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July–August 2022

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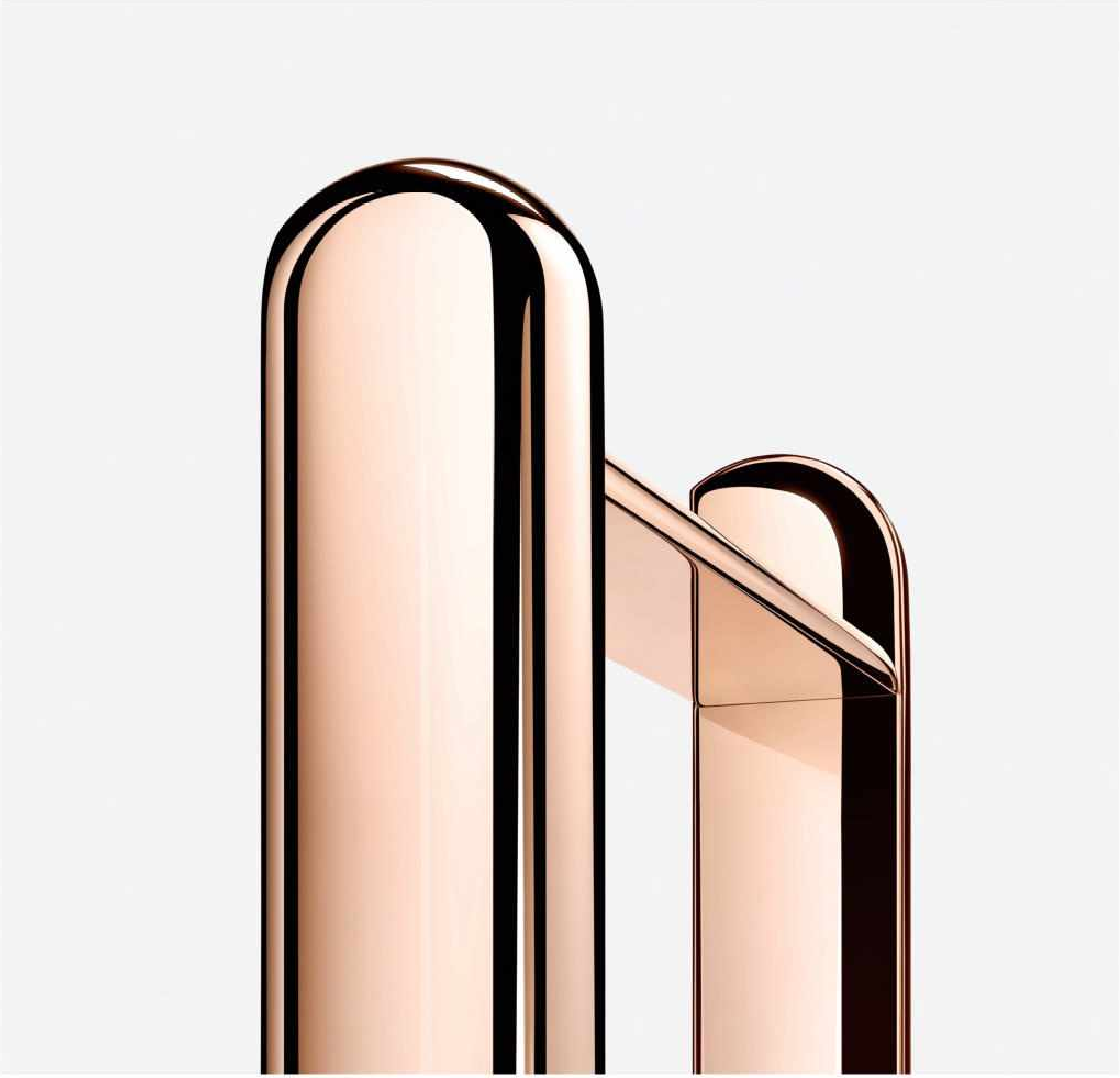


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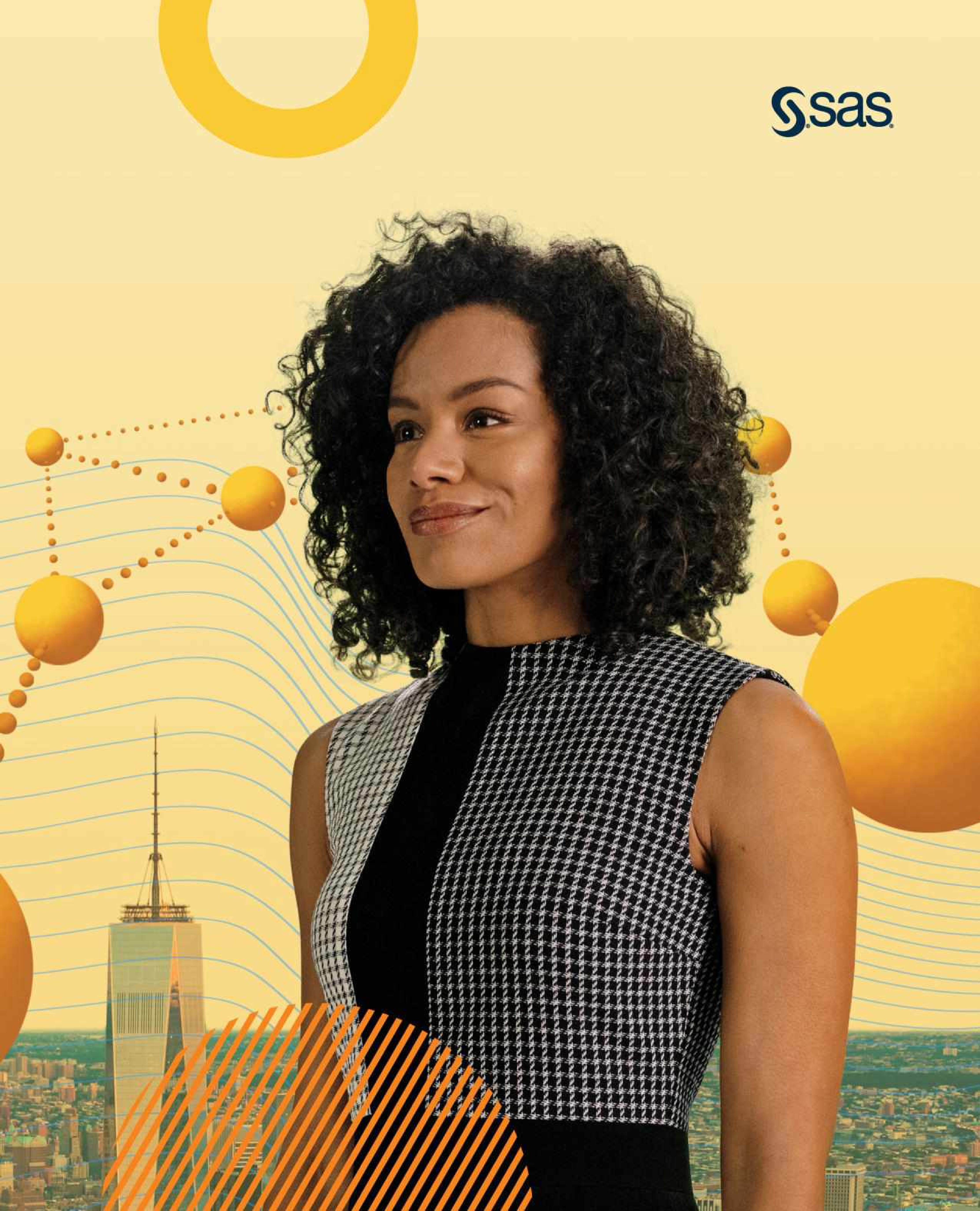

From catering executive to agricultural entrepreneur.

Meredith learned how on YouTube.

Meredith left her life in catering and bought 20 acres of California farmland. She didn't know how to farm, but she learned how on YouTube. Her business, Autonomy Farms, has doubled its revenue in the last three years and has built a reputation as a menu staple throughout the West Coast.

For more on how people are growing careers and business opportunities with YouTube, visit **yt.be/impact**


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> “The capabilities required of top leaders include new and often ‘softer’ skills that are rarely explicitly recognized or fostered in the corporate world.”

“THE C-SUITE SKILLS THAT MATTER MOST,” PAGE 42

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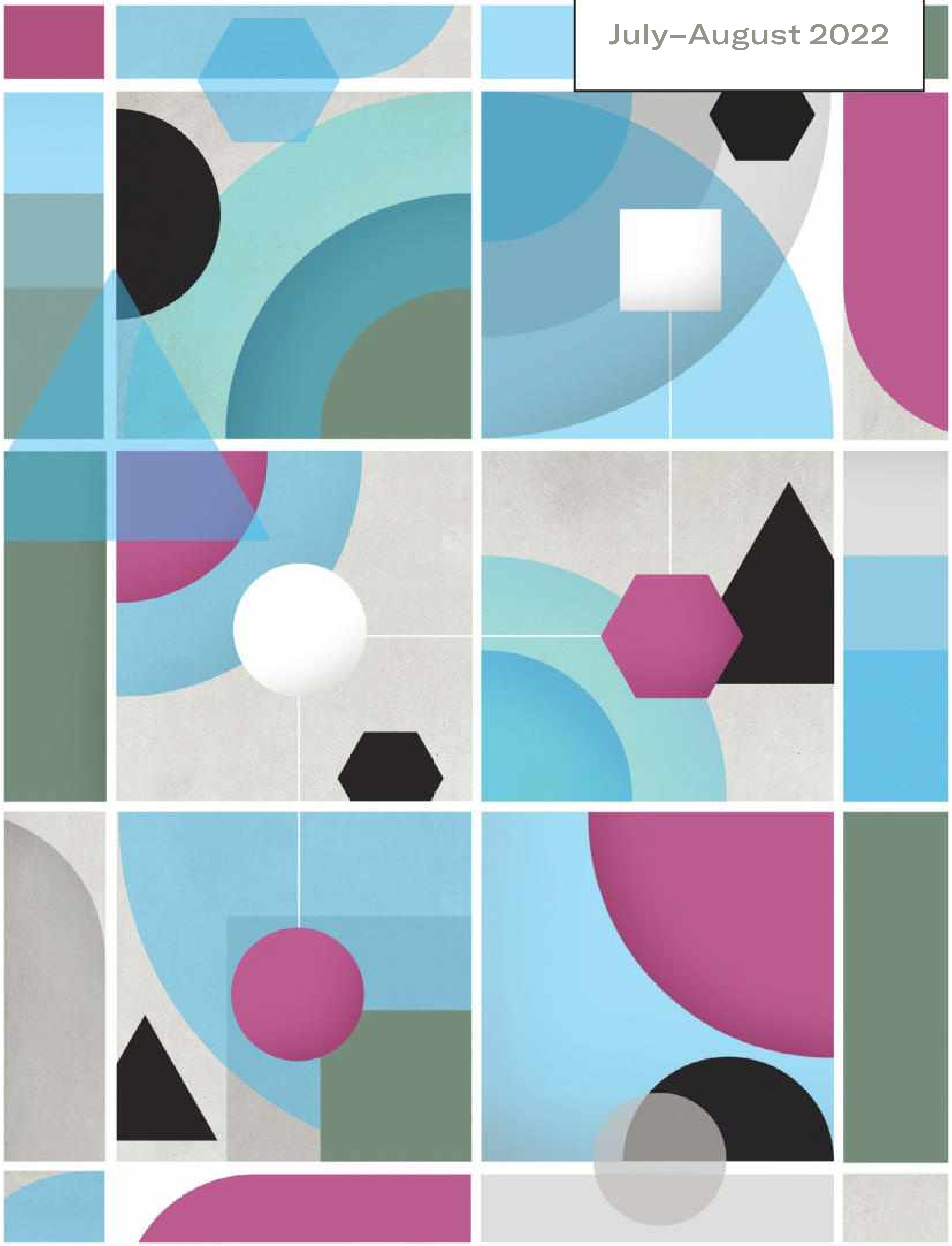

Illustration by CHAD HAGEN

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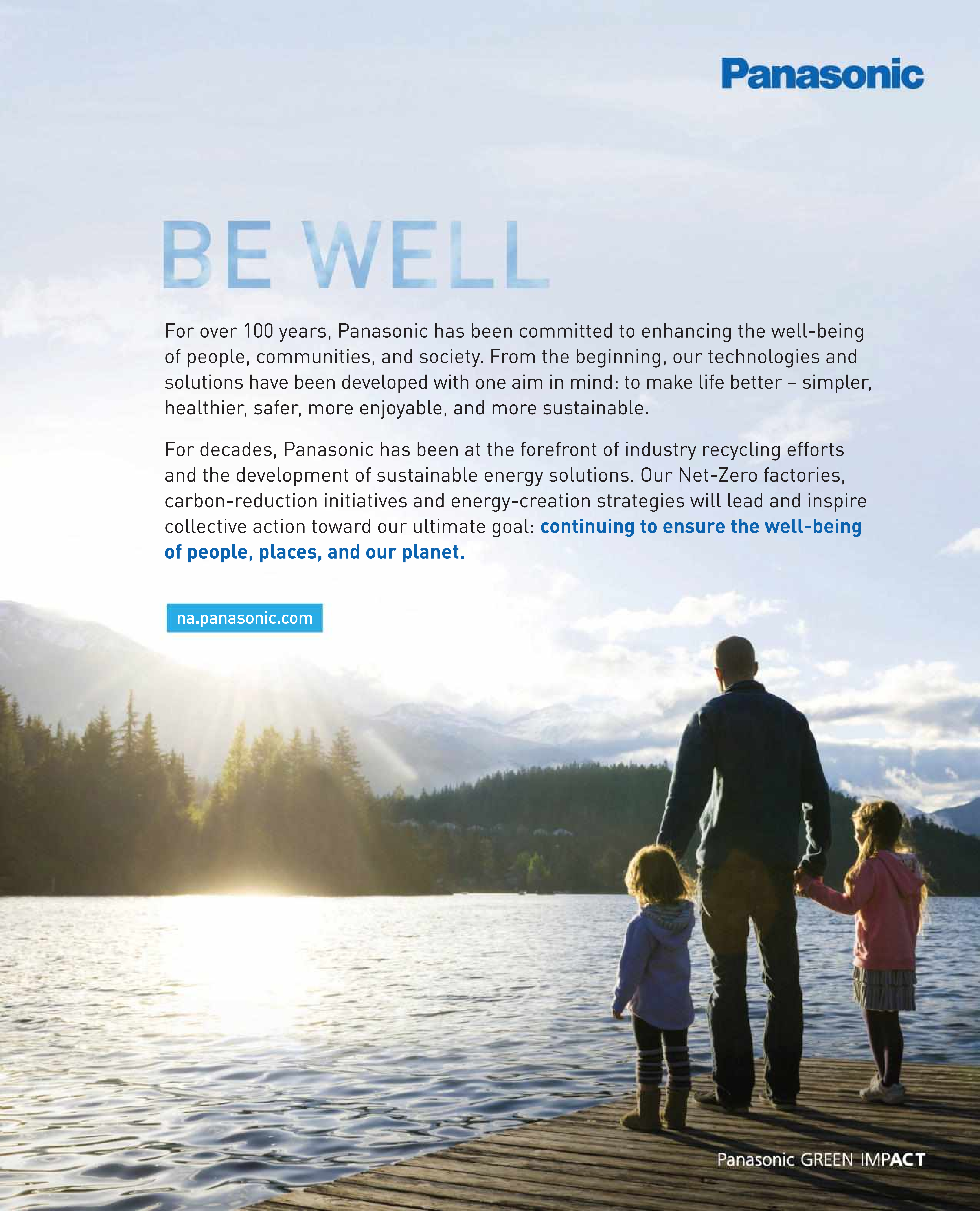
Photograph by CIUCO GUTIÉRREZ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July–August 2022

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A Role That's More Challenging Than Ever

Adi Ignatius

ONE PRIVILEGE OF MY job is that I meet a lot of CEOs—some for informal chats and some for interviews on *The New World of Work,* the program I host on LinkedIn. These interactions have given me great respect for the challenges of the role—and for the impact a good CEO can have on an organization. That's why deciding who should lead a company has such high stakes.

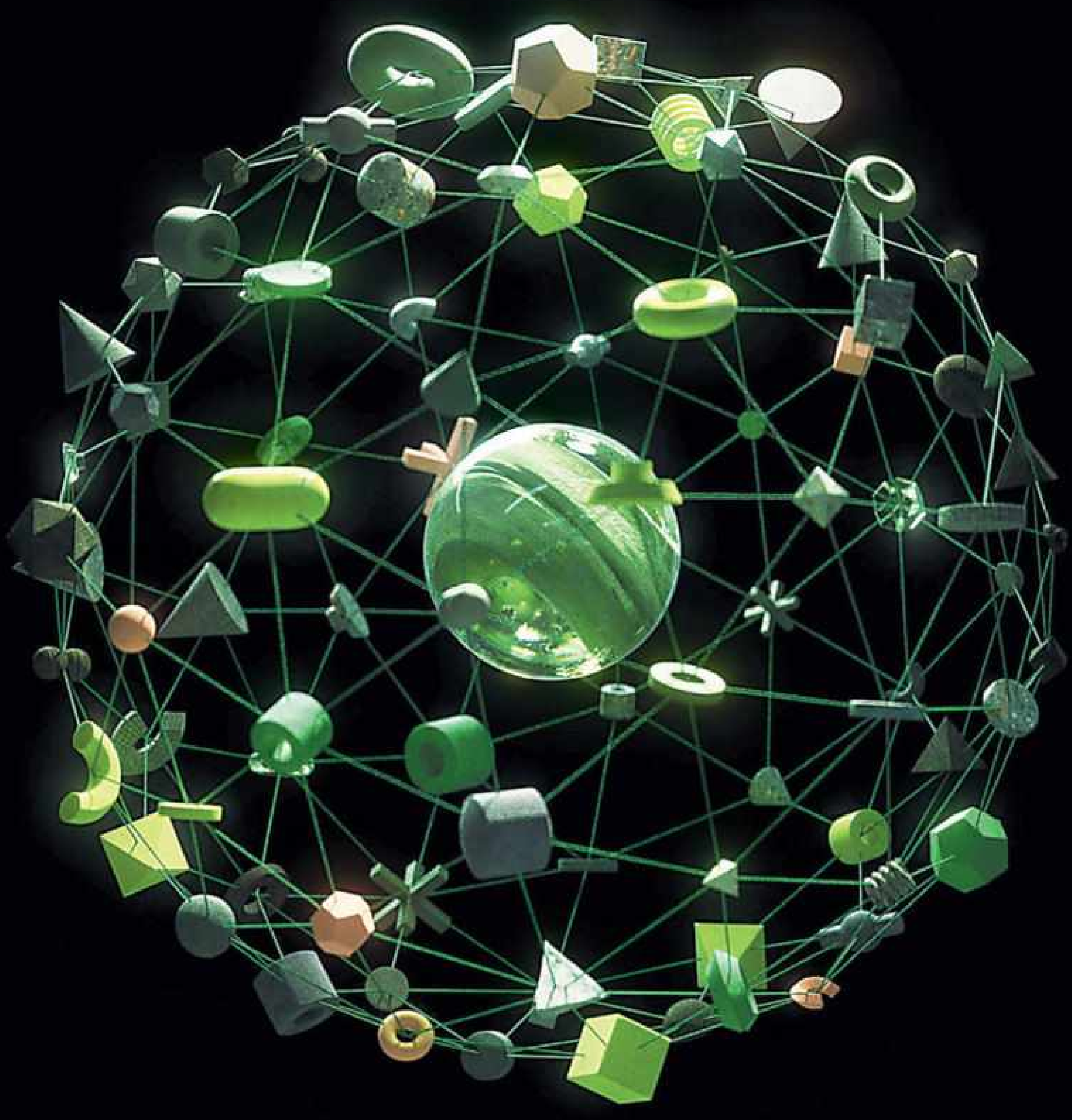
In this issue's Spotlight, "Choosing Your Next CEO," we explore how the demands of the job are changing—and how boards should respond. In "The C-Suite Skills That Matter Most," Raffaella Sadun and three coauthors present research showing that boards are focusing less on leaders' technical skills and more on their ability to deal with people. "Today," they write, "firms need to hire executives who are able to motivate diverse, technologically savvy, and global workforces; who can play the role of corporate statesperson."

In a companion piece, "As the World Shifts, So Should Leaders," the former Harvard Business School dean Nitin Nohria examines how differing historical eras favor CEOs with differing strengths. He posits that amid war, inflation, labor upheavals, and tangled supply chains, we're experiencing a zeitgeist shift—one that will require leaders with the contextual intelligence and skills to respond to these times.

As the challenges facing our world continue to grow, it's essential that business leaders keep adapting and rising to meet them.

ADI IGNATIUS
Editor in chief

Sasha Patkin



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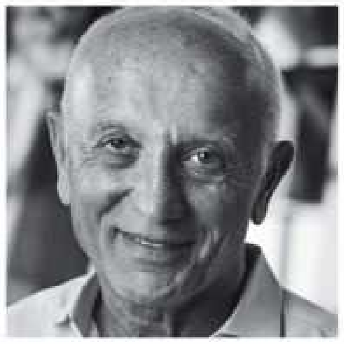

Kasra Ferdows has studied global supply chains for roughly 25 years. "In the past decade in particular, you could not do research in this area without getting deeply involved in digital platforms," the Georgetown University professor says. He has examined the digital platforms of a variety of companies, including IKEA, Estée Lauder, and Inditex. But after several trips to China, he and his coauthors—Hau Lee and Xiande Zhao—decided to write about the platform of Haier Group, the global appliance manufacturer, "because it was the most advanced and innovative one that we've seen."

126 How to Turn a Supply Chain Platform into an Innovation Engine

"My path to philosophy was borne of confusion, a tinge of existential angst, and a very low tolerance for pacifying but flimsy arguments," says the consultant **Reid Blackman.** "I wanted to figure out what ethics is all about—and how it works." A former professor of philosophy at Colgate, Blackman now focuses on helping others understand the ethics of AI and other emerging technologies. In his article in this issue—adapted from his new book, *Ethical Machines*—he focuses on the types of experts companies should convene. "Because I find the complexity appealing," he says, "ethics is, happily, what keeps me up at night."

118 Why You Need an AI Ethics Committee

Aiyesha Dey was studying for a doctorate in accounting when a series of corporate scandals led to passage of the Sarbanes-Oxley Act, in 2002. Over the next few years the misconduct continued, causing Dey to ask, "Are there other crucial ingredients of good governance we should be considering?" Now an associate professor at Harvard Business School, she began looking at CEOs' personal decisions and off-the-job behaviors for signs that their companies were more likely to be involved in scandal—work she describes in her article in this issue.

54 When Hiring CEOs, Focus on Character

How do our motives and beliefs affect what we notice—and what we miss? The Kellogg School professor **Nour Kteily** has thought a lot about how such questions can help us understand politically charged conflict in the workplace and what to do about it. Recently Kteily, an expert in intergroup conflict, teamed up with his colleague Eli Finkel, an expert in interpersonal relations. In this issue they offer guidance to managers on the topic. "When is political discussion important in the workplace?" Kteily asks. "What kinds of conversations do we want, and what kinds are we tempted to shut down? These are tough questions."

108 Leadership in a Politically Charged Age

Vicki Turner is an artist based in southwest England. "I enjoy creating visual metaphors that help connect human stories to what we see around us," she says. To illustrate an article in this issue on how companies approach diversity, she took inspiration from the plant world. "I wanted to capture the unique traits of teams," she says, "from their protective thorns, blooms of health and success, and immense climbing ability to seek out light."

74 To Drive Diversity Efforts, Don't Tiptoe Around Your Legal Risk

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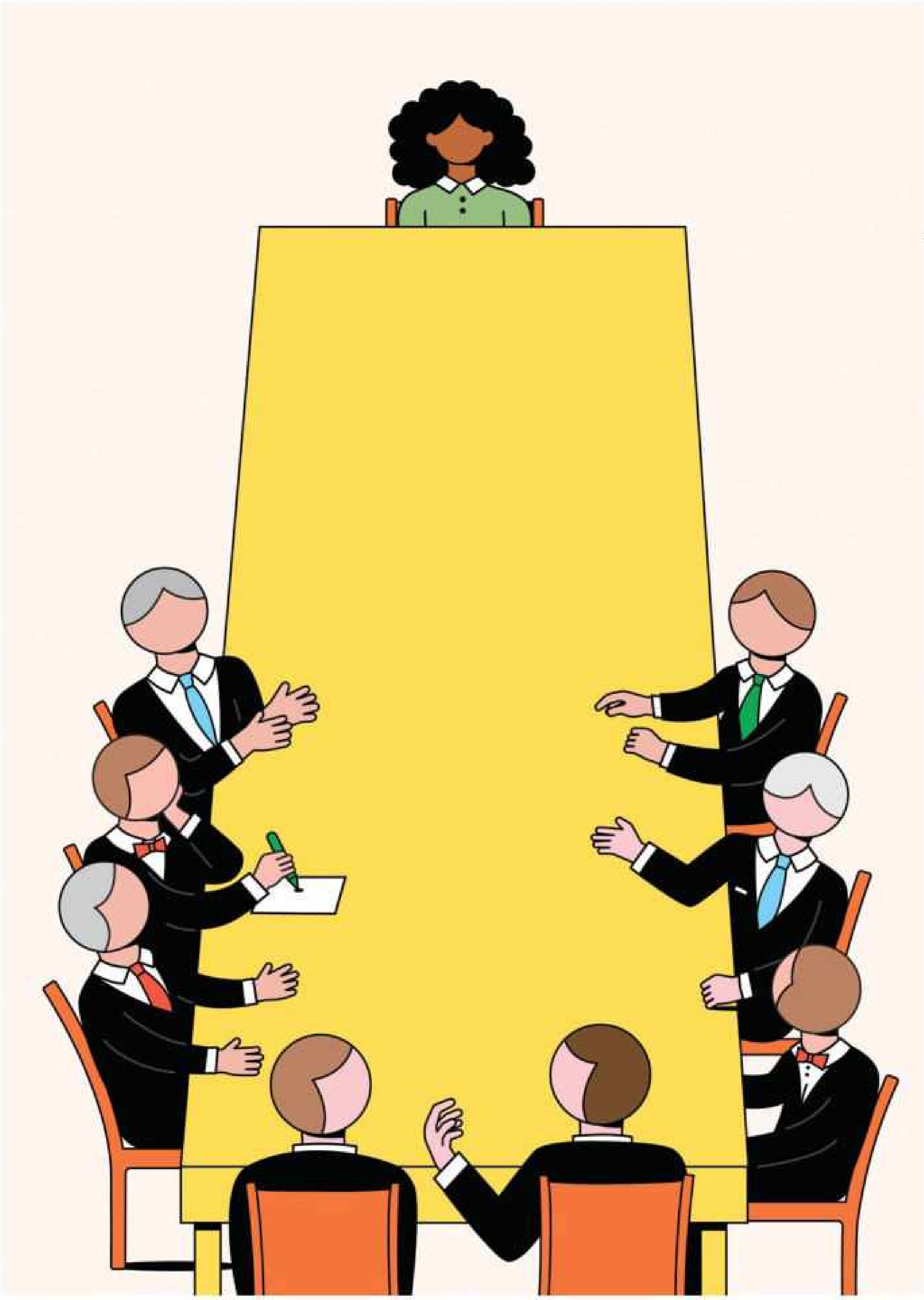


IN THEORY

A Seat at the Table Is Not Enough

Corporate boards are more diverse than ever before. So why aren't firms seeing the expected results?

DIVERSITY ON CORPORATE boards is an urgent priority, emphasized by company leaders and public policy agendas. For example, in 2021 the U.S. Securities and Exchange Commission approved a rule requiring most companies on the Nasdaq exchange to have at least two directors from underrepresented groups—minority, female, or LGBTQ+—or to explain why they don't. Such initiatives are laudable not only for reasons of fairness: Research shows that heterogeneity in groups boosts the quality of decision-making. Yet little evidence has persuasively linked increased board diversity with improved firm outcomes. A new study explores why and suggests conditions that can help.

The researchers worked with the auditors of 54 U.S. public companies to code the transcripts of every board meeting from 1994 to 2006 to

Illustrations by **SIMO LIU**

IdeaWatch

determine the number of minutes each director spoke. This revealed, unsurprisingly, that women and Black directors typically held the floor much less than white men did. (The coding did not extend to other underrepresented groups.) Controlling for the differing sizes of corporate boards, each white man spoke, on average, for 11% of the total annual board meeting time, whereas each Black man spoke for just 4% and each woman just 8% of the time. The researchers continued tracking transcripts after the close of the study and saw the same results: Black and female members were still not speaking out. "Without the participation of underrepresented directors," the researchers write, "the potential benefits of board diversity are lost."

Because board transcripts are confidential, the analysis was solely quantitative and thus the researchers could not document why such directors were so reticent. But anecdotal evidence suggests that white male members' behavior often exerted a chilling effect. They cite the experience of Liz Dolan, who resigned from the board of the action sports and apparel company Quiksilver in 2015 after learning she had been excluded from critical discussions. "Even when a woman earns a seat at the table," Dolan wrote in *Fortune*, "the men can put you in a soundproof booth." It may also be that members of underrepresented groups felt insecure and censored themselves. "It's difficult to imagine corporate directors being intimidated; they are usually very successful and dynamic people," says the University of Central Arkansas's Christopher Tuggle, who led the study. "But relative status matters even in a group of highfliers."

BOOSTING PARTICIPATION

Two factors helped boost participation among Black and female directors. First, those who had previously held a high-status role—such as CEO, dean or president of a university, general or admiral in the military, or state- or national-level political office—were much more likely than others to speak up. White female directors with such experience participated, on average, more than twice as much as their lower-status counterparts, while high-status Black male directors participated 150% more than theirs. (High status had a minimal effect on the participation of white men, presumably, the researchers note, because as members of the majority group, they were less likely to feel insecure.) "High-prestige individuals seemed to have the confidence to speak up—and white men appeared to cede the floor when they did," Tuggle says.

Second, boards with two or more Black or female directors experienced more-equal participation among members than boards with only one member of an underrepresented group. This suggests that those directors felt a kinship—even if their race or gender differed—that helped them hold their own in the group. The process of recruiting a second member of an underrepresented group may also make a difference, the researchers say. Imagine that you're listening to your board make the case for why it needs another female or minority member. "You've heard all about the importance of heterogeneity," explains Texas A&M's Leonard Bierman, a coauthor of the study. "That might boost your confidence to participate while also encouraging white male directors to act in accordance with

their stated beliefs." The participation bump was particularly strong when one of the Black or female directors had high-status leadership experience. Such people appeared to serve as role models and to create an environment in which non-white-male directors felt psychologically safe speaking up.

A couple of caveats should be noted about the study: The researchers were unable to evaluate the content of directors' speech, so minority members' low participation could stem from a "blowhard" effect: Some white male directors may have talked a lot without contributing much of value, whereas Black or female directors may have been more incisive when they spoke. Also, the researchers had no way to measure diversity beyond the basics of gender and race, so the boards may have been more homogeneous than the number of female or minority directors suggests. "If you have a Black or female director who grew up in the same socioeconomic class as white male directors, went to the same schools, and belonged to the same clubs, have you achieved true diversity?" Bierman asks.

Those caveats notwithstanding, the findings offer several lessons for policy makers and companies. For starters, it's not enough simply to add one or two female or minority members to a large group of white male directors. "Boards should be thinking more about proportionality than about absolute numbers," Tuggle says.

The researchers also argue that although the SEC may have been right in approving the 2021 Nasdaq rule, it should not have allowed exemptions for boards with five or fewer directors. "There are some large family-controlled companies with small boards; they shouldn't be given this carve-out," Tuggle notes. What's more, government policy and other guidelines restricting the number of boards a director may serve on—enacted with the goal of breaking up old boys' clubs and promoting diversity—may have the unintended consequence of limiting the impact of high-prestige female and minority directors. "No one would argue that Vernon Jordan—a Black civil-rights leader—was part of an old boys' club," Bierman says. "Yet at one point he was on the boards of nearly a dozen major corporations. Our research suggests that he would have increased the diversity of thinking on each one." Today's rules might make that kind of contribution impossible.

Finally, board chairs can increase contributions from underrepresented groups by encouraging members to lay out their opinions on important issues in writing before the board meets, which can help prevent dominant voices from hijacking the discussion. And they should emphasize how crucial it is to listen to one another and remind directors of the perils of groupthink. "Our research shows the importance of structural change to enhance board diversity," Bierman says. "But leadership matters, too."

HBR Reprint F2204A

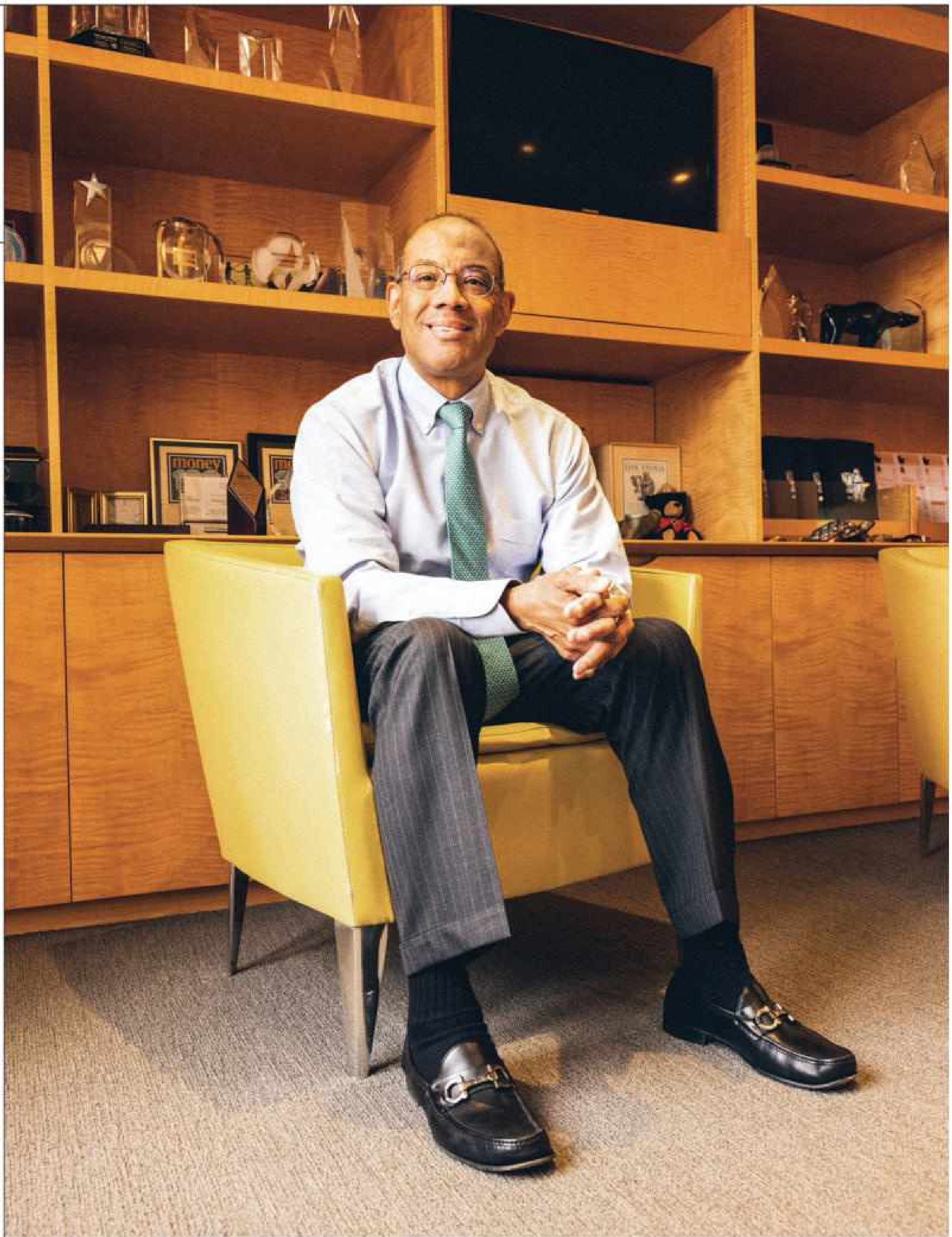
ABOUT THE RESEARCH *"From Seats at the Table to Voices in the Discussion: Antecedents of Underrepresented Director Participation in Board Meetings," by Christopher S. Tuggle et al.* (Journal of Management Studies, *forthcoming*)

IN PRACTICE

"Boards Risk Perpetuating the Status Quo"

John W. Rogers Jr., *a co-CEO of the asset management firm Ariel Investments, quotes the American civil-rights icon John Lewis when he explains the importance of speaking out about diversity issues on corporate boards: "You have to make good trouble." Rogers, who serves on the boards of McDonald's, Nike, and the New York Times Company, among others, recently spoke with HBR about how to maximize the value of minority directors. Edited excerpts of the conversation follow.*

A new study argues that simply appointing a director or two from an underrepresented group isn't enough to advance diversity. Do you agree?
Yes, research from my own company supports that view. In September 2021 Ariel Investments commissioned a survey of the 151 Black, Latino, and Latina *Fortune* 500 board members who attended our Black Corporate Directors Conference. They overwhelmingly felt that race receives too little attention from company leaders despite the growing emphasis on it in recent years.



We have a long way to go when it comes to operationalizing diversity.

The study also finds that minority directors don't speak up enough.
That hasn't been my experience. The issue I see is not that minority directors don't talk; it's that they don't talk about diversity issues. They are shy about fighting for economic justice for women and people of color. Even Meta's Sheryl Sandberg says she began to take on gender issues only after she saw my co-CEO, Mellody Hobson, fight for women and people of color on a board they were on together. Remember, speaking up doesn't always have to happen in the boardroom. Some directors make their mark between meetings. Some express themselves persuasively in writing.

Why the reluctance to speak on those issues?
Perhaps people worry about being typecast; they don't want to be seen as the minority director who talks only about racial concerns. And very often the board chair—usually a white man—has not assured minority directors that their contributions are welcome and important.

I also think executive recruiters aren't typically asked to find diverse candidates with track records of fighting for economic justice and civil rights. If people haven't spoken up on those issues in the first 40 years of their careers, why would they suddenly do so in the boardroom? This means that boards are not only failing to capture the benefits of diversity; they also risk perpetuating the status quo. The CEO might develop a blind spot, reasoning, "I have a diverse board, and they aren't talking about DE&I issues—so we must be doing great work."

Can you describe an occasion when you spoke out?
I started raising my hand many years ago when I noticed that the consultants to some of the boards I served on—lawyers, accountants, specialists in government affairs—were all white. That's often still the case. I point out the pattern and say, "It is not consistent with the values of this firm to have the only people of color providing services in the boardroom be the catering staff." Perhaps it's easier for me than for some others given that my heroes are our civil rights icons. Many directors today aren't old enough to remember that era. They didn't see John Lewis's head being bashed in or Birmingham police dogs terrorizing children. My hope is that the Black Lives Matter movement will galvanize the new generation of diverse directors. If we don't speak up in the boardroom, who will?

Photograph by LAWRENCE AGYEI

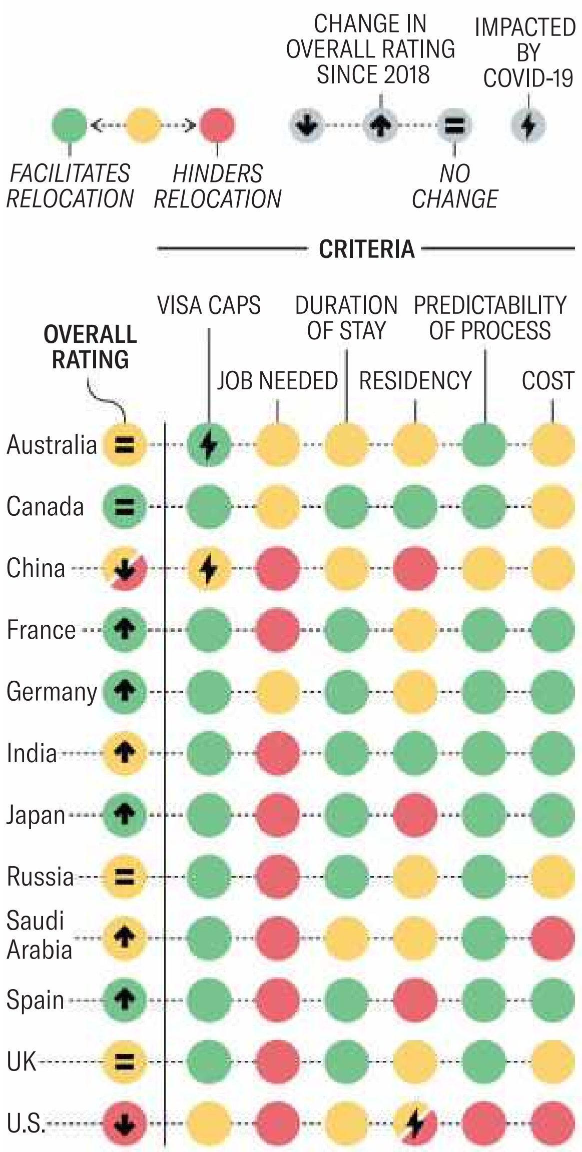
IdeaWatch

GLOBAL TALENT

Where It's Easy (or Not) to Relocate

Many countries have facilitated the hiring and relocation of foreign employees. For example, France offers a "talent passport" for entrepreneurs, while Japan has a visa category aimed primarily at tech workers. Two exceptions: the United States, which has hard caps in place for highly skilled workers and struggles with administrative bottlenecks, and China, which implemented strict border controls early in the pandemic.

How government rules affect global relocation for skilled talent, 2021



Source: "Building a Globally Diverse Team Is Actually Getting Easier," by Johann Harnoss, Anna Schwarz, and Martin Reeves (HBR.org, 2022)

PERFORMANCE REVIEWS

Sunny Skies, Clouded Thinking?

You might be hoping for a sunny day when your boss writes your annual review. After all, stock returns are higher and customers tip more generously when the sun is out—presumably because sunshine improves people's moods. Wouldn't fine weather boost evaluations of your work as well?

Researchers wanted to see if weather influences the *spillover effect:* the tendency of the score on an objective measure of performance to affect how people rate an unrelated, subjective measure. They had 600 participants in the United States assess the office administration performance (a subjective measure) of "David Sutton," a district manager, after reading notes and interviews with his colleagues about his office work. Some did so on a sunny day in early summer, and the rest did so on a cloudy day (the researchers checked forecasts and scheduled accordingly). Most of the participants also saw Sutton's sales score (an objective measure unrelated to his office work) before making their assessments. A baseline group got no sales information, to isolate the effect of weather on subjective evaluations generally.

