason last. Over time that disciplined approach can protect your well-being, help your team stay steady, and channel a leader's insecurity in ways that serve rather than undermine the common good.

HBR Reprint R2602J

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experience

How We Did It

The Founder of Rocket Lab on Competing with Billionaires to Lead in Space

by Peter Beck

IN NOVEMBER 2025 Rocket Lab launched its 75th Electron rocket into space. At face value it seemed like a standard mission, deploying yet another satellite to low earth orbit. But the milestone was hugely significant: We hit it faster than any other space company in history.

The space industry is a critical and fast-expanding one. Space touches almost everyone's life every day, yet few

Photograph by ALISTAIR GUTHRIE

> Every time you check a weather app, take a flight, or use a credit card, you're relying on satellite technology. Someone has to design, build, launch, and operate those satellites.

people realize how much they rely on it. Every time you check a weather app, use Google Maps, take a flight, or even simply pay for something with a credit card, you're relying on satellite technology. Someone has to design, build, launch, and operate those satellites, and that's where Rocket Lab comes in.

In 2025 alone we launched a record 21 rockets, opened our fourth launchpad, and built two satellites that are now on their way to Mars for NASA's Escape and Plasma Acceleration and Dynamics Explorers (EscaPADE) mission. We also launched hypersonic test missions at an unprecedented pace in support of U.S. national defense, and we are building satellite constellations that will deliver critical communications, defense, and scientific services to millions of people. A publicly traded company since 2021, we employ more than 2,500 people across three countries and our annual revenue is approaching $600 million.

The space economy is expected to be worth almost $2 trillion in the next decade, and of all the companies vying to capture a piece of it, Rocket Lab is far from the largest or best funded. It's no secret that the rocket business is an unforgiving one—most ventures fail. So how did we take on billionaires and legacy aerospace firms to become one of the most prolific launch and space companies in the world? It started when I was a kid, looking up at the night sky.

CHILDHOOD DREAMS

Growing up in the lower region of the South Island of New Zealand, my parents always told me that I could be whatever I wanted in life—a cleaner, a carpenter, a rocket engineer—as long as I did my job extremely well and with the greatest possible positive impact. Gazing at the stars from the observatory my father built, space became an early obsession for me. And I found that I much preferred tinkering on engines in our family's workshop to formal schooling.

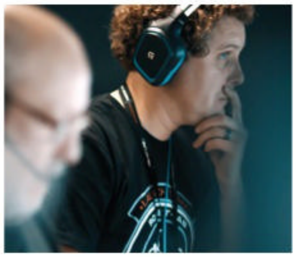
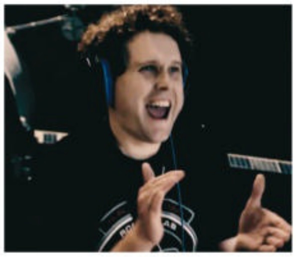
Beck's "rocket pilgrimage" to the U.S. in 2006

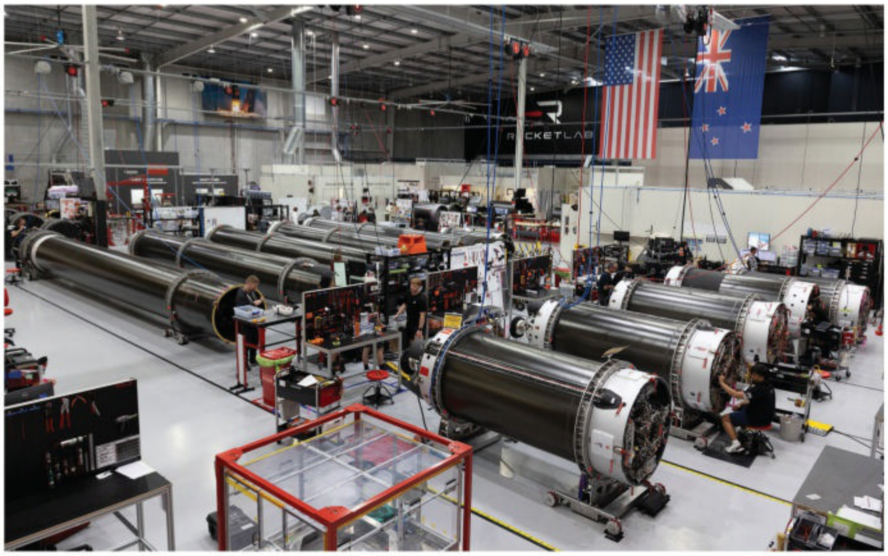
Courtesy of Rocket Lab

After high school I figured I'd need to know how to build things in order to work in the space industry, so I did a tool-and-die apprenticeship at appliance manufacturer Fisher & Paykel. I went on to project manage superyacht production at Fitzroy Yachts before landing a role as a materials researcher at a government lab, Industrial Research Limited (IRL). All the while I spent my evenings and weekends experimenting with rocket engines and propellants in my garage.

My dream was to work in the space industry, but I was stuck: New Zealand simply didn't have one, not even a government space agency. In 2006 I set off on what I call my "rocket pilgrimage" to the United States, hoping to work for NASA or a company doing groundbreaking things in space. As it turned out, NASA doesn't hire any foreign nationals, let alone one without a college degree. That didn't stop me from showing up at the organization's Jet Propulsion Laboratory, uninvited, and taking photos of anything I could. (I was ushered off the premises.) I visited several holy-grail space facilities—as many as would let me in—but ultimately I was disappointed. No one was tackling what I saw as the biggest challenge and opportunity in space at the time: dedicated small launch.

Satellites were shrinking thanks to advances in electronics, but rockets hadn't kept pace with that streamlining. Small-satellite operators faced two bad options: Hitch a ride on a large rocket, where they could share the cost with a bunch of other customers but sacrifice control over launch timing and orbit, or buy out an entire rocket for exclusive




Courtesy of Rocket Lab

Top: Beck watching the launch of Rocket Lab's first Electron mission; middle: Electron rockets being built at the Auckland, New Zealand, production complex; bottom: Electron rocket engines firing on launch

use at a cost upward of $60 million—unaffordable for most. It was clear to me that the industry needed a smaller, cost-effective rocket designed specifically for small satellites.

Recognizing that no one was doing this well, as I flew back to New Zealand I decided to simply start my own private rocket company. That was the beginning of Rocket Lab's hustle culture: If you can't do it one way, find a different solution and get on with it.

I invited a colleague from IRL, engineer Shaun O'Donnell, to join me, and in 2006 we set up shop using my personal savings. Over the next year I worked on small-rocket designs while Shaun focused on guidance and control systems.

By November 2009 we had built and successfully tested our first small rocket, the 20-foot-tall Atea-1, in New Zealand's inaugural space launch.

FUELING GROWTH

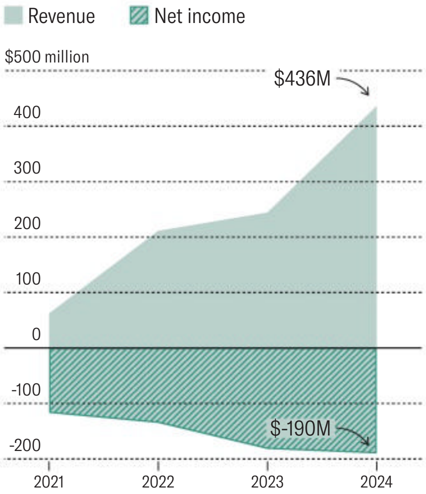
Atea's success brought attention from the U.S. defense industry, including the Defense Advanced Research Projects Agency (DARPA) and companies like Lockheed Martin. It quickly became clear that our customers, investment, talent, and future were in the United States, so we became a U.S. company in 2013. We also secured $5 million in funding from Silicon Valley firm Khosla Ventures, and in time other top venture-capital firms followed.

Atea-1 was an effective proof of concept that furthered our progression to the real goal, Electron. Standing about 55 feet high, Electron was designed to launch up to 300 kilograms of satellite

FACTS & FINANCIALS

Rocket Lab

Founded: 2006
Headquarters: Long Beach, Calif.
No. of employees: 2,600



Source: Rocket Lab

mass into orbit and to be manufactured at high volumes, enabling frequent launch opportunities for small satellites. It was the world's first carbon-composite orbital rocket and was powered by the first-ever 3D-printed, battery-powered orbital rocket engine, which we called Rutherford after physicist Ernest Rutherford, who split the atom.

At the same time, we built the world's first private orbital-launch complex, on New Zealand's Māhia Peninsula—a departure from the government-owned sites used by other launch providers. Importantly, by operating our own sites we can control schedules and costs and streamline operations, and we don't have to jostle for launch windows with competitors at neighboring pads. We finished construction of Launch Complex 1 in the fall of 2016. By May the following year we completed Electron's maiden launch, initiating a new era in access to space.

In the years since, Electron has become the second most frequently launched U.S. rocket annually, behind only SpaceX's Falcon 9. Our launches have deployed hurricane-monitoring satellites for NASA, national-security missions for the National Reconnaissance Office, technology demonstrations for DARPA and the U.S. Space Force, entire constellations for Earth observation and communications companies, and even experiments for high school students. To keep up with demand, we built more launchpads, including an additional one in Māhia and one in the U.S. at NASA's Wallops Flight Facility, in Virginia, specifically tailored for U.S. government missions.

But launch was only the start. Our next move was to expand beyond rockets into satellites and their components and subsystems. Launches get all the glory since they're visually spectacular, but at the end of the day rockets are just delivery vehicles, albeit highly complex and beautiful ones. The satellites do the actual work in space to deliver data and services back to Earth, and they provide the larger revenue-generating opportunity. We built that part of our business through organic product development and acquisitions. In 2019 we bought Sinclair Interplanetary, the world's top producer of star trackers (optical sensors that help satellites maintain their orientation and location) and reaction wheels (inertia devices that enable satellites to reposition themselves in orbit). Since then we've carried out five more acquisitions—Advanced Solutions (simulation, guidance, and navigation), Planetary Systems (satellite separation), SolAero Technologies (solar panels), Mynaric (optical communication), and Geost (electro-optical and infrared-sensor payloads)—bringing more technology and talent into the Rocket Lab fold. We've scaled production capacity for all these components, making them more easily available to the wider space industry as well as using them in our own satellites developed in-house.

Today we operate extensive satellite-production facilities, building everything from entire constellations for national-security customers to bespoke spacecraft for NASA, supporting scientific missions to Mars. As of 2025 our Space Systems division accounted for around 70% of our revenue.

In August 2021 we took the company public on the Nasdaq via a special purpose acquisition company. The deal valued Rocket Lab at $4.8 billion and raised $777 million in gross capital. This funding fueled a lot of development, with around $300 million of it earmarked for a major new program: the development of the Neutron rocket. Capable of lifting 13,000 kilograms of payload mass to orbit, versus Electron's 300 kilograms, this new launch vehicle will unlock an entirely unprecedented market of constellation deployment, national-security missions, and deep-space exploration. Neutron is poised for its debut launch this year.

In getting to this point, four principles stand out.