Weather did not affect the subjective ratings of the baseline group, which were just as favorable, on average, on cloudy days as on sunny ones. But it did influence the spillover effect: Subjective and objective scores were more similar on sunny days in the Northeast and Midwest than on cloudy days in those regions. (Elsewhere the spillover effect was moderate and did not vary with the weather.) "Our results suggest that the novelty of sunshine in the Northeast and Midwest in early summer [that is, after relatively long, unpleasant winters] may exacerbate the spillover effect," the researchers write.

Previous studies have indicated that weather can affect how people process information, with sunny days prompting a greater reliance on stereotypes and heuristics—a result sometimes attributed to mood. In this experiment, however, follow-up surveys found no connection between weather and mood. "Cloudy weather [may] induce a more systematic and detailed processing approach (independent of mood effects)," the researchers conclude. "While weather itself is uncontrollable, understanding [its] impact…on subjective performance evaluation can equip organizations with the knowledge needed to account for and counteract any such effects."

ABOUT THE RESEARCH *"The Effect of Weather on Subjective Performance Evaluation," by Carolyn Deller and Jeremy Michels (working paper)*

OUCH!

When given a choice between performing a cognitively demanding task and being inflicted with physical pain, many participants opted for pain. Fully 28% preferred it to the cognitive task even when the level of pain was the highest that is ethically permitted. "Forced Choices Reveal a Trade-Off Between Cognitive Effort and Physical Pain," by Todd A. Vogel et al.

PRICING

One Way to Encourage Consumers to Upgrade

Under a popular marketing strategy, managers use prices just below a round number—like $9.99, $79.95, and $399,990—because consumers tend to perceive items to be less expensive than if they were a few cents or dollars higher. New research finds an important exception: If you're seeking to upsell customers, setting the price of the basic option at or just above a round number gets better results.

The researchers set up a coffee stand on a college campus and varied the prices of a small and a large coffee over the course of two days. Some passersby saw a base price of $.95 and $1.20 for the upgrade, while others saw prices of $1.00 and $1.25. Just 29% of purchasers who saw the first set of prices bought the large coffee, versus 56% of those who saw the second set.

Six lab experiments with products including blenders, cars, and streaming services found similar results. "Pricing a base product just below...a round number separates the base product and upgrade options into different mental categories," the researchers write, "making the upgrade feel more expensive." Even when the upgrade *was* more expensive—for example, when the choice was between a basic and a deluxe blender priced respectively at $39.99 and $47.50 and at $40.00 and $48.50—participants presented with the latter set of prices were more likely than the others to spring for the deluxe model. The effect was lessened when products were presented sequentially rather than simultaneously (forcing people to rely on memory) and when the upgrade crossed another threshold (as when, say, the basic option was $20.50 and the fancy version was $30.50). So managers should avoid pushing the price of a superior product version above the next-highest round number, the researchers say. "Pricing an upgrade option just above another...threshold also creates a psychological barrier that will discourage consumers to upgrade," they write.

ABOUT THE RESEARCH *"The Threshold-Crossing Effect: Just-Below Pricing Discourages Consumers to Upgrade," by Junha Kim, Selin A. Malkoc, and Joseph K. Goodman (*Journal of Consumer Research*, 2022)*

TECHNOLOGY

The Price of a Call

Minimum-wage employees in inflation-wracked Venezuela would have to work 7,063 hours—the equivalent of more than three years full-time on the job—to buy an iPhone 13. Below is a rundown of how many hours they'd need to work in 34 countries, based on each country's inflation-adjusted 2021 minimum wage.

Work hours needed to buy an iPhone 13

Venezuela	7,063
India	3,667
Russia	1,081
Vietnam	1,043
China	983
Malaysia	607
Turkey	543
UAE	488
Hungary	380
Poland	320
Czechia	316
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Source: Grover

IdeaWatch

INVESTOR ACTIVISM

How CEO Gender Sways Shareholders During Proxy Battles

Studies have shown that activist investors are more apt to target firms led by female CEOs. New research finds that when those investors mount a proxy contest, hoping to place one or more of their own candidates on the board, they are likelier to win the support of ordinary shareholders if the CEO is a woman. And although the individual holdings of those shareholders may be small, as a group they often constitute a crucial swing vote.

In their first study, the researchers asked participants to imagine that they held stock in a fictitious company and had received a letter from a male activist investor seeking their vote in an upcoming proxy contest. In half the letters, the targeted company was headed by "David Turner"; in the other half, "Deborah Turner" was at the helm. Participants sided with the activist investor 62% of the time against David and a whopping 82% of the time against Deborah. In the second study, the gender of the activist investor sending the letter was also varied. When the letter writer was male, results mirrored those of the first study. When the writer was female, CEO gender had no significant effect on whom participants chose to support.

The findings are puzzling at first blush; prior research has shown that in subjective evaluations, female CEOs are deemed to be as competent and effective as their male counterparts. But the researchers argue that people may be implicitly assessing how effective a CEO is *as a woman* or *as a man*—and owing to pervasive stereotypes, applying lower standards when judging women. Those lower standards are activated in competitive and comparative situations, as when participants chose sides in the proxy contests initiated by a male activist. They were less influential when both parties were women.

To shore themselves up against proxy contests, the researchers say, companies should follow best practices regardless of CEO gender, such as cultivating trustworthiness and developing strong investor relations and transparent communication. And given that competition appears to activate stereotypes that work against female CEOs, communications from target companies about proxy contests might seek to minimize the notion that investors "must 'choose sides' by crafting messages that downplay perceived competition."

ABOUT THE RESEARCH *"Choosing Sides: CEO Gender and Investor Support for Activist Campaigns," by Amanda P. Cowen, Nicole Votolato Montgomery, and Christine Shropshire (Journal of Applied Psychology, forthcoming)*

WORD OF MOUTH

Swearing in Online Reviews Can Be Damn Effective

Many websites and social media platforms try to prohibit the use of profanity for fear it could offend. But does swearing really put people off?

A recent study analyzed 75,000 Yelp reviews and 200,000 Amazon reviews, using linguistic software to identify those containing swear words when describing products and noting the number of readers who marked each review "useful" (in the case of Yelp) and the share of "helpful" versus "unhelpful" ratings for each review on Amazon. On both platforms, readers judged reviews having up to three swear words as significantly more valuable than others.

Several experiments confirmed and extended the findings. In one, participants imagined shopping for an external battery for electronic devices. They read a review stating that the battery either "charged my phone fast" or "charged my phone fucking fast" before answering questions about the product and the reviewer. Participants who saw the latter review held more-favorable attitudes toward the battery than the others did.

IdeaWatch

READ MY FACE

For each standard-deviation increase in anger, distrust, or fear detected by facial-recognition software in the expressions of the U.S. Federal Reserve chair during a press conference, the SPY index (which aims to track the S&P 500) drops by an average of 0.528 basis points in the subsequent three minutes. "Let's Face It: Quantifying the Impact of Nonverbal Communication in FOMC Press Conferences," by Filippo Curti and Sophia Kazinnik

They thought it would charge faster and that the reviewer felt more strongly. In another experiment, participants who read that a dishwasher was "damn quiet" liked it more than those who read that it was "super" or "insanely" quiet, and they perceived the reviewer's feelings to be stronger. In yet another experiment, the use of "damn" evoked more product liking than did the use of "d@mn"—but "darn" also evoked strong liking.

Swear words increase the power of a review precisely because they are taboo, the researchers say. Participants inferred that the reviewer had strong feelings about the product because he or she took a social risk when describing it. (Excessive swearing, however, was seen as saying more about the reviewer than the product and was deemed less valuable.) And the inferences readers made about the reviewer's feelings affected their attitudes about the product. Phonetically related substitutes like "darn" were close enough to evoke similar responses, but asterisks or other symbols lessened the phonetic link and blunted the effect, as did the use of other adjectives. "Website moderators may be wise not to ban swear words, because they can increase the value of the review and the readers' attitude towards the reviewed product," the researchers write. "Instead, they could update their community guidelines to inform reviewers of the downside of using [too] many swear words."

ABOUT THE RESEARCH *"The Power of Profanity: The Meaning and Impact of Swearwords in Word-of-Mouth," by Katherine C. Lafreniere, Sarah G. Moore, and Robert J. Fisher* (Journal of Marketing Research, *forthcoming)*

CORPORATE MISCONDUCT

Local Newspapers Are Essential Watchdogs

Studies have shown that regions with less local press than others suffer from higher levels of corruption among their elected officials. With newspapers still struggling amid digital competition, a research team decided to investigate the effects of local media closures on another type of malfeasance: corporate crime.

The researchers gathered data on U.S. corporate misconduct in the years 2000 to 2017 from Violation Tracker, which records information on infractions and penalties from 44 federal regulatory agencies. They found 26,450 violations by 1,383 public firms. They then identified 33 local newspapers that shut their doors at some point from 2003 to 2014. Comparing local-area violations and penalties in the three years before and after each paper folded, they saw that when a newspaper vanished, violations (encompassing such things as accounting fraud, overbilling, unsafe workplaces, and discrimination) rose by 1.1%, on average. The severity of violations also increased, and penalties spiked by 15%. Finally, toxic emissions, which must be reported even when they're legal, jumped by nearly 20%. Accounting for variables including the local economy and fraud environment did not change the results.

"Our findings indicate that local newspapers are an important monitor of firms' misconduct," the researchers write. Their figures are almost certainly conservative, they add, given that they studied only public companies and could capture just the violations that were detected.

ABOUT THE RESEARCH *"When the Local Newspaper Leaves Town: The Effects of Local Newspaper Closures on Corporate Misconduct," by Jonas Heese, Gerardo Pérez-Cavazos, and Caspar David Peter* (Journal of Financial Economics, *forthcoming)*

IdeaWatch

PERSUASION

The Headphone Advantage

Evidence has shown that factors such as accent, gender, and vocal qualities influence people's reactions to material conveyed via audio. A new study finds that the technology that people listen with also matters. Across five experiments involving nearly 4,000 participants, people who listened through headphones felt more closely connected to the communicator than did people listening through speakers—and that affected their judgments, attitudes, and behavior.

In one experiment, the researchers asked 697 participants to listen to a young woman describe being in a car accident caused by a driver using a cellphone. Some participants had headphones, while the others listened through speakers. After hearing the audio clip, which concluded with the admonition that "safe driving starts with you," the participants answered questions about the young woman and her message. Those with headphones felt more closeness to and empathy for her and reported a greater shift in their beliefs about the dangers of distracted driving. In another experiment, the researchers set up a booth on a university campus with materials from the business school's journal and asked passersby to listen to a short excerpt from its podcast and provide feedback. Some of those who agreed listened to the audio through an iPad's speakers, and some used headphones. Members of the latter group reported greater feelings of closeness to the podcaster than the others did. They were twice as likely to agree to nominate her for an award and were more likely to want more information on how to spread the word about the company she worked for.

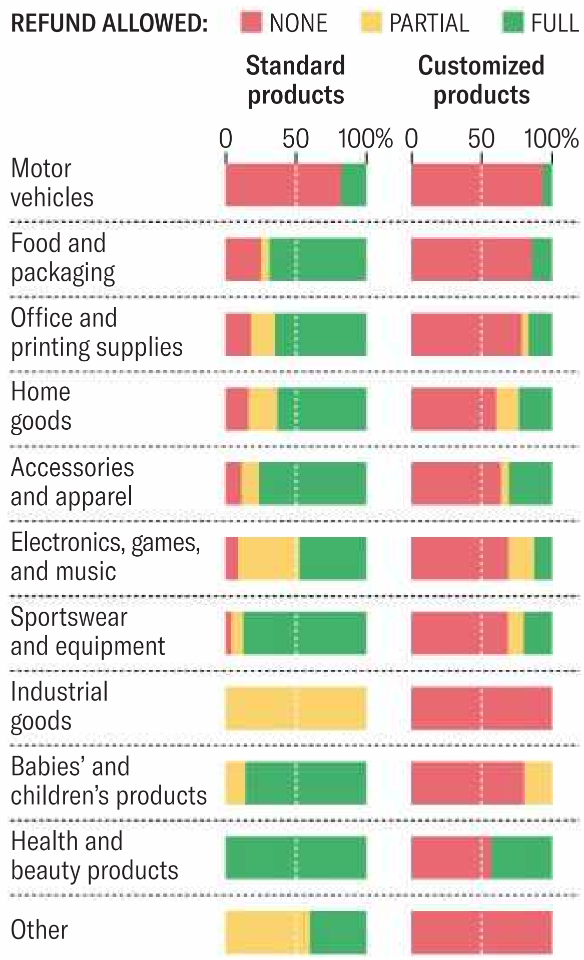
"Organizations...should consider where to place certain ads based on the medium through which they will likely be heard," the researchers write. "If aiming to have listeners feel close to the communicator or be particularly persuaded by their message, managers should consider placing their ad or message on a program often consumed by headphones (such as a podcast)." Companies might encourage their employees to use headphones when listening to trainings and during work-related virtual communications, they add, especially given the growing prevalence of remote work.

ABOUT THE RESEARCH *"A Voice Inside My Head: The Psychological and Behavioral Consequences of Auditory Technologies," by Alicea Lieberman, Juliana Schroeder, and On Amir* (Organizational Behavior and Human Decision Processes, *2022)*

OPERATIONS

Whose Customized Products Can Be Returned?

Generous return policies make purchase decisions easier, but for customized products—an increasingly important component of many firms' offerings—they are few and far between. A survey of 426 U.S.-based companies shows that makers of health and beauty products are the most lenient.



Source: "Why You Should Allow Returns on Customized Products," by Gökçe Esenduran, Paolo Letizia, and Anton Ovchinnikov (HBR.org, 2022)

COMPILED BY HBR EDITORS | SOME OF THESE ARTICLES PREVIOUSLY APPEARED IN DIFFERENT FORM ON HBR.ORG.

When **Daniel Lerner,** a professor of entrepreneurship at Madrid's IE Business School, and colleagues examined the medical and professional histories of 74,291 Danish women, they discovered that those infected with the parasite *Toxoplasma gondii* were, on average, 29% more likely than others to have founded a start-up, 27% more likely to have founded multiple ventures, and more than twice as likely to have founded their businesses alone. In addition, their ventures were more successful, on average, than those launched by their uninfected counterparts. **The conclusion:**

A Common Parasite Can Make People More Entrepreneurial

Professor Lerner, DEFEND YOUR RESEARCH

LERNER: Behavior modification caused by parasites is a proven phenomenon. Scientists have shown that when *Toxoplasma gondii* infects rodents, it enters their brains and makes them less risk-averse. Specifically, the rodents become more active, are more inclined to explore new areas, have slower reflexes, and are less fearful of the smell of cats or cat urine. Novelty-seeking behavior, disinhibition, and reduced aversion to risk: Those sounded like entrepreneurial qualities to me. So my colleagues and I set out to assess a potential connection.

HBR: Hold on—are we talking about mice or men? Both. *Toxoplasma gondii,* which is estimated to infect 10% to 50% of the human population depending on the country, also affects people's brains, modifying the production and metabolism of neurotransmitters such as dopamine and serotonin and of hormones such as testosterone. Evidence is growing that those modifications can cause behavioral changes not unlike the ones observed in rodents. Even people with subclinical or latent infections—which account for the vast majority of cases—rate the odor of domestic cats as more pleasant relative to the way that uninfected people rate it. They become more extroverted. They're also more likely to be involved in traffic accidents and to swim while intoxicated—behaviors that suggest they have an increased tolerance for risk.

Given that the parasite can be transmitted to people from cats, are you sure you didn't simply demonstrate that female cat owners march to the beat of their own drums and are therefore more likely than other people to start businesses? Ah, the "crazy cat lady" stereotype! I highly doubt it. It's true that TG reproduces only in feline intestines, making cats the ultimate hosts. But contrary to what many people believe, TG infections in humans don't come very often from indoor cats. They're more likely to come from consuming undercooked meat, unpasteurized dairy products, or unwashed vegetables, and occasionally they arise from exposure to feral cats or domestic cats that have been exposed to infected rodents. The overall link between TG and

Illustration by ARTHUR MOUNT

> Infected people become more extroverted. They're more likely to have traffic accidents and to swim while intoxicated—behaviors that suggest they have an increased tolerance for risk.

psychological and behavioral changes has been demonstrated in hundreds, if not thousands, of studies involving a wide variety of species.

Although studying TG's effects in humans is, of course, complex, we are building a solid case. In previous research we took saliva samples from some 1,500 university students and found that those who tested positive for TG were, on average, 1.4 times as likely as others to major in business and 1.7 times as likely to have an emphasis on or a concentration in management and entrepreneurship. In another study, this time of 200 professionals, we found that people infected with TG were 1.8 times as likely as others to be entrepreneurs.

Our new study builds on that research but on a much larger scale. TG causes serious illness in the immunocompromised and can even be fatal. In many countries, including Denmark, pregnant women are tested for it because acute TG infection during pregnancy can cause very serious birth defects. Thanks to my Danish coauthors and to Denmark's extraordinary record-keeping system and public data agency, we were able to compare individually linked but anonymized medical records with information on individuals' economic activities—employment, business venturing, and other things—over more than a decade. We observed more than 74,000 women in all, of whom more than 7,000 were TG-positive.

Of necessity, your study included only women. Would you expect to find a similar effect among men? The previous research on TG and entrepreneurship involved both men and women, so I would expect the general findings to be similar. However, it's possible that the size of the effect might differ.

Are you worried that some aspiring entrepreneurs might intentionally expose themselves to TG? I certainly hope not; that would be very stupid. It is true that the mean performance of businesses started by the TG carriers in our study, as measured by profits, was about 8% higher than that of the noncarriers' businesses. But individual performance was quite variable. There were plenty of impressive successes but a lot of flops as well. And the TG-infected entrepreneurs demonstrated less persistence than the uninfected founders did and were more likely to have founded their businesses alone. Persistence and the capacity to engage complementary cofounders are typically important qualities for an entrepreneur.

Most important, TG is a parasitic pathogen! It remains in your body forever. Even in latent form it can make you very ill if you ever become immunocompromised, say from cancer treatment or an organ transplant. And recent evidence suggests that TG can cause very serious mental problems among people with latent infections. For example, research has linked it to manic depression, schizophrenia, and dementia. My advice is to avoid the parasite by staying away from raw meat, thoroughly cleaning fruits and vegetables, and washing your hands should you come into contact with cat droppings or rodents.

Could your findings be useful to venture capitalists when they're sizing up possible investment targets? Maybe they could ask entrepreneurs to test for TG infection as a potential funding screen—a positive result being desirable from their point of view. I'm all for more-rigorous and evidence-based assessments by venture capital firms, which could improve their financial returns and at the same time increase the diversity of founders they support and benefit the broader entrepreneurial ecosystem. But there are far better ways to do that than testing for this parasite.

I find the whole notion of parasitic manipulation pretty creepy; it's awfully close to suggesting that humans don't really have free will. Is that what you believe? Science shows that people's behavior is influenced by innumerable things—for instance, research is emerging about how the bacteria in our guts affect our mental health. But I stop far short of arguing that we lack free will. You might recall that a similar concern arose decades ago, when scientists started learning about how genes influence our behavior. When it comes to both genes and parasites, we're talking about probabilistic tendencies. Whatever effects TG has on our behavior, infection is not deterministic. Personally, I think it's a good idea to keep one's ego in check and be a bit humble about how well we understand our own motives, desires, and actions. But that doesn't lessen my sense of autonomy and agency.

Interview by **Eben Harrell**

HBR Reprint F2104B

HOW WE DID IT

Two Cofounders of Xendit on Pioneering Fintech in Southeast Asia

by Moses Lo and Tessa Wijaya

XENDIT, OUR PAYMENTS platform company, came to life with a pivot.

The year was 2016, and we, along with our cofounders, Juan Gonzalez and Bo Chen, were working out of a small home office in Jakarta. Our goal was to develop a friction-free way for people in Southeast Asia to digitally transfer money, starting with our own country of Indonesia, where citizens are much

Photographs by NYIMAS LAULA

IdeaWatch

more likely to have a cell phone than a bank account or a credit card. Looking to U.S. start-ups for inspiration, we first built a product that would allow individuals to exchange funds—something like Venmo but with more privacy. We then rolled out a simple business-to-consumer interface—a sort of pared-down version of Shopify—designed to help very small merchants, whether they were selling through traditional bazaars or on Instagram.

Uptake was slower than we had hoped, however, and we soon realized that we were putting the cart before the horse. Apps like our initial ones couldn't be successful without an infrastructure for digital transactions and banking. We'd already built an internal system to ensure that our incoming and outgoing payments could be quick and seamless. Then came the brainstorm: Why not offer that service externally to speed transactions from bank to business and from business to business, easing a significant challenge for enterprises of all sizes in the region? In one weekend we took our proprietary system to market and set Xendit on a new, more successful trajectory.

In the years since, we've maintained month-over-month revenue growth of more than 10% and expanded from a few dozen employees to more than 1,000 distributed around the world. We now serve customers in the Philippines as well as Indonesia, and we're eyeing other markets in the region. And in our latest funding round, backed by investors that include Accel, Amasia, Tiger Global Management, and Goat Capital, we achieved a valuation of more than $1 billion.

Still, we believe that we're just getting started. And we're applying the lessons we learned in our earliest years—know your market, stay nimble, prioritize talent and culture—to new challenges, from the Covid-19 pandemic to the war in Ukraine. Our ethos is to move fast but thoughtfully, working product by product and country by country, to build and strengthen Southeast Asia's digital economy.

HOW WE BEGAN

Though we both have deep roots in Indonesia, we've also spent lots of time abroad. Moses has lived in Singapore, Malaysia, Australia, and the United States and earned his undergraduate degree from the University of New South Wales and his MBA from the University of California, Berkeley. Tessa, too, studied in the United States, at Syracuse University, and in Australia, at the University of Sydney. We were introduced by mutual friends back in Jakarta and decided, with Juan and Bo, to partner on Xendit.

The original idea for the company came from a college friend of Moses. As a South Sudanese guy studying in Australia, he worked three jobs to send money home to his family, but that was a slow and expensive undertaking. We started thinking about how we could use technology to make payments easier in the developing world. Indonesia seemed like a natural place to start. It is not only our homeland and home base but also the largest economy in a region where, although 70% of the 580 million people are online, U.S. companies have struggled mightily to gain traction.

Happily, we found an early supporter in Justin Kan, a cofounder of Twitch and Goat Capital and a former partner at Y Combinator (YC), who has relatives in the country and could see both its challenges (it's a nation of more than 17,000 islands, after all) and the opportunity it presented for a fintech company led by people who knew it well and would invest the time to learn even more. Xendit also became the first Indonesian company accepted to the prestigious YC start-up incubator, where our team mapped out exactly what we wanted the company to do and what our business model would be. We were surrounded by other start-up founders posting 20% week-on-week growth and signing deals while we were still figuring ourselves out. But we learned a great deal from the experience, and we were up and running in Jakarta before the program ended.

From the beginning we looked to ease the biggest fintech pain points we could find. Once we learned that it was not the C2C or C2B/B2C but the more fundamental B2B transactions we needed to facilitate—allowing banks and companies to process multiple payments simultaneously rather than requiring that they happen one by one—we were off to the races.

That's not to say we didn't have mixed feelings about shifting away from our initial product ideas. Our Venmo-like service had gained 200,000 users in four months. But a Berkeley professor once told Moses that he should pursue a start-up idea only if it would one day be worth $1 billion. We decided—presciently, it now seems—that our payments infrastructure idea could be it.

Two other companies were already trying to offer the same service to corporate and start-up customers in Indonesia, but frankly, their technology wasn't as good as ours, and they levied additional sign-up and cancellation fees. Our application programming interface was easier to integrate and less

Six years ago Xendit was an idea. Today we process more than 150 million transactions, worth $12 billion, annually.

expensive, making it a more attractive proposition for business buyers.

WEATHERING THE PANDEMIC

Of course, like any other start-up, we faced big challenges even after our pivot. Initially our systems weren't as robust and reliable as they are now, so when we started seeing 10% monthly transaction growth, we encountered some hiccups. For example, when construction on the main road of Jakarta destroyed our leased data lines to our bank, our payment processing briefly went down. The same thing happened when widespread flooding in the city halted big-bank operations. The house that served as our start-up office often suffered electricity failures, and the backup generator would run out of petrol if the blackout went on too long. But because we operate from the cloud and had built redundancy into our systems, we were able to work around all those issues. And our customers stuck with us; Xendit was too useful to give up. We appreciated their loyalty, kept improving, and were soon capable of processing 100-plus simultaneous transactions.

Then Covid-19 hit. At that point, in early 2020, a sizable chunk of our business was from travel industry customers—agencies and airlines. Owing to pandemic travel restrictions, those transactions and our associated fee revenues fell off overnight. Our response was to treat the crisis the way a Formula 1 driver navigates a difficult curve on a competitive raceway: First slow down a little to plan the approach. For us, this rethink included simple things such as renegotiating contracts with banks to bring costs down. Forty members of our senior team took voluntary pay cuts. We also thought about which industries were poised for greater growth in the coming years—gaming, crypto, online retail, lending, real estate, and small-business remittances, for example—and developed plans for targeting those sectors. Then, just as the Formula 1 driver begins accelerating at the start of the curve to propel the car out of it, we went full throttle to achieve our revised goals, doubling our workforce, adding new customers and business lines such as e-commerce and mutual funds, and investing to scale them up quickly. We also launched a lending business, underwriting credit risk for trusted customers who needed help getting through the most difficult months of the pandemic. Within nine months our revenues were not just back to where they had been but reaching new heights. In fact, by the end of 2020 we'd more than quintupled our total payment volume. We now serve 3,000 businesses in more than 20 sectors, from individual gig workers and digital-first start-ups to mom-and-pop shops and big brick-and-mortar enterprises.

By 2021 we were ready for international expansion, but only after the same kind of due diligence we'd done to understand our home market. We were hearing from regional customers such as Grab (the Uber of Southeast Asia), Ninja Van (a logistics company), and ShopBack (e-commerce) that a big problem in the Philippines was that its banks lacked an ACH transfer, or debiting, function. So we set out to fix it. We went to each and every Filipino bank and persuaded its leaders to let us build a debit system that could link to Xendit's other products. It's perhaps no surprise that we're now one of the top B2B payment platforms in the Philippines, with direct debit as our top-selling product. Yes, part of our vision is to transfer the fintech that works well in one country to others in Southeast Asia if it's helpful to customers there. But we also want to pave roads to meet the specific needs of each new market we enter.

A DIVERSITY OF TALENT

To work this way takes talent, and we've been very deliberate about acquiring and developing it. Our team is geographically dispersed, with offices in Indonesia, Singapore, Malaysia, and the Philippines. That may seem normal now, but before Covid many observers asked us how we expected to run a successful business in Asia without face-to-face interaction. We've managed to do just that with creative but careful hiring and a unifying culture. In the early days, before the Southeast Asian start-up scene existed, we targeted fresh college graduates—the next generation of regional talent—who were willing to take a risk on a new venture and told them to spread the word. We looked for raw talent or potential rather than existing expertise. Our pitch was this: We're a new concept and company, but we promise you'll have a great experience. It seems that employees did and still do: We're proud to have earned a five-star rating from Glassdoor.

As we've grown, we've looked further afield for people while also refining the vetting process. For example, anyone who joins Xendit first does a trial day with us, working with current

Tessa Wijaya and Moses Lo at a Xendit off-site in Bali.

employees on a real problem that we're facing. That helps us see what people can do and how they operate—and vice versa—which seems wise before committing to any person or company. In fact, that process, which we implemented in 2016, has boosted our ability to predict a new hire's potential for success from 75% to 95%. Some candidates self-select out, but those who embrace and thrive in the trial almost always prove to be great fits.

We've also worked to bring more women into our male-dominated industry and to support the growth of female technologists. Flexible and remote work is one draw for them, of course, but so is the offer of training, mentoring, development, and promotion into leadership positions, with Tessa and other senior leaders serving as role models. One case that sticks with both of us is the single mother who, a couple of years after she joined our team, wrote us a note explaining that Xendit was the first employer to have offered her a path toward upward mobility and a feeling of love from and for her colleagues.

To unite the diverse group of far-flung Xendit team members, we've also intentionally built a unique culture focused on quality, transparency, community, and purpose. We aim for the highest standards, in everything from code to customer service. To that end, we're open about all our processes. For example, like Amazon, we've created a document outlining how we build software. When employees do something new, they write down how they did it so that others can learn. That way, no matter how recently employees have come on board or how far away from our Jakarta headquarters they're located, they can access the resources they need to do their jobs well.

We also care about one another on a human level—a fact that was painfully driven home as we watched team members based in Ukraine shelter from Russian bombs, share dwindling food supplies with their pets, and ultimately flee to safer areas. Of course we are doing everything we can to help.

Finally, especially in troubled times, we at Xendit align around the mission of having a positive impact on our region and the world, developing Southeast Asia's digital economy to boost business and employment growth. We really do believe that technology can change people's lives for the better.

AN EXCITING FUTURE

Going forward, our strategy is three-pronged. First, we will continue to expand regionally—perhaps to Thailand, Malaysia, and Vietnam—but we'll always follow where customers pull us. What do they need that doesn't yet exist but that we can help build? Second, we'll move beyond payments to other value-added services, such as the lending business we've already started in Indonesia. Third, we will deliver for the small and medium-size enterprises that truly depend on Xendit to thrive and scale up.

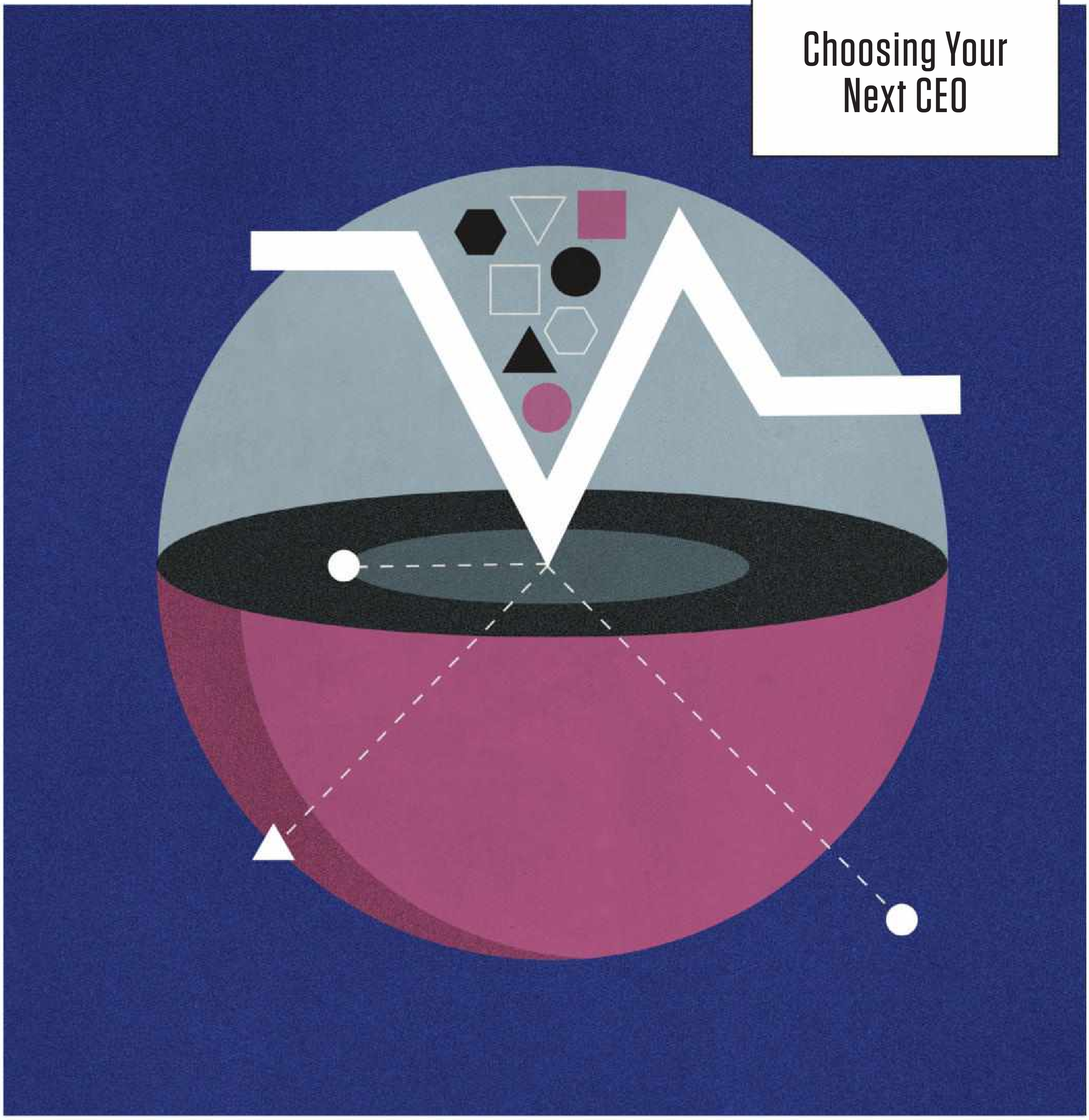
With strong global VC backing, we intend to keep reinvesting in new markets, products, and business lines so that we can seize the biggest and best opportunities. Experts predict that the Southeast Asian digital economy will be worth more than $300 billion by 2025, so we expect to face more competition in the coming years. But we think we've positioned ourselves well to both drive and benefit from that growth.

Six years ago Xendit was an idea. Five years ago it was a start-up about to pivot. Today we process more than 150 million transactions, worth $12 billion, annually. And we all have stories about how we've helped other businesses grow in that time. Tessa's favorite might be the cake shop, now famous on Instagram, that joined our fold and saw its revenues jump 90% and an attempted fraud thwarted. For Moses it might be the seven billboards he passed on a recent taxi ride from the Jakarta airport into the city. All seven featured Xendit customers. We're excited about a future that will allow us to support thousands more.

HBR Reprint R2204A

Spotlight

Choosing Your Next CEO



Illustrations by CHAD HAGEN

Spotlight

The C-Suite Skills That Matter Most

More than ever, companies need leaders who are good with people.

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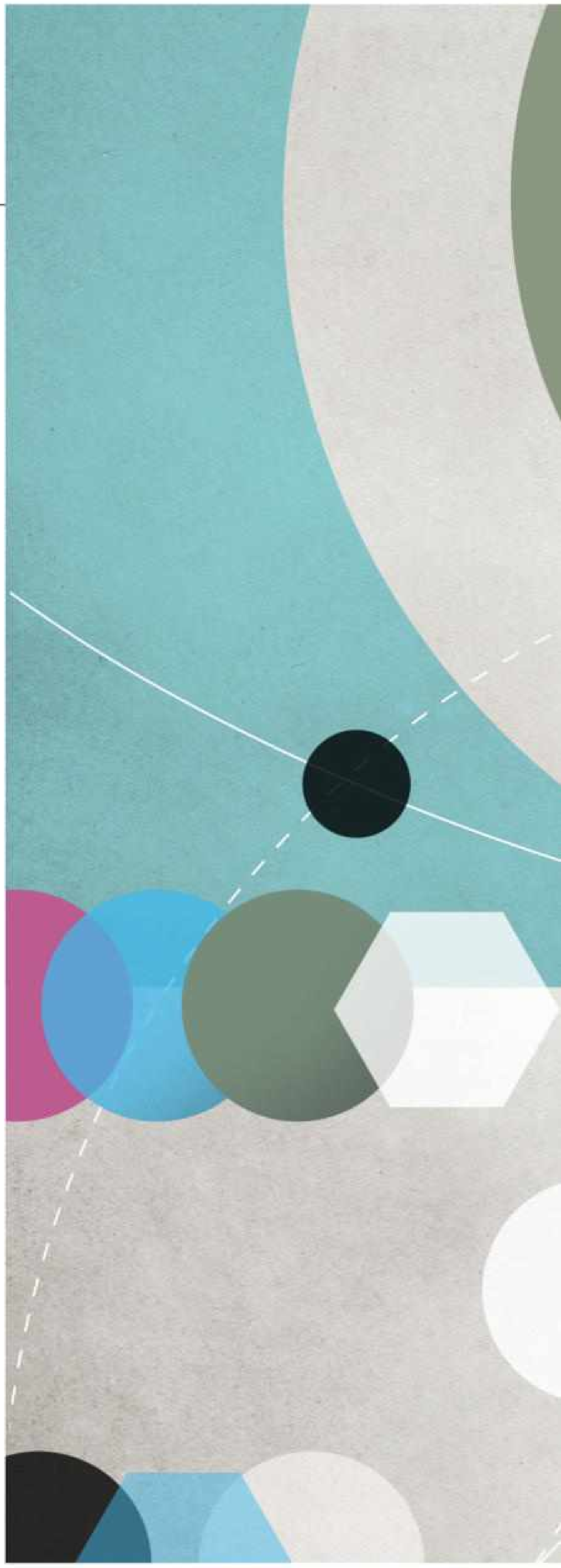
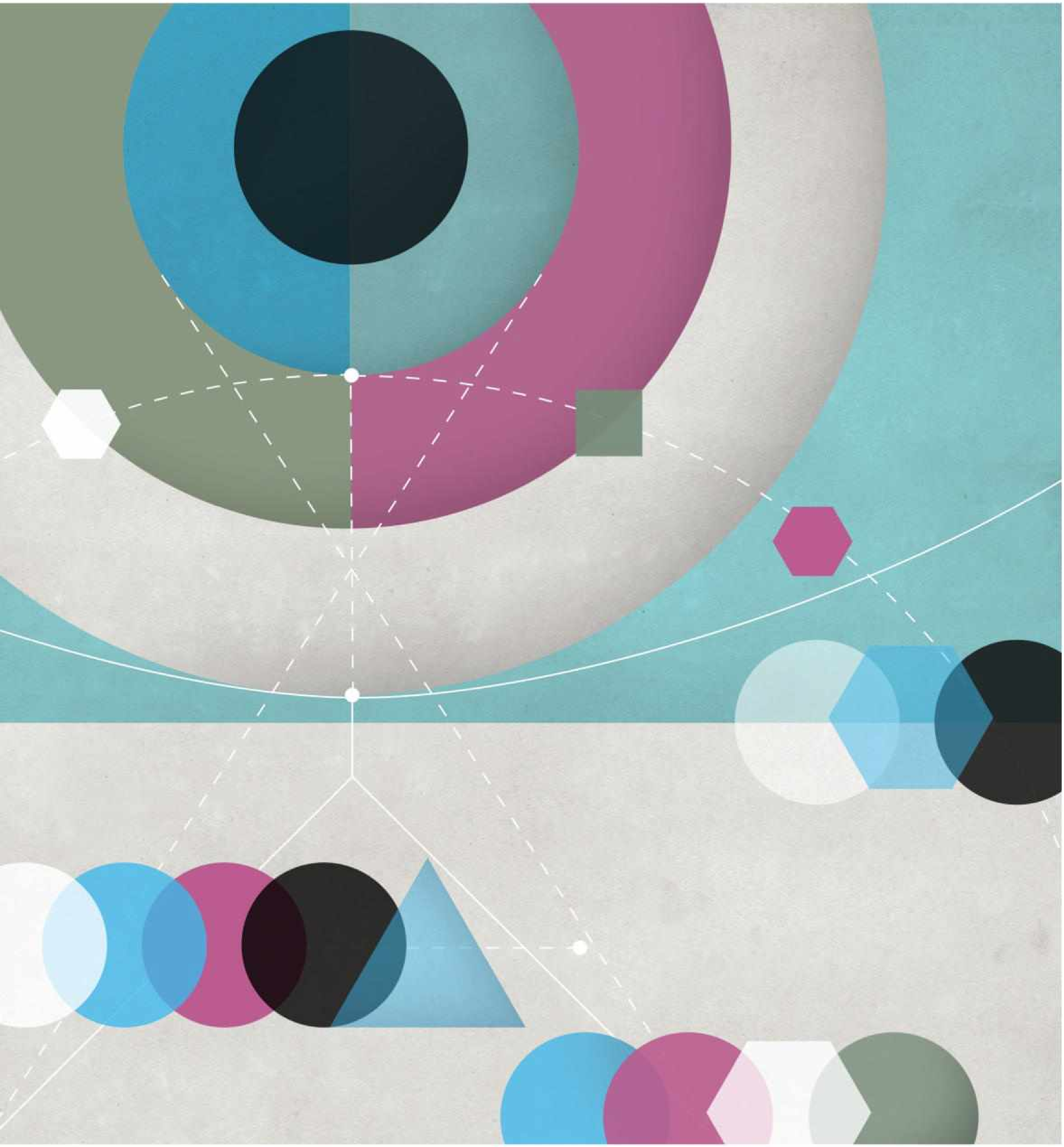
FOR A LONG TIME, whenever companies wanted to hire a CEO or another key executive, they knew what to look for: somebody with technical expertise, superior administrative skills, and a track record of successfully managing financial resources. When courting outside candidates to fill those roles, they often favored executives from companies such as GE, IBM, and P&G and from professional-services giants such as McKinsey and Deloitte, which had a reputation for cultivating those skills in their managers.

That practice now feels like ancient history. So much has changed during the past two decades that companies can no longer assume that leaders with traditional managerial pedigrees will succeed in the C-suite. Today firms need to hire executives who are able to motivate diverse, technologically savvy,





and global workforces; who can play the role of corporate statesperson, dealing effectively with constituents ranging from sovereign governments to influential NGOs; and who can rapidly and effectively apply their skills in a new company, in what may be an unfamiliar industry, and often with colleagues in the C-suite whom they didn't previously know.

These changes present a phenomenal challenge for executive recruitment, because the capabilities required of top leaders include new and often "softer" skills that are rarely explicitly recognized or fostered in the corporate world. Simply put, it's getting harder and less prudent to rely on traditional indicators of managerial potential.

What should organizations do to face this challenge? A critical first step is to develop greater clarity about what it now takes for C-suite executives to succeed. Yes, the range of necessary skills appears to have expanded—but how exactly? For example, what does the term "soft skills" really mean? And to what extent does the need to hire executives with more-expansive skills vary across organizations?