FIERCE EFFICIENCY

From the beginning, and even through our venture-capital-funding rounds and public listing, our competitors have typically had far more resources at their disposal than we have. But I've always seen that scarcity as a blessing experience

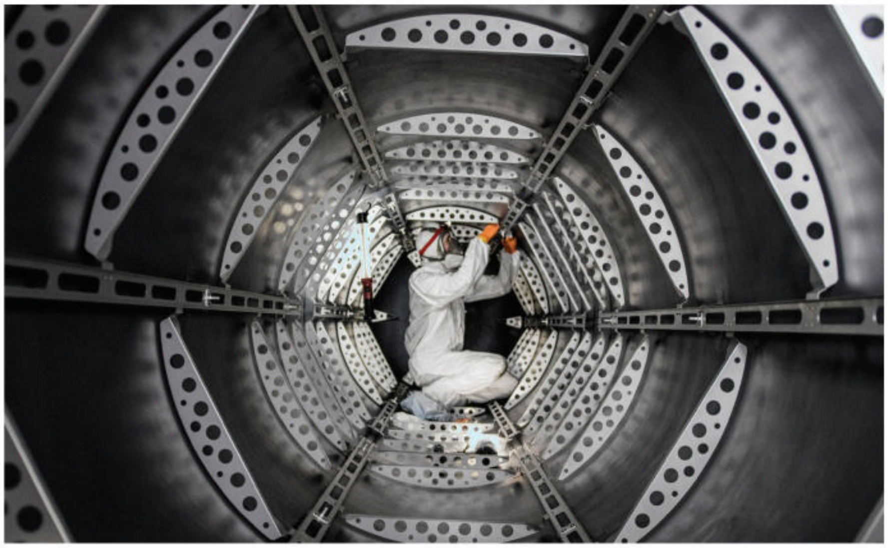
rather than a curse, because it has made Rocket Lab a tougher, more innovative, and more resilient organization.

Indeed, early on the overcapitalized small-launch startups were seen as the front-runners, but many ultimately had dismal results. Virgin Orbit, for example, was the expected winner, thanks to its strong brand and founder Richard Branson's $1.2 billion investment. But its rocket was too expensive and didn't work; the company eventually went bankrupt. Electron, by comparison, was developed for less than $100 million, with a team of about 150 people.

Scarcity keeps us both frugal and resourceful. Every hour and expense is scrutinized, with orders of more than $30,000 coming directly to me for approval. Our status as a public company, in contrast to that of our privately held competitors, also enforces financial discipline.

Being self-sufficient is our specialty. If we can't get a valve because there's a long waiting list, we don't throw our arms up and accept the delay. We 3D-print our own valve. Likewise, our composite team built its own industrial ovens for curing materials. And once, in our early years, when a fitting necessary for an engine test went missing, possibly thrown away by accident, I jumped into a dumpster full of garbage to try to find it so that we could complete the test.

We have achieved what we have with a team that, by industry standards, is mind-blowingly small. I don't believe in throwing more heads at a problem. I believe in throwing the *right* heads at a problem. Rocket Lab people are unshakably devoted to the work. It's common for team members to put in relentless early starts, late nights, and plenty of weekends. But we're very transparent about having superhigh expectations, and hustle seems to attract hustle. If you're a great engineer but don't want to work weekends, our advice is to join another company. If, on the other hand, you're talented and hardworking, there are no limits to what you can do at Rocket Lab. For example, a guy who started out mowing the lawns at our first launch site is now one of our lead launch technicians. He had the attitude and commitment, we gave him the training, and now he's taking on world-leading tasks.

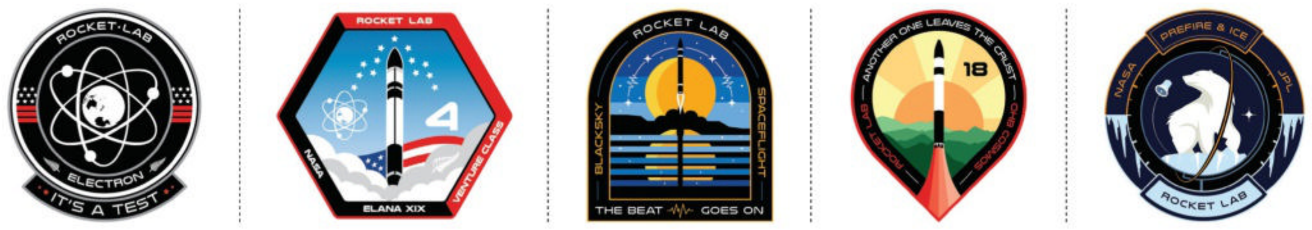


Courtesy of Rocket Lab

SHOW, DON'T TELL

It's easy to promise the world on a PowerPoint. It's a lot more challenging to show up to an investor or customer meeting with hardware that works—but that's the approach we've taken since the very beginning in order to prove that we are the real deal and to build instant trust and credibility. The ability to execute on a promise is often lacking in the space industry.

When we announced the Rutherford engine at the Space Symposium in Colorado Springs, we arrived with a complete machine, not drawings. We only



At left, top: A Rocket Lab technician working inside the tank of an Electron rocket; bottom: Launch Complex 1, located at the southern tip of Māhia Peninsula, New Zealand. Above: Various Rocket Lab mission patches

announced the first Rocket Lab–built satellite, Photon, after it was already successfully operating in space.

We won our customers' business by inviting them to our factory and showing them that, unlike competitors who had lots of rocket-making machines but no rockets, our rockets were already made. When our clients trusted us with their payloads, we put their cargo into orbit reliably, launch after launch, while our rivals failed to make it past initial test flights. Thanks to this track record we've been awarded NASA missions to the moon and Mars, selected as a prime contractor for the Space Development Agency to build a $515 million national-security constellation, and entrusted by the Department of Defense to conduct frequent hypersonic test launches on a modified Electron.

We've continued to satisfy repeat customers and gain new ones, as well as raise capital, because we keep doing exactly what we say we will—with excellence—time after time.

SMART SPEED

As many leading technology companies do, we embrace the mantra "Fail fast." On any project we first identify the most challenging element and figure out whether we can accomplish it, before we do anything else. For example, when we built the Rutherford engine, we started printing parts even before the design was refined, in order to make sure the process would work. And when we experimented with carbon-fiber composites, we first built small, unoptimized vessels to see if they could carry cryogen propellant.

We recognize that we work in a high-stakes industry requiring robust risk management, but with the right protocols our pace doesn't need to slow. Consider this scenario: A team member assembling a rocket on the shop floor notes that a part is registering as nonconforming. This is flagged in our corporate cloud, alerting an engineer who can walk over within 30 seconds to investigate. That person can then consult with the component's designer, who sits upstairs. For More Magazines Check Soft.ac If they agree to trigger a risk register or readiness review (in addition to the formal, scheduled ones), other colleagues are pulled in. Within minutes the risk is either accepted or rejected. At other organizations that same process might take weeks.

Adhering to smart speed takes maintenance. As organizations grow, they invariably become more bureaucratic, so I spend a fair amount of time making sure we don't. That includes sticking to several rules about meetings—the most important being that they're for decisions, not discussions, and anyone not adding value has permission to leave immediately. At Rocket Lab we want to stay squarely focused on the work: experimenting, innovating, evolving, and overcoming any unexpected challenges.

VERTICAL INTEGRATION

The commercial space industry started with specialization: Companies typically built one component, or they focused on launch, flight software, or some other element. Meanwhile, governments typically still controlled launch sites.

Our strategy has been to disrupt that paradigm by building and acquiring all the capabilities needed to design, build, launch, and operate spacecraft. Our customers can buy a single solar panel from us or an entire end-to-end space mission. In time this vertical integration will also give us the keys to operate our own space constellations. This approach gives us control over production speed, cost, and quality—we're never beholden to someone else.

The U.S. government has made no secret of its desire for efficiency and value for money, which is what we deliver. A great example is the twin spacecraft we designed and built for NASA's EscaPADE mission, which will enable scientists to understand more about how the sun stripped away Mars's atmosphere. The entire mission is being done for around $80 million, well below the billion-dollar cost of a typical Mars mission.

AS FAR AS the space industry has advanced since my rocket pilgrimage in 2006, we're still only scratching the surface of what's possible. The big legacy defense primes and billionaires will undoubtedly play their part. But I look forward to applying Rocket Lab's battle-tested principles and having an outsize impact on the way humanity uses and benefits from space for generations to come.

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CASE STUDY
HARVARD BUSINESS REVIEW

HBR's fictionalized case studies present problems faced by leaders in real companies and offer solutions from experts. This one is based on the Stanford Graduate School of Business case study "iRelaunch: From Career Break to Career Re-Entry" (case no. SM325), by Robert Chess and Jocelyn Hornblower, which is available at ***HBR.org****.*

How Do I Come Back After a Career Break?

by Robert Chess

RICHARD CARTER PICKED up a framed photo from his desk as he waited for the videoconference to connect. In the picture his daughter, Ava, was seven years old—eyes bright, hair wild, clutching an oversized butterfly net in their backyard. He had taken it a decade ago during their first week of homeschooling, just after he'd left his job as a divisional vice president of marketing at a major consumer-goods company to teach her himself.

Ava was brilliant but, owing to her Level 1 autism spectrum disorder, had been misunderstood by the faculty and staff of mainstream schools. Recognizing a bit of himself in her, Richard had refused to let her repeat his lonely childhood. So he stepped off the corporate track entirely and built her a custom education from scratch.

The daughter and father had succeeded. At 17 Ava moved into her Stanford dorm while Richard and his wife, Annie, stood by the rental SUV, holding a box fan and a bag of Trader Joe's snacks. Ava hugged them hard, waved once, and walked into her future.

Illustrations by JORI BOLTON

The silence that followed was cavernous.

For a while Richard told people he was retired, but the words always caught in his throat. A lecture he attended at the university downtown on the dangers of retirement passivity hit him harder than expected. The professor warned that the "walk on the beach every day fantasy" was less paradise and more slow erasure. "Purpose is oxygen," she'd said.

On his 52nd birthday Richard told Annie he wanted to go back to work. Not because they needed the money—her medical practice was steady—but because he needed to feel useful again. That's why he now sat staring at his laptop, waiting for the Zoom chime.

The person who appeared was older, grayer, but familiar: Mark Ellison, the Spencer Stuart partner who'd once slid Richard's résumé to the top of a stack.

"Richard! It's been forever."

They fell into a warm conversation, catching up on kids, their shared love of travel, and the general passage of time. Then came the shift.

"Listen," Mark said, leaning back. "You were a star, no question. But a decade is a long gap. My clients are really focused on currency right now. They want people who've been operating recently and understand how the latest AI tools can impact their businesses. I could try to ask around, but..."

Richard said he understood and moved the conversation back to safer ground, inquiring about Mark's eldest, who was graduating from college soon.

After the meeting it didn't take long for Annie to appear in the doorway.

"How was the call?"

"Good," Richard said. "Productive. Gave me some avenues to explore."

"Any roles he thought were a fit?"

"We...talked big-picture strategy," he murmured, surprised to feel embarrassed in front of the wife who had always believed in him.

THE EXPERIENCED OLD GUY

Richard hit his network hard, and seven weeks of phone calls and emails later, he found himself in an open-plan expanse of standing desks, cold brew stations, and ambition. A neon sign on a wall read "Ship > Perfect."

He was scheduled to meet Evan Torres, the 31-year-old CEO of NeuroLark, a Series B startup building an AI-powered wellness app for neurodiverse teens. He'd landed the meeting through David Kim, a former MBA classmate and the company's lead investor. David had sent a generous email to the team about Richard's strategic instincts and his experience parenting a daughter in the app's target demographic.

"Let's dive," Evan said, his laptop open and hoodie sleeves pushed up. "What's something you accomplished in your last role that you're proud of?"

Richard straightened, relieved to start somewhere familiar. "I led the national rollout of a home-care brand campaign we called Trusted Home, Trusted Care. We built the brand architecture from the ground up—values, tone, messaging—and tied it to a multiyear media plan. At the time it was considered cutting-edge because we used household penetration analytics to drive product placement in retail chains. Nielsen called it a top performer that year."

On his 52nd birthday Richard told Annie he wanted to go back to work. Not because they needed the money but because he needed to feel useful again.