Remarkably, even though almost every aspect of leadership has been scrutinized in recent years, rigorous evidence on these crucial points is scant. To find out more—about the capabilities that are now in demand, how those have changed over time, and what adjustments companies are making to their process for selecting candidates—we recently analyzed data from Russell Reynolds Associates, one of the world's premier executive-search firms. Russell Reynolds and its competitors play an essential role in managerial labor markets: 80% to 90% of the *Fortune* 250 and FTSE 100 companies use the services of such firms when making a succession decision that involves a choice among candidates. (Disclosure: Russell Reynolds has recently conducted executive searches for Harvard Business Publishing, which publishes *Harvard Business Review*.)

For our research, Russell Reynolds gave us unprecedented access to nearly 5,000 job descriptions that it had developed in collaboration with its clients from 2000 to 2017. The data was sufficient to study expectations not just for the CEO but also for four other key leaders in the C-suite: the chief financial officer, the chief information officer, the head of human resources, and the chief marketing officer. To our knowledge, researchers had never before analyzed such a comprehensive collection of senior-executive job descriptions. (For more about how we worked with the data, see the sidebar "About the Research.")

Our study yielded a variety of insights. Chief among them is this: Over the past two decades, companies have significantly redefined the roles of C-suite executives. The traditional capabilities mentioned earlier—notably the management of financial and operational resources—remain highly relevant. But when companies today search for top leaders, especially new CEOs, they attribute less importance to those capabilities than they used to and instead prioritize one qualification above all others: strong social skills. (See the exhibit "Help Wanted: CEOs Who Are Good with People.")

When we refer to "social skills," we mean certain specific capabilities, including a high level of self-awareness, the ability to listen and communicate

IDEA IN BRIEF

THE SHIFT

It's no longer safe to assume that leaders with traditional managerial pedigrees will succeed in the C-suite. An analysis of executive-search data shows that companies today are prioritizing social skills above technical know-how, expertise in financial stewardship, and other qualifications.

THE EXPLANATION

Large companies today have increasingly complex operations, heavier reliance on technology, more workforce diversity, and greater public accountability for their behavior. Leading under those circumstances requires superior listening and communication skills and an ability to relate well to multiple constituencies.

THE PATH FORWARD

To succeed in the years ahead, companies will have to figure out how to effectively evaluate the social skills of job candidates. They will also need to make such skills an integral part of their talent-management strategies.

Social skills are particularly important in settings where productivity hinges on effective communication, as it invariably does in large, complex, and skill-intensive enterprises.

well, a facility for working with different types of people and groups, and what psychologists call "theory of mind"—the capacity to infer how others are thinking and feeling. The magnitude of the shift in recent years toward these capabilities is most significant for CEOs but also pronounced for the four other C-suite roles we studied.

Our analysis revealed that social skills are particularly important in settings where productivity hinges on effective communication, as it invariably does in the large, complex, and skill-intensive enterprises that employ executive search firms. In such organizations, CEOs and other senior leaders can't limit themselves to performing routine operational tasks. They also have to spend a significant amount of time interacting with others and enabling coordination—by communicating information, facilitating the exchange of ideas, building and overseeing teams, and identifying and solving problems.

Intriguingly, the evolution of skills requirements in the C-suite parallels developments in the workforce as a whole. At all employment levels today, more and more jobs require highly developed social skills. Harvard's David Deming, among others, has demonstrated that such jobs have grown at a faster rate than the labor market as a whole—and that compensation for them is growing faster than average.

Why is this shift toward social skills taking place? And what implications does it have for executive development, CEO succession planning, and the organization of the C-suite? This article offers some preliminary thoughts.

THE CHIEF REASONS FOR CHANGE

We've identified two main drivers of the growing demand for social skills.

Firm size and complexity. The focus on social skills is especially evident in large firms. Additionally, among firms of similar size, the demand for social skills is greater at publicly listed multinational enterprises and those that are involved in mergers and acquisitions. These patterns are consistent with the view that in larger and more complex organizations, top managers are increasingly expected to coordinate disparate and specialized knowledge, match the organization's problems with people who can solve them, and effectively orchestrate internal communication. For all those tasks, it helps to be able to interact well with others.

But the importance of social skills in large companies arises from more than just the complexity of operations there. It also reflects the web of critical relationships that leaders at such firms must cultivate and maintain with outside constituencies.

The diversity and number of those relationships can be daunting. Executives at public companies have to worry not only about product markets but also about capital markets. They need to brief analysts, woo asset managers, and address the business press. They must respond to various kinds of regulators across multiple jurisdictions. They're expected to communicate well with key customers and suppliers. During mergers and acquisitions, they have to attend carefully to constituents who are important to closing the transaction and supporting the post-merger

About the Research

This article is based on a rich data set drawn from almost 5,000 job descriptions compiled by Russell Reynolds Associates and companies conducting searches for various C-suite positions. Translating that data into variables that were amenable to quantitative analysis was no easy feat, because the job descriptions did not follow a standard structure or contain standard content. Our approach involved two steps.

First we defined a distinctive set of skill requirements that were relevant for chief executives. We started by combing through the U.S. Department of Labor's O*NET database (a repository of information about more than 1,000 occupations) to see what skills were listed for "chief executive" roles. We then sorted those into six clusters that included similar tasks: managing financial and material resources; monitoring corporate performance; tending to human resources; handling administrative tasks; processing and using complex information; and exercising social skills.

Our second step was to determine the extent to which each job description provided by Russell Reynolds was semantically similar to each O*NET skills cluster.

Both steps relied on a model of managerial language that we developed by applying cutting-edge machine-learning techniques (word2vec) to a corpus composed of every *Harvard Business Review* article published since the magazine's inception in 1922.

integration. Highly developed social skills are critical to success in all those arenas.

Information-processing technologies. "The more we automate information-handling," the management guru Peter Drucker wrote several decades ago, "the more we will have to create opportunities for effective communication." That has turned out to be prescient: Companies that rely significantly on information-processing technologies today also tend to be those that need leaders with especially strong social skills.

Here's why. Increasingly, in every part of the organization, when companies automate routine tasks, their competitiveness hinges on capabilities that computer systems simply don't have—things such as judgment, creativity, and perception. In technologically intensive firms, where automation is widespread, leaders have to align a heterogeneous workforce, respond to unexpected events, and manage conflict in the decision-making process, all of which are best done by managers with strong social skills.

Moreover, most companies today rely on many of the same technological platforms—Amazon Web Services, Facebook, Google, Microsoft, Salesforce, Workday. That means they have less opportunity to differentiate themselves on the basis of tangible technological investments alone. When every major competitor in a market leverages the same suite of tools, leaders need to distinguish themselves through superior management of the people who use those tools. That requires them to be top-notch communicators in every regard, able both to devise the right messages and to deliver them with empathy.

In sum, as more tasks are entrusted to technology, workers with superior social skills will be in demand at all levels and will command a premium in the labor market.

OTHER FACTORS

Our research suggests that the growing interest in social skills is being spurred by two additional drivers. These are harder to quantify, but they nonetheless may play an important role in the shift that's taking place.

Social media and networking technologies. Historically, CEOs didn't attract much popular notice, nor did they seek the limelight. While other businesspeople, investors, and members of the business press paid attention to them, the public generally did not, except in the cases of "celebrity" CEOs such as GE's Jack Welch, Sony's Akio Morita, and Chrysler's Lee Iacocca.

That era is over. As companies move away from shareholder primacy and focus more broadly on stakeholder capitalism, CEOs and other senior leaders are expected to be public figures. They're obliged not only to interact with an increasingly broad range of internal and external constituencies but to do so personally and transparently and accountably. No longer can they rely on support functions—the corporate communications team, the government relations department, and so forth—to take care of all those relationships.

Furthermore, top leaders must manage interactions in real time, thanks to the increasing prevalence of both social media (which can capture and publicize missteps nearly instantaneously) and network platforms such as Slack and Glassdoor (which allow employees to widely disseminate information and opinions about their colleagues and bosses).

In the past, too, executives were expected to be able to explain and defend everything from their business strategies to their HR practices. But they did so in a controlled environment, at a time and a place of management's choosing. Now they must be constantly attuned to how their decisions are perceived by various audiences. Failing to achieve their intended purposes with even a handful of employees or other constituents can be damaging.

So social skills matter greatly. The occupants of the C-suite need to be adroit at communicating spontaneously and anticipating how their words and actions will play beyond the immediate context.

Diversity and inclusion. Another new challenge for CEOs and other senior leaders is dealing with issues of diversity and inclusion—publicly, empathetically, and proactively. That, too, demands strong social skills, particularly theory of mind. Executives who possess that perceptiveness about the mental states of others can move more easily among various employee groups, make them feel heard, and represent their interests within the organization, to the board of directors, and to outside constituencies. More importantly, they can nurture an environment in which diverse talent thrives.

NEW AREAS FOR FOCUS

Given the critical role that social skills play in leadership success today, companies will need to refocus on the following areas as they hire and cultivate new leaders.

Systematically building social skills. Traditionally, boards and senior executives have cultivated future leaders by rotating them through critical departments and functions, posting them to various geographic locations, and putting them through executive development programs. It was assumed that the best way to prepare promising managers for a future in the C-suite was to have them develop deep competence in a variety of administrative and operational roles.

With this model, evaluating success and failure was reasonably straightforward. Processes ran smoothly or they didn't; results were achieved or they weren't. Social skills mattered, of course: As up-and-comers moved through functions and geographies, their ability to quickly form constructive relationships with colleagues, customers, regulators, and suppliers affected their performance. But such skills were considered something of a bonus. They were a means to achieving operational objectives (a prerequisite for advancement) and were seldom evaluated in an explicit, systematic, and objective way.

Companies today better appreciate the importance of social skills in executive performance, but they've made little progress in devising processes for evaluating a candidate's proficiency in those skills and determining aptitude for further growth. Few companies invest in training to improve the interviewing skills of staffers involved in recruiting—least of all senior executives or independent directors, who are presumed to have the background and perspective necessary to make sound judgments.

Getting references is also problematic: Companies typically conduct senior-level searches with a high degree of confidentiality, both to protect themselves (a leak could cost them the best prospect) and to protect the candidates (who might not want their employers to know that they're open to job offers). Moreover, the people conducting C-suite interviews and those providing references are likely to be part of the same small, homogeneous networks as most of the candidates, which significantly heightens the risk of bias in the decision-making process. For example, board members tend to support candidates who are referred by friends or have backgrounds similar to their own. They might mistakenly assume that those individuals possess broadly applicable social skills simply because they connected easily with them in interviews.

To better evaluate social skills, some companies now run psychometric assessments or simulations. Psychometric tests (which are designed to measure personality traits and behavioral style) can help establish whether someone is outgoing and comfortable with strangers, but they shed little light on how effective that person will be when interacting with various groups. Simulation exercises, for their part, have been used for some time to evaluate how individuals respond to challenging circumstances, but they're usually designed around a specific scenario, such as a product-integrity crisis or the arrival of an activist investor on the scene. Simulations are best at assessing candidates' administrative and technical skills in such situations, rather than their ability to coordinate teams or interact spontaneously with diverse constituencies. Even so, these exercises are not widely used, because of the time and money required to run them well.

In their executive development programs, companies today need a systematic approach to building and evaluating social skills. They may even need to prioritize them over the "hard" skills that managers presently favor because they're so easy to assess. Companies should place high-potential leaders in positions that oblige them to interact with various employee populations and external constituencies and then closely monitor their performance in those roles.

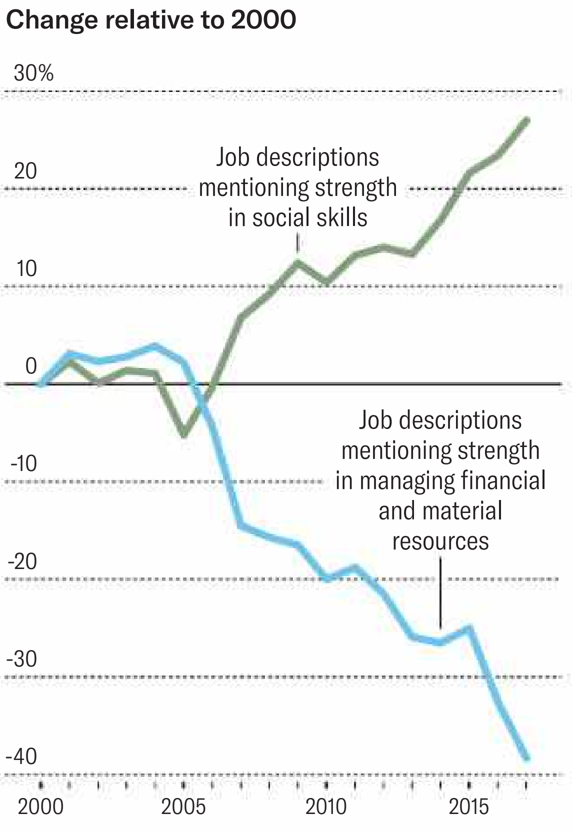
Assessing social skills innovatively. The criteria that companies have traditionally used to size up candidates for C-suite positions—such as work history, technical qualifications, and career trajectory—are of limited value in assessing social skills. Companies will need to create new tools if they are to establish an objective basis for evaluating and comparing people's abilities in this realm. They can act either independently or in conjunction with the professional-services firms that support them, but in either case they'll need to custom-design solutions to serve their particular needs.

Although appropriate tools have yet to be developed for searches at the highest echelons of organizations, considerable innovation is underway

Companies will need to create new tools if they are to establish an objective basis for evaluating and comparing people's social skills.

Help Wanted: CEOs Who Are Good with People

Since 2007, companies advertising C-suite openings have increasingly emphasized the importance of social skills and deemphasized operational expertise.



Note: Job descriptions were for nearly 5,000 C-suite positions advertised by the executive-search firm Russell Reynolds Associates. The data points were estimated in a regression model that controls for industry differences and other variables. The coefficients after 2007 are significantly different from zero across both skill clusters.

when it comes to ascertaining the skills of lower-level job seekers and placing them in the right positions. Companies such as Eightfold and Gloat, for example, are using artificial intelligence to improve matching between candidates and employers. New custom tools are also being used to identify skill adjacencies and to create internal talent marketplaces, helping companies assign qualified employees to important tasks more quickly. The underlying algorithms rely on huge data sets, which poses a technological challenge, but this approach holds promise for executive recruiting.

Similarly, pymetrics, among other companies, is mining world-class behavioral research to see how particular candidates fit with an organization or a specific position. Such an approach has proved useful in evaluating a broad array of soft skills and in reducing bias in recruiting. Recent academic work shows the utility of tapping into behavioral research: Harvard's Ben Weidmann and David Deming, for example, have found that the Reading the Mind in the Eyes Test, a well-established measure of social intelligence, can effectively predict the performance of individuals in team settings. If companies develop new tests based on the same design principles, they and their boards of directors should be able to gain a fuller and more objective understanding of the social skills of C-suite candidates.

Emphasizing social skills development at all levels. Companies that rely on outside hiring to find executives with superior social skills are playing a dangerous game. For one thing, competition for such people will become fierce. For another, it's inherently risky to put an outsider — even someone carefully vetted—in a senior role. Companies thus will benefit from a "grow your own" approach that allows internal up-and-comers to hone and demonstrate a range of interpersonal abilities.

Assessing the collective social skills in the C-suite. Increasingly, boards of directors and company executives will need to develop and evaluate the social skills of not only individual leaders but the C-suite as a whole. Weakness or ineptitude on the part of any one person on the team will have a systems effect on the group—and especially the CEO. Companies recognize this: Social skills are gaining in relative importance in the search criteria for all five of the executive positions we studied. Moreover, as CEOs continue playing a bigger role in constituency and personnel management, the responsibilities within the C-suite may be reconfigured, and other executives will need strong social skills too.

THE WAY FORWARD

As we've established, companies still value C-suite executives with traditional administrative and operational skills. But they're increasingly on the lookout for people with highly developed social skills—especially if their organizations are large, complex, and technologically intensive.

Will companies, however, actually succeed in making different kinds of hires? That's an open question. The answer will depend in part on whether they can figure out how to effectively evaluate the social skills of job candidates, and whether they decide to make the cultivation of social skills an integral component of their talent-management strategies.

In our view, companies are going to have to do both those things to remain competitive. To that end, they should encourage business schools and other educators to place more emphasis on social skills in their MBA and executive-level curricula, and they should challenge search firms and other intermediaries to devise innovative mechanisms for identifying and assessing candidates.

Companies themselves will also have to do things differently. In recruiting and evaluating outside talent, they must prioritize social skills. The same is true when it comes to measuring the performance of current executives and setting their compensation. In addition, firms should make strong social skills a criterion for promotion, and they should task supervisors with nurturing such skills in high-potential subordinates.

In the years ahead, some companies may focus on trying to better identify and hire leaders with "the right stuff"; others may pay more attention to executive training and retention. But no matter what approach they adopt, it's clear that to succeed in an increasingly challenging business environment, they'll have to profoundly rethink their current practices.

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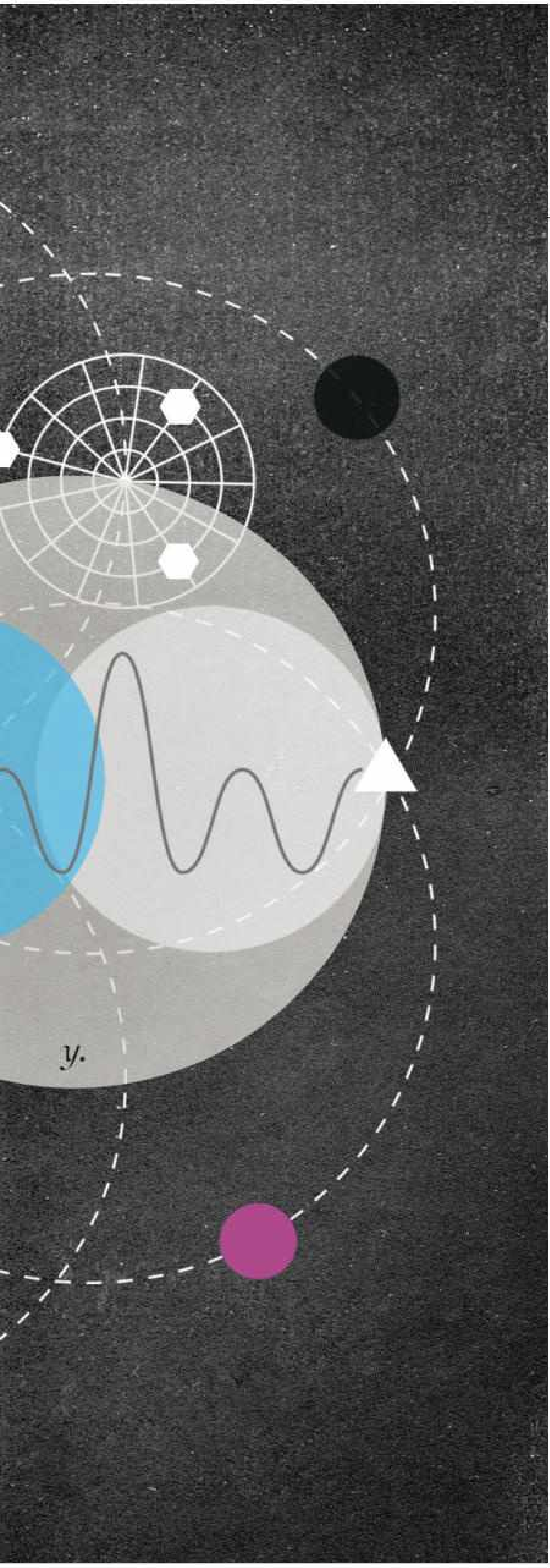

Is It Time to Consider Co-CEOs?

The model is more viable than you might think.

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FOR A LONG TIME the prevailing wisdom has been that companies need to be led by a single strong leader. Over the years some companies have put co-CEOs in charge, but not often. Of the 2,200 companies that were listed in the S&P 1200 and the Russell 1000 from 1996 to 2020, fewer than 100 were led by co–chief executives. Moreover, during that period, especially in times of stress, some of those jointly led companies performed notably poorly—among them Chipotle Mexican Grill, the software company SAP, and the mobile phone pioneer Research In Motion (which became BlackBerry in 2013).

Many observers don't find this surprising. Installing two decision-makers at the top, the theory goes, almost invariably leads to trouble, in the form of conflicts, confusion, inconsistency, irresolution, and delays. Marvin Bower, who built McKinsey, famously warned Goldman Sachs not to have co-CEOs. "Power sharing," he said, "never works."

Except that it often does.

We recently took a careful look at the performance of 87 public companies whose leaders were identified as co-CEOs. We found that those firms tended to produce more value for shareholders than their peers did. While co-CEOs were in charge, they generated an average annual shareholder return of 9.5%—significantly better than the average of 6.9% for each company's relevant index. This impressive result didn't hinge on a few highfliers: Nearly 60% of the companies led by co-CEOs outperformed. And co-CEO tenure was not short-lived but more or less the same as sole-CEO tenure—about five years, on average.

We're not suggesting that all organizations should rush to adopt a co-CEO arrangement. With so little public company data available to us (under 100 companies in 25 years is not a lot), we have to use caution. For firms in stable industries facing only moderate disruption, having a single CEO may still be the better option. But today the job of running a company has become so complex and multifaceted, and the scope of responsibilities so great, that the co-CEO model deserves a fresh and close look. This is particularly true for companies shifting decisively toward agile-based management and for those embarking on technology-based transformations. "I love the model," says Jeff Horing, a managing director at the private-equity firm Insight Partners, who oversees a portfolio of more than 350 technology companies.

Under the right circumstances, it's remarkable how much co-CEOs can do. They can bring deep and diverse competencies, backgrounds, and perspectives to the job. They can be in two places at once—literally. They can form a left-brain/right-brain partnership. One CEO can focus on technology-driven transformation while the other attends to more-traditional aspects of the business, such as marketing, finance, and operations. One can lean inside, the other outside. Together they can master the increasingly complex corporate functions that CEOs today are expected to manage, including investor relations, HR, and regulatory compliance. If one half of the duo leaves, the other can ensure a stable transition. And co-CEOs double a company's opportunity to diversify the C-suite.

Significantly, two chief executives can also keep each other grounded. In the words of Chip Kaye, for 17 years a co-CEO of the private equity firm Warburg Pincus (and now its sole CEO), the power-sharing arrangement helps leaders "keep their egos in check."

So what are the right conditions for an effective partnership?

To answer that question, we studied everything we could about how co-CEO leadership has—or hasn't—worked at 10 companies that have tried the model in recent decades: Chipotle, Goldman Sachs, the Harris Poll, Jefferies Financial Group, the computing technology company Oracle, the investment management company PIMCO, Research In Motion/BlackBerry, SAP, Unilever, and Warburg Pincus. Our work has led us to conclude that nine conditions can enable successful co-CEOs.

Note that not all the organizations we studied in depth have actually given their top leaders the title of "co-CEO." Indeed, in the business world at large, the co-CEO relationship is far more common than the title—many companies are effectively run by co-CEOs, even if they're not called that. For example, Jefferies Financial Group has been jointly led for 20 years by a president and a CEO. "Although we have separate titles," says Brian Friedman, the president, "we work together seamlessly as equal partners."

Here are the key factors for success:

1. Willing Participants

This sounds self-evident but is vitally important: Co-CEOs need to be seriously committed to the idea of a partnership. According to Eric Schwartz, who was a co-CEO twice at Goldman Sachs (first for its Global Equities Division and later for its Investment Management Division), "the only way co-CEOs works is if both parties say, 'This is OK. I'm going to have more time, more diversity of opinion. I'm going to be willing to compromise and communicate more because I see the benefits of having two heads.'"

The model fails when, as Insight Partners' Horing puts it, "one wants to run the whole thing." That was the case at the Carlyle Group, a global private-equity fund. There former co-CEO Kewsong Lee outlasted his counterpart, Glenn Youngkin. "They were very different personalities," one former Carlyle executive recently told the *Financial Times*. "It was like mixing oil and water."

2. Complementary Skill Sets

When boards today think about CEO succession, they often face a confounding choice between two talented leaders who have very different areas of expertise—both of which are necessary at the top. As one head of HR told us, speaking about two candidates for the CEO job at a *Fortune* 100 company, "I wish I could merge them."

Co-CEOs can be a solution to this frequent quandary. At the Harris Poll, for example, John Gerzema and Will Johnson report that by sharing the top role, they can "divide and conquer."

> The co-CEO relationship is far more common than the title—many companies are effectively run by co-CEOs, even if they're not called that.

Johnson leads HR and the business units, while Gerzema is responsible for new business, client service, and innovation. Each plays to his strengths. At Warburg Pincus—which was run jointly for two decades by Lionel Pincus and John Vogelstein—Pincus raised the funds and Vogelstein invested them. The more distinct the skills of each co-CEO, the better: When their skills overlap, conflict becomes more likely.

3. Clear Responsibilities and Decision Rights

It's also important to create separate areas of control, responsibility, and decision-making. "The key to success," says Bill Janeway, a former vice chairman of Warburg Pincus, is "complementary domains of recognized competence." That philosophy has guided Manny Roman, PIMCO's CEO, in his partnership with Dan Ivascyn, the company's chief investment officer, who is in every sense but title a co-CEO. Today Roman oversees marketing, sales, and operations while Ivascyn leads investing. Neither treads on the other's turf. A co-CEO at another firm described his working relationship this way: "Most of the time we know what's mine and what's his. When we don't, we get together and say, 'You take this,' or 'I'll take it,' or we both take it and resolve it together."

4. Mechanisms For Conflict Resolution

When they disagree, most co-CEOs simply shut the door and hash things out. "Even if we were at loggerheads," Schwartz recalls of his time at Goldman Sachs, "we still communicated openly. We would sit down and talk about it, try to agree, and if we just couldn't get there, we enjoyed enough mutual respect to simply let the person who felt more strongly win the debate." Other co-CEOs have used board members or outside facilitators to surface conflict and work through it. At Oracle and SAP the co-CEO model was supported by a strong executive chairman who could settle disagreements and provide focus. To function, co-CEOs must agree up front on an approach to conflict resolution.

5. An Appearance of Unity

Even when co-CEOs have a difference of opinion, they need to speak to their employees with a common voice, because disagreement among coequals can lead to confusion and indecision throughout the organization. "People are insightful," PIMCO's Ivascyn told us. "It doesn't take much to question authority." If co-CEOs disagree in front of the team, it's important that they return later with a solution. When Research In Motion was under extreme stress and its co-CEOs could not agree on what direction to take, the company foundered (although it rebounded after changing its leadership, its strategy, and its name). At Jefferies the top team reports to both leaders, who make decisions together. "Speaking to one of us," Friedman says, "is considered speaking to both of us."

6. Fully Shared Accountability

Both co-CEOs must be accountable for overall performance. Both should sign the quarterly financial statement, and they should be compensated equally. At one company we studied, the co-CEOs insisted that they be paid the same—"to the penny," as one of them told us.

7. Board Support

Co-CEOs need ongoing, nonintrusive backing from the board. The independent directors should have an individual annual check-in with each chief executive to make sure there are no boiling-over points, but the board shouldn't meddle. It's human nature for a director to want to take one co-CEO or the other aside and quietly ask, "How is it going?" But that can lead to division. In addition, boards should avoid becoming a court of appeals that one co-CEO or the other turns to whenever a conflict arises. Disagreements should be brought to the board only if the two CEOs do so together.

8. Shared Values

Co-CEOs fail when they have different values. To succeed, they need a relationship based on honesty, respect, trust, and compromise.

9. An Exit Strategy

The co-CEO model can be hard to unwind, so developing a clear approach for changing course is vital. At Warburg Pincus, splitting the CEO role worked for years, but when the time came to shift back to a single chief executive, the firm didn't have a good playbook. One option to consider is making it officially possible for any co-CEO to say, "No more" and then leave on good terms, in accordance with a previously agreed-upon plan.

Some companies have found it effective to toggle back and forth between the two models. Workday, for example, had co-CEOs from 2009 to 2014, then shifted to a sole chief executive, and in 2020 announced that a duo would again share the reins.

MANY PEOPLE ARE leery of co-CEO arrangements because of a few disaster stories. But the occasional misfire does not mean that the leadership model itself is flawed. After all, having a single CEO is no guarantee of success either.

Given the pace of change and disruption we're likely to experience in the years ahead, we can expect more and more companies to try installing co-CEOs—and we hope the guidance we have provided here will help them succeed. Agile organizations are particularly good at managing ambiguity and blurred boundaries, so they may find that the co-CEO model is especially easy for them to implement and sustain. The approach will never be for everybody, but if your company is moving away from command-and-control leadership, as more and more organizations are, putting two leaders at the top may make a lot of sense. The idea is hardly new: Co-consuls ruled ancient Rome for nearly 500 years. And some businesspeople have long understood the merits of sharing power. As John Whitehead wrote of running Goldman Sachs with John Weinberg back in the 1970s and 1980s, "Two heads were better than one."

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Spotlight

When Hiring CEOs, Focus on Character

Personal behavior can predict which leaders might go astray.

AUTHOR

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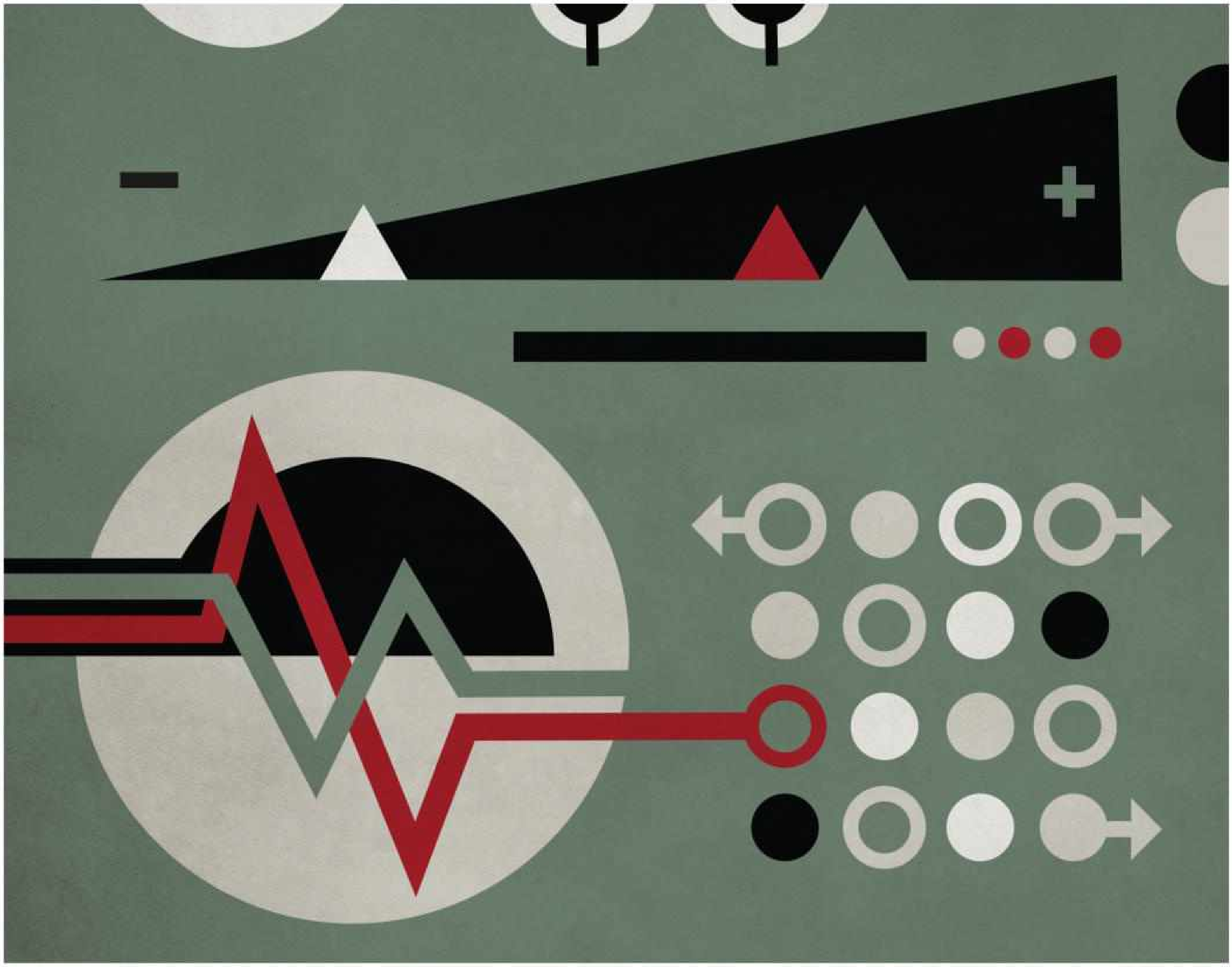
ON NOVEMBER 19, 2018, Carlos Ghosn, the chairman of Nissan, was arrested after stepping off his corporate jet in Tokyo. Japanese authorities criminally charged him for a host of financial misdeeds at Nissan, including misappropriating $5 million and concealing about $80 million of his compensation over eight years.

For Ghosn, who had saved Nissan from bankruptcy after arriving in 1999, it was a stunning comedown. He had joined the company as an outsider with Brazilian, French, and Lebanese citizenship, but he had become one of Japan's most recognized business leaders—nicknamed "Mr. Fix It" by an adoring public, celebrated in manga comic books, and awarded a medal by Emperor Akihito. After his arrest, Ghosn argued that the allegations were "meritless and unsubstantiated," ginned up by rivals within Nissan. Nonetheless, rather than stand trial, Ghosn hired a former commando to hide him in a music-equipment box and fly him by private jet to Lebanon, where he remains a fugitive.

Ghosn's saga was shocking. How could anyone have seen it coming? In fact, there were clues.

In 2014 and 2016, Ghosn threw lavish birthday parties at the Palace of Versailles for himself and his wife, perhaps with company funds. He and his family have owned a 120-foot yacht and upscale homes in Tokyo, Paris, Rio de Janeiro, Amsterdam, Beirut, and New York. He has invested in wineries and contemporary art. And even though he was awarded a compensation package four times as large as that of his counterpart at Toyota, Ghosn spent much of his tenure at Nissan complaining that he was underpaid.



Those behaviors—over-the-top spending, a focus on personal earnings, and an apparent disregard for rules such as company expense policies—should be warning signals for boards. In a series of studies over the past decade, colleagues and I have sought to identify off-the-job behaviors that foretell an executive's propensity for ethical lapses. Through this work we have pinpointed two traits—materialism and an inclination toward rule breaking—that correlate with suspicious trading activity, financial-reporting errors, and excessive risk taking. We've also devised novel ways to identify executives who exhibit those behaviors.

Examining CEOs' personal lives is an unorthodox method for preventing fraud. When boards, regulators, and investors consider ways to limit unethical behavior, the emphasis tends to be on systemic fixes, such as laws and regulations, large and well-funded compliance departments, heightened oversight, and reporting mechanisms such as whistleblower hotlines. That standard approach conforms with economic theory, which treats individuals as rational beings who will all respond similarly to incentives and rules.

My research suggests taking a different tack: assuming that leaders' personalities play a significant role in how they behave, and that their private actions can affect organizational behavior. If this is true, then especially when hiring CEOs, boards should consider a person's character, with an emphasis on whether a candidate displays signs of materialism or a history of flouting rules. Ignoring those signs and installing a leader whose life away from the office raises red flags can put a company at unnecessary risk.

In the following pages, I first explain the evolution of my research and its specific findings. I then discuss the practical implications for regulators and for corporate boards involved in screening and selecting top executives.

Spotlight

SCRUTINIZING PERSONAL BEHAVIOR

The roots of this research stretch back 20 years. I was in graduate school during the corporate scandals of the early 2000s, including those that tarnished Enron, WorldCom, and Tyco. Soon afterward, the United States responded by passing the Sarbanes-Oxley Act, which increased oversight of corporations by regulators and boards. Yet just a few years later, a new series of scandals emerged—at Wells Fargo, Countrywide, and other firms. Companies were investing resources in internal controls, and regulators were relying on new laws to strengthen oversight, but neither seemed to eliminate wrongdoing. I began to wonder: Instead of focusing on systems and controls, should we be looking more closely at the people leading these companies?

As those events were unfolding, scholars were beginning to pay more attention to the way individual managers can affect the performance of a firm. This perspective gained momentum after the 2003 publication of a landmark paper, by Marianne Bertrand and Antoinette Schoar, arguing that executives have personal styles that affect key decisions and company performance, and those styles persists even when people jump between companies. Other researchers began examining CEO risk-taking and narcissistic behavior and their effects on decision-making and firm performance.

Against that backdrop, I joined with two colleagues, Robert Davidson and Abbie Smith, to explore the lifestyles of CEOs who led companies caught up in scandals. It occurred to us that conspicuous consumption could be correlated with misconduct. For instance, Tyco's CEO, Dennis Kozlowski, spent $6,000 on a shower curtain and $15,000 on an umbrella stand for a New York apartment; he was later convicted of 22 criminal charges and served six and a half years in prison. My colleagues and I also began thinking about people's propensity to follow or break rules. In a 2007 study, economists Ray Fisman and Edward Miguel found that the United Nations officials who received the most parking tickets in New York City tended to come from countries with the highest rates of corruption. We wondered whether scandal-prone executives were likewise apt to commit low-level offenses such as ignoring minor traffic laws. So my colleagues and I set out to investigate both rule breaking and materialistic spending among CEOs.

Rule breaking. Criminology researchers have found that people who flout even minor rules are subtly communicating that they don't believe restrictions apply to them. With assistance from private investigators, my colleagues and I did a legal-records search on more than 1,000 U.S. executives in various industries. We found that 18% of CEOs had been cited for infractions ranging from minor traffic offenses to driving under the influence, disturbing the peace, drug crimes, reckless behavior, domestic violence, and sexual assault.

We first examined whether the rule breaking of those C-suite leaders was related to various corporate outcomes. We started with the most intuitive questions: Is fraudulent reporting more likely at a company if its CEO has a criminal record? Is the CEO (or CFO) more likely to be personally implicated in the fraud if he or she has a criminal record? Not surprisingly, the answer to both questions was yes. Comparing two groups of firms—those where fraud had occurred and those that were fraud-free but otherwise similar to companies in the first group—we found that if the CEO had a criminal infraction, the firm was more than twice as likely to be involved in fraud, and the CEO was seven times more likely to be personally named as a perpetrator. Furthermore, even the incidence of minor infractions (such as traffic violations) by the CEO was significantly higher at the firms that had experienced fraud than at those that hadn't.

Intriguing as those results were, we knew that fraud is a rare occurrence. Would we observe the same pattern for a more widespread form of corporate misconduct? We decided to examine whether executives with criminal infractions were also more likely to make lucrative insider trades—the kind that are not necessarily illegal but whose outsized results and excellent timing suggest that the trader might have benefited unfairly. We found that executives with prior criminal infractions (including both serious charges and minor traffic violations) earned significantly higher profits from purchases and sales of their company stock than did executives without any infractions, and the profitability of those trades increased significantly with the severity of the infraction.

We next investigated whether strong corporate-governance mechanisms—such as blackout policies that prohibit trading within certain periods, openness to scrutiny by large institutional investors, and board independence—were able to deter such trading activities. We found that those mechanisms did lower the profits of executives with traffic tickets, but they had little effect on executives who committed serious crimes. Seemingly, then, governance structures and formal control systems are unlikely to rein in the worst actors. That's discouraging news for boards and regulators that wish to curb

In firms led by executives whose personal spending was excessive, we found both more fraud and more unintentional reporting errors.

opportunistic insider trading and limit other undesirable behavior.

Materialism. We were equally interested in studying materialistic CEOs. Materialism, as we define it, isn't necessarily signified by having many possessions or even high-end ones; rather, it involves the zealous pursuit of wealth and luxury regardless of the cost to others.

Identifying materialism in CEOs is a challenge because most chief executives have substantial assets. However, one way to screen for it is to see if someone's possessions are excessive compared with those of peers and neighbors. After careful analysis, we chose three acquisitive behaviors—ones that we could obtain data for—as markers for materialism: owning a private home valued at twice as much as the median in the area; owning a car worth more than $75,000 (which at the time of our study represented an extremely high-end vehicle); and owning a boat more than 25 feet in length. In our sample of CEOs, 58% had one or more of those markers and qualified as materialistic; we classified the remaining 42% as frugal.

We first looked for—and found—a link between fraud and materialistic CEOs. What we saw happening was a gradual weakening of the control environment in firms led by executives whose personal spending was excessive. Specifically, we observed more use of equity-based incentives (which can encourage managers to mislead capital markets by inflating reported performance), more appointments of materialistic CFOs, less intensive monitoring by the board, and a greater probability of a weakness in internal controls. All those conditions created an environment where fraudulent reporting was more likely—and we found both more fraud (on the part of executives other than the CEO) and more unintentional reporting errors.

Next we focused our attention on banks, whose business model facilitates the measurement of risk-taking behaviors. For a sample of about 300 banks, we found that those with materialistic CEOs had relatively lax systems for risk management and thus faced more threat of significant negative performance than banks led by frugal CEOs. Furthermore, we found that materialistic CEOs also contributed to a deterioration in corporate culture that led employees to more aggressively exploit insider-trading opportunities during the 2007–2009 financial crisis. However, firms run by materialistic CEOs were also associated with higher returns than firms with frugal CEOs were.

In another study we examined how the materialism of top executives affected firms' corporate social responsibility (CSR) performance. We found that firms with materialistic leaders received lower scores from CSR ratings agencies than did firms with frugal leaders (as a result of meager charitable giving, for example, or the spread of harmful pollutants in the community). Our finding aligns with other scholarship showing that materialistic people display a lack of concern for the well-being of others and the environment.

RESPONDING TO THE RESEARCH

When I talk with executives, directors, and investors about this work, they generally react with surprise. Initially some people wonder how academic researchers can get information about CEOs' criminal history and personal property. (As I tell them, private investigators in the United States can legally access many relevant public records.)

For board members and others involved in succession decisions, our findings often prompt reflection about how much due diligence they typically do. Although they might order background checks on external candidates (which sometimes include a search of legal records), they rarely take that step for internal candidates seeking a promotion to a C-suite role. As one person I spoke with put it, "We don't even look at these issues. We don't care what they're doing off the job, and we probably should."

Other people who learn about our research say it jibes with what they've heard or read about some prominent CEOs. For example, Steve Jobs was known for flouting rules he considered a nuisance: He refused to put a license plate on his car, and at Apple headquarters he routinely parked in spots reserved for drivers with handicaps. Although Jobs was never charged with corporate wrongdoing, Apple was implicated in a scandal involving the backdating of his stock options. Another example involves Theranos founder Elizabeth Holmes, who was recently convicted of defrauding the investors in her failed blood-testing company. During her trial (when she was reportedly living on a $135 million estate), prosecutors suggested that maintaining a lavish lifestyle was a motive for her criminal behavior.

Regulators have reacted to our research with interest. In 2016 I spent a year working at the U.S. Securities and Exchange Commission, which hired me in part because of these studies. The SEC believes that the size of investors' losses is often related to how long misconduct goes undetected, so it has a vested interest in spotting fraud as early as possible. To that end, the SEC hopes to become better at predicting where fraud might happen instead of waiting for it to be exposed. Some of this effort involves using financial modeling to identify firms whose financial reports bear similarities to prior cases of fraud. Adding leadership behavior or off-the-job red flags as another tool for prediction is a promising idea, but regulators are proceeding cautiously because of concerns about privacy and other ethical issues.

Meanwhile, the research continues. In 2021 two colleagues and I published a paper on the effects of incentives for corporate whistleblowers. We found that contrary to claims by critics, the bounties that some governments (including the United States) pay to whistleblowers *do* help uncover fraud, with no apparent rise in meritless claims. In another line of inquiry, I'm continuing to seek new ways to better distinguish materialistic CEOs from those who are frugal. It's worth asking, Should we consider the way a CEO's personal philanthropy offsets luxury purchases, and can that benevolent behavior act as a counterweight to materialism?

As my work evolves, I hope to offer clearer answers to such questions. For now, let me state firmly that boards needn't reject CEO candidates simply because of a speeding ticket or an excessively valuable home. However, directors should view these as warning signs, especially if a legal infraction has happened recently or repeatedly. The data suggests that the risk is too great to ignore.

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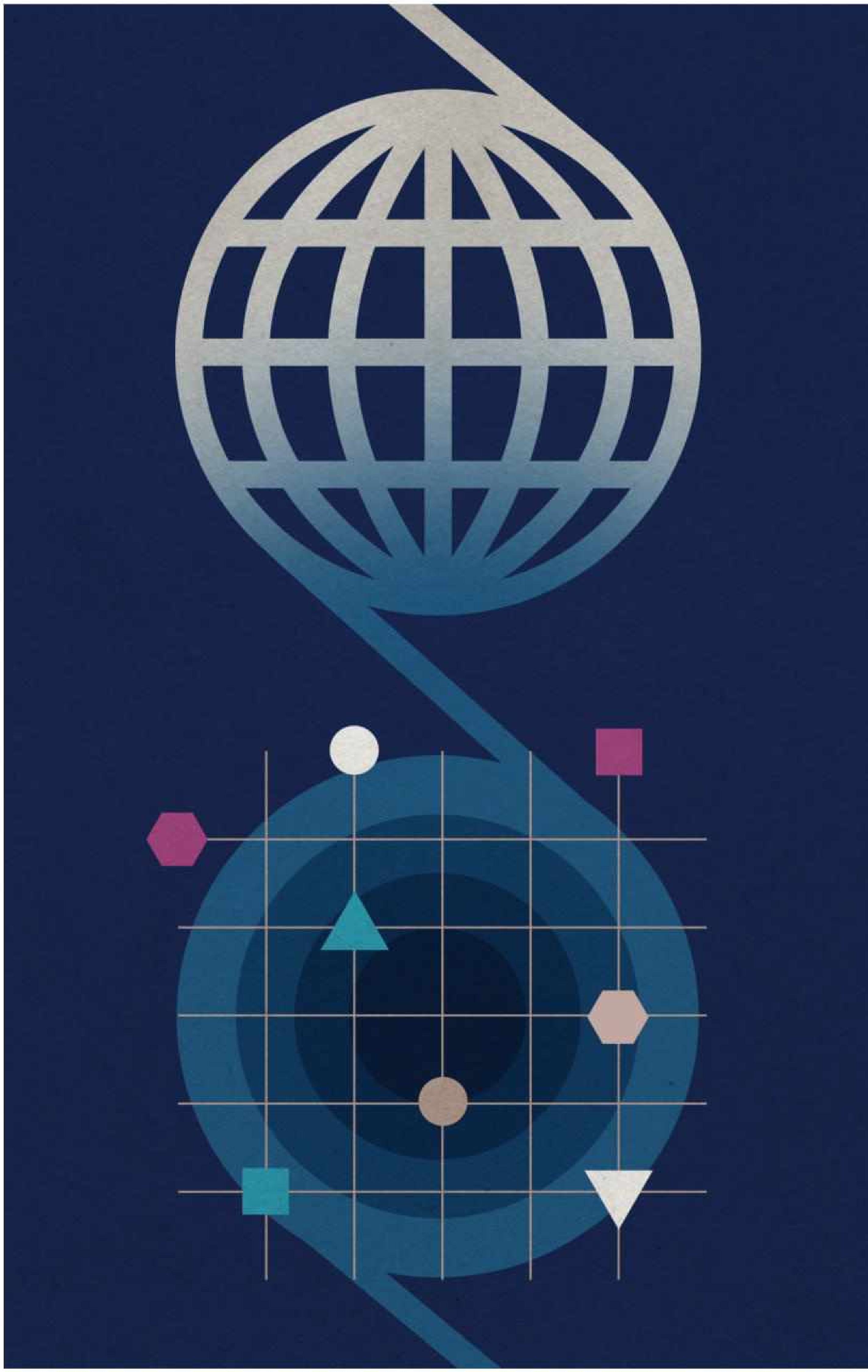

Spotlight

As the World Shifts, So Should Leaders

Research shows that different eras call for different approaches.

AUTHOR
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MORE THAN 20 years ago my colleague Anthony Mayo and I launched the most ambitious research project I've ever undertaken. We started with a question: What are the defining characteristics of extraordinary business leaders? To answer it, we created a list of 1,000 outstanding 20th-century American business leaders and studied each in depth.

What we found surprised us: Great leaders were defined less by enduring traits and more by their ability to recognize and adapt to the opportunities created by a particular moment. They could sense the zeitgeist—the spirit, mood, ideas, and beliefs that define a period—and seize it.

Effective leadership, in other words, is largely context-specific: The same person who succeeds in one era might fail miserably in another. The zeitgeist, according to research we first published in HBR in 2005, is shaped by six factors: global events, government intervention, labor relations, demographics, social mores, and the technology landscape. Individuals who can recognize shifts in those factors and exploit them have what we call "contextual intelligence."

The most recent leadership transition at Apple illustrates how contextual intelligence matters. During the 2000s, Steve Jobs helped the company prosper by stringing together a series of breakthrough innovations, including the iPod and the iPhone. Since Jobs's untimely death, in 2011, Tim Cook has led Apple in an era of increased smartphone competition. Cook, an MBA who built his career managing Apple's supply chain, fits these times perfectly, emphasizing not new products but services that create a vibrant and profitable iOS ecosystem. Recognizing that product innovation was likely to be incremental, Cook found a different vector for Apple's success. And in an age when employees expect their leaders to be more vocal on societal concerns, Cook has become a visible advocate for LGBTQ issues. He's not the same kind of leader as Jobs, but his contextual intelligence has helped him respond to the changing zeitgeist. And the results have been spectacular: On his watch, Apple's market capitalization has grown eightfold.

THE SIGNS OF A SHIFT

Why revisit this research now? Because as the Covid-19 pandemic becomes endemic and as the war in Ukraine reprises the Cold War, it's clear that we're experiencing a zeitgeist shift. Let's review the six factors I mentioned earlier:

Global events. Even before Russia invaded Ukraine, both Russia and China had signaled their waning tolerance for America's dominance of the world order. The war in Ukraine, however, has radically altered the geopolitical situation—with profound implications for business leaders. Many have had to decide whether to stop doing business in Russia—a choice that involves moral, economic, and political considerations that some CEOs feel ill-prepared to weigh. The combination of geopolitical strife and the pandemic has caused leaders to reevaluate their geographic footprints and supply chains. Many sense that the era of expansive globalization may be over, and they are exploring opportunities to localize their businesses to make them more resilient to international turmoil.

Government intervention. In the United States, a polarized electorate and the resulting gridlock in Washington create uncertainty about how much legislation we can expect over the next decade. Yet consider the size of the government's fiscal and monetary response to the pandemic, and its efforts now to curb the sharp rise in inflation. Higher interest rates will reverse a long period of monetary easing, drive up the cost of capital, and have ripple effects throughout the economy. Proposals for tighter regulation of technology companies and new taxes on the ultrawealthy are also in the air. Those proposals may never be passed, but the support they've gotten from prominent politicians is a sign that we may well witness increased government intervention in the years ahead.

Labor. As we emerge from the pandemic, workers are rethinking their careers—and their relationship with work itself. During my 30-plus years teaching at Harvard Business School, I became accustomed to seeing high-potential MBA students shift their attention to the latest hot field—whatever promised the best opportunities and the most status. That meant Wall Street in one decade, consulting in the next, and then entrepreneurship and private equity. But today workers up and down the socioeconomic ladder are reexamining their commitment to employers and the fairness of the existing bargain between capital and labor. At Amazon this is illustrated by employees' first-ever vote to unionize. At other companies, employees are demanding autonomy and the right to live and work where they choose. More people are electing to work in the gig economy. At the same time, advances in artificial intelligence threaten to keep eating up existing jobs. All those developments may require business leaders to reimagine the future of work.

Demographics. Around the world, fertility rates are falling. In the United States the working-age population is shrinking, and as the Boomers and Gen X combine to create a gigantic class of retirees, the workforce will soon be dominated by Millennials and Gen Z. These demographic changes present challenges and opportunities. Health care costs, correlated with age, may continue to rise, putting a strain on government and personal budgets and demanding innovative solutions to improve the quality of care and reduce costs. As the number of people drawing retirement benefits expands, we may see rising political tensions between generations. And digitally native Gen Zs may enthusiastically embrace the metaverse, while older people may seek more face-to-face connection. Thus, businesses may become more sharply segmented by age.

Social mores. It was once considered impolite to talk about politics with people at work or at the dinner table. How quaint. Generational shifts and social media have combined to create an era of uninhibited discussion about anything—and an expectation that leaders and employers will be ready to take stands on controversial matters. The speed at which diversity, equity, and inclusion have become a priority for companies illustrates this shift. Other social issues—especially economic, health, and educational inequality; climate change; and the stagnation of economic mobility—will also demand attention.

Technology. As social media sites such as Facebook and Twitter approach their 20th birthdays, their impact on society keeps growing. At the same time, newer shifts are happening in the technology arena. Fintech and crypto are creating alternatives to the traditional banking system. Web3 and the metaverse portend a new digital arena for work, commerce, and leisure. Yet many of the tech companies that went public in 2021 were trading this spring below their opening-day price. That could trigger a wave of consolidation in some sectors, similar to what we've seen throughout business history. For instance, just a century ago the automobile and breakfast cereal industries had hundreds of players; now we have the Big Three in each—General Motors, Ford, and Chrysler in autos, and Kellogg's, General Mills, and Post in cereal. History shows that navigating periods of consolidation requires different leadership qualities than navigating periods of creation does.

WHAT KIND OF LEADERS DO WE NEED NOW?

The new zeitgeist will require executives with the instincts to deal with shifting external forces, the ability to sense fresh economic opportunities, and the skills to lead and manage in a different age.

For entrepreneurs, the time is ripe to identify and develop innovations—not only in the technologies I've already highlighted but in others as well. For instance, we can expect the creation of new tools to support activities that blossomed during the pandemic, such as work from anywhere, entertainment streaming, and telehealth. For managers who excel at leveraging economies of scale and scope and consolidating industries with too many players, there may be opportunities in maturing fields such as cloud computing, software as a service, and cybersecurity. Finally, sectors that are showing signs

> **Avoiding land mines requires leaders to first broaden their thinking about what's relevant to their business.**

of decline—including brick-and-mortar retailing, branch banking, manufacturing, and distribution—will require leaders who are adept at restructuring and reinvention.

This new era also calls for executives with a knack for perceiving how politics and public opinion play a role in decision-making, because the costs of miscalculations are rising. Consider the situation that Disney's CEO, Bob Chapek, faced this spring. Disney is a large employer in Florida, where legislators had proposed a controversial law restricting schools from discussing gender identity or sexual orientation issues with students. Disney employees and outsiders criticized the company for failing to oppose the bill publicly until after it had passed. Within weeks, employees led daily walkouts and some customers proposed a boycott. A *Wall Street Journal* article described the situation as "a dramatic example of the friction many companies have begun to see as workers exercise their power to influence corporate culture and decisions, and demand [that] their employers use their heft to publicly participate in politics." Chapek apologized for not being a stronger ally in the fight for equal rights and said Disney would work to repeal the law. Then Florida legislators and the governor retaliated by revoking the company's special tax status.

Avoiding land mines starts with anticipating how different stakeholders will react to events unfolding inside and outside the company. And *that* requires leaders to first broaden their thinking about what's relevant to their business. There was a time when a CEO could say, "But what does this have to do with my company? Isn't this matter in the personal or political sphere?" Such a perspective is unlikely to serve any executive well in the times ahead. Rather than resist, CEOs will have to embrace the broader responsibility into which they and their organizations will be drawn. They'll need to empathize with people whose identities and interests may differ from their own. Gathering a wide range of views and listening carefully—even to thoughts and perspectives that may seem outlandish—will enable CEOs to be more in tune with those they lead.

Executives who operate this way are sometimes described as "diplomats" or "statespeople." Leading as a statesperson implies not just reading the pulse of various constituencies but rallying them forward. Two good examples of this type of leader are Ken Chenault, the former CEO of American Express, and Ken Frazier, the executive chairman (and former CEO) of Merck. They are among the best-known Black executives in the United States, and when the Black Lives Matter movement erupted after the killing of George Floyd, they led America's corporate response. Moving beyond declarations of support and solidarity that risked sounding hollow, Chenault and Frazier launched OneTen, a collaborative of major companies to train, hire, and promote one million Black Americans—particularly those without college degrees—in the span of 10 years. Another example is Larry Fink of BlackRock, who has mobilized investors and business leaders to focus on the long-term sustainability of enterprises and the planet.

The new zeitgeist will also require a greater emphasis on crisis management skills. Leaders can no longer assume that trouble may strike once every three or four years and be managed by outside crisis consultants. Instead, companies must prepare for a steady stream of upheavals—and hone their in-house skills for dealing with them. They can't afford to merely react; they should anticipate, plan, and organize for potential challenges. For instance, the U.S. Supreme Court's rulings on abortion rights will surely continue to ignite pitched political debates and put pressure on CEOs to take a stand. They should be ready.

A range of other talents will be necessary for business leaders. They include using social media adroitly, motivating employees who seek purpose and meaning from their companies, satisfying all stakeholders instead of just shareholders, and driving digital transformation. The importance of those skills has been gaining visibility for a decade; the new zeitgeist will bring them to the fore.

THE GOAL OF this article is to raise awareness of a historical fact: The business environment undergoes a major shift every decade or two. Each one creates new business opportunities and requires changes in leadership approaches. There are clear signs that we're amidst such a shift right now. Smart leaders will consider the implications—and prepare for them.

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“Managers are susceptible to distorted thinking as a result of their political convictions.”

“LEADERSHIP IN A POLITICALLY CHARGED AGE,” PAGE 108

Features

Photograph by MITCH DOBROWNER

INNOVATION

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Identifying Unmet Needs in a Digital Age

A four-part framework for diversifying how and where you look

PHOTOGRAPHER JAMIE CHUNG

IT'S A BASIC TENET OF entrepreneurship: Innovation is all about identifying and filling people's unmet needs. Customers want products and services that can solve their problems better, faster, or more cheaply than existing offerings can. But even innovators and organizations renowned for their scanning capabilities often have trouble perceiving and correctly interpreting those needs.

Consider Amazon. In its determination to be "customer obsessed," it was blind to the needs of another constituency: its merchants. It squeezed them on fees, forced them to compete with other vendors and its own knockoffs, restricted their ability to customize virtual storefronts, and limited their access to payment options.

Shopify stepped in with a suite of easy-to-use, reasonably priced tools that let merchants set up their own online stores, allowing them to retain control of the customer relationship. In 2021 it reached $4.6 billion in net sales and a market cap of $171 billion, all by addressing needs Amazon had neglected. That year Amazon implicitly acknowledged its mistake by acquiring Selz, an Australian start-up making tools that similarly help businesses launch online stores.

In our work as researchers, teachers, and consultants, we've studied dozens of innovators, entrepreneurs, and organizations to learn how they went about identifying (and sometimes misjudging) unmet needs. This has shown us that to increase your chances of accurately spotting customers' problems and aspirations, you must diversify how and where you look. In this article we outline a four-part framework that can help you do so. We describe how successful innovators have used each of its elements and how digital technologies can augment more-traditional methods of looking.

Searching for unmet needs involves two main approaches: improving your vision of mainstream users and challenging your vision by looking at unconventional users. Within each you can adopt a narrow focus or take a wider view. You can zoom in on individual mainstream users and their everyday experiences (what we call the *microscope strategy*) or pull back to discover patterns in their aggregate behavior (the *panorama strategy*). Likewise, you can take a close-up look at users outside your core (the *telescope strategy*) or seek a broader view of the patterns they exhibit as a group (the *kaleidoscope strategy*). (See the sidebar "Four Ways of Looking.")

THE MICROSCOPE STRATEGY

Zooming in on the lived experiences of mainstream users can help you discern needs not surfaced by focus groups, interviews, or questionnaires. This is a natural starting point for many solo innovators. Often, personal experience alerts them to an overlooked issue they feel compelled to address. For example, as a teenager Javier Larragoiti noticed that his father, who had diabetes, constantly cheated on his diet because he hated the taste of sugar substitutes. Later, as a graduate student in biochemical engineering, he devised a low-cost means of producing xylitol, which tastes almost exactly like sugar but doesn't have the same effect on blood-sugar levels. The substance has long been used in chewing gum and other products, but the original production process—extraction from a type of birch—made it too expensive for everyday use as a standalone sweetener. Larragoiti realized that it could be made far more cheaply using agricultural waste from Mexico's cornfields—with the added benefit of reducing harmful emissions from the burning of that waste.

Some organizations have drawn on concepts such as user experience and human-centered design to gather insights from the field. Others have turned to anthropologists, whether in-house experts or external consultants. An iconic example is Lego, whose firsthand observations

IDEA IN BRIEF

THE PROBLEM
Even renowned innovators are often unable to correctly identify and understand consumers' unmet needs.

THE SOLUTION
A four-part framework can help. You can zoom in on individual mainstream users (the microscope strategy*) or look for patterns in their aggregate behavior (the* panorama strategy*). Likewise, you can take a close-up look at users outside your core (the* telescope strategy*) or study patterns they exhibit as a group (the* kaleidoscope strategy*).*

WHAT DIGITAL CAN ADD
Digital tools can capture data unobtrusively and in real time. They facilitate observation of large groups, allow you to find and engage with niche users, and make it possible to quickly sift through masses of data and identify trends therein.

INNOVATION

of children's play famously helped lift the company out of near bankruptcy to become the world's biggest toy maker by sales. (For more on the use of social scientists by Lego and other companies, see "An Anthropologist Walks into a Bar...," HBR, March 2014.)

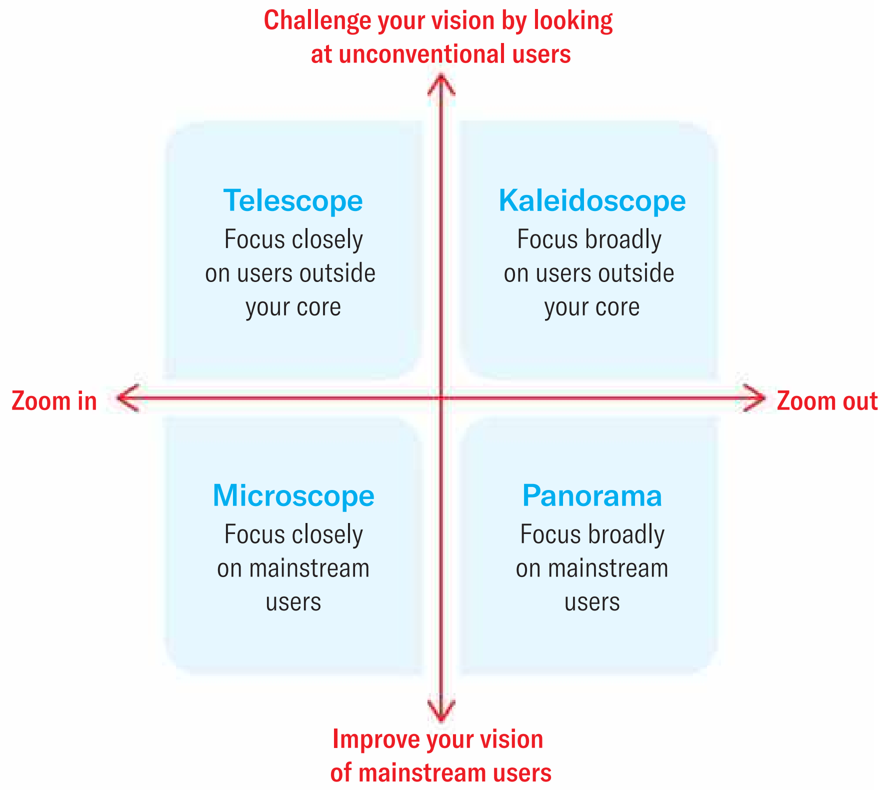
Close observation can be particularly valuable in the tech sector. Intel's in-house anthropologists have spent days on end visiting gamers at home to better understand their passions, frustrations, needs, and wants, all to support the development of chips capable of supporting those needs and wants. "Technology companies as a whole are in danger of being more disconnected from their customers than other companies are," the Intel anthropologist Ken Anderson told the *Atlantic,* explaining that engineers often fall in love with technology for its own sake and incorrectly assume that users will too. It's no surprise that Microsoft is said to be the world's second-largest recruiter of anthropologists, behind only the U.S. government.

What digital can add. The proliferation of smartphones, IoT sensors, wearable technologies, and smart home devices lets organizations capture data unobtrusively and in real time to a much greater degree than ever before. Unlike surveys and other traditional assessment tools, digital technologies can track actual behavioral changes in real time, thus avoiding self-reporting and retrospective biases. The improved accuracy and richness of the data thus gathered can be especially useful in health-related fields—and not just for humans.

In 2016 Mars Petcare, a division of the confectionary company, acquired Whistle Labs, a start-up that manufactures a smart collar—something like a Fitbit for dogs. The device and its associated app help owners track the health and activity of their pets and locate them if they get lost. But the real value for Mars isn't revenue from sales of the collars; it's the anonymized data the app collects (with users' permission). That gives Mars a direct connection to pet owners and a channel for identifying their unmet needs. Analysis of the data provides new information about dogs' activity requirements by breed, age, and size. It is driving innovations in premium-quality pet food: products optimized for particular breeds and mixes along with customized therapeutic foods. It also yields a view of pet behaviors, such as disrupted sleep and increased scratching or licking, that may be signs of illness. The insights thus gained have paved the way for a more-holistic value proposition.

Four Ways of Looking

To boost your ability to spot unmet needs, you must diversify how and where you look, as in the four strategies below.



THE PANORAMA STRATEGY

In addition to zooming in on individual mainstream users, you can infer their unmet needs from looking at aggregated data, such as errors, complaints, and accidents, that amplify weak signals.

In 1989 Keith Alexander, a professor of mechanical engineering in New Zealand, wanted to buy a trampoline for his daughter. His wife objected, saying that trampolines were unsafe. He set out to convince her otherwise but learned that she was right: Research showed that injuries from trampolines were on the rise.

Digging into the data, Alexander found that most of the incidents classified as random accidents actually arose from product features: the metal springs and frame and the absence of any enclosure to prevent falls. With that in mind he engineered a spring-free, mesh-enclosed backyard trampoline and turned what had been a small niche market into a vibrant global one.

What digital can add. Digital tools make it much easier to observe the behavior of large numbers of individuals. Data can be collected from multiple sources and analyzed for trends.

For example, smartphones can deliver digital health programs to people with chronic conditions such as diabetes and heart disease, and their sensors can feed databases that reveal overall rates of adherence. Shocked by the high dropout rates among users of digitally delivered lifestyle-change programs, Unlike traditional assessment tools, digital technologies can detect actual behavioral changes in real time, thus avoiding self-reporting and retrospective biases.

the Icelandic physician Tryggvi Thorgeirsson realized that the apps left people with an unmet need: fun. The programs had been designed to appeal exclusively to the rational side of the brain; their developers had assumed that the life-threatening nature of participants' conditions would be motivation enough.

Thorgeirsson decided to leverage elements of game design to boost engagement and retention. He teamed up with the Icelandic company CCP Games to create a new digital platform, Sidekick Health. Remote sensing tells the company which exercises are the most engaging for which populations and under what conditions. Machine learning helps it give users exercises tailored to their personal needs and preferences. The platform has significantly boosted positive clinical outcomes and engagement: Recent clinical trials have shown that its users are three times as likely as those receiving standard coaching sessions to achieve their weight-loss goals and 30% likelier to fully adhere to their programs.

Digital technology was also key to spotting a hidden need among sufferers of depression. In 2015 Jo Aggarwal and her husband, Ramakant Vempati, created StayClose, an app able to detect signs of depression in the elderly through built-in smartphone features that can track changes in mobility, sleep, and communication. It proved highly reliable and showed that the problem was widespread. But it also revealed that very few of those identified as depressed were willing to visit a therapist. So Aggarwal and Vempati devised Wysa, an AI-powered chatbot that can recognize more than 70 emotional subtypes and respond with empathy and compassion. Although StayClose never took off as a product, the insights it facilitated catalyzed the development of Wysa, which now has more than 3.5 million users of all ages around the world.

THE TELESCOPE STRATEGY

If you keep looking at and interacting with the same people, in the same context, with the same tools, you risk missing outside-the-box opportunities. To challenge your habitual perspective, you may need to study fringe users, extreme users, or nonusers. Demands from outliers are often dismissed as noise. But by zooming in on users at the periphery, you might uncover pain points that are relevant to the masses, too.

Chris Sheldrick, an organizer of live music events, noticed that musicians and their crews faced an unusual problem: Gigs are often held in remote open-field locations with no formal address. Sixteen-digit GPS coordinates proved inadequate, not because they were imprecise but because they were prone to human error: easily mistyped, misread, or misheard. Instead of dismissing the issue as an unavoidable hazard of the business, Sheldrick realized that it constituted an unmet need for a simpler way to talk about location. He built an app that uses three-word combinations to identify any three-meter square on the planet. What3words has become a valuable alternative to GPS, embraced by organizations including UK emergency and car-breakdown services, Domino's Pizza, Lonely Planet, and Airbnb.

You can also innovate by focusing on people who struggle with conventional offerings because of a personal challenge; the solution you devise for them may find broader reach. Audiobooks were created for people with visual impairment, and the electric toothbrush was invented to serve people with limited motor skills. The housewares entrepreneur Sam Farber came up with OXO Good Grips kitchen utensils after talking with arthritis sufferers. It turned out that thick rubbery handles work better for everyone, and—like audiobooks and electric toothbrushes—the items quickly moved beyond their initial niche to become mainstream products used by millions.

You can even learn from misusers of your offerings. The consumer appliance giant Haier picked up on complaints from rural customers in China that their washing machines' drainage hoses were perpetually clogging up. Repair technicians realized that those customers were using the appliances to wash root vegetables before selling them in the market. So Haier devised a machine that could be used for both purposes and immediately sold the first 10,000 produced. More important, that sort of sensitivity to subtle needs has helped the company become the world's leading provider of laundry equipment.

What digital can add. Outliers, extreme users, challenged users, misusers: Almost by definition, such populations have traditionally been hard to reach. Today, however, niche groups often gather on community sites such as Reddit, Facebook, Quora, and LinkedIn, making observing, engaging with, and learning from them much easier. The platforms can provide a treasure trove of insights, given the existence of some 2.8 million subreddits (Reddit

All images: Jamie Chung/Trunk Archive

Kaleidoscopic discovery can be achieved by engaging with parties that have a wider view of the domain, such as regulators and NGOs.

INNOVATION

communities focused on specific topics), 2 million LinkedIn groups, and more than 640 million Facebook groups. Many of them can be easily accessed through Google searches or special-purpose providers such as GummySearch.

Lego again provides a case in point. Historically, "adult fans were often seen as a source of irritation," Jake McKee, a senior Lego executive, told *National Geographic*. Adult Fans of Lego, or AFOLs, sent the company fan mail and proposals for new products, but the unvarying response was "We don't accept unsolicited ideas."

The internet changed all that. Lego managers could suddenly observe the engagement and creativity of AFOLs as a community. The number of adult user groups went from 11 in 1999, located mainly in North America, to 60 worldwide in 2006. Adult enthusiasts have remained fringe users, but ones with a clear appetite for more-demanding sets that appeal to adults and teenagers alike. In 2007 the Chicago architect and Lego enthusiast Adam Reed Tucker reached out to the company with the idea of reproducing iconic buildings. Lego worked with him to create a Sears Tower set as a prototype. Not only did it quickly sell out; it commanded twice the price of a kit of an equivalent size for kids. It launched the popular and profitable Lego Architecture line, which includes the Empire State Building, the Sydney Opera House, and the Leaning Tower of Pisa. Even more important, it signaled a dramatic shift in Lego's appreciation of what could be learned from its adult user community.

THE KALEIDOSCOPE STRATEGY

To challenge your current perspective, you can also view distant players in the aggregate, looking for commonalities that point to unmet needs. Think of this as akin to seeing patterns in a kaleidoscope. The difficulty, especially for entrepreneurs working within an established company, is to think beyond the usual suspects, such as suppliers, distributors, and competitors.

Your organization's strategic focus and mindset might temporarily blind you to some constituencies. Consider Volvo. For years it forged its reputation on building safer cars, introducing many features that became industry standards. But a decade ago it took notice of a wholly different set of players: cyclists.

By 2010 Swedish insurance data was showing that cyclists accounted for a higher proportion of casualties than did any other type of road user. That revealed new and unmet safety needs, to which Volvo responded with a wave of auto innovations aimed at protecting everyone on the road, not just the inhabitants of cars: bike-detection sensors and autobraking, external airbags, and sensors that can detect when drivers are tired, distracted, or drunk and intervene. Some of the innovations are even meant to prevent injury to other species. For example, Volvo's radar-based technology allows drivers to see 300 meters ahead of them, day or night, and automatically detects the contours of deer, elk, moose, and other large animals as they enter the vehicle's path.

Kaleidoscopic discovery can also be achieved by engaging with parties that have a wider perspective on the domain in question, such as NGOs, organizational regulators, information aggregators, and intermediaries. Shortly after the 2010 earthquake in Haiti, a professor at Columbia's Graduate School of Architecture assigned students to design a relief product. Most responded as architecture students might be expected to, with plans for easily assembled shelters. But Anna Stork and Andrea Sreshta took a different tack. They were disturbed by media accounts of sexual assaults and other crimes inside the unlit refugee camps at night. Victims tended not to report the incidents for fear of reprisal—but journalists with access to UN observers, relief workers, and volunteer nurses revealed the extent of the problem.

Stork and Sreshta realized that in addition to the basic requirements of shelter, food, water, and medical supplies, occupants had an unmet need for nighttime security. Their solution was LuminAID, a compact, inflatable, solar-powered lantern. It was adopted by the NGO Shelterbox and subsequently found a commercial market among campers.

What digital can add. Social-listening tools, unstructured data-scraping algorithms, and semantic AI make it possible to quickly sift through masses of data and identify patterns therein. Unlike focus groups and surveys, user-generated content, or UGC, often captures insights at the "moment of experience" that shed light on users' emotional states along with specific malfunctions, difficulties, or missing features in the product or service at hand.

Take the consumer health business (now Haleon) of GSK. In 2020 the pharmaceuticals giant worked with the market

> **User-generated content often captures insights at the "moment of experience" that shed light on users' emotional states.**

research and consulting firm Ipsos to investigate emerging trends in the nonprescription flu and colds category. By scraping the web for UGC from the previous three years and applying semantic AI, researchers surfaced unmet needs on platforms for patients, doctors, and pharmacists and in adjacent forums on topics such as natural remedies and parenting.

The researchers mapped the importance and growth of those needs, revealing a spike in demand for natural and immunity-boosting products, including for young children. The data also showed strong dissatisfaction with the effectiveness of products to ease cough and fever symptoms. By further refining the AI filter, the researchers zeroed in on DIY solutions from lead users, among them frustrated parents, that addressed some of those needs. One was a roll-on perfume applicator filled with nasal decongestant for easy application under a sleeping baby's nose. Another was a cough suppressant that works instantly by targeting the cough reflex arc in the brain stem. Although neither innovation has yet been commercialized, such hacks spotlight user pain points and stimulate new lines of thinking. "This approach has helped us understand how leveraging social data can provide actionable, powerful insights on unmet needs and innovation opportunities," James Sallows, GSK's global head of transformation and capability, has said.

PUTTING IT ALL TOGETHER

To optimize your ability to spot unmet needs, you should employ each of the strategies we've described. Although there is no set starting point, most organizations find that improving their vision of mainstream users (with the microscope and panorama approaches) is easier and more intuitive than challenging their vision (the telescope and kaleidoscope approaches), because the latter demands a conscious effort to look beyond known customers and markets.

The four strategies are meant to work in combination. Much of their value comes from switching perspectives and integrating the insights that emerge. For example, you often need to deploy both a microscope approach and a panorama one to get a full picture of what is happening with your mainstream users—to see the forest *and* the trees.

While serving time for a white-collar crime, Teresa Hodge observed that many women who left prison excited by the prospect of a fresh start were back within a year. Listening to their stories (zooming in), she realized that unless they had jobs, it was very hard to get back on their feet—and their prison records made them essentially unemployable. Meanwhile, Hodge's daughter Laurin, a sociology student, was researching nationwide data on incarceration, reemployment, recidivism, and their effects on families (zooming out). Her work confirmed that low rates of reemployment were a widespread but neglected problem. So after Hodge's release the pair founded Mission: Launch to help former inmates start their own businesses. They also created R3 Score, a digital tool that does sophisticated risk evaluation of former inmates who want to secure work, housing, or loans.

Digital technologies can facilitate a combined approach, making it easier, for example, to simultaneously see microscopically and panoramically. Mars Petcare's smart dog collars enable the company to target the health and exercise needs of individual dogs, to identify breed-wide nutritional issues, and to monitor health concerns such as pet obesity across its entire community of dog owners.

And machine-learning semantic filters let you take a simultaneous look at multiple populations. As noted, GSK could search across various groups (patients, doctors, pharmacists, parents) to identify the unmet needs of users generally along with those of specific subgroups (such as new parents). With just a slight tweak to the process, it could also identify lead users who were creating their own solutions.

It would be a mistake, though, to assume that spotting unmet needs will shift exclusively to the digital realm. Although digital technologies can reveal previously invisible patterns and data, they also suppress important cues—feelings, intuition, and context—that are accessible only through in-person sensemaking. Physical and digital approaches are best seen as complements. Used together, they can enable you to look further afield and on a larger scale than ever before.

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To Drive Diversity Efforts…

DIVERSITY & INCLUSION

AUTHORS

Edward Chang
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Verse Legal

…Don't Tiptoe Around Your Legal Risk

Address it directly with your lawyers from the start.

ILLUSTRATOR
VICKI TURNER

DIVERSITY
& INCLUSION

SUPERFICIALLY, a company's DEI leaders and legal counsel appear to be at odds. DEI leaders, passionate about their cause, think of legal experts as guardians of the status quo and resent them for throwing up roadblocks to their reform-minded initiatives. Legal experts, trained to be methodical in anticipating the worst, resent DEI advocates for not reaching out early and often as they develop their initiatives. Entrenched in their perspectives, both groups engage only at the last minute, when they have to.

This serves nobody well because it can reinforce as "safe" outdated or performative DEI practices that have been shown to be ineffective. And ineffective DEI, particularly when perceived as noncommittal and inauthentic, can cause a host of problems: It can harm recruiting efforts, damage employee morale, drive employee concerns underground, and even invite lawsuits.

Consider how that dynamic plays out in the following hypothetical case: A CEO of a medium-size company sends an email to the new chief diversity officer, asking for some numerical goals for workforce demographics. In consultation with a DEI council established three months before, the chief diversity officer decides to recommend a hiring goal of 45% women and 35% racial minority members in the coming year. Together they prepare a report and submit it to the CEO, who adds the topic to the agenda for a quarterly companywide briefing scheduled for the following week. The CEO plans to announce the goals there and put them on the company's website and social media accounts shortly thereafter. The chief diversity officer prepares talking points for the CEO that say the company is committed to holding itself accountable and may tie leader compensation to its hiring goals.

The day before the meeting, the CEO's office sends the talking points to the company's in-house attorney. Alarm bells immediately go off in the attorney's head. Are these goals actually quotas, which the law prohibits? Are the percentages meant to apply to new hires or the total workforce? Are they specific to the United States or global? Where would the data come from? Why didn't anybody tell me about these plans earlier?

While the attorney wrangles with these questions, the CEO sends a follow-up message to the chief diversity officer, the in-house attorney, and others on the leadership team, with the DEI council copied. The message reads, "Hey, everything good to go? I'm really excited about the work we're doing to cultivate a diverse, equitable, and inclusive workplace, and I want to thank our DEI council for their hard work putting this together!" Within minutes two of the council members reply all with positive reinforcement, thanking the CEO for the company's true commitment to this important initiative.

IDEA IN BRIEF

THE PROBLEM
Many DEI initiatives are scuttled because DEI leaders and legal teams feel themselves to be at odds over questions of acceptable risk. Working in a murky legal environment, both groups engage only at the last minute, when they have to.

WHAT EVERYBODY FORGETS
Businesses routinely choose to accept significant legal risk. In most situations they're confronted with a risk-reward calculus that's easy to quantify and conceptualize. But with DEI that's harder, because the only thing that appears on the balance sheet is the cost.

A BETTER WAY
When it comes to establishing a productive partnership between DEI leaders and legal counsel, the key is to collaborate early and often, using the framework this article lays out, so as to balance the nuances of legal risk with the need to implement effective initiatives.

> DEI initiatives often focus on hiring from underserved groups, but lawyers tend to run away screaming from any suggestion that demographics are a factor in employment decisions.

Pressure mounting, the in-house attorney asks the outside corporate counsel to provide emergency advice via email. Outside counsel responds that these goals appear to be quotas, which are prohibited by law, and suggests that—in the absence of any more-specific information—the prudent thing to do is to remove all numbers and references to concrete actions from the talking points. So the in-house attorney revises them, marks the file "final/approved," and returns it that evening to the CEO, with the outside counsel's email attached. Stripped of all specifics, the new script says only that the company is "committed to equal employment opportunity" and "has set aspirational goals to increase diversity in hiring this year."

The next morning, confused but not wanting to break the law, the CEO reads from the new talking points—which surprise and disappoint both the chief diversity officer and the DEI council. After the meeting, the CEO looks at them apologetically and says, "Our attorneys told us the previous version wasn't legal."

Nobody ends up happy in that scenario. Fortunately, there's a better way: conscientious, proactive partnerships between DEI leaders and legal advisers. In making that claim, we speak from experience and different perspectives: One of us (Edward) is an academic who researches interventions to improve DEI in workplaces. The other (Bonnie) is an attorney who applies the principles of behavioral science in the workplace to compliance counseling, DEI, and investigations.

In this article we offer advice on how to develop a productive partnership between legal and DEI—one that advances DEI efforts by effectively balancing risk and reward.

THE LEGAL LANDSCAPE

In the emerging DEI space, few statutes affirmatively regulate how companies conduct diversity, equity, and inclusion initiatives. Instead, most say what companies can't do—without articulating specific applications. These laws concern topics such as:

The collection and processing of employee data. Sound DEI practices require thorough and accurate data about the workforce, including breakdowns by characteristics such as race and gender. But when it comes to self-identification campaigns, diversity analytics, and the publishing of data, some laws (particularly privacy laws outside the United States) restrict what information may be gathered on job applicants and employees. Others require employers to collect and report information but are largely silent as to what else employers may do with it. The law in this area is changing and varies by location, so things can get complicated and confusing. Attorneys are also acutely aware that any visualizations and compilations of the data created by companies will be discoverable should litigation occur.

The consideration of factors such as race and gender in employment decisions. Corporate DEI initiatives frequently focus on recruiting and hiring from historically underserved groups, but lawyers tend to run away screaming from any suggestion that demographic factors have been or will be considered in employment decisions. Why? Because some laws appear to forbid that outright, suggesting that any such consideration would be "reverse" discrimination—a gender discrimination claim against male employees, for example. Fear of such claims should never drive your practices in this space, but you should be mindful of these laws when drafting job postings, conducting interviews, or rolling out new recruitment strategies.

Targets versus quotas. Antidiscrimination laws permit—and in some cases require—employers to take affirmative action to advance equal opportunity in the workplace. To hold themselves accountable, employers may set numerical diversity targets—aiming to have 30% of new hires be racial minority members by the end of the year, for example, or to have 40% of managers be women by 2025. *Goals* are permissible, but from a legal standpoint, even targets that are labeled "goals" may actually be *quotas*, which are impermissible under U.S. federal law. It's up to the courts to determine whether something is a goal or a quota, and the process is often complicated and contingent on specific circumstances. (Did managers feel pressure to comply with it? Was anyone punished for not meeting it?) Even winning a case in this arena can be incredibly expensive.

RISK AND TRUST

Given the evolving and often murky nature of this legal landscape, it's easy to understand why lawyers consulted about proposed DEI initiatives, especially at the last minute, are

quick to worry about such matters as reverse discrimination and impermissible quotas—and why DEI professionals may not look forward to these conversations.

Part of the problem is that legal experts believe they are acting to protect the company from legal risk. That's understandable: It's their job. But by avoiding one risk, you often incur another. Consider an organization that touts its DEI accomplishments on social media but regularly dismisses the concerns of its employees (such as unfair pay, lack of representation, or fear of retaliation for speaking up). That contradiction itself can lead to lawsuits.

Further, businesses choose to ignore or accept significant legal risk all the time: They set up corporate entities to avail themselves of tax loopholes, knowing that they might be audited and fined; they research and integrate aspects of competitors' product strategies, knowing that they might be sued for intellectual-property infringement; they market-test new countries without registering to do business there. So what is different about DEI?