He stopped, realizing that he had just described a world of TV spots, circulars, and end-cap displays—ancient history to the person in front of him.

Evan nodded politely. "Cool. Totally. Today our growth is driven by loops, not campaigns. We acquire users through TikTok microinfluencers, onboard them with a frictionless routine builder, and retain them via community neuro-coaching prompts. The goal is compounding network effects."

Richard fidgeted in his chair. "So... trust is still central," he replied. "You still need emotional resonance to—"

"Sure," Evan said. "But the engine is the product. Not the messaging." He turned his laptop to show Richard a graphic filled with colorful funnels and arrows. "How would you optimize our user activation flow?"

Richard took a breath. "First I'd define the strategic pillars of brand trust—" he began, seeing the comment was already landing wrong. "But I'd also want to learn how *you* analyze engagement here—shadow the product team, understand what signals matter most, then build experiments from there."

Evan nodded. "OK. How are you with data tooling? SAS? Even just doing regression modeling in Sheets?"

"I can manage spreadsheets," Richard said carefully. "But for complex things I'd probably require some training and maybe the help of an LLM tool, which I know many coders are using."

Evan nodded again, closing his laptop. "I like your experience. And I get the personal connection to our mission. But we move at startup speed. People learn by doing—fast. Are you sure that's the pace you want to operate at?"

"Absolutely," Richard said. "I've found success in a variety of environments. I'm ready for the next challenge."

As he drove home, Richard replayed the meeting in his head. He had been a step behind at first but was able to think on his feet. He remembered the thrill of stepping up under pressure, and a thought popped into his head: *That kid talks a big game, but I could run rings around him.*

His daydreaming was interrupted by a call from Annie. "How did it go?"

"Fine," he said.

She waited. "Only fine?"

"It's just..." He exhaled. "It's strange being the old guy trying to get someone half my age to hire me."

STARTING OVER, LOWER DOWN

A few days later Richard stood by the window of his home office, staring out at the oak tree he had once turned into a makeshift biology lab for Ava. After another round of meetings with Evan and his team, he was waiting to hear back from NeuroLark. Annie entered with a mug of tea and her computer.

"You seem a little stuck," she said, handing him the tea.

He didn't argue. "I feel irrelevant. Like the world moved on while I was doing something that mattered, and now it doesn't matter to anyone else."

Annie sat on the arm of the chair and opened her laptop. "I found something," she said. "A returnship program at a *Fortune* 100 company. Structured training, intentional support, and look—a 70% conversion rate to full-time roles."

Richard made a face. "So I'd be a 52-year-old intern?"

"It's not about status," she replied. "It's scaffolding. You'd learn the current tools, the new playbook, with other people doing the same thing." She smiled gently. "To maintain my medical license, I sit in rooms to learn from residents 20 years younger than me. No one thinks it's shameful. It's how professionals stay sharp."

Richard looked away.

"And the people who get hired out of this program?" Annie continued. "Former executives, consultants, people who stepped away for caregiving or medical reasons. You fit the pattern. You're not an exception."

He finally turned to meet her gaze. "Even if they hire me after the internship, it would be into a position far below where I was 15 years ago."

"Well, I don't know what to tell you," she said, a hint of frustration in her voice. "You don't have to go back into an organizational role. You could be a personal tutor. You loved teaching Ava. There are a hundred ways to be useful that don't require chasing the job you used to have."

He swallowed. "I want to contribute more substantially. I'd like to pay Ava's tuition. I'd like to feel like I'm carrying some of the water."

"I know you do," Annie said. She placed the laptop on his desk, the program's application open. His name was already typed into the first field. "Sleep on it," she said.

A CHOICE FOR HIMSELF

The next week Richard texted his oldest friend, Tom Alvarez, and asked if he could come over. They had known each other since they were teenagers piling into a beat-up Ford Escort on humid Texas nights. Tom ran a landscaping business with five employees, coached Little League, and seemed, to Richard, almost unnervingly content.

They sat at the patio table out back. Annie had left them iced tea and given them space.

"You look like you've been thinking too hard," Tom said, leaning back.

Richard slid two offer letters across the table. "I need to choose a job. And I can't tell if I'm choosing for the right reasons."

Tom skimmed the NeuroLark offer first. "VP of marketing." He whistled. "Big title."

Richard shrugged. "On a team of three. Reporting to a CEO who was in middle school when I was giving conference keynotes."

"And the pay?"

"Lower salary than I had before I stepped away. Equity makes up the difference—if the company succeeds."

"OK. And the other one?"

Richard gestured to the second letter. "Structured reentry program with the hope of being placed as a marketing

Should Richard take the job at the startup or the returnship?

THE EXPERTS RESPOND.

CAROL FISHMAN COHEN *is the CEO and a cofounder of career-reentry company iRelaunch.*

The returnship is a terrific opportunity for Richard to restart his career.

Such programs in *Fortune* 100 companies are highly competitive and specifically designed to provide transitional support with enhanced onboarding, mentorship, and a community of fellow returners, usually in their forties and fifties. Compensation is typically at market rates, it's prorated for the length of the returnship, and more than 85% of participants, on average, are hired when their program is over.

I like that the opportunity is tied to a real open position—in Richard's case, a marketing manager role. Returnships set up this way are built on an "intent to hire," meaning everyone—recruiters, the hiring manager, the team, and the returner—is expecting a long-term match if performance is strong. This model creates a far more meaningful onboarding experience for all involved than project-based returnships, in which participants function more like short-term contractors, with no specific role waiting for them.

If Richard is offered a permanent role but decides that working in a corporate setting is not the right fit for him, he can decide not to accept the job. There is no pressing financial need, so he will still have plenty of time to regroup.

Although I am optimistic about Richard's prospects for a full-time offer, he must still devote time to meaningful preparation. His conversation with the startup CEO was valuable in pointing Richard to a road map for updating his knowledge and skills. Once he becomes familiar with current marketing concepts and tools—TikTok microinfluencers, user activation flows, data tooling, Sheets, and so on—he will be in a completely different place professionally. He should use the time before the returnship start date to dive deep into the current state of his industry and to aggressively refresh his skills, whether through coursework, certificates, or credentialing programs. After he begins the program, Richard can ease the pace but should continue the outside learning.

This preparation will also allow him to speak substantively about his field with teammates, former colleagues, and new contacts—a shift that will improve his integration, credibility, and capacity to network. If Richard is worried about feeling old, as he expressed following his interview with Evan, demonstrating his subject matter expertise will help take the focus off his age and the length of his career break, and keep it on the quality and relevance of his contributions.

The startup role feels like a disaster waiting to happen. Taking

> “There are a hundred ways to be useful that don’t require chasing the job you used to have.”

manager. But a clear ladder back up if I do well.”

“How’s it pay?”

“Lower than I’d like, but better than NeuroLark.”

Tom linked his hands behind his head. “I know it would feel good to be able to tell people you’re a VP again, but you can’t pick a job based on that alone.”

“You’re right. So what do I do?”

“You ever notice,” Tom said after a long pause, “how Ava talks about you? She doesn’t say, ‘My dad used to be a VP.’ She says, ‘My dad taught me how to understand myself.’ She says you changed her life.”

Richard thought about the comment, his jaw tight. Tom slid the papers back toward his friend. He let the silence sit for a moment, and then added, “Seems to me you’re pretty lucky to have two great options, and you’ll be successful no matter which path you take.”

Richard looked at the two offers spread across the table. He felt exhilarated and a little scared by the realization that, after years defined by obligations to others, this choice was entirely his. ■

ROBERT CHESS *is a lecturer at Stanford Graduate School of Business and the chair and a board member at several healthcare and biotech companies.*

on a fast-paced marketing job with skills from 10 years ago would be wildly stressful and likely to end badly for both Richard and NeuroLark, even if he is a quick learner. A returnship is by far the better springboard for resuming his career.

ASHLEY DARTNELL *is the former global director of diversity, equity, and inclusion at Boston Consulting Group.*

Richard should join the startup.

At this stage in his life and career, he shouldn’t be optimizing for salary, prestige, or even stability—he should be seeking purpose. When you’re in your fifties and you’re financially secure, the most meaningful driver of long-term satisfaction is whether your work aligns with what you value. Richard’s values are clear: He spent a decade caring and advocating for his neurodiverse daughter. NeuroLark’s mission speaks directly to his experience and passion. That kind of alignment is rare.

I’ve been in Richard’s shoes. I left full-time corporate life when my young daughter was diagnosed with Type 1 diabetes. I reentered years later, finding purpose by working on diversity, equity, and inclusion issues at a firm where most employees were two decades my junior.

While the NeuroLark job might feel risky, it’s actually relatively riskless. If it doesn’t work out—and Richard will know that in a few months—he can revert to a returnship. Those programs will still be there, offering structure and a path back to a corporate role.

Richard should join the startup with confidence because he brings tremendous assets: lived experience as a caregiver, decades of leadership and brand expertise, empathy, maturity, and the ability to manage teams and communicate in high-stakes environments. His colleagues will teach him new tools and platforms, and he will teach them judgment, resilience, and how to build an organization.

Still, his NeuroLark interview showed he’s rusty, so he needs to set himself up to succeed. That means doing informational interviews with people in the sector, understanding the norms of startup culture, reading everything he can about new technologies, and getting baseline proficiency in modern tech tools like Slack, Sheets, and gen AI.

Socially, he shouldn’t try to be one of the thirtysomethings, but he should adapt to the culture—for instance, by not showing up in a suit if his coworkers wear hoodies. The quickest and best way to find belonging is through the company’s mission. Sharing his stories about raising a neurodiverse child will create instant credibility with colleagues who care deeply about the product’s purpose but haven’t experienced the caregiving side of it.

Finally, Richard should prepare for the impact this transition may have on his marriage and household. One of the biggest surprises people face when reentering full-time work is the shift in daily logistics and emotional expectations. Richard and Annie should talk about how routines will change—including what needs to be delegated and how to protect time for each other. Getting this right can’t be an afterthought.

The startup role will stretch Richard, humble him, and force him to learn new rhythms. But it offers what matters most at this stage: purpose, challenge, and the chance to build something that makes the world better for families like his. ■

HBR Reprint R2602L
Reprint Case only R2602X
Reprint Commentary only R2602Z

Executive Summaries
March–April 2026

LEADERSHIP

“Listen to Your Gut”

Adi Ignatius | page 46

Before stepping down as CEO in January, Doug McMillon led Walmart, the world’s biggest company in revenue terms, for nearly 12 years. He delivered substantial growth in sales and earnings and transformed the brick-and-mortar retail giant into a digital powerhouse. In this wide-ranging interview with HBR’s editor at large, McMillon reflects on his decision to retire: “When you see someone who can run the laps ahead better and faster, the right thing to do is to hand them the baton, step aside, and cheer them on.” He talks about leading through uncertainty and staying purpose-driven in the face of profit pressures. He also offers advice to new CEOs, describes why Walmart is so special, and discusses his legacy and next steps.

HBR Reprint R2602A

TECHNOLOGY & ANALYTICS

Why Gen AI Feels So Threatening to Workers

Erik Hermann, Stefano Puntoni, and Carey K. Morewedge | page 54

As generative AI begins to handle more cognitive, creative, and interpersonal tasks, many employees perceive it to be a threat to their competence, autonomy, and sense of belonging at work. These psychological disruptions are producing widespread resistance, disengagement, and even covert opposition to AI initiatives. The challenge for leaders is not just technical integration but emotional and social adaptation.