The answer, in part, is that when executives make decisions about products, customers, and routine operational matters, they're confronted with a risk-reward calculus that they can quantify and conceptualize comfortably. That's harder to do with DEI, because the only thing that makes it onto the balance sheet is the cost.

Absent a foundation of mutual trust and support, lawyers are skittish about signing off, and the businesses are more likely to end up wasting resources on performative exercises that, on their own, don't constitute sound DEI. They're likely, for example, to implement mandatory DEI training modules that haven't been shown to be effective. Unless accompanied by genuine efforts to encourage equity (through, say, the equitable distribution of decision-making power in an organization), these practices are more likely to foster resentment, damage credibility, disengage employees, fuel attrition, and ultimately increase the likelihood of a lawsuit. The lawyer-as-adversary fear, in other words, becomes a self-fulfilling prophecy.

THE PATH TO PARTNERSHIP

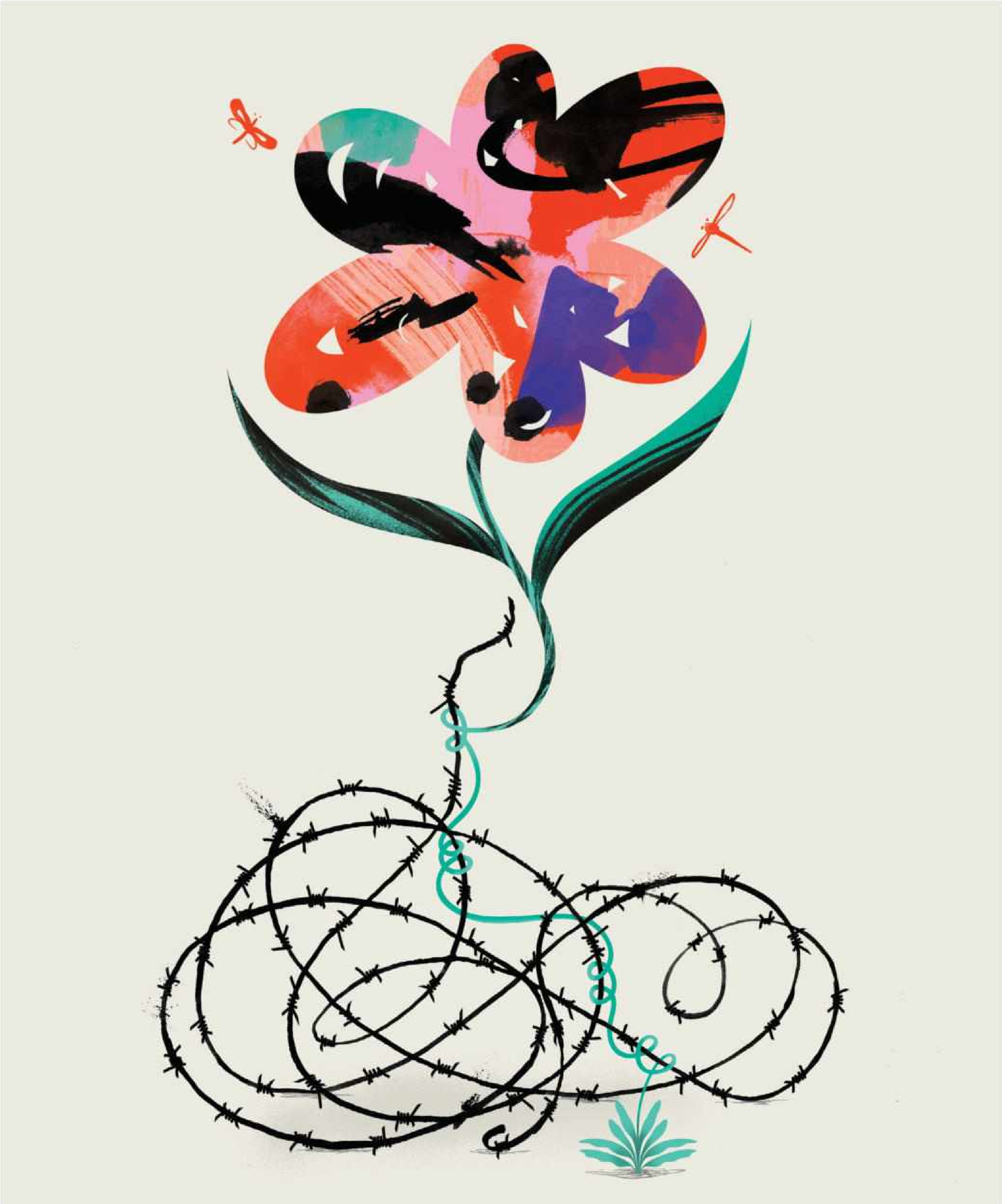
It is possible—and indeed necessary—to ensure that DEI initiatives are both legally informed and effective. When it comes to establishing a productive partnership between DEI leaders and legal counsel, the key is to balance the nuances of legal risk with the need to craft and implement initiatives that are more than just performative. Here's a framework for doing that.

1 **Learn the lay of the land.** To begin, consider the structural and procedural foundation. If your organization has an in-house legal department, what are the existing relationships between that department and your DEI leaders? Is there a lawyer on your DEI committee or directly involved in your DEI efforts? What other departments overlap with DEI? The number of departments or teams with necessary involvement in a DEI initiative can be staggering. In larger legal departments, stakeholders include those involved with employment, people management, and privacy. Then there are questions of diversity and equity: Legal departments, like most other departments, still tend to skew older, white, and male at the top. How might that affect the work you're hoping to do? If you want your organization to adopt a proactive rather than reactive approach, you need to establish a baseline. One way to do that is by developing a nuanced understanding of your institutional structure.

Size matters too. How big is your organization, and in how many legal jurisdictions (states or countries) does it operate? Smaller companies need to think hard about when and how to seek external legal advice, which can be difficult to justify when DEI is viewed as a cost center. Large multinationals are better able to afford in-house or external advice, but they need it in all sorts of jurisdictions and subject-matter areas, which can mean multiple lawyers—each of whom has a different specialization or bar license, and some of whom will inevitably disagree.

What about the general climate among employees? Are there "revolving door" indicators or obvious issues that the company is desperate to correct? Past lawsuits or threats? Are you aware of any situations that might make certain conversations particularly sensitive? Knowing your organization's pain points can help you sidestep land mines.

Finally, does your company have policies on how and when to seek legal advice? Who decides whether to call the lawyers? Is there a defined workflow between legal and other departments? If guidance is unclear or absent, there may be inconsistencies in how legal gets involved. Either way, DEI may fall through the cracks, particularly when companies have only recently created a DEI officer position or a DEI committee. If you can ask these questions proactively and decide on a workflow outside the context of a particular initiative, you'll be better equipped to handle time-sensitive and unexpected situations.



2 **Provide goal-oriented framing.** Legal counsel's role is to help you and protect you from legal risk, and they can't do that without context. You want to negotiate interests, not positions. So don't just fill your lawyers in on the facts about an initiative. Make them understand why you're launching it and what your goals are. In the back-and-forth that ensues, they may end up steering you toward something a bit different from what you originally had in mind, but if they understand your goals and motivations properly, they can help you mitigate legal risk while maintaining the essence of your objectives.

To ensure that you're providing goal-oriented framing, ask yourself: Are the general solutions we're contemplating appropriate for our organization? Are they likely to accomplish anything? Research suggests, for example, that the kinds of diversity training most organizations have now adopted may not do what people expect, in part because they aren't tailored to the specific problems the companies are facing. It's normal to want to emulate the practices of large public companies, but a medium-size company will have a much different workforce profile and risk calculus than, say, Starbucks or Microsoft does. Mismatched comparisons won't sway lawyers. But thoughtful benchmarking with similarly situated companies can be extremely compelling.

Think, too, about how to express the purpose of your initiatives as concretely as possible. Doing so will require you to take an honest look at what is motivating them. Data-driven initiatives and data transparency are critical components of sound DEI efforts. But they're also what tends to make lawyers the most nervous, because it's easy to imagine problematic data being used against the organization—in, say, an exhibit in opposition to a summary-judgment motion.

The benefits of transparency may seem obvious, but lawyers are accustomed to communicating in a closed vault protected by attorney-client privilege. You can make them more comfortable by making it clear why the data in any given presentation is important for the end goals of DEI, where the data comes from, who has access to it, whether someone's identity can be inferred from it, and whether the data subjects consented to its use for this specific purpose. At a minimum, know which answers you lack so that you can build trust by asking legal to help develop them. (For more on this topic, see "Data-Driven Diversity," by Joan C. Williams and Jamie Dolkas, HBR, March–April 2022).

Unfortunately, the end goals of diversity, equity, and inclusion rarely guide legal discussions. Indeed, lawyers are often discouraged from thinking about DEI goals and are instead instructed to focus on narrow legal concerns. ("Please only change things that are *against the law*.") But staying true to your motivations is key, as is making sure that your lawyers understand them, because bad DEI poses greater legal risk than good DEI does. Most lawyers would agree, after all, that when a party acts or speaks in a way that misrepresents reality—as is often the case with DEI conducted in bad faith—that party is creating legally damaging evidence, no matter what the context. Lawyers also know that when it's serious enough, a misrepresentation alone can create liability and make people mad enough to sue.

3 **Invite attorneys in early.** The best way to get attorneys invested in the goal is to bring them to the table as partners from the get-go. When actively engaged, lawyers can add real value to DEI. Attorneys track the latest court rulings and legal developments, anticipate avoidable scenarios, and help the business mitigate risks. Moreover, DEI requires discussion about difficult, sensitive topics, and attorney-client privilege can afford a degree of safety and privacy in conversations, which in turn can facilitate the candor necessary to improve the quality of DEI efforts. When they see themselves as partners rather than adversaries, attorneys can also be creative problem solvers.

All too often, however, companies loop lawyers in on a final product with an imminent deadline, hoping that short deadlines and high pressure will limit their comments to must-flag matters or, better yet, a rubber stamp. Many leaders are also simply afraid of the cost. If you're posting a job announcement tomorrow and you show it to your lawyers tonight, there are only so many hours they can bill on it before it goes online, right?

But when lawyers sense that there is no time or appetite for them to do their jobs properly, they tend to focus on one thing: not committing malpractice. This is a natural instinct, and it often leads them either to put initiatives on the back burner or to give them an outright "no." DEI proponents, for their part, are left with a reinforced belief that lawyers are obstructionist. It's a vicious cycle.

A wiser course of action is to bring in lawyers early and align them with your goals. Engage them in dialogue. At the outset of a new initiative, for example, you might say, "The business is willing to take some level of risk in this initiative, but can you help us identify arenas where, legally, risk is unnecessary or problematic?" Focusing the lawyers on preventing unnecessary legal risk and on promoting the

> When they see themselves as partners rather than adversaries, attorneys can be creative problem solvers.

organization's DEI goals frames the inquiry in a mutually beneficial way.

It's also important to look for ways in which your legal advisers can add value rather than just flag risk. Highlight language that has been a challenge to draft, or raise a specific legal question that you need help thinking through before you get started. Try to find ways to integrate legal review into DEI organizational processes, too—perhaps first in mapping out the initiative and then again in a final review. In larger organizations, think about the many jurisdictions and stakeholders involved, and consider bringing in multiple attorneys to help flag risk, anticipate problems, and generate alignment. In smaller organizations, where costs are a big concern, consider budgeting for an hour-long call with counsel at the idea stage. Additionally, commit with your lawyers to a few strategies for handling employee complaints and concerns and other factors out of your direct control. Getting your lawyers involved in these ways early in the process will help them feel invested in the result.

4 **Don't oversimplify risk.** The term "risk-averse" is slippery, because lawyers (and the rest of us) tend to account for certain risks but overlook others. Nuances abound. In that vein, when lawyers say something is "not legal" or "can't be done here," you have every right to adopt a posture of curiosity and press for more information. Ask "Would you mind sending me the name of the law or the case?" or "Do you have some examples of where that law was enforced in a DEI setting?" If your lawyers are worried about the risk of a reverse-discrimination suit and cite a high-profile verdict as evidence, ensure that they aren't falling prey to the "availability heuristic"—the natural urge to make decisions about the future using the first information that comes to mind. "How common is that kind of verdict?" you might ask. "And how do we balance that risk against the ongoing risk of discrimination against Black women?"

The need to avoid oversimplifying risk can be critical for global companies, which often speak of DEI as if it is a global concept. Consider the case of a multinational organization that wants to create an LGBTQ+ resource group but isn't sure what to do about countries where laws seem to ban same-sex relationships. Excluding those countries from the initiative might seem like the easiest option, but is that consistent with the global values the company espouses? In cases like that, lawyers and DEI leaders have to dig deep together. What do those laws actually say? (Usually they target individuals and not employers.) Are they ever enforced? (In many countries, they are not.) What actions actually lead to negative consequences, and what are those consequences? (Often the alarmist consequences are far-fetched.)

There are no easy answers, and one company's solution to a problem may not work for another. But consider the possibility that legally speaking, a sound DEI initiative, properly vetted for quality across multiple environments, may be easier to defend than one composed of piecemeal, inconsistent decisions that cannot be reconciled through legal comparison. For example, if you exclude most African countries from a DEI survey because you're told the questions are not legal there, would you be able to defend asking those same questions in France, where cultural norms might be different but the laws on data collection are even stricter?

Lawyers are primed to focus on what can go wrong if something is done, but companies need to go deeper and explore what can go wrong if something is not done. After all, shareholders have sued companies that were failing to prioritize DEI. That's what happened at Pinterest after former employees, including a former COO, alleged gender and racial discrimination at the company. You need to understand the risks not only of action but also of inaction, and lawyers can help you do that.

IN OUR YEARS OF working in this arena, we've seen many DEI initiatives scuttled because of miscommunication, a lack of communication, or conflict between DEI leaders and legal teams. When that happens, everybody loses. But it doesn't have to be that way. By entering into a partnership with your legal advisers and collaborating with them early and often, in ways that allow you and them to see both the forest and the trees, you can make your DEI efforts work better for everyone.

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SUSTAINABLE BUSINESS PRACTICES

Private Equity Should Take the Lead in Sustainability. Here's How.

PHOTOGRAPHER **CIUCO GUTIÉRREZ**

SUSTAINABLE BUSINESS PRACTICES

ABOUT THE ART
In the series Desserts, *Ciuco Gutiérrez brings together images of nature and opulence in dreamlike and emotionally ambiguous combinations.*

IDEA IN BRIEF

THE PROBLEM
Private equity has long overlooked sustainability issues, but the industry is now so large that society won't be able to tackle climate change and other major challenges without its active participation.

THE OPPORTUNITY
The PE business model gives private equity clear advantages over investors in public companies when it comes to promoting a sustainability agenda.

THE SOLUTION
PE firms should integrate ESG considerations into their deal-making, be more transparent with their investors about their sustainability efforts, make net-zero commitments for carbon, and take steps to reduce inequality in their own firms and in society.

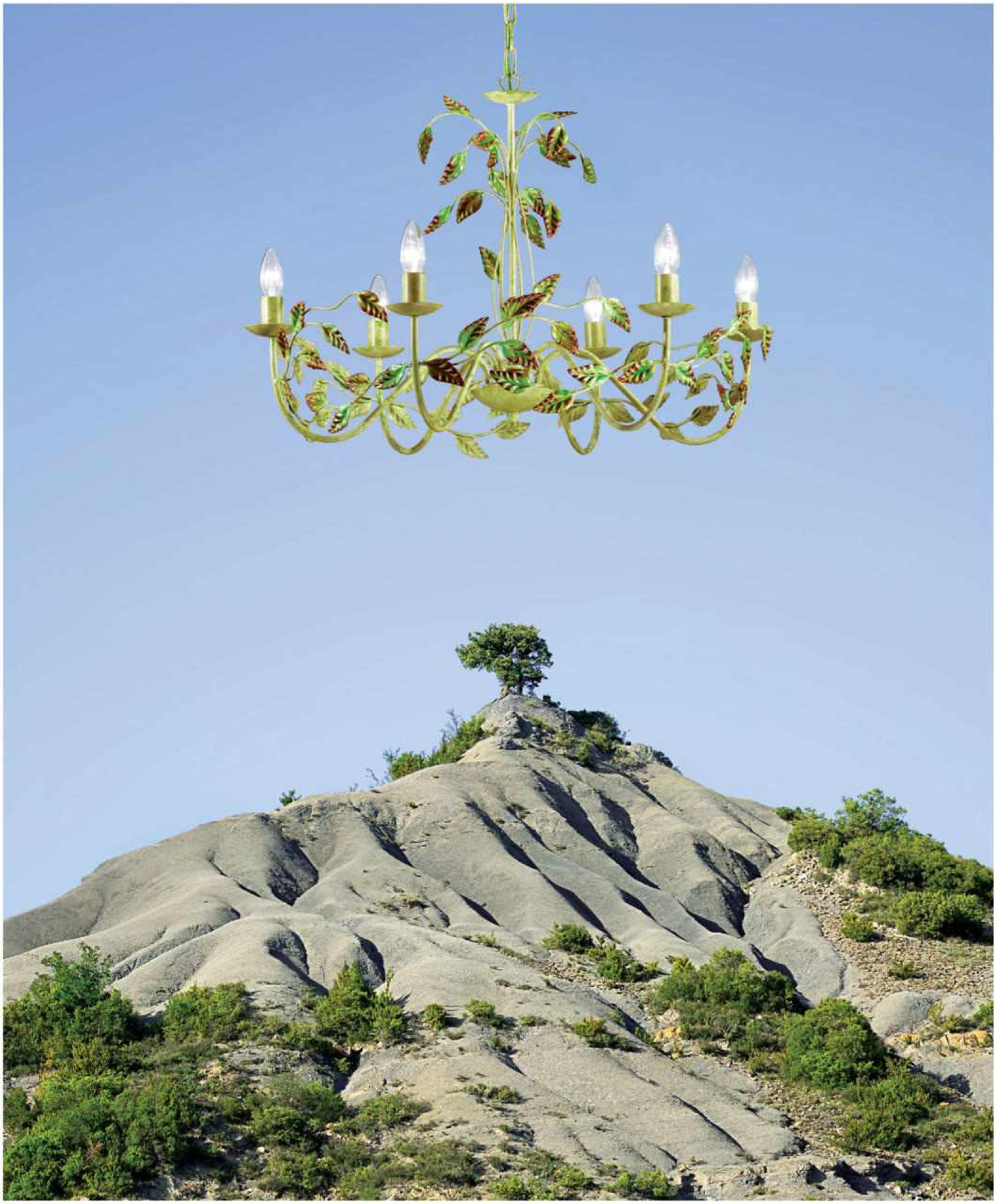
Despite their reputation in the 1980s as corporate raiders, most private-equity firms attempt to improve the performance of their portfolio companies through better corporate governance.

Historically their business model has been to create value by sharpening the focus and oversight of largely ignored business units inside conglomerates or poorly managed private companies, such as dysfunctional family-run businesses. But although the G in "environmental, social, and governance" has been important in the PE industry from the outset, the E and the S have been virtually nonexistent. The industry has been content to seek returns with little concern for the long-term sustainability of portfolio companies or their wider impact on society.

A huge opportunity for private equity—and for society—now exists. PE has moved far beyond its Wall Street niche to become a major player in the global economy. In 2021 the industry had $6.3 trillion in assets under management (compared with about $90 trillion for public equities) and close to $2 trillion in "dry powder" (funds raised but not yet invested). Those assets are projected to exceed $11 trillion by 2026. Roughly 10,000 PE firms worldwide oversee more than 20 million employees at about 40,000 portfolio companies. Some of the largest PE firms—Apollo, Blackstone, Carlyle, EQT Partners, KKR, and TPG—are now publicly listed themselves and therefore subject to the same pressures that all public companies face.

Because the industry is now so large, society won't be able to tackle climate change and other major challenges without the active participation of private-equity firms and their portfolio companies. And unless those challenges are addressed, the PE industry, along with all other economic activity, will fail to thrive.

To better understand ESG's impact on PE and the opportunities and challenges facing the industry, we interviewed 100 people across the globe. They included industry experts and individuals from 22 limited partners (LPs)—the pension funds, insurance companies, sovereign wealth funds, endowments, and wealthy families



PE-owned companies operate on a longer time horizon than publicly traded companies do, giving them ample time to make investments without the glare of quarterly earnings calls.

and individuals whose money firms use to make investments—and from 39 general partners (GPs), which manage and invest money for LPs. (Disclosures: One of us, Robert, serves as the chair of KKR's Sustainability Expert Advisory Council. Vinay, David, and Benedicte are consultants to the industry, including to several firms at which we conducted interviews for this article.)

We found that members of the industry have been slow to realize the importance of ESG for its future relevance, profitability, and even license to operate. The immediate challenges that PE faces are numerous and substantial: job losses at portfolio companies, the location of funds in tax havens, investments in private prisons and other controversial industries, the purchase of oil and gas assets from publicly listed companies (especially without a credible plan to improve their sustainability performance), donations to far-right organizations, and substantial payouts—sometimes hundreds of millions of dollars—for senior partners and other employees at a time when income inequality is a major societal challenge. But we also learned why the industry is well-placed to take the lead in sustainable investing—and how it can accelerate an adoption of ESG principles.

WHY PE NOW

Private equity's business model gives it clear advantages over investors in public equities when it comes to implementing a sustainability agenda. A PE firm has virtual control of its portfolio companies from an ownership and governance perspective, even when it doesn't own 100% of a company: It has one or more representatives on the board and a strong influence on who else serves. It has access to any information it wants about both financial and sustainability performance—whereas investors in public companies see only what the company reports. Finally, the firm determines executive compensation and can fire a CEO who is not delivering. "Our investment model—whereby we are often in control ownership positions and have a long-term perspective—and our expertise can help our portfolio companies advance their ESG journeys," says Elizabeth Lewis, the deputy head of ESG at Blackstone.

PE-owned companies operate on a longer time horizon than publicly traded companies do, further facilitating a focus on ESG. The average holding period for portfolio companies has increased from about two years in the industry's early days to about five today, which gives a GP and its handpicked CEOs ample time to make investments without the glare of quarterly earnings calls.

Of course, private-equity firms aren't likely to integrate ESG into their management unless they feel it's in the interest of long-term profitability—which is why they've largely ignored it until recently. But signs suggest that this mindset is quickly changing. Principles for Responsible Investment (PRI) reports that the number of PE and venture capital managers among signatories to the network has quadrupled over the past five years, for a total of 1,090 today. Nine of the top 10 GPs globally are now members of PRI. Of the world's 100 largest PE firms, 70 are based in the United States. Twenty-eight of those are PRI signatories, and 13 have signed on in the past two years—evidence of how quickly the industry is evolving.

Three forces are pushing ESG in the industry. First, ESG is becoming more important to limited partners and their beneficiaries. The largest asset owners—among them pension and sovereign wealth funds—are increasingly concerned about the system-level effects of climate change and inequality. A recent survey of LPs by INSEAD's Global Private Equity Initiative found that 90% of them factor ESG into their investment decisions and 77% use it as a criterion in selecting general partners. Many LPs are developing more-sophisticated approaches to evaluating the ESG capabilities of their GPs, and some are helping them improve their ESG capabilities.

For example, the Dutch pension investor APG has about $36 billion invested with 75 GPs across the globe. Starting in 2016, APG put processes in place to draw greater attention to sustainability from its GPs. Every year it scores each GP on a scale of 0 to 100 using a framework of 30 questions. No minimum score is required of a new GP, but all must report annually on what they are doing and show progress. Failure to do so will put future fund allocations at risk, however attractive a GP's financial returns may be. APG also gets yearly reports on the key performance indicators for ESG issues that are material to each of the GP's portfolio companies.

Another Dutch pension fund, PGGM, publishes an annual report on PE responsible investment. It uses a 1-to-5 scale to evaluate GPs. The fund won't allocate capital to those getting a 1 rating but will do so for those getting a 2 if it has reason to think they'll improve. Throughout the year PGGM monitors the approaches of its GPs and engages with them on ESG issues. The distribution of scores vividly illustrates how PGGM's general partners have improved on ESG: In 2016, 13% were rated very low or low, and 16% were rated high. In 2020 those percentages were 3% and 37%, respectively.

The rise of coinvesting, whereby an LP makes a direct investment in a portfolio company alongside the GP, is increasing pressure on GPs to focus on ESG. Coinvesting gives the LP direct access to the ESG performance data of portfolio companies. The Institutional Limited Partners Association has published an ESG assessment framework to help LPs evaluate and build the capabilities of their GPs.

The second force pushing ESG in the industry derives from the belief of many LPs and GPs that it will be essential if private equity is to continue delivering its historically high returns. The work of Harvard Business School's George Serafeim and others has shown that attention to ESG can lead to outperformance in public markets. LPs such as CalPERS, the largest U.S. pension fund, and Nuveen, a subsidiary of TIAA, believe that ESG is as relevant to private equity as it is to public equities. "ESG is important for all asset classes," says Amy O'Brien, the global head of responsible investing at Nuveen. "ESG is agnostic to ownership structure."

The third force is portfolio companies' increasing recognition of the importance of ESG issues. The reasons are unsurprising: a changing zeitgeist reflected in the preferences of employees and customers; growing awareness of the significance of climate change; social expectations regarding diversity, equity, and inclusion; pressure from large public companies to which the portfolio companies are suppliers; awareness of the sustainability focus in publicly listed companies; opportunities to boost their own value through sustainability; and increasing regulation.

The confluence of those three forces has had a powerful, albeit somewhat counterintuitive, effect. Many of the GP representatives we talked to, especially those who were sophisticated about ESG, said that a commitment to sustainability was a selling point and a differentiator in their negotiations with potential portfolio companies that are being targeted by multiple GPs.

WHAT DISTINGUISHES THE LEADERS IN ESG?

Until recently, ESG in private equity was a box-ticking exercise at best. LPs would give GPs a form—called an ESG due-diligence questionnaire—to fill out when a new fund was being raised. The form was unique to each GP and often long, and it rarely had any effect on whether the LP invested in the fund. It was simply filed away, and everyone got on with the business of investing and making money.

This approach still exists among less-sophisticated GPs and LPs. But according to Giovanni Orsi, the head managing director of relationships and partnerships and private equity at the Canadian pension fund PSP Investments, "Five years ago there were clear leaders, with laggards significantly behind. Today the gap is narrowing."

What are the leaders in ESG doing differently? They are becoming more sophisticated in three ways: (1) integrating ESG factors in due diligence, onboarding, holding periods, and exit strategies; (2) increasing transparency in the reporting of sustainability performance; and (3) assessing and improving the ESG capabilities of portfolio companies.

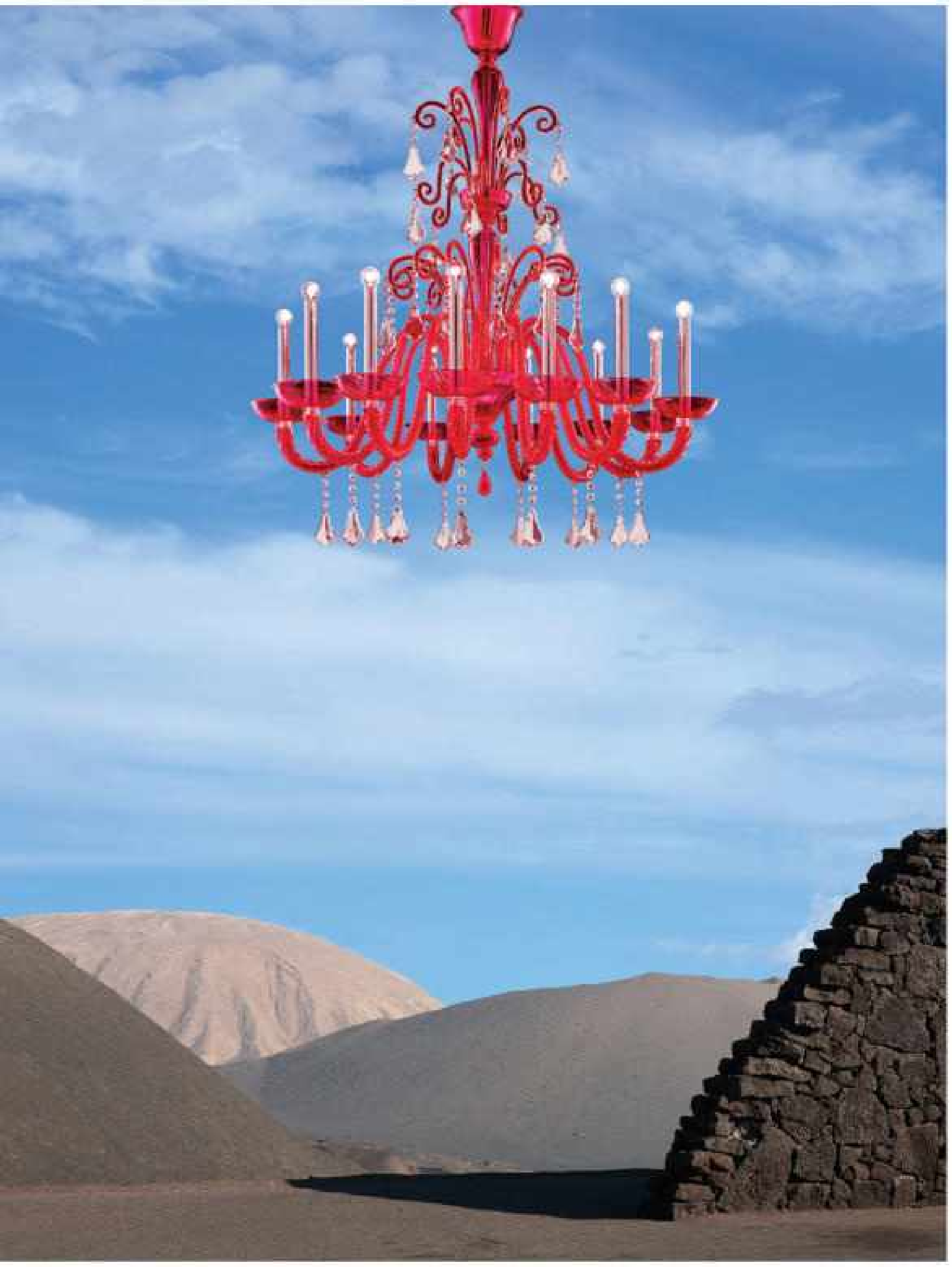
Integrating ESG. Each target or portfolio company's performance is assessed on the critical ESG issues that will affect value creation. That means moving from a short "risk and compliance" checklist in the due diligence phase (to screen out any obvious problems that could have financial consequences) to a sophisticated analysis of how well a portfolio company understands and is managing the ESG issues material to its business. That analysis is followed by collaboration with the company's board (on which the GP always has a seat) and with management to improve its performance (often with substantial help from the GP).

Leading GPs are continually improving the integration of ESG considerations into portfolio-company management. For example, in addition to monitoring and managing ESG risks during the holding period, Apollo Global Management is experimenting with a post-exit analysis of investments to determine how ESG issues affected performance and how the firm might apply that knowledge to future investments. "We are developing a template to help us assess ESG performance over the lifetime of an investment, and we will continue to evolve our approach," says Laurie Medley, Apollo's global head of ESG.

Until recently the separation in PE between those making investment decisions, those overseeing an asset once the deal was done, and those responsible for sustainability was clear. At some firms it is becoming less pronounced as deal teams undertake training in ESG. For example, Investindustrial, a firm with $12 billion in assets under management, sends its deal teams and portfolio-company managers to a sustainability certification course at New York University. They are supported by in-house experts in environmental and social issues. Apollo, Ares Capital, Bain Capital, Carlyle, EQT, Generation Investment Management, IG4 Capital, Investindustrial, KKR, PAI Partners, TowerBrook, and Verdane all told us that they are creating a process to make deal teams more knowledgeable about ESG.

Increasing transparency. With the growing recognition that ESG performance contributes to financial performance, GPs have become much more disciplined about gathering ESG data. They often collect a standard set of key performance indicators from their portfolio companies on an annual or even a quarterly basis. In some cases the number of KPIs ranges from 50 to 100. KPI reporting now almost always includes the ESG issues that are material to a company's financial performance. (For example, water usage is more relevant to a food and beverage company than to a bank or a tech company.) Triton, with $15.6 billion in assets under management, has since 2014 had a reporting system based on "three Ps": *policy* (what it is doing on the ESG front), *program* (its plan to implement the policy), and *performance* (how well the program is being implemented at the portfolio-company level). It uses various resources, including the Sustainability Accounting Standards Board, to identify material ESG issues when screening for investments and when managing them.

Transparency between GPs and their LPs is also increasing. Apollo has been reporting on ESG to LPs for 12 years, and in recent years its annual ESG report has been publicly



available on its website—a practice some other GPs have now adopted. Some LPs are requesting ESG data, such as for carbon, at the portfolio-company level.

Improving ESG performance. The private-equity business model puts general partners in a good position to help portfolio companies improve their ESG integration and reporting practices in a number of ways. These include identifying relevant issues and best practices for dealing with them, providing measurement and reporting tools, benchmarking against other portfolio companies, offering access to internal and external experts, and monitoring regulatory developments.

Some GPs have developed methodologies for assessing the degree of ESG sophistication in potential portfolio companies and helping them improve practice. Carlyle's process for evaluating targets starts with risk (basic compliance on environmental, safety, and health issues), moves to value (captured from the company's current business model and capabilities), and ends with growth (how to enter new areas). Its resources can enable portfolio companies to improve on sustainability faster than they could on their own.

Graeme Ardus, the head of ESG at Triton, told us that "deal teams and portfolio companies can see how each business is doing in comparison to the 'Triton benchmark.'" The firm holds monthly calls to share good practices with its portfolio companies and hosts events where CEOs and other senior executives present what they are doing on ESG. Triton also has a formal annual ESG gathering at which companies can network with and learn from one another.

Another leader where we interviewed is Nuveen, which acts as both a GP and an LP. In its role as an LP, it has a framework for doing an ESG assessment of every general partner and every fund in which it invests. Nuveen also gathers ESG data at both the fund and the portfolio-company level, including carbon footprint and alignment of each investment with the UN's Sustainable Development Goals—among them ending poverty and promoting responsible consumption and production. It then uses those capabilities in its engagements with private companies. "The challenge for many private companies," O'Brien says, "is the lack of capacity and resources to work on ESG integration and reporting. We are almost like consultants for the company."

To spur learning, Investindustrial has for five years held an annual sustainability meeting with its portfolio companies. Attendance is a good indicator of how interest in sustainability has grown in the PE sector. "In the first year the company typically sent only one person—whoever was most closely associated with sustainability," says Serge Younes, Investindustrial's head of sustainability. "At our last virtual meeting we had more than 200 people from 25 portfolio companies, including many members of senior management such as the CEO and the CFO."

WHAT COMES NEXT?

Although our interviews revealed that the private-equity industry is taking (long overdue) steps to adopt a sustainability agenda, considerable room for improvement remains. Here are four initiatives that can be helpful.

Standardize ESG reporting. Firms can adopt a mechanism for simplifying and harmonizing ESG data reported by their portfolio companies to GPs and by GPs to LPs. Every general partner where we interviewed had a bespoke set of KPIs and a methodology for collecting, analyzing, and reporting data, and all agreed that some degree of standardization would be useful. Portfolio companies with multiple GPs face multiple data requests. Similarly, GPs receive wide-ranging and differing data requests from their LPs.

Solid progress is already being made on this front, starting with the ESG Data Convergence Project, led by CalPERS and Carlyle (and to which BCG was an adviser). They brought together a group of leading LPs and GPs to agree on six ESG issues—Scopes 1 and 2 greenhouse gas emissions, renewable energy, board diversity, work-related injuries, net new hires, and employee engagement—and the key performance indicators for each, all based on existing standards and frameworks. GPs participating in the project agree to collect data from their portfolio companies and make it available to their LPs. The data will then be anonymized and put into a database for benchmarking purposes. As of this writing, the project includes a group of 100 global GPs and LPs representing $8.7 trillion in assets under management and 1,400 portfolio companies.

The project's leaders anticipated that getting agreement between GPs and LPs would be extremely difficult, because people have unique data needs and no regulations currently exist to enforce standards. But the rapid uptake of the ESG Data Convergence Project indicates that the industry is ready to meet this challenge in a more aligned way. (That said, nothing prevents a GP or an LP from requesting additional data.) Other groups are working on a similar idea, including PRI, the Ceres Investor Network, the Institutional Investors Group on Climate Change, and the Initiative Climat International (iCI). The Institutional Limited Partners Association is working to ensure alignment rather than competition among these initiatives.

Make net-zero commitments. Given the size of this asset class, the PE industry needs to make the kind of commitment to "net zero by 2050" that all financial institutions under the umbrella of the Glasgow Financial Alliance for Net Zero are making. Important work for private equity is being done by the iCI, which was launched in 2015 by five French PE firms to help achieve the objectives of the Paris Agreement on Climate Change. Thanks in large part to support from PRI, the iCI now includes more than 164 general partners representing more than $2 trillion in assets under management. In March 2022 Elizabeth Seeger, the managing director of sustainable investing at KKR, was named chair of the North American chapter. The iCI's members commit to reducing carbon emissions in their portfolio companies and seek to ensure long-term sustainable financial performance by managing the risks and opportunities presented by climate change. However, there is a major difference between reducing emissions in a portfolio (where a GP may simply ditch dirty companies) and reducing emissions in a portfolio company (which a GP may help go green).

Improve diversity. The industry needs to improve its track record with DEI. Today private equity is still predominantly white and male, particularly on deal teams. Evidence continues to mount that a more-diverse workforce leads to better performance. Diversity is also important in the war for talent. Hence it has become a top issue for limited partners

> Despite the best of intentions, it is all too easy for the PE industry to get lost in the weeds of the ESG agenda and forget that its social license to operate is not guaranteed.

in managing their investments (and themselves), and they are putting pressure on their GPs. Encouragingly, some GPs already recognize the importance of DEI. EQT, for example, is committed to creating truly diverse, gender-balanced (at least 40% female) investment-professional teams. To demonstrate the seriousness of its commitment, EQT has issued a credit instrument whereby its interest rate will ratchet up if EQT fails to meet the short-term target of 28% female by 2026. Other firms should follow its lead.

DEI standards must apply to portfolio companies as well. Sherrie Trecker, the sustainability officer at the Washington State Investment Board, says, "GPs have the ability to change board structures quickly. This is impactful, and I think we will see rapid change here, especially compared with public equities." Kara Helander, the chief diversity, equity, and inclusion officer at Carlyle, says, "Ten years ago there was less focus on this, but today DEI is a business priority for our portfolio companies." Carlyle has a goal of at least 30% diverse board membership for its controlled portfolio companies. Since many of those board members are Carlyle employees, the firm understands its obligation to improve its own diversity. Carlyle's CEO, Kewsong Lee, leads the DEI initiative and, along with other Carlyle executives, sets the tone from the top by holding all Carlyle colleagues accountable through DEI objective setting and by hosting discussions on mitigating unconscious bias.

Spread the wealth. The PE industry needs to directly confront the fact that the tremendous wealth it has created has been unevenly distributed. LPs, GPs, and the top executives of portfolio companies have benefited to a much greater degree than other employees of those companies. Shared ownership, whereby *all* company employees participate in the value created during the holding period, is important. Take TowerBrook's 2020 investment in CarTrawler, a company providing technology solutions to the global travel industry. All 400 or so employees have received shares that will allow them to garner proceeds when they depart. Similarly, in a number of its investments KKR offers substantial ownership to employees outside the C-suite and provides them with basic financial education.

Demonstrating a broader industry commitment to spreading the wealth, 19 PE firms have mobilized a group of asset managers, financial services firms, foundations, and nonprofits to launch the nonprofit Ownership Works. Its mission is "to increase prosperity through shared ownership at work." It has set an ambitious target of generating at least $20 billion by 2030 for hundreds of thousands of new employee-owners—among them lower-income workers and people of color who have been excluded from this wealth-building opportunity for generations. According to Anna-Lisa Miller, the executive director, "This movement is about working in concert to create a future...where employers and employees can win together."

To be sure, shared ownership doesn't work for all companies. In the retail sector, for example, where turnover is high, it would be an ineffective way to incentivize and reward employee performance.

IMPORTANT ELEMENTS—INCLUDING SOCIAL pressure, LP pressure, and shareholder pressure on publicly listed PE firms—are pushing private equity to take the lead in ESG integration. But will that be enough? PE firms must commit to moving their involvement in ESG from box-ticking to the center of their reason for being. Despite the best of intentions, it is all too easy for the industry to get lost in the weeds of the ESG agenda and forget that its social license to operate is not guaranteed.

To be successful in the future, PE leaders must speak openly and often about the importance of sustainable value creation. They must recruit people who care about it in the broadest sense and aren't joining the industry just because it can be very lucrative. We foresee three consequences if the industry fails to fully embrace ESG: Its social legitimacy will increasingly come under attack. It will no longer be able to deliver its historically high returns. And it will fail to fulfill its potential to help solve, rather than exacerbate, environmental, social, and governance problems.

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What You're Getting Wrong About **Customer Journeys**

They shouldn't always be effortless or predictable.

MARKETING

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MARKETING

ABOUT THE ART
In his X-Ray Cars *series, Heiko Hellwig overlays several photographs of toy cars to create the impression of a multilevel reality.*

MOST MARKETING EXPERTS agree that it's not enough to give customers a satisfying initial experience with a product. Instead, product managers must offer them a compelling series of experiences—a *customer journey*—to keep them coming back for more. The design of customer journeys is the new marketing battleground.

However, marketing experts have yet to develop a framework that can help managers with that design challenge. Too often they tell companies to routinize customer journeys—to make them as effortless and predictable as possible. Our research shows that this advice is overly simplistic. In fact, following it can sometimes backfire on a company.

Though some journeys might require little effort (for example, watching movies on Netflix or reordering meals on Seamless), others demand considerable mental or physical exertion (learning a new language on Duolingo or working out on a Peloton bike). Customers value both kinds of experiences.

Likewise, some journeys tend to be comfortingly familiar (like using Old Spice aftershave or grabbing lunch at Panera Bread), while others are unpredictable, surprising, and exciting (like meeting and chatting with other users of the dating app Bumble or playing World of Warcraft with friends). In many circumstances, customers actually relish the unexpected.

Drawing on five years of research into customer experiences across a wide range of product categories and on feedback from workshops with marketing academics and executives, we have created a framework to help managers design compelling journeys that keep customers returning many times over. We call it the *customer journey matrix*. It includes four archetypes:

→A *routine* is effortless and predictable.
→A *joyride* is effortless and unpredictable.
→A *trek* is effortful and predictable.
→An *odyssey* is effortful and unpredictable.