To meet that challenge, the authors propose the AWARE framework, which helps leaders address the psychological needs of employees: *acknowledge* employee concerns, *watch* for adaptive and maladaptive coping behaviors, *align* support systems with psychological needs, *redesign* workflows around human-AI synergies, and *empower* workers through transparency and inclusion. Leaders that apply this framework can ensure that gen AI tools enhance—rather than erode—workers’ motivation and commitment.

HBR Reprint R2602B

STRATEGY

Will Your Investors Support Your Strategic Pivot?

Mark DesJardine and Wei Shi | page 64

Strategic pivots often fail—not because of poor ideas or execution but because companies misjudge how attached investors are to their existing strategy. Firms actively cultivate shareholders who are aligned with a particular risk profile and narrative; when that narrative shifts, they may resist, creating destabilizing friction. That’s what happened at Danone when CEO Emmanuel Faber set an ambitious agenda to strengthen the company’s sustainability credentials that clashed with many investors’ expectations about margins and near-term results. The tensions led to Faber’s ouster and a major loss in market value.

Leaders need to begin any major pivot by systematically assessing investors’ preferences. By using a scorecard that examines them across five dimensions and following a transition framework, executives can anticipate resistance, manage expectations, and improve the odds that strategic change will succeed.

HBR Reprint R2602C

INNOVATION

Why Great Innovations Fail to Scale

Linda A. Hill, Emily Tedards, and Jason Wild | page 74

Scaling innovation today demands contributions from multiple partners. Many innovations fail not because of flawed ideas but because teams and organizations struggle to collaborate across boundaries.

What’s needed is a particular kind of leader: the *bridger.* Bridgers excel at curating the right partners, translating across their differing ways of working, and integrating their efforts to maintain momentum. Bridgers’ effectiveness stems from both emotional intelligence and contextual intelligence. They understand each stakeholder’s environment, pressures, and values and know how to adapt from one context to another. The authors use real-world examples to illustrate how bridgers accelerate innovation. And they describe how firms can identify and develop bridgers of their own.

Adapted from the authors’ book *Genius at Scale* (Harvard Business Review Press, 2026), this article offers a playbook for building a rare but critical kind of leadership.

HBR Reprint R2602D

TECHNOLOGY & ANALYTICS

Preparing Your Brand for Agentic AI

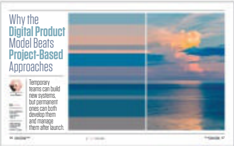
Oguz A. Acar and David A. Schweidel | page 86

AI agents are transforming brand-consumer relationships. The authors explore how brands must adapt to a new retail environment in which consumers increasingly rely on generative AI for product research, recommendations, and purchases. Three modes of agentic interaction exist today: Consumers (1) engage with brand agents, (2) search for products using third-party agents they’ve personalized over time, and (3) empower AI to interact with other AI on their behalf.

Brands must develop a hybrid strategy that balances automation with human shopping preferences. Successful companies rely on proprietary customer and product data to deliver personalized agentic experiences. But the process isn’t as simple as purchasing new software. Ongoing experimentation, prompt-based optimization, and integration with other AI ecosystems are essential steps.

HBR Reprint R2602E

IT MANAGEMENT



Why the Digital Product Model Beats Project-Based Approaches

Ryan Nelson and Thomas H. Davenport
page 96

Companies need to make a shift from traditional IT project management to digital product management. Project-based approaches—whether waterfall or agile—have high failure rates, and emerging technologies like AI may make outcomes even less predictable. Typically projects end once a new system or application is delivered, limiting opportunities for learning and improvement. Digital product management, in contrast, relies on permanent, cross-functional teams that focus on long-term outcomes and customer value. The teams' success is judged by adoption, user retention, and revenue.

To make the switch, companies should start with small wins, define a product vision, empower teams, build lasting infrastructure to support them, and commit to a multiyear journey, as companies like *The New York Times,* CarMax, and Capital One have all done.

HBR Reprint R2602F

MANAGING PEOPLE

The Solution to Service-Worker Churn

Santiago Gallino and Borja Apaolaza
page 106

High turnover among frontline workers is a costly problem in retail and other service industries. Traditional remedies—posting schedules earlier, banning "clopenings," and offering steadier hours—help, but they don't address the deeper, location-specific drivers of attrition. New research analyzing 280 million shifts across 20 retail chains shows that turnover depends on a mix of factors, including scheduling predictability, managerial flexibility, fairness, and local workforce conditions. By applying analytics to scheduling records, managers can identify which factors—such as short rest periods, uneven advance notice, or unapproved time-off requests—most strongly predict turnover at each site. Then they can create schedules that balance operational efficiency with employee needs.

Organizations that treat scheduling as a data-driven, continuously improving process can reduce churn, strengthen morale, and boost service quality.

HBR Reprint R2602G

LEADERSHIP

The Skills Board Chairs Need Now

Pedro Fontes Falcão and Randall S. Peterson
page 114

The role of the board chair has evolved dramatically as stakeholder expectations, regulatory complexity, and geopolitical instability have expanded the scope of corporate governance. Chairs today must mediate increasingly divergent stakeholder demands while guiding boards through technological disruption and societal scrutiny. Traditional leadership traits such as strategic acumen and executive experience now matter less than the ability to synthesize vast amounts of information, reconcile contradictions, and facilitate constructive dialogue.

Today's effective chairs foster a culture of learning on the board, creating psychological safety and encouraging open, respectful debate among directors. To make sure the board balances expert insight with broad participation, chairs also conduct rigorous skills audits and provide structured feedback to directors. Last, they systematically manage trade-offs among competing interests and actively partner with CEOs to ease their workloads.

HBR Reprint R2602H

MANAGING YOURSELF

How to Manage an Insecure Leader

Jeffrey Yip and Dritjon Gruda | page 125

Insecure leaders—whether anxious or avoidant—are more common in organizations than most people acknowledge. Their behaviors can distort communication, undermine collaboration, and burden teams. Anxious leaders seek reassurance and may micromanage; avoidant leaders resist feedback and limit openness. In response, the people they work with overaccommodate, withdraw, or confront too directly, which reinforces the insecurity.