None of the archetypes is universally superior to the others; all four can be used to keep customers returning frequently. They can be applied to a variety of physical and digital goods and services (all of which we refer to as "products"). Each kind of journey can unfold at any pace—daily, weekly, or monthly—and last for any duration of time, from a few weeks to several years.

In this article we'll first describe the four customer journey archetypes and their corresponding design principles, and then offer managers a guide to creating the ideal journey for their product.

The Routine

A routine is a simple procedure for completing a recurring task and typically involves a trigger for an activity that produces a reward. (For instance, the morning is a trigger to brush your teeth and be rewarded with fresh breath.) While all journeys follow patterns, routines are especially repetitive. They're sometimes also called *customer habits* or *rituals*.

Routines are well suited for utilitarian products that make tasks incrementally easier and more predictable. For example, ultrasonic toothbrushes increase the efficiency and effectiveness of customers' oral care regimens. Mobile banking apps allow busy people to skip unnecessary trips to the bank. Quick-service chains give commuters an easy way to pick up food and beverages. In any routine, the less friction encountered, the more satisfied the customer is.

Product managers can help customers build enduring routines using two design principles—*streamlining* the user experience and *ensuring consistency* across encounters. The

Routines are well suited for utilitarian products that make tasks incrementally easier and more predictable. The less friction encountered, the more satisfied the customer is.

plainpicture/Spitta + Hellwig

IDEA IN BRIEF

THE CONTEXT
Marketing experts agree that the best way to keep your customers coming back for more is by facilitating a compelling series of experiences called a customer journey.

THE PROBLEM
Most experts promote an effortless and predictable journey—or a routine—as the gold standard. In many instances, that's a mistake.

THE SOLUTION
Companies can keep customers engaged with not just routines but also joyrides, treks, and odysseys. All four types of journeys can help companies achieve long-term success in the marketplace.

goal of streamlining is to eliminate all non-value-added touchpoints, whereas the goal of ensuring consistency is to help customers learn the routine and perform it without much thought.

Among quick-service chains, Starbucks has been especially relentless in streamlining its mobile ordering process, especially for grab-and-go customers at high-traffic locations. The Starbucks mobile app remembers customers' preferred stores and payment methods, enables rapid reorders of favorite items, locates the nearest store and estimates the wait time, and shows where to pick up orders inside the store. The chain has even opened Starbucks Pickup stores that fill only mobile takeaway orders. And it has mastered consistency by creating standard protocols for preparing menu items. A caramel macchiato is made the same way in Los Angeles as it is in Omaha.

Amazon leads online retailers in facilitating shopping routines. Conveniences such as one-click ordering and next-day delivery streamline its customers' journeys. The site's ordering process rarely changes—and only subtly when it does—minimizing the need for customers to relearn it.

The Joyride

Joyrides are amusing journeys that allow people to escape the tedium of everyday routines. Effortless, unpredictable, and a lot of fun, joyrides work well for products that deliver an on-demand thrill, such as music-streaming platforms, sports media, and video games. Joyrides can also be used in brick-and-mortar settings such as fast-fashion stores with high product turnover, local cinemas with weekly releases, restaurants with rotating menus, and bars with happy-hour specials.

Just as it is for routines, streamlining is necessary for joyrides, though it isn't enough to create them. Streamlining only mitigates pain points; it doesn't induce pleasure. To facilitate joyrides, companies must also apply the design principle of *endless variation* across the customer journey to generate frequent moments of delight. In the game Candy Crush Saga, for example, players swap adjacent candies to create rows or columns of three matching candies. To make that activity fun, the game varies the candies, color schemes, sound effects, challenges, and constraints across nearly 10,000 levels.

Many movie theaters facilitate joyrides by premiering a new film every week, but those of Alamo Drafthouse Cinema go a step further by frequently updating their menus. The company's chefs also occasionally plan themed menus based on the movies shown (such as African cuisines for *Black Panther*).

Consumer-generated content is another way to provide endless variation. On TikTok, new users are instantly immersed in a For You feed with trending videos they can swipe through. One video might feature a cat pouting while sad music plays; the next might show a cooking demonstration set to pop music. The staggering variety is part of the fun. Over time, users might like or comment on videos and discover creators they want to follow. TikTok's algorithms constantly process the engagement data and use that information to customize the feed.

The Trek

Treks are predictable journeys in which customers labor to achieve challenging long-term goals such as learning a language, recovering from surgery, and saving for retirement. Typically associated with personal service providers such as tutors, coaches, and financial advisers, treks are now increasingly facilitated by mobile apps and smart products, including educational apps like Babbel; wearable devices that monitor health indicators, such as the Apple Watch; and financial-planning tools like Mint. Customers return frequently to products that enable treks because they need considerable support to make progress toward their goals.

Companies often ease the work involved in treks with the design principle of *goal-posting*. Essentially, that involves breaking ambitious objectives into increasingly smaller ones until the next goal is so small that it spurs the customer to act. Rewards for hitting each target—which can be as simple as a few words of congratulation ("Good job!") or changing colors from red to green on a tracking dashboard—are often added to motivate the customer.

A product that excels at goal-posting is MyFitnessPal. One of the app's core features is a food diary, which breaks a customer's long-term objective (such as losing 20 pounds) into weekly, daily, and per-meal targets. Per-meal targets

Odysseys are challenging, thrilling, and unpredictable adventures. They tend to require great effort and generate a lot of excitement.

are further broken down by macronutrients (protein, fat, and carbohydrates), net calories, and other things that the customer might wish to track, such as sodium. The app streamlines the work of entering meals in the diary with tools such as a searchable library of foods and the ability to copy friends' meal inputs when dining with others.

The budgeting program You Need a Budget facilitates treks for customers with the relatively large and abstract objective of saving money. It encourages them to set concrete goals for major outlays, such as a home purchase, college tuition, and retirement, and break those goals down into smaller targets. The program also invites customers to set spending limits and debt repayment goals. All these goals can be scheduled in a variety of ways, including weekly, monthly, or according to specific dates. Immediate positive feedback from an intuitive interface encourages customers to keep making progress.

Some marketing experts argue that high-effort journeys must be infused with exciting gamelike features to keep customers motivated. In other words, they advise product managers to convert treks into odysseys. This advice is worth considering, but not all customers love the bells and whistles of gamified services. A trek with a well-defined series of achievable goals and affirming rewards can be just as motivating as an odyssey.

The Odyssey

If routines are the most ordinary type of customer journey, odysseys are the most extraordinary. Odysseys are challenging, thrilling, and unpredictable adventures that are fueled by a customer's enthusiasm, determination, and sense of purpose. They tend to require great effort and generate a lot of excitement. While customers follow many routines in their lives, they usually have only a handful of odysseys at any given time.

Odysseys are perfect for products that facilitate passion projects that customers are already highly motivated to pursue, such as cultivating a social media following, playing a strategy game, learning a performance art, filming a documentary, and training for a fitness contest. They keep customers returning to a product because they want to learn and grow. Unlike treks, odysseys don't need a set end point; as outdoor enthusiasts often say, the journey is the destination.

Odysseys are particularly common in the recreation industry. A key design principle here is *substantive variation,* which involves offering a diverse mix of customer thrills and challenges for functional reasons. Take CrossFit. In a typical session, coaches lead athletes through warm-ups, skill development, and high-intensity workouts that incorporate aerobic, calisthenic, and weight-lifting exercises. No two workouts are the same. Another key design principle for odysseys is *journey tracking.* CrossFit athletes closely track their own progress, but there's no defined end goal. The journey is effortful, unpredictable, and seemingly never-ending—a true odyssey.

Odysseys are also common in creative fields. Consider the intensive journeys facilitated by Adobe Creative Cloud's portfolio of design, photography, video, and web-editing apps, or by the Juilliard School's performance arts programs, which help actors, dancers, and musicians reach their potential. What Adobe Creative Cloud and Juilliard have in common is that they facilitate personal and professional development. (For more on the strategy of marketing personal transformation, see "The 'New You' Business," HBR, January–February 2022.) Elements such as passion and purpose lend odysseys a unique sense of transcendence above the relatively ordinary experiences of routines, joyrides, and treks.

Designing an Ideal Customer Journey

A five-step process can help you craft the right kind of journey for your product and customers.

1 Identify the best archetype for your product. Is it relatively effortless or effortful to use? Is the experience predictable or unpredictable? The answers to those simple questions reveal whether a routine, a joyride, a trek, or an odyssey will be most appropriate.

2 Put the archetype's design principles into action. If, say, your product's archetype is a routine, strive to deliver a predictably satisfying experience by ensuring consistent touchpoints in familiar sequences. Marriott's standardized check-in and check-out processes, for instance, make stays at its hotels easy for travelers, even in a new context such as a visit to a foreign city.

The Customer Journey Matrix

Customer journeys can be categorized into four distinct archetypes according to their level of effort and predictability.

	Effortless	Effortful
Unpredictable	**Joyride** TikTok's For You page	**Odyssey** CrossFit workouts
Predictable	**Routine** Starbucks Pickup stores	**Trek** MyFitnessPal's food diary

If your archetype is a joyride, generate endlessly varied moments of delight, perhaps with in-house teams of content producers or machine-learning algorithms, or by crowdsourcing content from consumers (as Instagram's feeds do).

To create the goal-posting that a trek demands, partition the customer's long-term objective into a series of much shorter term goals and reinforce the customer for achieving every small target. Fitbit, for instance, reminds users to take walks throughout the day and rewards them with badges, check marks, or progress icons when they do.

For the journey tracking and substantive variation that an odyssey requires, you might set up a performance dashboard and offer a diversity of individual and communal activities that collectively advance the customer's goal.

3 Cue purchase decisions at the right time. The best time to invite these largely depends on the predictability of the journey. With routines and treks, which have knowable outcomes, customers are generally motivated to sift through pricing details at the outset. Once customers have developed a routine or embarked on a trek, however, they usually don't want to be bothered with those details again.

For joyrides and odysseys, which have unknowable outcomes, customers generally aren't motivated to make

When companies have customers enrolled in multiple types of journeys, they're more likely to retain them. As some journeys lose their allure, others might begin to gain momentum.

big decisions at the start. Instead, they're eager to get a taste of excitement as soon as possible. Only later, once they've become more involved in the journey, are they willing to invest in a major purchase or subscription. You need to give them ample time to use the product before asking them to make cognitively demanding and financially significant decisions. If providing free services at the beginning of the journey is too costly, consider offering a cheap starter option.

4 **Streamline the journey at every opportunity.** This is the design principle that applies to all four archetypes. To keep their brands competitive, product managers must continually find new ways to eliminate non-value-added touchpoints from the customer experience.

To facilitate routines, for instance, PayPal lists customers' frequently used contacts on the landing page so that payments can be sent to those people within seconds. Customers just tap on a contact's name, input the payment amount, review the transaction, and hit "send." Customer routines should be so obvious that they require almost no thought or effort.

Companies that provide other types of journeys have found new ways to streamline as well. Singapore Airlines' in-flight entertainment system, which offers joyrides, recalls where passengers stopped watching movies on prior flights, so they don't have to fast-forward to where they left off. To simplify its treks, MyFitnessPal offers a barcode scanner feature that customers can use with packaged grocery items to quickly log their calories and macronutrients. And to help streamline their customers' odysseys, some Equinox gyms allow members to order a post-workout smoothie at the front desk on their way in so that they can avoid a wait afterward.

5 **Consider different journey archetypes for different customer segments.** We're often asked whether a single product can facilitate multiple types of customer journeys. The answer is a definite yes. In fact, many leading brands provide two or more journey archetypes in parallel.

Tinder, one of the world's most popular dating apps, facilitates different types of journeys for casual and power users. Some casual users are interested only in swiping through other users' profiles and occasionally chatting with a match; their journeys are joyrides. In contrast, power users not only swipe through profiles but also message matches, juggle multiple conversations, meet potential mates, and then continue or end those connections after good or bad dates. Their journeys are odysseys.

We've also observed joyrides among casual users and odysseys among power users at Pokémon Go, the mobile augmented-reality game. The aim of the game is to catch virtual creatures called Pokémon that randomly spawn throughout the electronically mapped world. For casual players the game is an occasional joyride during walks or work commutes. For passionate gamers, however, it's an odyssey that can consume much of their leisure time. People in the latter group band together for in-game battles and go to great lengths to find rare Pokémon.

Meanwhile, Amazon facilitates both treks and routines. Before purchasing high-ticket durable items like microwaves, sofa beds, and televisions, customers often sort through pricing information, ratings, and detailed reviews to make informed decisions. One could interpret those laborious experiences as treks. However, in consumable, low-ticket product categories, such as groceries and household supplies, Amazon encourages rapid repurchases via a buy-again feature and automated routines using its subscribe-and-save feature.

When companies have customers enrolled in multiple types of journeys, they're more likely to retain them. As some journeys lose their allure, others might begin to gain momentum. The net effect is that customers are continually engaged with the company's products on one journey or another.

TO SUCCEED IN today's hypercompetitive market, products must facilitate compelling customer journeys. But there's no one right way to design them. The customer journey matrix offers product managers four proven archetypes to choose from—routines, joyrides, treks, and odysseys. Each of these archetypes and its design principles can help companies keep their customers returning again and again.

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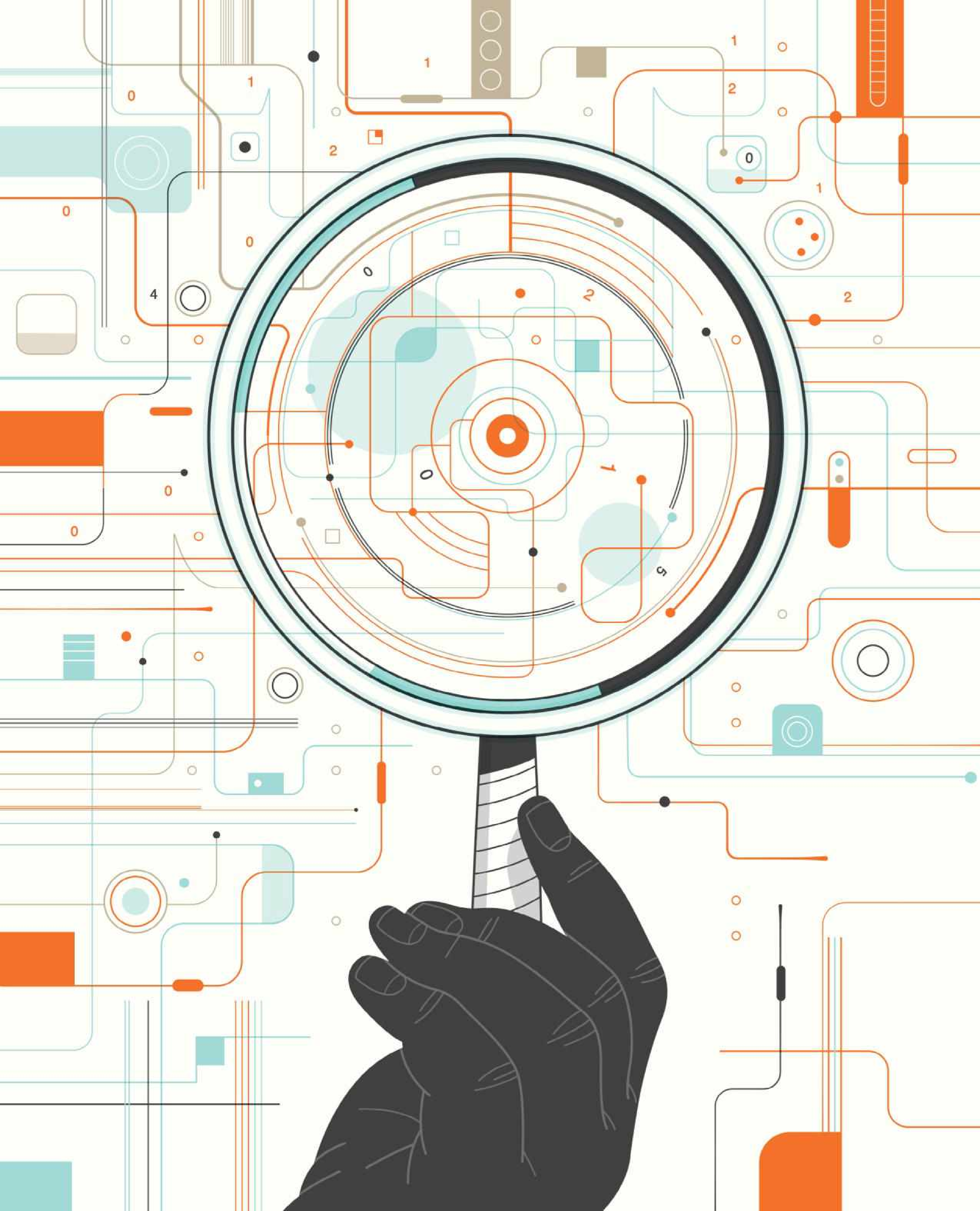

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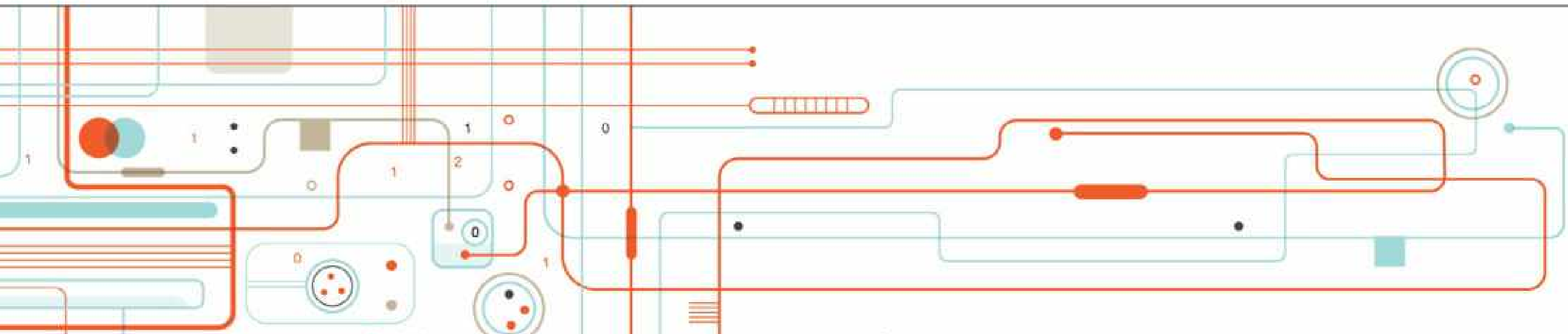
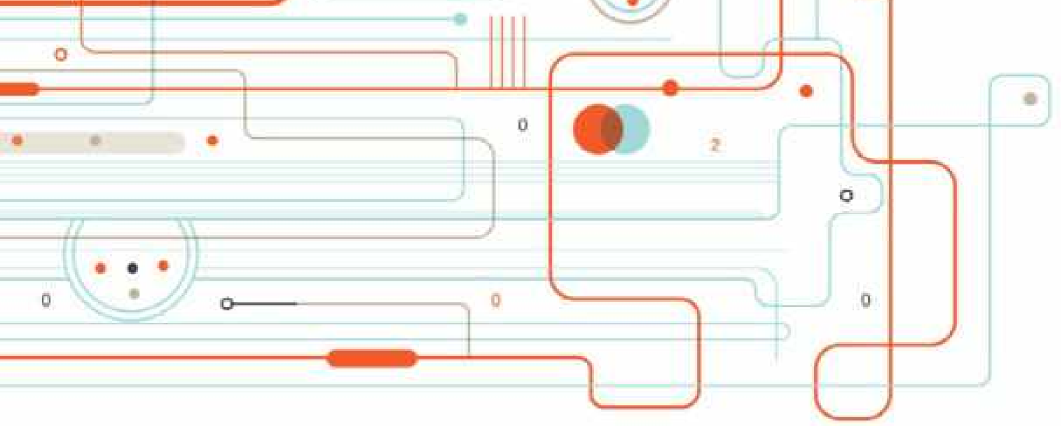
ANALYTICS & DATA SCIENCE

A *Better* Way to Put Your *Data* to Work

Package it the way you would a product.

ILLUSTRATOR
HARRY CAMPBELL

Though every company recognizes the power of data,

most struggle to unlock its full potential. The problem is that data investments must deliver near-term value and at the same time lay the groundwork for rapidly developing future uses, while data technologies evolve in unpredictable ways, new types of data emerge, and the volume of data keeps rising.

The experiences of two global companies illustrate how ineffective today's predominant data strategies are at managing those challenges. The first, a large Asia-Pacific bank, took the "big bang" approach, assuming it could accommodate the needs of every analytics development team and data end user in one fell swoop. It launched a massive program to build pipelines to extract all the data in its systems, clean it, and aggregate it in a data lake in the cloud, without taking much time up front to align its efforts with business use cases. After spending nearly three years to create a new platform, the bank found that only some users, such as those seeking raw historical data for ad hoc analysis, could easily use it. In addition, the critical architectural needs of many potential applications, such as real-time data feeds for personalized customer offerings, had been overlooked. As a result the program didn't generate much value for the firm.

The second company, a large North American bank, had individual teams tap into existing data sources and systems on their own and then piece together any additional technologies their business use cases required. The teams did create some value by solving challenges like improving customer segmentation for digital channels and enabling efficient risk reporting. But the overall result was a messy snarl of customized data pipelines that couldn't easily be repurposed. Every team had to start from scratch, which made digital transformation efforts painfully costly and slow.

So if neither a monolithic nor a grassroots data strategy works, what's the right approach?

We find that companies are most successful when they treat data like a product. When a firm develops a commercial product, it typically tries to create an offering that can address the needs of as many kinds of users as possible to maximize sales. Often that means developing a base product that can be customized for different users. Automakers do this by allowing customers to add a variety of special options—leather upholstery, tinted windows, anti-theft

IDEA IN BRIEF

THE PROBLEM
Although data offers enormous opportunities, most companies' strategies for realizing them are ineffective.

WHY IT HAPPENS
Too often firms' data efforts fail to lay the foundations for future data uses. Individual teams create a customized data pipeline for each application that can't easily be repurposed.

THE SOLUTION
Create standard data products that can be tailored to suit the needs of various types of users and many applications. The products can be managed by dedicated teams within business units, supported by a central function that coordinates and standardizes design.

Companies that treat data like a product can reduce the time it takes to implement it in new use cases by as much as 90%.

ANALYTICS & DATA SCIENCE

devices, and so on—to standard models. Likewise, digital apps often let users customize their dashboards, including personalizing the layout, color schemes, and content displayed, or offer different plans and pricing structures for different user needs.

Over time companies enhance their products, adding new features (engine modifications that boost fuel economy in a car or new functionality in an app), and introduce brand-new offerings in response to user feedback, performance evaluations, and changes in the market. All the while firms seek to increase production efficiency. Wherever possible, they reuse existing processes, machinery, and components. (Automakers use a common chassis on vastly different cars, for instance, and app developers reuse blocks of code.) Treating data in much the same way helps companies balance delivering value with it today and paving the way for quickly getting more value out of it tomorrow.

In our work we've seen that companies that treat data like a product can reduce the time it takes to implement it in new use cases by as much as 90%, decrease their total ownership (technology, development, and maintenance) costs by up to 30%, and reduce their risk and data governance burden. In the pages that follow we'll describe what constitutes a data product and outline the best practices for building one.

WHAT IS A DATA PRODUCT?

A data product delivers a high-quality, ready-to-use set of data that people across an organization can easily access and apply to different business challenges. It might, for example, provide 360-degree views of customers, including all the details that a company's business units and systems collect about them: online and in-store purchasing behavior, demographic information, payment methods, their interactions with customer service, and more. Or it might provide 360-degree views of employees or a channel, like a bank's branches. Another product might enable "digital twins," using data to virtually replicate the operation of real-world assets or processes, such as critical pieces of machinery or an entire factory production line.

Because they have many applications, data products can generate impressive returns. At a large national bank, one customer data product has powered nearly 60 use cases—ranging from real-time scoring of credit risk to chatbots that answer customers' questions—across multiple channels. Those applications already provide $60 million in incremental revenue and eliminate $40 million in losses annually. And as the product is applied to new use cases, its impact will continue to grow.

Data products sit on top of existing operational data stores, such as warehouses or lakes. (See the exhibit "Traditional Data Consumption Versus the Data Product Model.") The teams using them don't have to waste time searching for data, processing it into the right format, and building bespoke data sets and data pipelines (which ultimately create an architectural mess and governance challenges).

Each data product supports data "consumers" with varying needs, in much the same way that a software product supports users working on computers with different operating systems. These consumers are systems, not people, and our work suggests that organizations typically have five kinds. We call them "consumption archetypes" because they describe what the data is used for. They include:

1 **Digital applications.** These require specific data that is cleaned, stored in the necessary format—perhaps as individual messages in an event stream or a table of records in a data mart (a data storage area that is oriented to one topic, business function, or team)—and delivered at a particular frequency. For example, a digital app that tracks the location of a vehicle will need access in real time to event streams of GPS or sensor data. A marketing app designed to find trends in customer browsing behavior will need access to large volumes of web log data on demand (often referred to as "batch" data) from a data mart.

2 **Advanced analytics systems.** These too need data cleaned and delivered at a certain frequency, but it must be engineered to allow machine learning and AI systems, such as simulation and optimization engines, to process it.

3 **Reporting systems.** These need highly governed data (data with clear definitions that is managed closely for quality, security, and changes) to be aggregated at a basic level and delivered in an audited

> Like a Lego brick, a data product wired to support one or more consumption archetypes can be quickly snapped into any number of business applications.

form for use in dashboards or regulatory and compliance activities. Usually, the data must be delivered in batches, but companies are increasingly moving toward self-service models and intraday updates incorporating real-time feeds.

4 **Discovery sandboxes.** These enable ad hoc exploratory analysis of a combination of raw and aggregated data. Data scientists and data engineers frequently use these to delve into data and uncover new potential use cases.

5 **External data-sharing systems.** These must adhere to stringent policies and agreements about where the data sits and how it's managed and secured. Banks use such systems to share fraud insights with one another, for example, and retailers to share data with suppliers in the hope of improving supply chains.

Each consumption archetype requires different technologies for storing, processing, and delivering data and calls for those technologies to be assembled in a specific pattern. This pattern is essentially an architectural blueprint for how the necessary technologies should fit together. For example, a pattern for a sandbox would most likely include technologies for setting up a multi-user self-service environment that can be accessed by data engineers across the company. The pattern for an advanced analytics system using real-time data feeds might include technologies for processing high volumes of unstructured data.

Like a Lego brick, a data product wired to support one or more of these consumption archetypes can be quickly snapped into any number of business applications.

Consider a mining company that created a data product providing live GPS data feeds of ore-transport-truck locations. It was designed to support all the archetypes except external data sharing for its first use case—improving ore-processing yields. The company soon discovered the product had uses far beyond that. Once it was made available more broadly in the organization, several entrepreneurial employees immediately leveraged it to eliminate bottlenecks in the mine transport system. In just three days they built a prototype of a truck-routing decision support tool that reduced queuing time and carbon emissions. If they'd had to engineer the data from scratch, it would have taken nearly three months.

As word continued to spread, employees interested in other issues that involved trucks—such as safety, maintenance, and driver scheduling—tapped into the data to find answers to thorny questions and to build revenue-generating solutions that previously would have been impossible.

MANAGING AND DEVELOPING DATA PRODUCTS

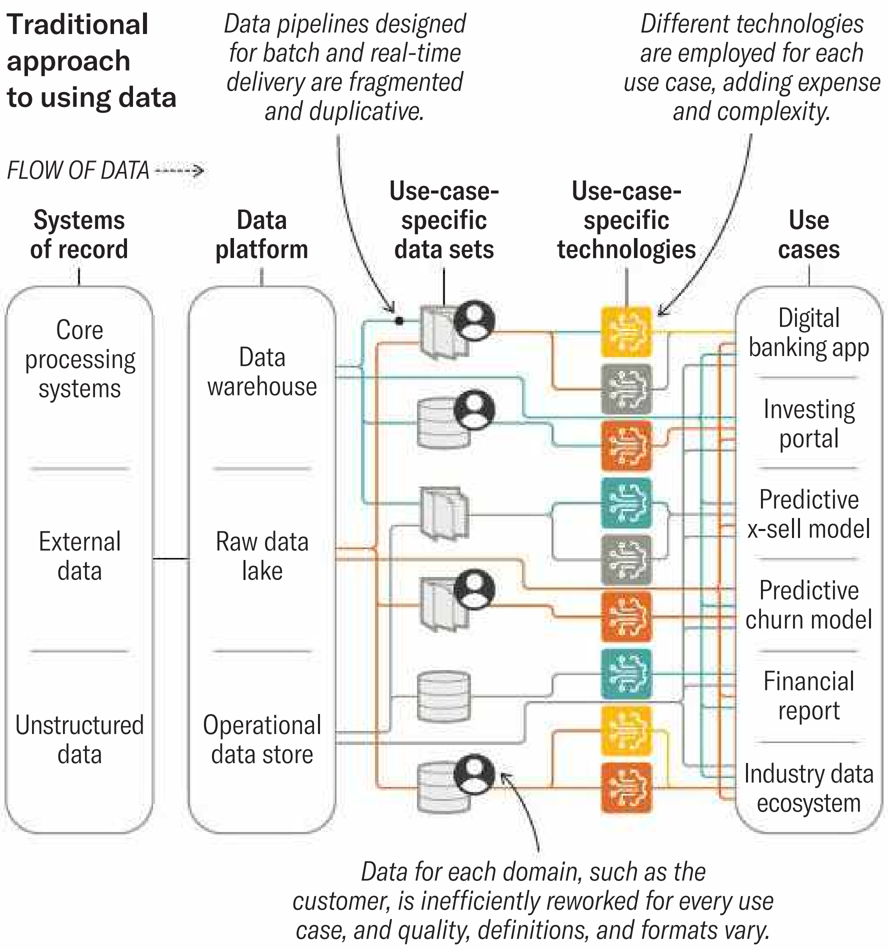
Whether they're selling sedans, software, or sneakers, most companies will have internal product managers who are dedicated to researching market needs, developing road maps of product capabilities, and designing and profitably marketing the products.

Likewise, every data product should have a designated product manager who is in charge of putting together a team of experts to build, support, and improve it over time. Both the manager and the experts should be within a data utility group that sits inside a business unit. Typically, such groups include data engineers, data architects, data modelers, data platform engineers, and site reliability engineers. Embedding them within business units gives the data product teams ready access to both the business subject-matter experts and the operational, process, legal, and risk assistance they need to develop useful and compliant data products. It also connects teams directly with feedback from users, which helps them keep improving their products and identify new uses. The first release of the customer data product at the national bank, for instance, focused on customer demographic profiles and information on transactions. Subsequent releases included data on customer interactions and on prospects, attracting significantly more data users and supporting teams developing other applications. The cost savings and incremental revenue realized by the product's early uses funded the next phases, creating a sustainable business model.

A company also needs a center of excellence to support the product teams and determine standards and best practices for building data products across the organization. For example, the center should define how teams will document data provenance, audit data use, and measure data quality, and should design the consumption archetype patterns for data product

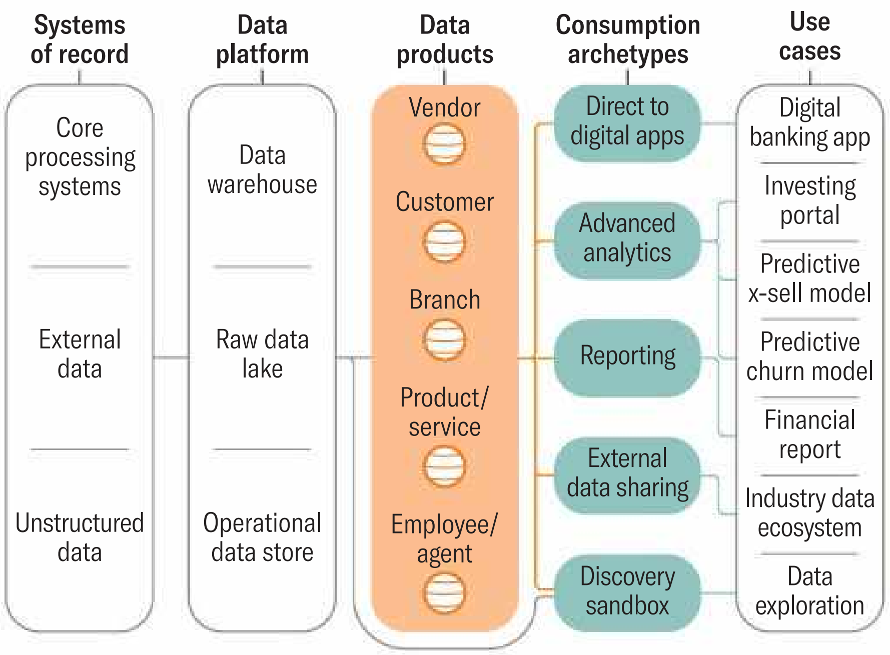
Traditional Data Consumption Versus the Data Product Model

In the traditional approach to data solutions, use case teams identify the data they need from source systems and create data sets and feeds only for their particular solutions. That leads to a lot of replicated work and a complex data architecture that's difficult to maintain and use for new solutions.



In a data product approach, use case teams build solutions by leveraging standardized data products and wiring technologies together following consumption archetype patterns, which reduces work, simplifies the enterprise data architecture, and decreases the time it takes to realize value.

Data product approach



ANALYTICS & DATA SCIENCE

teams to use. This approach can eliminate complexity and waste. In addition, the center can be a resource for specialized talent or data experts when demand for them surges within utility groups or business-use-case teams. For example, at one telecom provider we worked with, computer vision experts, who are scarce but often in demand, sit within the central hub and are deployed to business units on request.

While most companies already have some, if not all, of the talent needed to build out their utility groups and centers of excellence, many will need to deepen their bench of certain experts, particularly data engineers who can clean, transform, and aggregate data for analysis and exploration.

This was especially true for the mining company, which needed to grow its data engineering staff from three to 40 people. To fill that big gap, its leaders took a stepped approach. They hired contractors to get immediate work done and then embarked on far-reaching recruiting efforts: hosting networking events, publishing articles on LinkedIn, upgrading the skills of the software engineers already on staff, and developing internship programs with local colleges and universities. To improve retention, they created a guild for data engineers, which helped them build their skills and share best practices. The company also crafted individualized plans for data engineers that ensured those professionals had a clear growth path after joining the company.

TRACKING PERFORMANCE AND QUALITY

To see whether commercial products are successes, organizations look at barometers like customer sales, retention, engagement, satisfaction, and profitability. Data products can be evaluated with commensurate metrics, such as number of active monthly users, the number of applications across the business, user satisfaction, and the return on investment for use cases.

The telecom company tracked the impact of its first data product—which provided comprehensive data on critical cellular-network equipment—in 150 use cases. They included investment decision systems, scenario-planning systems, and network optimization engines. In total they're set to produce hundreds of millions of dollars in cost savings and new revenue within three years. The company estimates that over the first 10 years the use cases will have

> Data product decisions often involve trade-offs between impact, feasibility, and speed.

a cumulative financial impact of $5 billion—providing a return many times over on its initial investment.

And just as manufacturers routinely use quality assurance testing or production line inspections to make certain that their products work as promised, data product managers can ensure the quality of their offerings' data. To do so they must tightly manage data definitions (outlining, say, whether customer data includes only active customers or former and prospective customers as well), availability, and access controls. They must also work closely with employees who own the data source systems or are accountable for the data's integrity. (The latter are sometimes called "data stewards.")

Quality can suffer, for instance, when the same data is captured in different ways across different systems, resulting in duplicated entries. This was a risk with the national bank's customer data product. So its product manager worked with the stewards of the company's various customer data repositories and applications to institute a unique ID for each customer. That allowed the customer data to be seamlessly integrated into any use case or with any related data product. The product manager also partnered with the center of excellence to develop the standards and policies governing customer data across the enterprise and to monitor compliance—all of which facilitated reuse of the data product while building trust among users.

WHERE TO START

Leaders often ask which data products and consumption archetypes will get the highest and fastest return on investment. The answer is different for every organization.

To find the right approach for their companies, executives need to assess the feasibility and potential value of use cases in each business domain (this might be a core business process, a customer or employee journey, or a function) and group them first by the data products they require and then by the consumption archetypes involved. Categorizing the use cases like this helps leaders more efficiently sequence work and get a faster return on investment. For instance, they may end up pushing some lower-value use cases ahead if they leverage the data products and consumption archetypes of higher-value use cases.

For the executives at the national bank, this approach illuminated several priorities. First they saw that a customer data product that supported their most critical fraud-management and marketing use cases could generate tremendous value. Then they identified the kinds of data the product needed to gather first. Some of those use cases called for basic customer identifiers and reference data (such as demographic or segmentation data) while others required comprehensive customer behavioral data. The bank also realized that the two consumption archetypes it should pursue first were a discovery sandbox and advanced analytics, which in combination would support most of the company's priority fraud and marketing use cases.

Data product decisions often involve trade-offs between impact, feasibility, and speed. Ideally, the initial target products and consumption archetypes will immediately apply to high-value use cases and a long pipeline of others, as the telecom provider's product for its network equipment did.

However, feasibility considerations may cause a company to adjust its approach. For example, it may make sense to build momentum first in an area of the organization that has data expertise and has gotten some traction with data products, even if that isn't where the biggest opportunity lies. We saw this happen at the mining company. It initially chose to develop two products that supported its ore-processing plant, where use cases had already been successfully proven, the managers were enthusiastic to pursue more, the team had a lot of prepared data to work with, and experts with deep expertise were available to help.

MOST LEADERS TODAY are making major efforts to turn data into a source of competitive advantage. But those initiatives can quickly fall flat if organizations don't ensure that the hard work they do today is reusable tomorrow. Companies that manage their data like a product will find themselves with a significant market edge in the coming years, thanks to the increases in speed and flexibility and the new opportunities that approach can unlock.

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POLITICS

Leadership in a Politically Charged Age

What social psychology and relationship science can teach us about conflict in the workplace—and how to manage it

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POLITICS

ABOUT THE ART
Mitch Dobrowner travels throughout the western United States to photograph the intense power and beauty of storms.

In April 2021 two employees serving on a diversity, equity, and inclusion committee at the software company Basecamp posted an apology on the company's internal chat platform.

Along with others at Basecamp, the two had previously contributed to the so-called Best Names Ever list, an internal compilation of "funny sounding" customer names. Now they argued that such a practice was deeply problematic, serving to uphold systems of racial supremacy and extreme actions such as hate speech and genocide.

Their words ignited a firestorm at the company. Another employee dismissed the comparison to genocide as absurd and denied the existence of white supremacy at Basecamp. The CEO, Jason Fried, apologized for having allowed the Best Names Ever list to continue but warned against "catastrophizing." As tensions escalated, Fried instituted a ban on discussing politics at work, disbanded all committees at the company, including the DEI committee, and offered a severance package to any employee who felt uncomfortable with the new policy. A tense all-hands meeting followed, during which he was asked to publicly denounce white supremacy. He demurred, saying, "I'm not here to share my personal views on anything. I'm horrified when one group dominates another. I think it's absolutely the most disgusting thing in the world...I can't say that's happening here. [I don't] know what to say about specific terms. I don't know how to satisfy

IDEA IN BRIEF

THE PROBLEM
Employees in a politically charged work environment often disagree about how to handle practical and strategic matters. Left unchecked, those differences can lead to conflicts that spiral out of control. Many leaders don't know how to cope.

THE ROOT CAUSES
People see and interpret information in ways that serve their political allegiances, and that tendency is not random: Those on the left are more inclined to notice bias, but primarily against socially disadvantaged groups. Those on the right are less inclined to notice bias across the board.

THE WAY FORWARD
Leaders can adopt a two-part strategy for managing political conflict in the workplace: Following the practices outlined in this article, they can develop norms and procedures for averting conflicts altogether while also making plans for managing them when they arise.

that right now." Soon afterward at least 20 of the company's 57 employees accepted the severance offer.

Although losing a third of one's workforce is a rare outcome, the kind of conflict that roiled Basecamp is increasingly familiar. In June 2020 hundreds of Facebook employees staged a virtual walkout—temporarily logging off work and leaving an out-of-office message explaining why—in opposition to the company's decision not to remove inflammatory posts by President Trump during protests following the murder of George Floyd. Two months later more than 200 employees at Pinterest reacted similarly in solidarity with three former coworkers who had accused the company of racial and gender discrimination. In October 2021 a group of Netflix employees protested the company's decision not to remove the comedian Dave Chappelle's comedy special "The Closer," which they saw as offensive to the trans community, from its platform.

Many employees today believe that their companies are not going far enough to address social injustice. Some even feel they're being punished for engaging in the effort. Writing in December 2020, Timnit Gebru, a well-respected AI researcher at Google, captured the mood. "Your life starts getting worse when you start advocating for underrepresented people," she argued in a widely circulated email that would soon lead to her controversial departure.

Not everybody shares that outlook. Some employees have felt for years that companies are going too far. In 2017, for example, a Google engineer named James Damore wrote a memo that went viral accusing the company of creating an "ideological echo chamber" and practicing reverse discrimination. That same year the organizers of a UN roundtable to discuss the backlash against diversity initiatives in the tech industry conducted a survey in which 35% of respondents reported feeling that companies' increased focus on diversity was producing a bias against white men.

How can employees at the same companies have such differing perceptions of office climate and culture? Why are discussions in the workplace about diversity and other political issues often so fraught? What can managers do to make sure they aren't caught flat-footed by politically rooted conflict at work?

Not long ago such questions lay at the periphery of corporate life. But today they're central. In recent decades, especially but not exclusively in the United States, we've witnessed a surge in the proportion of people who believe in the importance of "bringing your whole self to work" and whose identities are deeply entwined with their political allegiances—that is, with their politics-relevant group memberships and ideological convictions.

Potentially explosive new forms of leadership crisis are emerging as a result of this surge. When employees at a company have differing political allegiances, they often disagree about how to handle practices such as hiring and DEI efforts, or about what strategies to adopt when it comes to outside investments, lobbying, and political donations. Left unchecked, those differences can lead to conflicts that spiral out of control, as the leaders of Basecamp learned.