The authors offer a three-step framework for working with such leaders: *regulate* emotional intensity, *relate* through attuned connection, and *reason* only once safety is established. This enables clearer dialogue, healthier decision-making, and more-functional partnerships with insecure executives.

HBR Reprint R2602J

HOW WE DID IT

The Founder of Rocket Lab on Competing with Billionaires to Lead in Space

Peter Beck | page 130

Rocket Lab launches more rockets at a faster pace than any rival and is expanding into satellites and deep-space missions. Four principles underpin its success: (1) Fierce efficiency drives frugal operations, such as building solutions in-house. (2) A "show, don't tell" approach creates trust by delivering working hardware and successful missions, not just promises. (3) Smart speed means Rocket Lab can streamline decision-making. (4) Vertical integration gives the company control over every stage, ensuring delivery of complete high-quality, cost-effective missions. These tenets allow Rocket Lab to compete with industry giants, significantly impacting how humanity benefits from space.

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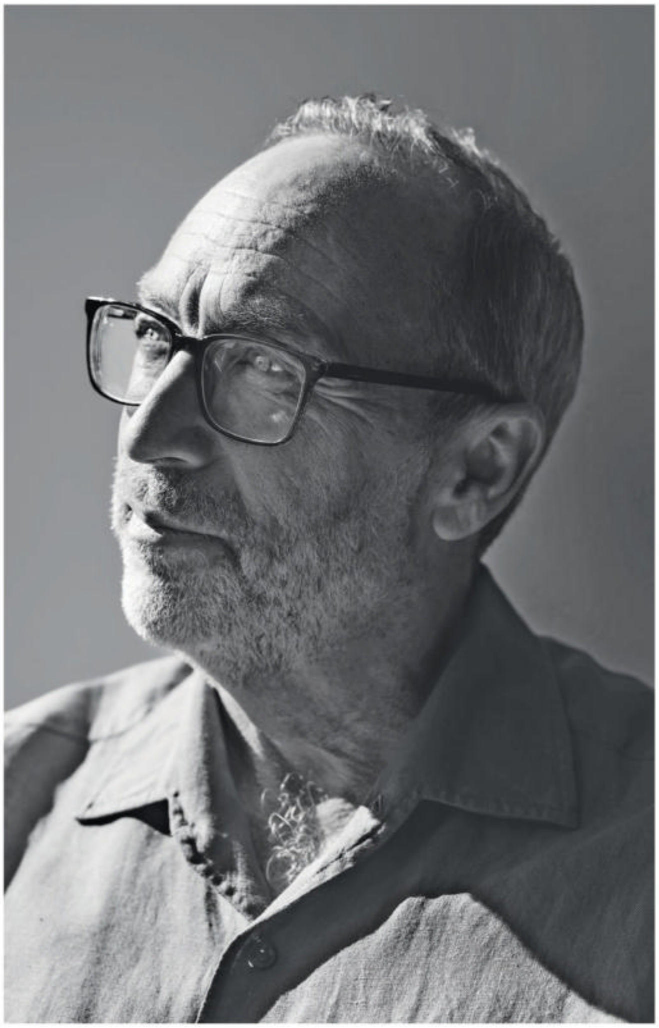
Life's Work

> "I always thought of Wikipedia as a temple for the mind rather than something commercial—a place to go to read, reflect, learn, and think."



Jimmy Wales

In 2000 Wales left his job as the research director at a futures and options trading firm to focus on building an early internet business. What soon emerged was Wikipedia, an online, crowd-sourced encyclopedia that he decided to run as a nonprofit. It quickly became one of the world's most popular websites. Wales went on to found both the Wikimedia Foundation, which he still chairs, and for-profit ventures. His recent book is The Seven Rules of Trust. **Interview by Alison Beard**

HBR: Explain the shift from working in finance to launching a nonprofit online encyclopedia.
WALES: I get up every day and just try to do the most interesting thing I can. I don't think that much about money. I've got nothing against making it, and I've done well with my for-profit companies. But if I see something really interesting to do, that's much more important.

Why did you believe Wikipedia could become a trusted source of information?
I didn't know, but I hypothesized. I understood that we were going to have to do a lot of work to figure out processes and procedures that would give rise to better quality. The other piece was *being* trusting. I wrote on my own Wikipedia page years ago something like "You can edit this. I trust you'll make it better and not do anything bad." And by and large, that has worked.

And how did you get people to spend time and effort cooperating with strangers for no pay?
This was in the early optimistic days of the World Wide Web, but I knew from my own experiences that people enjoy interacting in a pleasant, intellectual way. I had a personal interest in philosophy and was studying finance professionally, and I found that if I wrote an email to even a prominent professor at a big university and was thoughtful, that person would answer. I saw that generosity, and you can still see it today. People come with an interest—trains, for example—and enjoy contributing because they think, *Now the world's slightly better.* They also meet other people who are into the subject, and they're like, "We found each other. Let's make this page great."

How do you think AI search is changing the way people get information and perceive truth? Is it a threat to Wikipedia?
I don't think so. People don't come to Wikipedia for a broad, breezy summary. They come for verified facts, with sources and links, that humans have really pored over. What I'm interested in is how large language models might help our community work. One example is that our "user talk" pages show how decisions were made but in 50 pages of discussion. Maybe AI could give a summary, which would be more transparent.

What's your take on the current toxicity in social media?
Companies have created a box that basically says, "What's on your mind?" and sometimes people have horrible things on their minds. We all feel it's too toxic, with too many attacks on people. But at the same time, you want to be able to criticize politicians and celebrities. That's part of what social media is about. So it's a hard problem but one they have to take seriously. Abdicating responsibility is a poor decision.

Are you still optimistic about the future of the internet?
Definitely. Just the fact that you're able to learn anything you want to know and meet people from all around the world is as magical to me as it ever was. That purpose of connecting people is still there.

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