Because this is a new and rapidly evolving problem, many leaders feel ill-equipped to cope with it. Consider Netflix's co-CEO Ted Sarandos, who acknowledged that he "screwed up" internal communications regarding the Dave Chappelle comedy special, even as he stood by his decision to keep it online. In the wake of an explosive conflict reminiscent of the one that engulfed Basecamp, Coinbase's CEO, Brian Armstrong, said, "I really did not know what to say about it for a long time, and I'm still not sure I do." After struggling to cope with a crisis that erupted at Redfin in 2020, following the company's endorsement of the Black Lives Matter movement, the CEO, Glenn Kelman, summed up how many leaders today feel about managing political conflict in the workplace, saying simply, "I wasn't trained to do that." Adding to the challenge, leaders aren't simply tasked with reacting to occasional flare-ups that start inside their organization; as they feel more pressure to take a public stand on political issues, such as the January 6 Capitol riot and Georgia's voting laws, the chances that some employees will object to those stances increase.

Our goal in writing this article is to provide a primer for managers on coping with politically charged conflict at work. We are business school professors whose research focuses on intergroup conflict (Nour) and intimate relationships (Eli). Drawing on the collective wisdom of those research traditions, we'll provide a framework to help managers understand when and how politically charged conflict can arise and how it can be dangerously corrosive. We'll also explain how they can manage such conflict more effectively and even harness its potential to strengthen the workplace.

Distorted Perceptions

Political allegiance tends to distort how we perceive and interpret facts. Although we may believe that we consider facts dispassionately when making up our minds, a growing body of research suggests that we often deploy them selectively in

An important truth must be accounted for when dealing with conflict in the workplace: We notice and interpret information in ways that serve our political allegiances.

defense of our worldview or group interest—a process known as *motivated reasoning*. Consider the results of a 2012 study in which right-leaning and left-leaning individuals watched a video of police officers assertively shutting down a political protest. Although they had seen the same video, the two camps interpreted it differently according to what they'd been told before watching. Right-leaning viewers were more likely to conclude that the police's actions had violated the protestors' rights when they believed it was an anti-abortion protest than when they believed it was an anti-military protest. Left-leaning individuals exhibited the opposite pattern.

The issue extends well beyond perceptions of protests. When employees with differing ideological outlooks are presented with the same evidence about contentious issues, they're likely to attend to and interpret it differently and will then experience their perceptions as singular truths. This tendency, called *naive realism,* helps to explain the bewilderment, frustration, and anger that people often feel when others perceive things differently.

One of us (Nour) recently coauthored a paper that focused on how people's ideological beliefs about the desirability of social equality shape their attention to—and accuracy in detecting—inequality. This is a good example of motivated reasoning. The paper reviewed the results of five studies. In one of them participants were shown one of two videos of a panel of speakers. In one version the men spoke more than the women did; in the other the women spoke more. Who noticed the unequal distribution of speaking time? When participants watched the video in which women were afforded less speaking time, left-leaners were significantly more likely than right-leaners to mention unequal treatment and significantly more accurate when estimating the distribution of speaking time. But when participants watched the video in which *men* spoke less, the left-leaners' assessments were no better than those of the right-leaners.

In another study, participants were walked through a series of organizational hiring decisions and were shown information about applicants' GPA, race, hobbies, and place of residence. In one condition the organization was systematically biased against minority candidates; in another it was equivalently biased against white candidates. After viewing the data, participants were asked to say what stood out for them. When the organization was biased against members of underrepresented groups, left-leaners were significantly more likely to notice than right-leaners were. But when the organization was equivalently biased against whites, left-leaners were no better than right-leaners at noticing. Participants who noticed bias in either condition were much more likely than others to support bringing in an outside firm to investigate the company's hiring practices. What we pay attention to really matters.

These studies point to two important truths that managers need to account for when dealing with conflict in the workplace. The first is that we notice and interpret information in ways that serve our political allegiances. As the writer Anaïs Nin put it, "We don't see things as they are, we see things as we are." The second is that bias is not random. These studies suggest, for example, that people on the left are especially apt to notice bias, but primarily when it's against socially disadvantaged groups, whereas those on the right are less inclined to notice bias across the board. Intriguingly, right-leaners are apt to treat groups more equally, even as they overlook evidence of unequal treatment.

A Better Way

Given these tendencies, it's little wonder that left-leaning and right-leaning employees so often talk past one another. Productive discourse is possible only when people perceive the same reality. So what are managers supposed to do when they don't?

The task is challenging. Even if edicts against political speech could eliminate the influence of politics at work—which is unlikely, given that political motives will continue to distort perception in subtle yet deep-seated ways—such rules have major costs. For one, the line between political and nonpolitical speech is hazy. Is structural racism merely a topic of abstract political debate, or does it deeply affect a company's internal and external stakeholders and demand immediate action? Are federal masking mandates just grist for the cable TV mill, or do they affect the safety or personal freedom of any employee who's asked to travel for work? And who makes those determinations? In addition, banning political discourse is antithetical to fostering a culture of productive disagreement, which has long been recognized

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as a benefit of cognitive diversity and an effective antidote to the dangers of groupthink. Banning politics also risks alienating large swaths of the talent pool (consider Gen Z's commitment to self-expression and authenticity at work) and renders management vulnerable to accusations of hypocrisy. After all, banning politics can itself come across as a forceful statement of support for those who favor the status quo over those who seek to challenge it.

Fortunately, thanks to new research findings and insights, managers have less-draconian methods at their disposal, which we'll discuss in the following section. We recommend using them in a two-part strategy for managing political conflict in the workplace—a strategy that is at once proactive and reactive.

PART 1

Averting Conflict

"The best time to repair the roof," the saying goes, "is when the sun is shining." Similarly, it's much easier to develop norms and procedures for navigating political conflict at work *before* a crisis emerges. Here are a few ways to do that.

Start early. Onboarding is a great time to introduce employees to your organizational norms and procedures. Why? Because people will be more receptive to the idea that their political convictions may distort their thinking if they encounter it as an abstract principle rather than in connection with how they're behaving during an argument.

Conflicts are less likely to emerge during onboarding, when employees are new and haven't had time to engage politically with colleagues. So seize the moment. When sensitive issues eventually emerge, encourage employees to approach them with curiosity and in a spirit of generosity while avoiding personal accusations and finger-pointing. Make clear that certain behaviors, such as hate speech and discrimination, are off-limits. Stress that your organization broadly celebrates difference, including in perspective and opinion. Remind everybody who joins the organization that disagreement at work can be positive and productive but that distortion and vilification are corrosive. In doing so, try to sensitize employees to the idea that when it comes to politically charged issues, *everybody's* perceptions are likely to be distorted.

Simply knowing that bias exists, however, is not sufficient to immunize us against it. As early and as consistently as possible, managers must also provide employees with tools that help them first to recognize when they may be engaging in motivated reasoning and then to self-correct.

One helpful approach is to introduce employees to the power of making simple if-then plans. For example: "If I start feeling indignant and morally righteous about a colleague's factual claim, then I'll ask myself whether I might be in the grip of naive realism." Teach employees to identify potential bias in such situations by asking themselves, "Which parts of that statement did I automatically disagree with?" and "How could I construct the best argument against my perspective if I had to?" Encourage them to think about a political conflict from the perspective of a neutral third party who wants the best for all involved—a strategy known as *self-distancing*. One of us (Eli) and colleagues have shown that when spouses employ this strategy, they enjoy greater marital satisfaction. Coworkers are not spouses, of course, but the core insight holds: Self-distancing can help disputants achieve a more objective, holistic perspective on conflict and, consequently, approach it in a more constructive manner.

You can also remind employees that their counterparts in disagreements are equally likely to be compromised by naive realism. Being mindful of this fact can make it easier to avoid demonizing the other side. Employees can put things on a more productive path by saying something like "We're each naturally going to see this from our own perspective. Why don't we move beyond arguing about who's right and try to come up with a strategy we can both endorse?"

Focus on common metrics. Another way to head off conflict is to have concrete measures in place for evaluating progress on goals such as reducing hiring bias and increasing workplace diversity. Clarifying such metrics helps an organization articulate its values and hold itself accountable to them. It also helps focus employees' attention on common data points, thereby reducing the risk that they'll engage in motivated reasoning.

Suppose three employees are reflecting on company hiring outcomes. Each one—absent an organizationally prioritized metric—could selectively attend to the evidence and walk away with a singular impression of whether the hiring process is biased. The first might focus on the fact that one of three accepted offers was made to a minority candidate ("A full 33% of our hires belong to minority groups!"). The second might focus on the fact that only one of the 10 final-round interviewees was from an underrepresented group ("Only 10% of our final candidates were members of a minority!"). And the third, consciously or unconsciously, might consider race an irrelevant criterion and so fail to note it. The three employees might not realize

that their counterparts had focused on different data, and a conflict spiral might begin.

By proactively emphasizing a particular metric for evaluation—in the situation above, perhaps the number of minority candidates interviewed—organizations can direct attention to common data points and minimize the chances that employees will talk past one another. For example, Harvard Business School employs scribes to provide professors with regular reports on the gender and national origin of the students they call on in class, and the Kellogg School of Management tracks and reports data on the gender composition of guest speakers. Such efforts both articulate values and focus faculty members' attention on those dimensions. You're likely to engage in debate even as you choose the metrics you want to use, which creates some risk of conflict, of course. But flying blind is even riskier.

Channel disagreement productively. In addition to norm setting, managers can create structures that make politically motivated disagreement less impulsive and corrosive and more thoughtful and productive. Consider how Harmon Brothers, a digital marketing firm, addressed the issue. Rather than banning political debate on Slack, the CEO, Benton Crane, instituted a new rule: Employees may post whatever political content they wish, but they must pair it with a video in which they explain their thoughts about what they've posted. Anyone who wants to respond must do the same. The conversations that take place within this structure, Crane reports, are more carefully considered than they would otherwise be, because the costs of entry are greater. This policy has substantially reduced contentious political debate at Harmon Brothers, without undermining autonomy with a ban.

PART 2

Addressing Conflict

Even with strong proactive measures in place, toxic political conflicts will arise in the workplace, and when they do, you'll need a plan for coping effectively with them. We've devised a process for doing that.

Set the stage. To start, a manager (or a trained facilitator) should convene employees for a conversation about political conflict in the workplace. The manager should

review the measures that the organization already has in place and should explain the concepts of motivated reasoning and naive realism, making clear that anybody can fall prey to them. They should also remind employees that they're all on the same team even if they disagree, and that vilifying colleagues for their opinions is unacceptable.

Exchange views. At this stage managers should begin an open discussion, offering participants an opportunity to articulate their own perspectives without interruption. In guiding the discussion, managers should enforce clear norms for both speakers and listeners: Speakers don't critique the other side; they simply explain why they find an issue so important and how they arrived at their perspective. Listeners don't agree or disagree with the speakers' views but, rather, listen without interrupting. The goal is to help partisans achieve a clear understanding of the other side's perspective, which provides a solid foundation for constructive discussion.

After everybody has had a chance to speak, managers should express gratitude to all who spoke for sharing their perspectives in a respectful way and to all who listened for affording speakers the space to do so. If relevant, they should also clarify any organizational information or overlooked data points that might pertain to the discussion.

Start problem-solving. Next managers should empower disputants to work together toward a resolution, perhaps in collaboration with management or other stakeholders. In explaining this step they should underscore the classic negotiation wisdom of focusing on all parties' interests and seeking creative solutions that make everybody better off. By analogy, they might discuss the idea of *adversarial collaboration,* a relatively recent innovation in the realm of scientific discovery whereby researchers with conflicting perspectives on an issue collaborate on a project to adjudicate between and reconcile their views rather than sniping at each other in separate publications.

Similarly, if managers are working with employees who have conflicting perspectives on bias in current hiring practices, they might task those employees with designing a new or a tweaked process—and associated metrics for tracking success—that everybody agrees would help ensure fairness. In the process, they should encourage the employees to start

Managers should underscore the classic negotiation wisdom of seeking creative solutions that make everybody better off.

POLITICS

by identifying areas of agreement that will build trust. For example, even if employees disagree on the best metric for judging whether the organization is sufficiently diverse, all of them, no matter what their political outlook, are likely to favor identifying the best possible pool of applicants. That might yield ideas about how to build a pipeline of highly qualified candidates of all stripes, including members of minority groups who may be overlooked by existing recruiting mechanisms. Working in this vein, companies such as Goldman Sachs and Morgan Stanley partner with America Needs You, which supports—and can connect them with—qualified first-generation college students.

To maximize the likelihood that such challenging conversations will yield constructive results, managers should emphasize the value of harnessing disagreement to achieve innovation, in part by offering meaningful rewards for effective solutions—even partial ones—that are jointly endorsed by individuals who were previously on opposite sides of an issue.

Even if managers incentivize collaboration along these lines, there's no guarantee that employees' efforts will generate consensus or useful policy recommendations. Indeed, working to find solutions carries some risk of making disagreements worse. That said, encouraging employees to strive for constructive resolution will always be a better bet than simply hoping that the conflict will resolve itself. And with this approach, employees are likely to appreciate that managers have given them a voice and empowered them to work collectively toward a resolution. To keep the conflict under control, managers can encourage employees with differing positions on an issue to recognize when their conversations seem to be yielding diminishing returns and they might be better off just agreeing to disagree.

Implement changes. Fortunately, disputants engaging in collaborative efforts will often produce concrete proposals. The company isn't obligated to implement them, of course, but insofar as the disputants have collaborated in good faith, managers should accommodate their proposals to the degree possible and articulate clearly why they have (or have not) made changes. They should also acknowledge that whatever they've decided is unlikely to fully satisfy all parties but is intended to serve as a step in the right direction—one that can be evaluated over time.

WE CLOSE WITH a few thoughts that managers might keep in mind when implementing our suggestions. The first is that they must remember that they, too, are susceptible to distorted thinking as a result of their political convictions. To facilitate an evenhanded and clear-eyed approach to dealing with politically charged conflict in the workplace, they should be humble and apply the same strategies to themselves that they encourage their employees to use. Such efforts are especially important because attitudes often differ across generations. Issues that inflame the passions of the younger generation may strike the old guard as benign at best or irritating at worst. No generation has a monopoly on the truth, but managers should beware of discounting perspectives that don't resonate with their worldview.

They will also need to heed the importance of process. Jason Fried, Basecamp's chief executive, found himself in trouble not only because of the policy decision he'd made but also for the way he announced it: publicly and unilaterally, in an online blog post, without any advance notice to his employees. That suggested that the company's employees were not his primary audience—a decision that alienated many of them and, ironically, made the changes seem political.

Finally, managers must attend to constantly shifting social norms and political currents to stay ahead of the curve. Two decades ago Dave Chappelle's jokes about trans people and Basecamp's Best Names Ever list would not have been as controversial as they are today. Similarly, metrics or targets that seemed appropriate then may seem paltry or excessive now. Even if managers can work with employees to set policies or establish procedures that satisfy the competing demands of the moment, politically charged conflict is a moving target, and leaders must keep their eyes on it.

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BUSINESS ETHICS

WHY YOU NEED AN AI ETHICS COMMITTEE

Expert oversight will help you safeguard your data and your brand.

AUTHOR

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ONDREA BARBE

BUSINESS ETHICS

IN 2019 A STUDY published in the journal *Science* found that artificial intelligence from Optum, which many health systems were using to spot high-risk patients who should receive follow-up care, was prompting medical professionals to pay more attention to white people than to Black people. Only 18% of the people identified by the AI were Black, while 82% were white. After reviewing data on the patients who were actually the sickest, the researchers calculated that the numbers should have been about 46% and 53%, respectively. The impact was far-reaching: The researchers estimated that the AI had been applied to at least 100 million patients.

While the data scientists and executives involved in creating the Optum algorithm never set out to discriminate against Black people, they fell into a shockingly common trap: training AI with data that reflects historical discrimination, resulting in biased outputs. In this particular case, the data that was used showed that Black people receive fewer health care resources, which caused the algorithm to mistakenly infer that they needed less help.

There are a lot of well-documented and highly publicized ethical risks associated with AI; unintended bias and invasions of privacy are just two of the most notable kinds. In many instances the risks are specific to particular uses, like the possibility that self-driving cars will run over pedestrians or that AI-generated social media newsfeeds will sow distrust of public institutions. In some cases they're major reputational, regulatory, financial, and legal threats. Because AI is built to operate at scale, when a problem occurs, it affects all the people the technology engages with—for instance, everyone who responds to a job listing or applies for a mortgage at a bank. If companies don't carefully address ethical issues in planning and executing AI projects, they can waste a lot of time and money developing software that is ultimately too risky to use or sell, as many have already learned.

Your organization's AI strategy needs to take into account several questions: How might the AI we design, procure, and deploy pose ethical risks that cannot be avoided? How do we systematically and comprehensively identify and mitigate them? If we ignore them, how much time and labor would it take us to respond to a regulatory investigation? How large a fine might we pay if found guilty, let alone negligent, of violating regulations or laws? How much would we need to spend to rebuild consumer and public trust, provided that money could solve the problem?

The answers to those questions will underscore how much your organization needs an AI ethical risk program. It must start at the executive level and permeate your company's ranks—and, ultimately, the technology itself. In this article I'll focus on one crucial element of such a program—an AI ethical risk committee—and explain why it's critical that it include ethicists, lawyers, technologists, business strategists, and bias scouts. Then I'll explore what that committee requires to be effective at a large enterprise.

An AI ethical risk program must start at the executive level and permeate your company's ranks—and, ultimately, the technology itself.

Ondrea Barbe/Trunk Archive

IDEA IN BRIEF

THE PROBLEM
Bias will find its way into AI and machine-learning models no matter how strong your technology is or how diverse your organization may be.

THE REASON
There are many sources of biased AI, all of which can easily fly under the radar of data scientists and other technologists.

THE SOLUTION
An AI ethics committee can identify and mitigate the ethical risks of AI products that are developed in-house or procured from third-party vendors.

When is it OK to produce differential effects across subpopulations, and when is it an affront to equality? The answers will vary and cannot be found by adjusting AI algorithms.

But first, to provide a sense of why such a committee is so important, I'll take a deep dive into the issue of discriminatory AI. Keep in mind that this is just one of the risks AI presents; there are many others that also need to be investigated in a systematic way.

WHY AND HOW DOES AI DISCRIMINATE?

Two factors make bias in AI a formidable challenge: A wide variety of accidental paths can lead to it, and it isn't remedied with a technical fix.

The sources of bias in AI are many. As I've noted, one issue is that real-world discrimination is often reflected in the data sets used to train it. For example, a 2019 study by the nonprofit newsroom the Markup found that lenders were more likely to deny home loans to people of color than to white people with similar financial characteristics. Holding 17 factors steady in a statistical analysis of more than 2 million conventional mortgage applications for home purchases, the researchers found that lenders were 80% more likely to reject Black applicants than to reject white ones. AI programs built on historical mortgage data, then, are highly likely to learn not to lend to Black people.

In some cases discrimination is the result of undersampling data from populations that the AI will have an impact on. Suppose you need data about the travel patterns of people commuting to and from work in order to create public transportation schedules, so you gather information on the geolocations of smartphones during commuting hours. The problem is that 15% of Americans, or roughly 50 million people, don't own a smartphone. Many simply cannot afford a device and a data plan. People who are financially less well off, then, would be underrepresented in the data used to train your AI. As a result, your AI would tend to make decisions that benefit the neighborhoods where wealthy people live.

Proxy bias is another common problem. In one of its investigations ProPublica obtained the recidivism risk scores assigned to more than 7,000 people arrested in Broward County, Florida, in 2013 and 2014. The scores, which were generated by AI, were designed to predict which defendants were likely to commit additional crimes within two years of arrest and thus help judges determine bail and sentencing. When ProPublica checked to see how many defendants were actually charged with new crimes over the next two years, it found that the scores' forecasts were unreliable. For example, only 20% of the people who were predicted to commit violent offenses did so. The algorithm doing the scoring was also twice as likely to falsely flag Black defendants as future criminals than to flag white defendants.

Although Northpointe, the developers of the AI's algorithm, disputed ProPublica's findings (more on that later), the underlying bias is worth examining. To wit: There can be two subpopulations that commit crimes at the same rate, but if one of them is policed more than the other, perhaps because of racial profiling, it will have higher arrest rates despite equal crime rates. Thus, when AI developers use arrest data as a proxy for the actual incidence of crimes, they produce software that erroneously claims one population is more likely to commit them than another.

In some cases the problem lies with the goal you've set for your AI—that is, in the decision about what the AI should predict. For instance, if you're determining who should get lung transplants, you might prefer to give them to younger patients so that you can maximize the number of years the lungs will be used. But if you asked your AI to determine which patients were most likely to use the lungs for the longest amount of time, you would inadvertently discriminate against Black patients. Why? Because life expectancy at birth for the total U.S. population is 77.8 years, according to the Centers for Disease Control and Prevention's National Center for Health Statistics. Life expectancy for the Black population is only 72 years.

Addressing these kinds of problems isn't easy. Your company may not have the ability to account for historical injustices in data or the resources to carry out the investigation needed to make a well-informed decision about AI discrimination. And the examples raise a broader question: When is it ethically OK to produce differential effects across subpopulations, and when is it an affront to equality? The answers will vary by case, and they cannot be found by adjusting AI algorithms.

This brings us to the second hurdle: the inability of technology—and technologists—to effectively solve the discrimination problem.

At the highest level, AI takes a set of inputs, performs various calculations, and creates a set of outputs: Input this data about loan applicants, and the AI produces decisions about who is approved or denied. Input data about what transactions occurred where, when, and by whom, and the AI generates assessments of whether the transactions are legitimate or fraudulent. Input criminal justice histories, résumés, and symptoms, and the AI makes judgments about recidivism risk, interview worthiness, and medical conditions, respectively.

One thing the AI is doing is dispensing benefits: loans, lighter sentences, interviews, and so on. And if you have information about the demographics of the recipients, then you can see how those benefits are distributed across various subpopulations. You may then ask, Is this a fair and equitable distribution? And if you're a technologist, you may try to answer that question by applying one or more of the quantitative metrics for fairness unearthed by the growing research on machine learning.

Problems with this approach abound. Perhaps the biggest is that while roughly two dozen quantitative metrics for fairness exist, they are *not compatible with one another*. You simply cannot be fair according to all of them at the same time.

For example, Northpointe, the maker of COMPAS, the software that provides risk ratings on defendants, replied to charges of discrimination by pointing out that it was using a perfectly legitimate quantitative metric for fairness. More specifically, COMPAS aimed to maximize the rate at which it accurately identified people who would commit new offenses across Black and white defendants. But ProPublica used a different metric: the rate of false positives across Black and white defendants. Northpointe wanted to maximize true positives, while ProPublica wanted to minimize false ones. The issue is, you can't do both at once. When you maximize true positives, you increase false positives, and when you minimize false positives, you decrease true positives.

Technical tools just aren't enough here. They can tell you how various tweaks to your AI will result in different scores on different metrics of fairness, but they cannot tell you which metric to use. An ethical and business judgment needs to be made about that, and data scientists and engineers are not equipped to make it. The reason has nothing to do with their character; it's simply that the vast majority of them have no experience or training in grappling with complex ethical dilemmas. Part of the solution to the problem, then, is to create an AI ethical risk committee with the right expertise and with the authority to have an impact.

THE FUNCTION AND JURISDICTION OF AN AI ETHICS COMMITTEE

Your AI ethics committee can be a new entity within your organization or an existing body that you assign responsibility to. And if your organization is large, you might need more than one committee.

At a high level the function of the committee is simple: to systematically and comprehensively identify and help mitigate the ethical risks of AI products that are developed in-house or purchased from third-party vendors. When product and procurement teams bring it a proposal for an AI solution, the committee must confirm that the solution poses no serious ethical risks; recommend changes to it, and once they're adopted, give it a second review; or advise against developing or procuring the solution altogether.

One important question you need to examine is how much authority the committee will have. If consulting it isn't required but is merely advised, only a subset of your teams (and probably a small one) will do so. And only a subset of that subset will take up the committee's recommendations. This is risky. If being ethically sound is at the top of the pyramid of your company's values, granting the committee the power to veto proposals is a good idea. That will ensure that it has a real business impact.

In addition, you can reinforce the committee's work by regularly recognizing employees, both informally (with, say, shoutouts at meetings) and formally (perhaps through promotions) for sincerely upholding and strengthening ethical standards for AI.

When a committee is given real power it allows great trust to be built with the company's employees, clients, consumers, and other stakeholders, such as the government, especially if the organization is transparent about the committee's operations—even if not about its exact decisions. However, companies that aren't ready to grant that kind of authority to an internal committee but are serious about AI ethical risk mitigation can still find a middle ground. They can allow a senior executive, most likely someone in the C-suite, to overrule the committee, which would let their organizations take ethical risks that they consider to be worthwhile.

WHO SHOULD SERVE ON THE COMMITTEE?

Now it's time to dive a little deeper into the cross-functional expertise of the members: Who needs to be on your AI ethics committee and why?

Ethics experts. These could be people with PhDs in philosophy who specialize in ethics, say, or people with master's degrees in the ethics of criminal justice (or whatever your

> What mitigation tactics to take, when to take them, and who should execute them, is a business consideration.

industry is). They aren't there to render decisions about the company's ethics, however. They're there because they have the training, knowledge, and experience needed to understand and spot a vast array of ethical risks, are familiar with concepts and distinctions that aid in clear-eyed ethical deliberations, and are skilled at helping groups objectively assess ethical issues. This is not to say that you need full-time ethicists on staff; rather, you can bring them in and consult them when appropriate.

Lawyers. Because technical tools aren't enough to solve the problem of bias, what is legally permissible often becomes an important consideration.

Lawyers, of course, are better equipped than anyone to figure out whether using a particular metric for fairness that has different effects on different subgroups might be viewed as discrimination under the law. But lawyers can also help determine whether using technical tools to assess fairness is even legal. It may well be prohibited by anti-discrimination law, which doesn't allow data on variables associated with protected classes to be taken into account in a very wide range of decisions.

Business strategists. The expected financial returns on AI differ from use to use, and so do the business risks (promises have been made to clients, and contracts have been signed). The magnitude and kinds of ethical risks also vary, along with the strategies for addressing them and the investments of time and money those strategies will require.

So what mitigation tactics to take, when to take them, who should execute them, and so on is a business consideration. And while I tend to prioritize identifying and mitigating ethical risk, I must admit that in some cases that risk is small enough and other business risks are big enough that a restrained approach to managing it is reasonable. All of this is why having someone with a firm grip on business necessities on the committee is itself a business necessity.

Technologists. Though I've explained what technologists cannot do, I must also acknowledge what they can: help others understand the technical underpinnings of AI models, the probability of success of various risk mitigation strategies, and whether some of those strategies are even feasible.

For example, using technology to flag possible bias presupposes that your organization has and can use demographic data to determine how a model's output distributes goods or services across various subpopulations. But if you lack that demographic data or, as happens in financial services, you're legally barred from collecting it, you'll be stymied. You'll have to turn to other strategies—such as creating synthetic data to train your AI. And whether those strategies are technologically possible—and, if so, how heavy a lift they are—is something that only a technologist can tell you. That information must find its way into the deliberations of the committee.

Bias scouts and subject matter experts. Technical bias-mitigation tools measure the output of AI models—after data sets have been chosen and models have been trained. If they detect a problem that cannot be solved with relatively minimal tweaking, you'll have to go back to the drawing board. Starting mitigation at step one of product development—during data collection and before model training—would be far more efficient and greatly increase your chances of success.

That is why you need people on your committee who might spot biases early in the process. Subject matter experts tend to be good at this. If your AI will be deployed in India, for instance, then an expert on Indian society should weigh in on its development. That person may understand that the way the data was gathered is likely to have undersampled some subset of the population—or that achieving the goal set for the AI may exacerbate an existing inequality in the country.

A STRONG ARTIFICIAL intelligence ethics committee is an essential tool for identifying and mitigating the risks of a powerful technology that promises great opportunities. Failing to pay careful attention to how you create that committee and how it gets folded into your organization could be devastating to your business's reputation and, ultimately, its bottom line.

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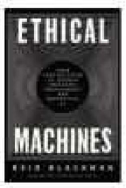

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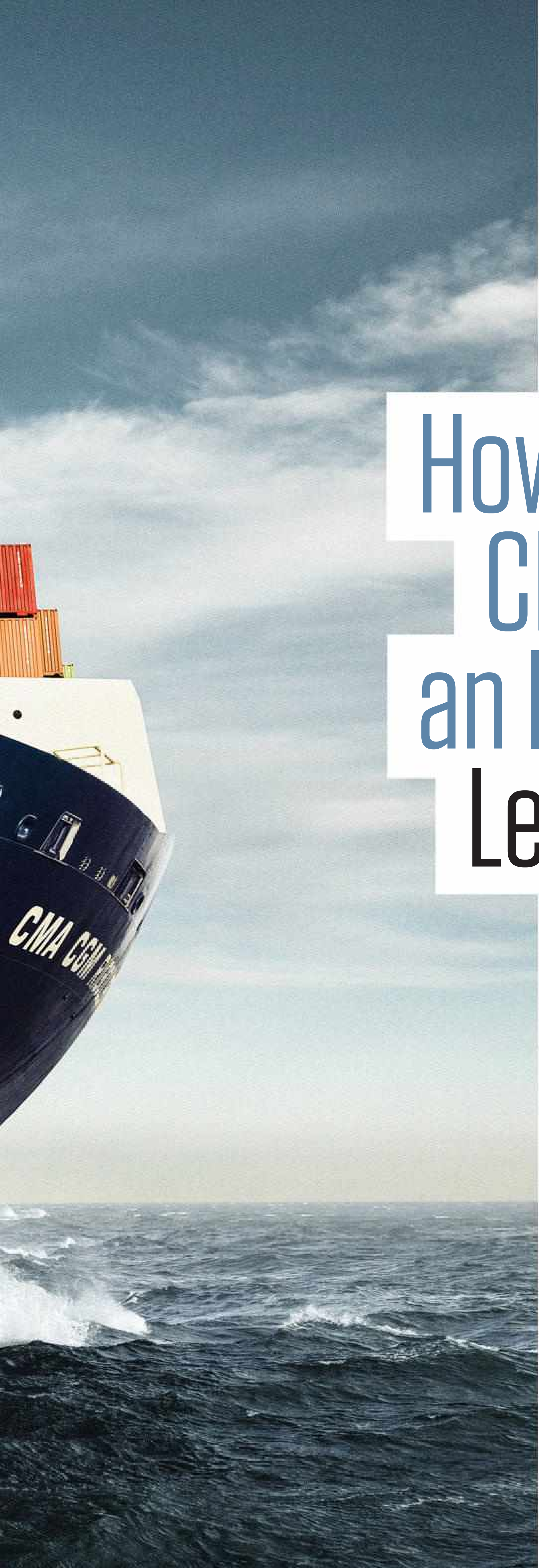
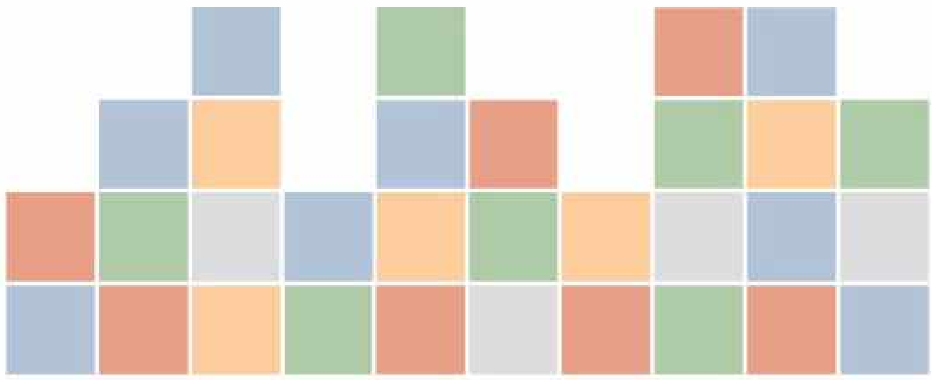


PHOTOGRAPHER TOM NAGY

SUPPLY CHAIN MANAGEMENT

How to Turn a Supply Chain Platform into an Innovation Engine

Lessons from Haier



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SUPPLY CHAIN MANAGEMENT

IDEA IN BRIEF

THE CURRENT REALITY
Most companies have a digital platform that supports a specific function, such as supply chain management, product design, or operations, and they tightly regulate who may join the platform.

HAIER'S APPROACH
The Chinese appliance manufacturer has extended its platform to facilitate a broader range of collaborations from innovation and design to supplying materials and components to solving technical problems and providing new services.

THE ADVANTAGE
The platform allows Haier to capitalize on the expertise and resources of its ecosystem, rapidly exploit new business opportunities, respond quickly to disruptions, and achieve efficiencies in a wide range of activities.

In early February 2020,

when its home country of China was coping with the first wave of Covid-19, Haier Group, one of the world's largest manufacturers of home appliances, faced a challenge and an opportunity. A customer—Heji Home, a Chinese home-furnishings company—asked Haier for help in producing mobile isolation wards that it wished to donate to a hospital in Wuhan, the site of the first outbreak of the novel coronavirus. These units required fresh-air, sterilization, and sewage-treatment systems that met stringent medical standards. Neither company had produced such equipment before, and neither had the design resources and supply chain capabilities necessary to go it alone. So they teamed up, and despite widespread lockdowns because of the pandemic and other business closings for the Chinese New Year, they managed to develop a working prototype of the unit and deliver it to the hospital in two weeks. That was quickly followed by the production and delivery of additional units to local hospitals in the subsequent weeks. Heji and Haier continued their collaboration and in the ensuing months developed other versions of the unit, such as a

ABOUT THE ART

German photographer Tom Nagy is known for his large-scale images of immense and monumental spaces, including landscapes, cityscapes, and industrial facilities.

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mobile nucleic-acid testing station and a mobile vaccination station, to meet new demands.

Such agility required that the two companies quickly identify the right partners in several industries, including industrial appliances, health care, and construction, and that all the parties involved trust one another and be willing to collaborate on the design. Haier and Heji Home were able to get a prototype built and tested, configure the supply chain, and line up manufacturing capacity in a matter of weeks—all because of Haier's digital platform.

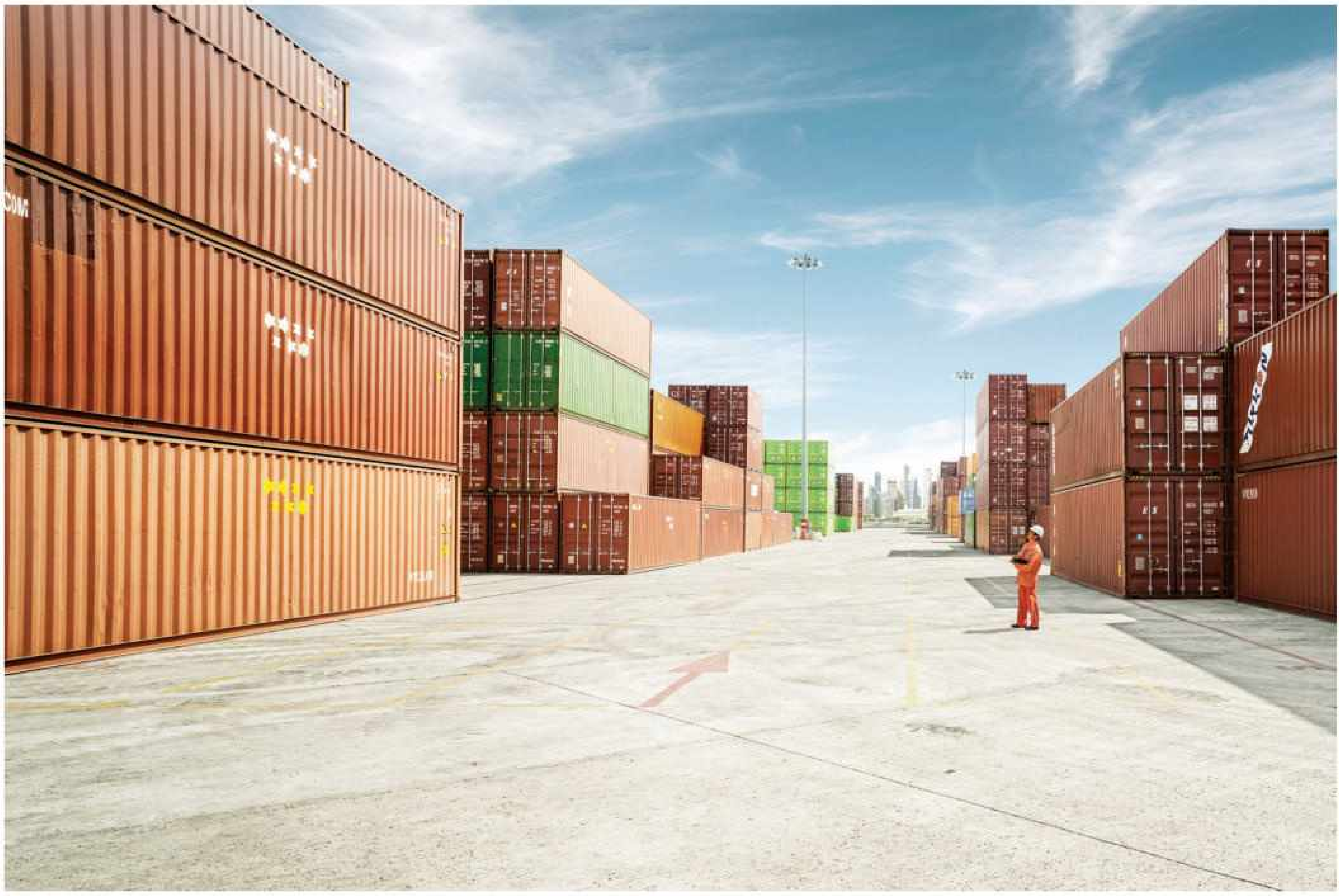
COSMOPlat (which stands for Cloud of Smart Manufacturing Operation Platform) is fundamentally different from conventional digital supply-chain platforms and other types of digital platforms. It facilitates a broader range of collaborations—from innovation and design to supplying materials and components to solving technical problems and providing new services—and can be used by any of its members to mobilize responses to new opportunities or cope with disruptions. What's more, platform membership is not limited to Haier's suppliers. It includes companies that its suppliers have invited to join and others whose employees have heard about the platform from colleagues at conferences and professional meetings and from stories in the media. Haier is planning to make COSMOPlat a standalone business that offers services to companies in other industries.

Many companies would benefit from having a digital platform with capabilities like Haier's. In this article, we offer an overview of how Haier developed COSMOPlat, examine how it differs from digital platforms used by other multinationals, describe how Haier and its suppliers leverage the information and relationships created by the platform to solve problems quickly, and provide guidance to companies that aspire to create a similar platform.

HOW HAIER'S PLATFORM IS DIFFERENT

Haier's digital platform was created in 2012 to improve the company's basic procurement functions. The early versions were designed to place orders, coordinate production plans, and manage inventories, payments, and other routine transactions. However, Zhang Ruimin, Haier's founder and CEO, soon decided that he wanted the platform to go beyond facilitating routine supply-chain functions and be able to mobilize critical resources inside and outside the company. He hoped to increase the agility of the supply chain—by helping to solve problems such as supply disruptions, unexpected shifts in demand, and quality issues—and to seize new opportunities quickly and efficiently. Accordingly, the company began adding new capabilities to the platform and changed its name to COSMOPlat in 2016.

Haier has deployed COSMOPlat in some 20 countries, and although its direct benefits are difficult to quantify, senior management believes that it has been instrumental in achieving substantial gains in the form of shorter order-to-delivery times, greater production efficiency, reduced stockout rates, faster receipt of payments, and



increased capability for product customization. Other member companies report that COSMOPlat has helped them significantly. Compaks RV, a manufacturer of motor homes, camping trailers, and recreational vehicles based in Rongcheng, China, reduced its production cycle from 35 to 20 days, trimmed procurement costs by 7.3%, and increased customer orders by 62%. Other members, including Heji Home and Tongyi Ceramics Science and Technology, a Chinese producer of ceramic products, say that the platform has allowed them to improve performance in areas such as product development, procurement costs, production cycle times, sales, and net profits.

Over the past five years, we examined more than a dozen platforms developed by other companies and found that Haier's differs from them in significant ways. One is that COSMOPlat provides a much wider range of integrated functions to facilitate the collaboration of multiple companies up and down the value chain. Many major companies have digital platforms dedicated to supply chain management. Some advanced platforms, such as GE's Predix and Siemens's MindSphere, help members use advanced technologies, such as Industry 4.0 digital capabilities (internet of things connectivity, cloud computing, analytics, and artificial intelligence), to improve the operational efficiency of factories and products in the field. And others, such as the Taiwan Semiconductor Manufacturing Corporation's Open Innovation Platform, focus on product development—designing new chips in the case of TSMC. COSMOPlat is both a supplier management system and an innovation engine.

Another difference between Haier's platform and those of others is the extent to which it controls the supplier network. Many companies decide which suppliers may join their platform and designate the tasks they will be involved with. Haier, by contrast, does not limit membership to its own suppliers; nor does it specify who will work on what. Rather, it posts a description of a problem it is facing on COSMOPlat and lets any supplier—current or potential, even one from a different industry—offer solutions or engage in collaborative efforts to find one. Many large companies also tightly control the collaborative process, whereas Haier does not. The relevant parties work together on finding a solution without Haier's continual

Developing Haier's Smart Refrigerator

Haier used COSMOPlat to orchestrate the development, production, and distribution of its smart refrigerator. Here's how.

User input. The platform helped Haier identify design choices in just a few weeks and then get feedback from an online community of existing and potential consumers—on the preferred size of storage compartments, whether they wanted to monitor their refrigerators' contents on their phones, and so on. This revealed customer needs that Haier had not fully considered. It learned, for instance, that people keep a variety of items in the refrigerator—such as skin care products, herbal extracts, and breast milk—that require different temperatures, humidity levels, and airflows. Those insights were turned into descriptive statistics to support the design team.

Technical expertise. The platform allowed Haier to attract qualified suppliers with the necessary capabilities in multiple tiers. For example, Haier posted on the platform that it was looking for ways to reduce air leakage between the refrigerator glass door and the door frame. Sika, a global leader in industrial adhesives, sealants, and surface treatments that had joined the platform for a different project, offered to help. Together Haier and Sika analyzed the forces acting on the door and the required bonding strength of the adhesive to arrive at a solution. Sika also helped Haier automate the application of the adhesive using a specially designed robot. The process, which normally would have taken six months, was accomplished in two.

Logistics and service operations. COSMOPlat gave access to many third-party providers of last-mile logistics, warehousing, and appliance maintenance and repair services. It also collected data about repairs and customers' reactions to the refrigerator. This data was available to all platform members involved in the refrigerator, which allowed them to quickly address problems—such as locating spare parts and arranging their prompt delivery to repair service personnel.

Product-life-cycle management. Haier used COSMOPlat's "digital twin" capabilities to create virtual models of the refrigerator. In the design phase, simulations of how the product specifications and process technologies interacted helped the project team optimize both. In the production phase, the digital twin was used to monitor physical manufacturing environments to detect out-of-control processes and continuously improve machine settings. The digital twin monitors the performance of the refrigerator in people's homes and sends customers alerts to change settings to improve energy usage, reduce food wastage, and properly maintain their products. That information is available to Haier's designers for use in improving performance and optimizing settings automatically.

involvement. Such an organic approach to tapping the capabilities of other organizations and marshaling needed resources is particularly helpful when the opportunity for offering a new product or service has a short time window and the company does not already have the requisite design capabilities or suppliers, or when it faces a major or sudden disruption.

EXPAND THE ROLE OF SUPPLY CHAINS AND PLATFORMS

Building a platform that, like COSMOPlat, is both a supply-chain management system and an innovation engine requires a company's leaders to broaden their perspective. They should think of the platform as a tool for the following.

1. Enlarging the supplier network quickly. Many companies focus on improving the efficiency and agility of their current supply chains. A common approach is for an original equipment manufacturer to map out its multitier supply networks, develop information links with the network members, and create a tracking system to monitor and coordinate the flow of products and information among suppliers. But as climate- and pandemic-related disruptions have driven home in the past five years, a company may need to significantly change its existing supply chain or form a new one when a crisis occurs or a new opportunity arises. A digital platform like COSMOPlat can greatly expedite the process of bringing in new partners—sometimes from unexpected places.

2. Looking beyond procurement. A primary goal of digitizing a supply chain is usually to manage the flow of materials and goods (such as orders, deliveries, inventories, and forecasts) and the services directly related to them (such as payments and logistics) among members of the supply network. But when opportunities arise that require the development of radically new products and services, a company may need an array of new players: those that have design and product testing capabilities, possess relevant IP, and can help rapidly ramp up production, deliver products, and provide after-sales services. A digital platform can help locate such players quickly and make it easy for them to work with one another. It is also useful in identifying and bringing on board expertise that will be helpful in developing and producing products and services just appearing

SUPPLY CHAIN MANAGEMENT

> Haier's digital platform has enabled shorter order-to-delivery times, greater production efficiency, and increased product customization.

on the horizon. A digital platform can help build out an expansion of the necessary capabilities—for example, 3D sampling to assess variations of new designs digitally, virtual reality to see or experience how a new design works under a range of conditions, and virtual prototyping tools to validate the physical and engineering properties and compatibilities of a new design.

3. Generating new opportunities and solutions. Ideas for new opportunities or solutions to problems can come from all parts of the ecosystem. But just providing a digital platform isn't enough to persuade members to offer solutions or participate in efforts to achieve them. They must feel confident that the collaboration will benefit them, which entails specifying the rules of engagement and the ways costs and benefits will be shared.

A CLOSER LOOK

Let's now examine the architecture of the COSMOPlat system. The platform consists of three modules.

Cooperative innovation and design. This module helps different companies collaborate in the design of products and components to ensure that they can be manufactured efficiently and transported and delivered safely and economically. It also facilitates communication and knowledge sharing. For example, a component for a new model of a home appliance may require a ceramics company and a supplier of an electronic control box to work together. This module provides protocols for the exchange of information between the design teams as they come up with solutions to technical problems. It provides templates for project management, monitors target dates for important milestones, and manages intellectual property permissions. It helps move from a prototype to large-scale production by identifying the factories with the right capacity and location, automation, quality control, and product test standards. The module can also be used to survey potential end users to get feedback on design, hear about any problems, and learn about other features that the product should include. These actions may be initiated by any COSMOPlat member—not just Haier's suppliers.

Production resources integration. This module facilitates procurement, manages orders, and coordinates the flow of materials in the production of the final product. It configures the supply chain and allows suppliers in different tiers to explore capabilities and coordinate their production capacities. It creates a detailed layout of the manufacturing process, materials handling system, and labor requirements. It also enables product feasibility testing, prototyping, and ramp-up planning. Most other supply-chain-management platforms lack the ability to incorporate many supply tiers and dynamically change the supply network.

Distribution and service. This module enables platform members to coordinate or integrate their individual capabilities in distribution, logistics, and after-sales services to support the needs of new products. For example, it allows them to work together to decide what marketing channels to use and how to develop the channel partners; to determine where inventories of a new product will be held (the final assembly factory, specific distribution centers, or retailers' warehouses); and to devise processes for order fulfillment and delivery. It also enables service support and repair (whether tasks should be done in-house or outsourced, how and where to store spare parts, and so on) and the management of returns.

Any company may apply to join any of these interactive modules without being formally invited by Haier or anyone else. All it needs to do is complete a questionnaire and provide documented evidence of its qualifications and capabilities. Once a company registers, Haier conducts a cursory review, which often takes only a day. That gives the company access to nonconfidential information on COSMOPlat, such as general descriptions of issues needing solutions and which members may be working on them. Instead of putting a company through a formal certification process at the outset—as many major companies do, and which can take weeks—Haier allows interested companies to explore the platform relatively painlessly. If a company wants to join a project, Haier performs a rigorous evaluation to check its production or technical capabilities and its track record on quality, pricing, and sustainability. This due diligence, which may include on-site visits, usually takes no more than a few days. If the review turns up serious problems, Haier drops the supplier and blocks it from the platform.

Haier intends to keep expanding COSMOPlat's capabilities. New functions will include energy and carbon-

reduction management, digital financing, and cross-border trade services. It will also expand “digital twin” capabilities—the use of virtual models of physical objects or systems to improve how they are designed, manufactured, operated, and serviced.

DEVELOPING A SIMILAR PLATFORM

Creating a platform like COSMOPlat requires a company to be widely known and reputable, have experience managing multiple tiers of suppliers, and have a reasonable level of expertise in digital technologies—prerequisites that put such an initiative beyond the reach of many small and medium-size companies. The good news is that it can start small and grow gradually, without a heavy commitment of resources at the outset. As Haier did, a company can build modules that have limited functionality, gradually add more features, and then link the modules for better communications between them. It can learn by doing and use early wins—even small ones—to build confidence among both internal and external stakeholders and generate savings that can be used to help finance subsequent steps.

A digital platform like COSMOPlat can provide benefits in normal times and during crises. By enabling its members to organize and conduct work faster and more efficiently, it can alleviate the requirement for costly alternatives such as carrying large emergency stockpiles of materials, components, and final products or building extensive buffer production and logistics capacities. Equally important, it can help a company’s value chain evolve organically so that it can better serve today’s needs as well as those that emerge tomorrow.

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MANAGING YOURSELF

How to Overcome Your Fear of the Unknown

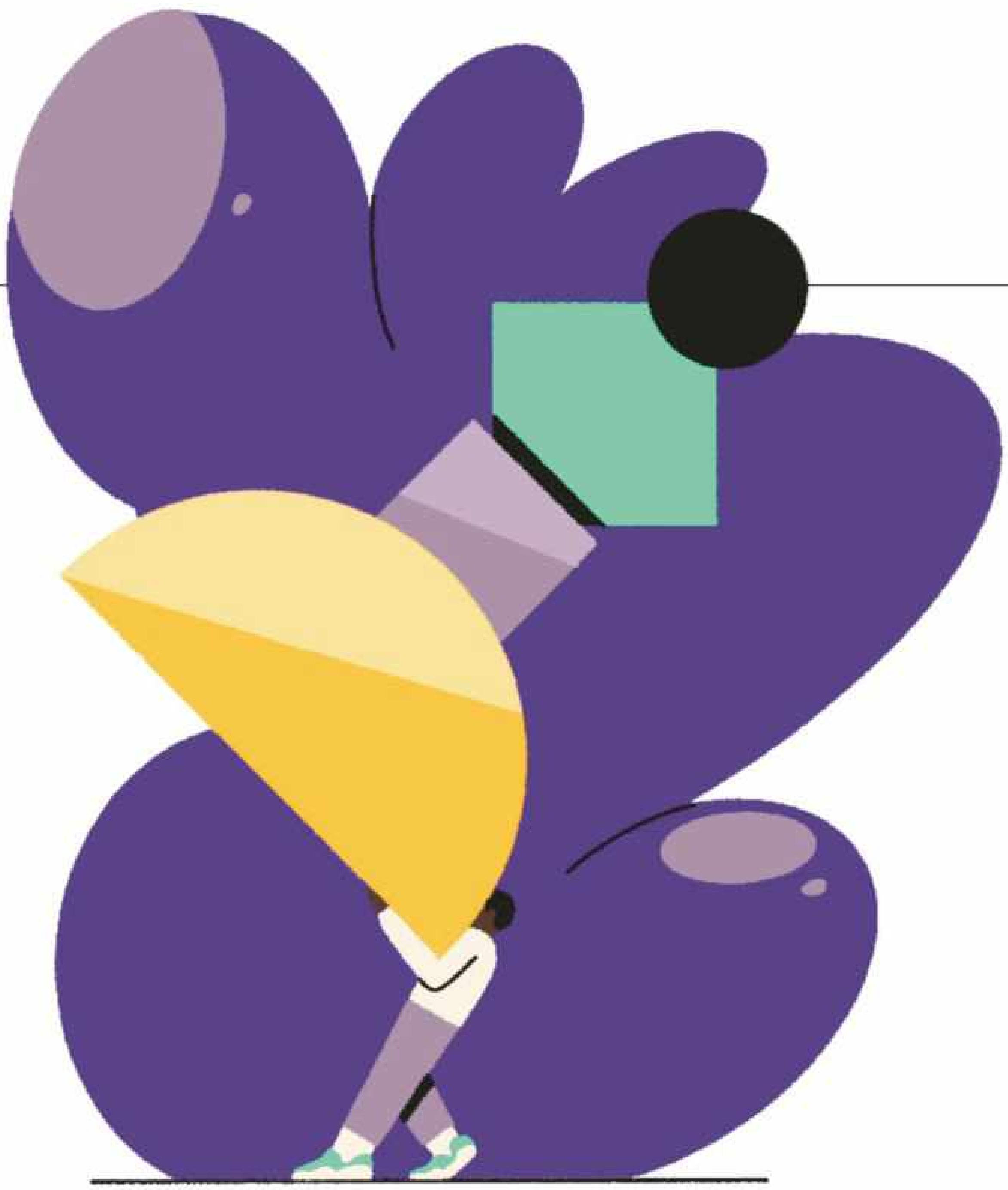
Embrace the transformative potential of uncertainty.

by Nathan Furr and Susannah Harmon Furr

HUMANS are wired to fear the unknown. That's why uncertainty—whether at the macro level of a global economic, health, or geopolitical crisis or at the micro level (Will I get that job? Will this venture be successful? Am I on the right career path?)—can feel nerve-racking, exhausting, and even debilitating. However, that gut reaction leads people to miss a crucial fact: Uncertainty and possibility are two sides of the same coin.

Consider the achievements you're most proud of, the moments that transformed your life, the relationships that make your life worth living. We'll bet that they all happened after a period of uncertainty—one that probably felt stressful but that you nevertheless pushed through to accomplish something great. When we moved abroad, for example, we faced uncertainty about

Illustrations by **MICHAŁ BEDNARSKI**



making less money, paying higher taxes, doing more-challenging work, and introducing our children to new schools, a new language, and a new culture. But seven years later we are so grateful for all the possibilities the move opened up.

Our modern-day heroes all have a similar story. Rosa Parks faced great uncertainty when she refused to give up her seat, igniting the Montgomery bus boycott and paving the way for desegregation. Nearly everyone initially thought that Elon Musk and his team would fail when they set out to revolutionize electric vehicles and push the world toward a more environmentally friendly future. They couldn't have achieved their breakthroughs if they had been afraid of uncertainty.

Uncertainty doesn't have to paralyze any of us. Over the past decade we have studied innovators and change-makers who've learned to navigate it well, and we've reviewed the research on topics like resilience and tolerance for ambiguity. The findings are clear: We all can become adept at managing uncertainty and empower ourselves to step confidently into the unknown and seize the opportunity it presents. Applying the following four principles will help you do that.

1 REFRAME YOUR SITUATION

Most people are loss-averse. Multiple studies demonstrate that the way you frame things affects how you make decisions. The research shows, for instance, that if one treatment for a new disease is described as 95% effective and another as 5% ineffective, people prefer the former even though the two are statistically identical. Every innovation, every change, every transformation—personal or professional—comes with potential upsides and downsides. And though most of us instinctively focus on the latter, it's possible to shift that mindset and decrease our fear.

One of our favorite ways of doing this is the "infinite game" approach, developed by New York University professor James Carse. His advice is to stop seeing the rules, boundaries, and purpose of the "game" you're playing—the job you're after, the project you've been assigned, the career path you're on—as fixed. That puts you in a win-or-lose mentality in which uncertainty heightens your anxiety. In contrast, infinite players recognize uncertainty as an essential part of the game—one that adds an element of surprise and possibility and enables them to challenge their roles and the game's parameters.

Yvon Chouinard, the cofounder of Patagonia, is an infinite player. As a kid he struggled to fit in, running away from one school, almost failing out of a second, and becoming a "dirtbag" climber after he graduated. But rather than seeing himself as a failure, he recounts in his book *Let My People Go Surfing,* he "learned at an early age that it's better to invent your own game; then you can always be a winner."

Chouinard not only created one of the world's most successful outdoor-apparel brands but also changed production norms by adopting more-sustainable

> Stop seeing the rules, boundaries, and purpose of the "game" you're playing—the job you're after, the project you've been assigned, the career path you're on—as fixed.

materials, altered the retail model by refitting old buildings for new shops, and challenged traditional HR policies by introducing practices like on-site childcare. Some of those innovations created uncertainty for the business. For example, Patagonia adopted organic cotton before it became popular, when it was expensive and hard to source. When a financial downturn hit, outsiders encouraged the company to buy cheaper materials. But using organic cotton was in keeping with its values, so Patagonia persisted, despite the cost and the supply risks, and in the end grew its sales while its competitors saw their sales fall.

Chouinard has learned to face uncertainty with courage—and in fact to be energized by it—because he views his role as improving the game, not just playing it. "Managers of a business that want to be around for the next 100 years had better love change," he advises in his book. "When there [is] no crisis, the wise leader...will invent one."

Of course, when uncertainty is forced upon us, we often need help reframing. Consider Amy and Michael, a professional couple with four children who moved from the United States to France in 2017 for Michael's job. When the pandemic started, his position was eliminated, and then companies that initially promised him job offers started stalling. In July 2020, Amy and Michael were scheduled to fly home to the United States, but three days before they left they still didn't have jobs or even a place to live. Family and friends were asking for updates, and their teenagers harangued them: "You are the worst parents ever! How can you have no clue where we're going next?"

Two days before their flight, Amy confided to us over lunch that Michael had been offered a job, but neither of them wanted him to accept it. "Should we just take the bird in hand?" she wondered aloud. "I feel like we are such losers." We encouraged her to reframe. She and Michael were showing resilience and bravery by exploring all possible next steps and holding out for the right one. How lucky their kids were to have parents bold enough to know what they really wanted and wait for it! The couple returned to the States with curiosity and courage and, by summer's end, had both found jobs they loved as well as a fixer-upper home in a fun location.

2 PRIME YOURSELF FOR NEW RISKS

Although innovators often talk about eating uncertainty for breakfast, if you dig deeper, you discover some curious habits. When Paul Smith—a designer known for daring color combinations—travels, he always stays in the same hotel, often in the same room. Others we've studied book the same airplane seat for every flight, follow the same morning routine, or wear the same clothes. Steve Jobs had a lifetime supply of black turtlenecks.

All those habits provide balance. By reducing uncertainty in one part of your life, they prime you to tolerate more of it in other parts. Some people ground themselves with steady, long-term relationships, for instance. As the serial entrepreneur Sam Yagan, one of *Time*'s 100 most influential people and the former CEO of Match.com explains, "My best friends are from junior high and high school. I married my high school sweetheart. Given how much ambiguity I traffic in at work, I do look for less in other areas of my life."

You can also prime yourself for uncertainty by getting to know the kinds of risk you have a natural aversion to or an affinity with. Case in point: Back when Nathan was pursuing a PhD in Silicon Valley and Susannah had started a clothing line that wasn't yet making money, we had four children to support and were still living off student loans in a few hundred square feet of on-campus housing. At lunch one day, Nathan told his mentor, Tina Seelig, "Let's face it, if I really had any courage, I would become an entrepreneur, but I'm just not a risk-taker." Tina disagreed. She explained that there are many types of risks: financial, intellectual, social, emotional, physical, and so on. In Nathan's situation, avoiding financial risk by pursuing a stable career as an academic—while still taking intellectual risks—was a prudent choice. The important lesson is that knowing which risks you tolerate well can help you see where to push more boldly into the frontier, while knowing which you don't will help you prepare so that you can approach them with more confidence.

Just as important, you can increase your risk tolerance by taking smaller risks, even in unrelated fields. Consider Piet Coelewij, a former senior executive at Amazon and Philips. When he was thinking of leaving the corporate track to head the expansion of Sonos—then a start-up—in Europe, he decided to take up kickboxing. Coelewij describes himself as "naturally fearful of physical confrontation," but trying kickboxing

> Starting modestly can be more effective and less anxiety-provoking than trying to do everything at once.

helped him build up his muscles for dealing with uncertainty, which made him "more comfortable with higher-risk decisions in other settings with less complete information," he says. "Once you are in a cycle of lowering fear and developing courage, you create a virtuous circle that allows you to continuously improve."

3 DO SOMETHING

Taking action is one of the most important parts of facing uncertainty, since you learn with each step you take. Research by Timothy Ott and Kathleen Eisenhardt demonstrates that most successful breakthroughs are produced by a series of small steps, not giant bet-the-farm efforts. Starting modestly can be more effective and less anxiety-provoking than trying to do everything at once.

When Jenn Hyman and Jenny Fleiss, the founders of Rent the Runway, first had the idea of renting out designer dresses online, they were students at Harvard Business School. But they didn't begin by writing a business plan, raising money, and then getting big as fast as possible. Instead they made one small move: They rustled up some dresses, set up a dressing room on Harvard's campus before a big dance, and observed firsthand whether women would rent them. Then, one experiment after another, one step at a time, they built a large, successful public company.

Sometimes you need to quickly ramp up your learning to blow away the fog that obscures the view of what to do next. Entrepreneurs face that challenge all the time. Research on the most-effective start-up accelerators demonstrates that the best way to help founders meet it is to make them talk with as many people, from as many different backgrounds, as quickly as possible (instead of keeping their ideas to themselves for fear that someone might steal them). Leading accelerators often force entrepreneurs to meet more than 200 people, some from seemingly unrelated backgrounds, in just one month.

It's not unusual for invaluable input to come from unexpected corners. The founder of one new platform dedicated to helping charities, including religious organizations, initially balked at the feedback session his accelerator had arranged with the vice president of marketing at *Playboy*. To his shock, the VP not only was a churchgoer but also gave him some of the most helpful advice he had received so far.

Finally, as you make your way forward, focus on values rather than on goals. David Heinemeier Hansson, the creator of Ruby on Rails and the cofounder of multiple start-ups, including Basecamp and Hey.com, views goals as "oppressive" and argues that setting them doesn't even work. "Whether you meet $10 million or not does not happen because you set that as a goal," he explains. If you instead aim to fulfill your values (which for him include coding great software, treating employees well, and acting ethically in the market), you'll have the confidence to make the moves you need to, no matter how the world responds, because you've redefined what success means to you. Even if a big project fails, he says, "I will still look back on the path—the two years and millions of dollars we spent developing this thing—and feel great about it."

He took that approach when Apple began imposing exorbitant app store fees on his most recent project, Hey.com, threatening to shut the new email service down just after it launched. He admits that even he felt anxiety about the uncertainty, just as anyone else would. But his focus on values, rather than goals—in particular, on fairness in the tech industry—"gave us freedom to go all in" fighting back, he says. His situation became a rallying point for entrepreneurs, and the free press that resulted became "the greatest launch campaign we could have imagined."

4 SUSTAIN YOURSELF

According to Ben Feringa, who won a Nobel Prize in chemistry for work on molecular machines that could one day power nanobots that repair the pipes in your house or keep diseases out of your blood, scientific discovery happens only after facing uncertainty. That means, he says, you have to "get resilient at handling the frustration that comes with it." His approach includes both emotional hygiene (attending to emotions—much as you would a physical wound—so that they don't turn into paralyzing self-doubt or unproductive rumination) and reality checks (in which you recognize that failure is just part of the process).

Feringa admits that failing hurts and that he allows himself to feel frustrated, even for a few days. But then he stops and asks, What insights can I take away from this? What's the next step I can work on? Whether he realizes it or not, he's adopting one of many lenses that can help people recast setbacks, such as the

learning lens (what you can learn from them), the gratitude lens (what you still have, not what you lost), the timing lens (it's just not the right time now, but that doesn't mean it won't ever be), and our favorite: the challenge lens (you become the hero only by facing obstacles).

Another practice that the scientists, creators, and entrepreneurs we've studied use to sustain themselves is to focus on the people and things that have meaning for them. You can get through anything—not just the fear of potential losses but the pain of real ones—by holding tight to what really matters.

Take Jos and Alison Skeates, a British couple who launched a small chain of jewelry shops featuring new designers. They'd opened locations in three London neighborhoods—Clerkenwell, Notting Hill, and Chiswick—all while raising their two young girls. Then a series of disasters struck. First, construction around the Notting Hill store killed foot traffic. Then the financial crisis of 2008 crushed sales and, much worse, Alison was diagnosed with an aggressive form of cancer. They had to close two shops and declare bankruptcy. But they navigated those tragedies by remembering that their love and their family were more important than the business.

Slowly, Alison's health improved and the cancer went into remission. Eventually they relaunched the Clerkenwell shop, repaid all their former creditors, and even won an award for being the UK jewelry boutique of the year. They also discovered a new, more meaningful pursuit: becoming one of the UK's first certified B-corp jewelry workshops, leading the way in sustainable practices.

Ultimately, their switch to sustainable jewelry strengthened them and their business. Recently, Jos went back to school to earn a master's degree in sustainability. More than 30 years out of school, he seriously doubted whether he could meet the rigorous reading and writing demands of the program while still running the store. The upside to this uncertainty? "What I have learned has been so interesting and inspiring, and our sales have increased," he says. Although he and Alison didn't build the chic jewelry empire they had imagined, their lives are happier and richer on this side of many challenges.

RESILIENCE—BEING ABLE TO take a blow and stay standing—is important. But we argue for something more: learning to transform uncertainty into opportunity. The only way for any of us to tap into new possibilities is through the gateway of the unknown. And it doesn't have to be a painful process if you believe in your ability to navigate it. Our hope is that you can use our advice to transform your relationship with change and inspire others to do the same.

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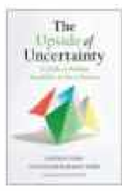

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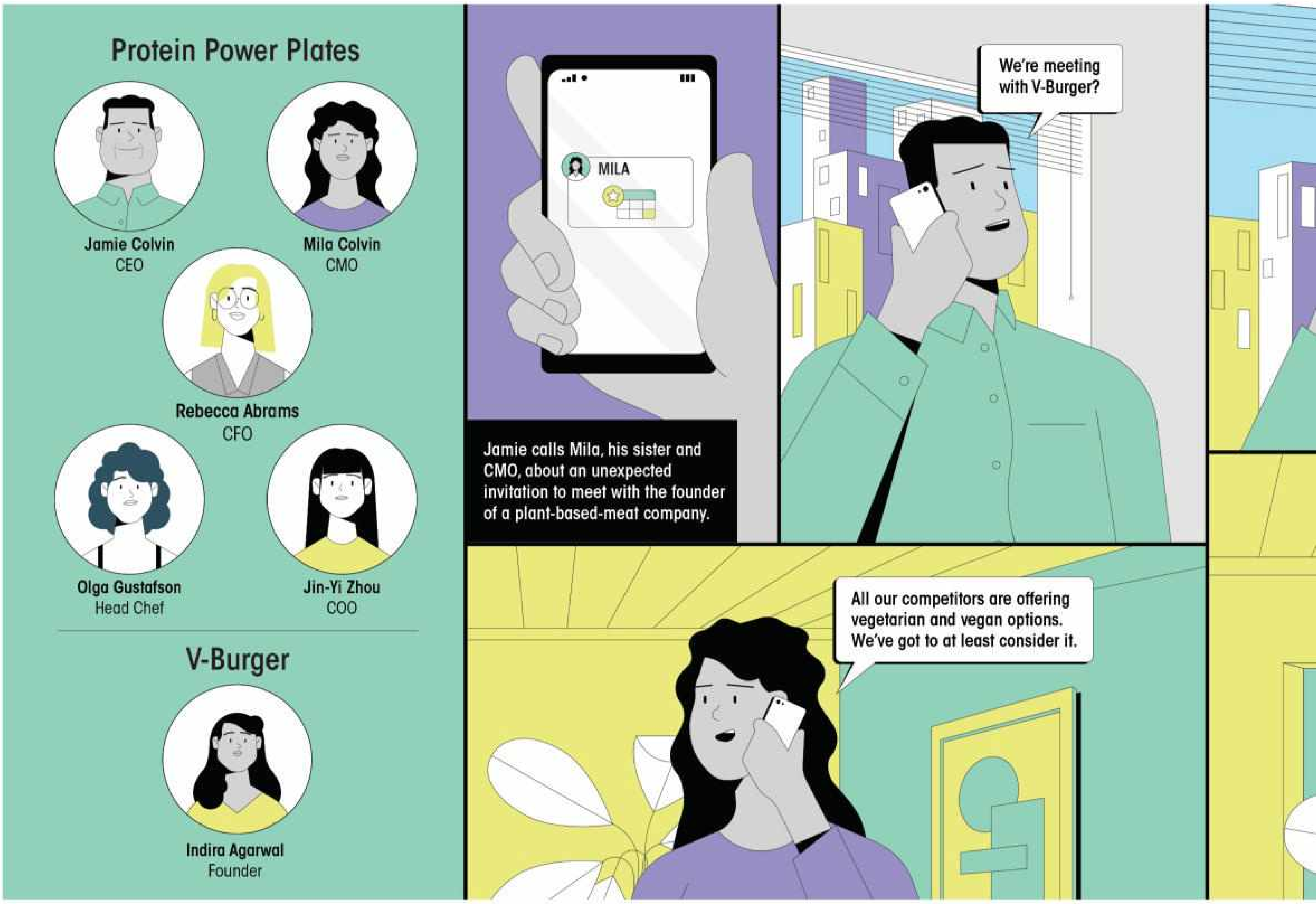


Case Study

Would Vegan Offerings Dilute Our Brand?

by Lena G. Goldberg and Michael S. Kaufman

HBR's fictionalized case studies present problems faced by leaders in real companies and offer solutions from experts. This one is based on the HBS Case Study "Just Like Mom's Contemplates Plant-based Meat" (320062-PDF-ENG), by Lena G. Goldberg, Michael S. Kaufman, and Joseph A. Paul, which is available at ***HBR.org****.*

When Jamie Colvin, an Olympic gold medalist for shot-putting, launched Protein Power Plates, in 2013, he envisioned it as a macho alternative to salad bars and smoothie shops for the health-conscious. He'd originally intended to open a steak house—a "Valhalla for carnivores"—but when his sister Mila, a recent business school graduate and an associate at a New York venture capital firm, pointed out that her young professional friends were less interested in fancy sit-down restaurants than in "fast casual" spots where they could get their choice of freshly made meals—pick-your-own meat, vegetables, and carbs—in half the time and for half the price, he took her advice and shifted gears. Together they pitched the idea to the partners at her company, who agreed to give them seed funding.

Now, nine years later, Protein Power Plates was a $90 million revenue business with 30 locations in 10 cities across the United States and viral videos on Instagram, TikTok, and YouTube that featured Jamie delivering his tagline—"Let's meat!"—before biting with gusto into a triple bacon burger.

Illustrations by **BEWILDER**

That's why when Mila, now the company's chief marketing officer, forwarded him an invitation to meet with the founder of V-Burger, a company focused on plant-based meat alternatives, Jamie thought she was kidding. He hadn't launched Protein Power Plates to sell plants to hipsters. He called his sister immediately. "We're meeting with V-Burger?"

"Yes," she replied. "All our competitors are offering vegetarian and vegan options, and growth in the industry is starting to outpace our own. We've got to at least consider it."

In consultation with their head chef, Olga Gustafson, who had trained at the Culinary Institute of America, Mila was responsible for product development and marketing, including finding new menu items. And she did have a talent for trend-spotting. Jamie had originally opposed her 2015 proposal to add dishes using ground bison, because it was more expensive. But the addition had resulted in a 10% year-over-year spike in sales. More-recent offerings, such as gluten-free whole-grain breads and a harvest salad with grilled squash, walnuts, and goat cheese, had also been well received.

They'd discussed providing some vegetarian options, including plant-based meat substitutes—which, Mila noted, were more environmentally friendly than meat[1] and could attract new customers. But Jamie thought of them as commercially processed fake foods to be avoided. Since the company's launch they had not only focused on real, tasty meat from humanely raised animals, including grass-fed beef when possible, but also insisted that all their ingredients be natural, organic, and locally sourced. And he knew that Olga was concerned about how vegan or vegetarian food preparation would fit into the existing workflow for her team.

"I don't know," Jamie said. "Our brand is meat. Real meat."

"But our sales are flattening," his sister replied. "So maybe we've gone as far as we can with carnivores."

"But *vegans*?" he said. "They're what—5% of the country?"[2]

"V-Burger is the biggest player in this market, and it hasn't partnered with any other restaurant chain yet," Mila said.[3] "Who knows? Its burgers might convert you." They both laughed at that.

THE MEETING

Jamie and Mila sat on the crowded roof-deck of a mall in Brooklyn, facing the East River. "Why couldn't we meet in her office?" he whispered as Indira Agarwal, V-Burger's founder, approached their table.

Indira greeted them before sitting and opening her laptop to a PowerPoint presentation. "Tyson Foods, Nestlé, Smithfield—they're all experimenting with plant-based meat that has the look, feel, and taste of real burgers," she said. "But we were the first, and we're still the best."

Indeed, her company was the original developer of a "burger" that used pea, rice, and mung bean protein to mimic the texture and amino acid content of meat; annatto and beet juice to replicate its "bloody" color and juice; coconut oil and cocoa pockets to give the appearance of marbling fat; and apple-juice extract to help with browning during cooking.

Since its launch, in 2016, V-Burger had quickly expanded its distribution to supermarkets such as Safeway and Kroger and its products to include "chicken" nuggets and ground "beef."

"As you can see from this slide," Indira continued, "red-meat consumption has declined substantially since 1971,[4] while

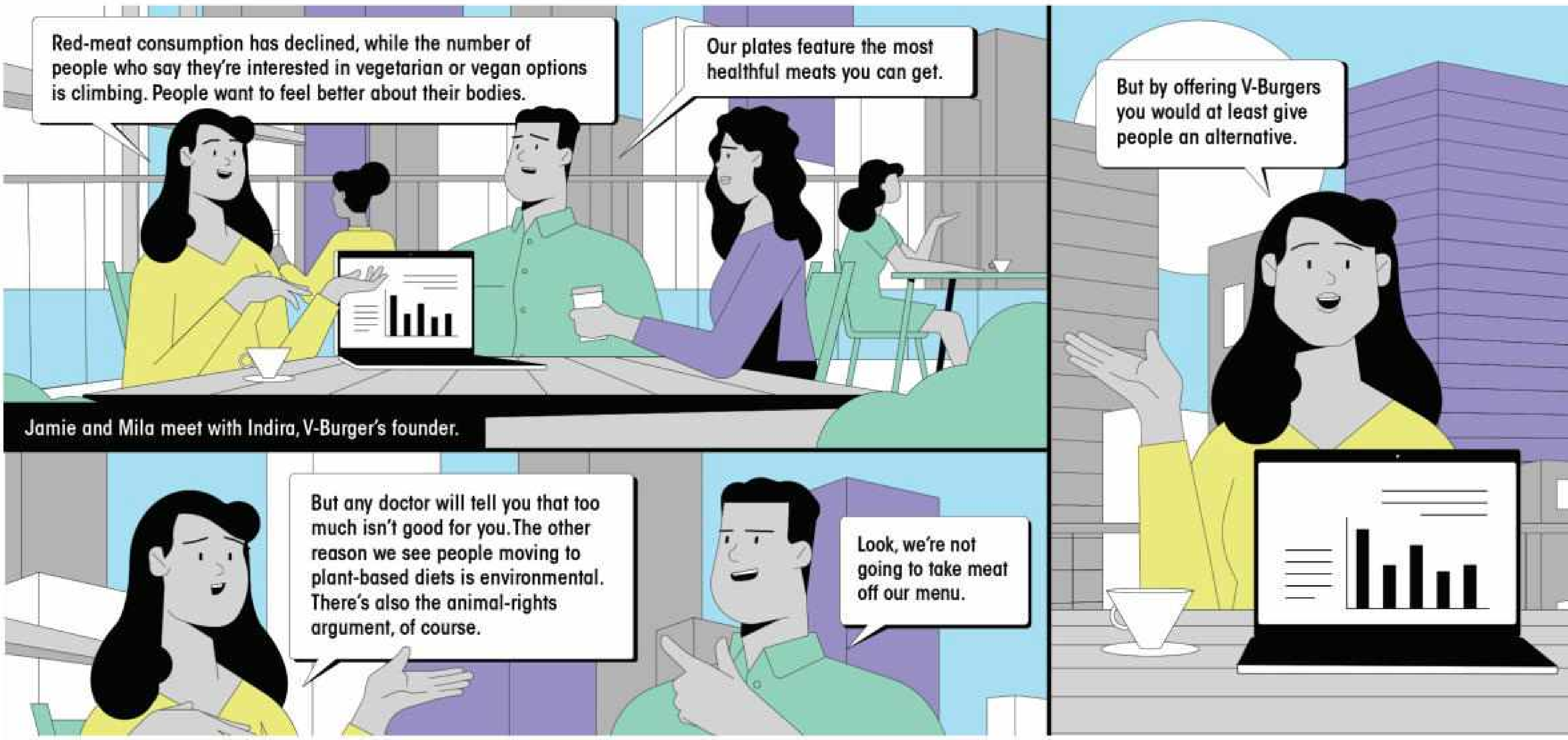
Case Study Classroom Notes

1. *Livestock accounts for 14.5% to 18% of human-induced greenhouse gas emissions.*

2. *Nearly 3% of people in the U.S. (and 23% of Millennials) follow a plant-based diet, and their ranks have tripled over the past 15 years, according to Ipsos Retail Performance.*

3. *With competitors already offering vegan dishes, must Protein Power Plates partner with an established vegan brand to keep up?*

4. *From 1971 to 2019 Americans reduced their annual red-meat intake to about 105.2 pounds per person from a high of 136.1 pounds per person.*



5. *Google searches for "vegan food near me" increased by more than 5,000% in 2021, according to Alphabet.*

the number of people who say they are interested in vegetarian or vegan options is climbing.[5] Why are people switching to this lifestyle? Because they want to feel better about their bodies and their environmental impact."

Jamie could tell that Mila was buying the pitch, but he'd heard similar arguments before and had a practiced response. "Our plates feature the most healthful meats you can get," he said. "The beef we source is one of the most complete sources of dietary protein available. It's loaded with vitamins and minerals and contains nine essential amino acids."

"Sure," Indira countered. "But any doctor will tell you that too much isn't good for you. One 3.5-ounce beef burger contains 22% of your daily saturated-fat allowance and 27% of your daily cholesterol."

"We have pork, chicken, eggs, all natural, unprocessed—unlike your burgers. And at least one plant-based burger I know of contains 25% of the daily saturated-fat allowance."

"Well, the other reason we see people moving to plant-based diets is environmental," Indira replied. "There's also the animal-rights argument, of course. But raising livestock accounts for a substantial amount of human-induced greenhouse gas emissions worldwide. Far more water is used to produce beef than to raise any other equivalent source of protein, and it takes a lot more energy to grow feed for the animals that people eat than it does to grow crops intended for direct human consumption. Then there's the conversion of forested land to livestock pastures, which has been terrible for carbon capture and biodiversity."

Jamie felt he had to interject again. "Look, we're not going to take meat off our menu."

"I know, I know," Indira said quickly. "But by offering V-Burgers you'd at least be giving people a healthful, eco-friendly alternative."

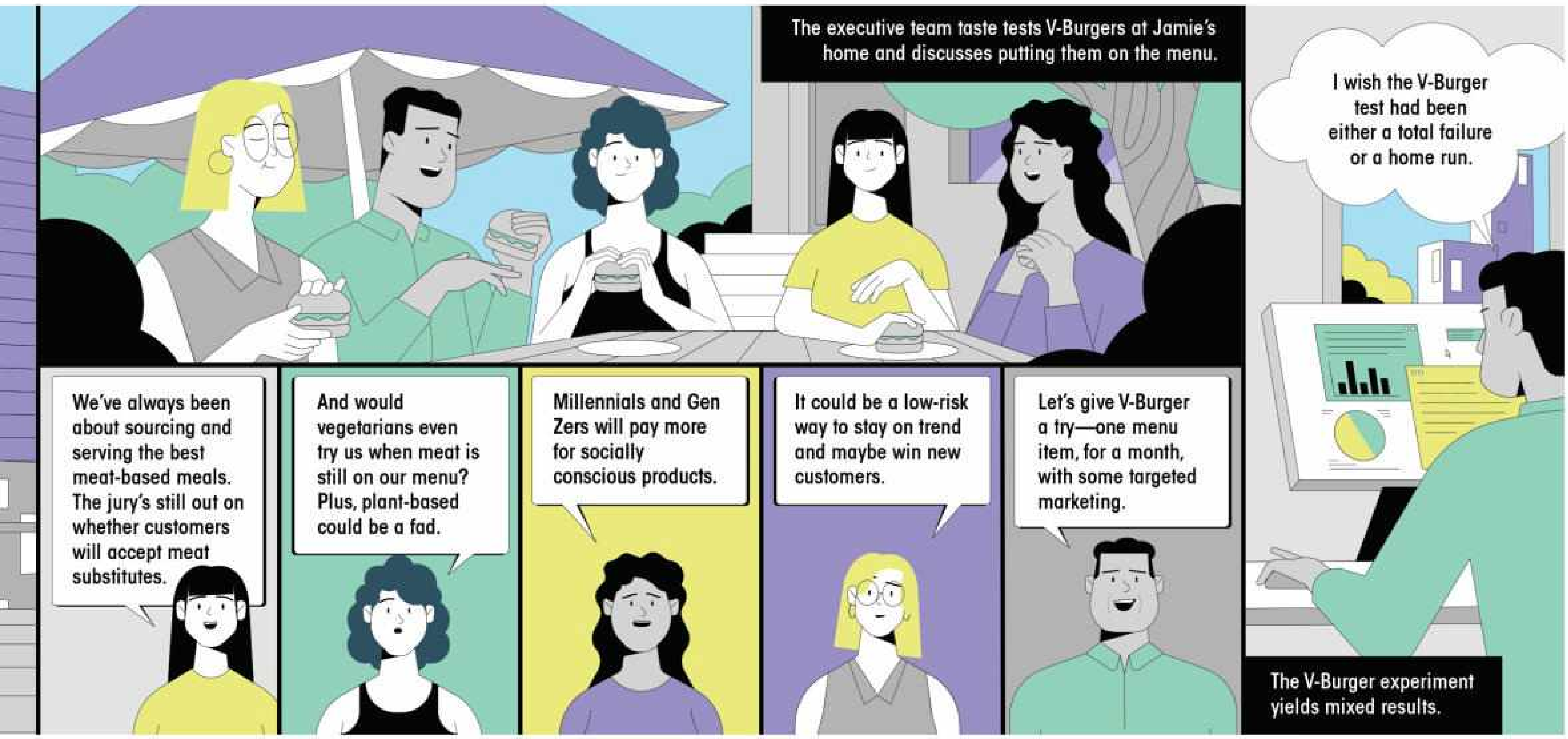
Jamie and Mila asked Indira a few questions about pricing, logistics, and exclusivity and then thanked her for the presentation. She said she'd send over a box of V-Burgers for them to sample.

TREND OR FAD?

Jamie invited Protein Power Plates' executive team to his Greenwich home for the V-Burger taste test. Mila and Olga grilled the patties while Jamie sat by the pool with Rebecca Abrams, the CFO, and Jin-Yi Zhou, the COO.

"It won't taste anything like a real burger," Jamie predicted.

After they had eaten the patties, opinions varied. Mila and Jin-Yi, an avid long-distance runner who had given up red meat a



year earlier, thought the V-Burger did look and taste almost—but not exactly—like a traditional hamburger, especially encased in a bun and topped with cheese and condiments. Olga, a self-described "beef addict"; Rebecca, a CrossFitter; and Jamie disagreed: The patty tasted OK, but it wasn't anything they'd choose to eat again.

Mila reminded the group that they needed to focus not on their personal preferences but on what would be good for business. Was this "meat" good enough to put on their menu? Would it delight some of their customers and maybe attract new ones?

"I'm just not sure," Jin-Yi said. "We've always been about sourcing and serving the best meat-based meals.[6] Sure, vegetarianism is on the rise, but the jury's still out on whether customers, even the veggie crowd, will accept meat substitutes."

"And would vegetarians even try our restaurants when meat is still on the menu?" Olga asked. "Plus, plant-based could be a fad." She mentioned a couple of others: the egg-white omelet craze of the early 2000s and mason jar salads.

"More than 65% of our customers—current and probably future—are Millennials and Gen Zers," Mila reminded them. "That demographic likes and will pay more for socially conscious products."[7]

Rebecca nodded. "I like the idea of offering a wider choice. It could be a low-risk way to stay on trend and maybe win new customers. Could we put a V-Burger offering on our menu for a month and see what happens?"

"It's not quite that easy," Jin-Yi protested with a chuckle. "But I've talked to Indira, and I'm pretty sure we could do a trial if we wanted to. Olga, what do you think?"

"It would take me a few weeks to work out recipes," the chef said. "But it's doable."

Jamie nodded. "OK, then. I still have reservations, but this seems like a good first step. If Indira agrees, let's give V-Burger a try—one menu item, for a month, with some targeted marketing."

THE TRIAL

Results from the experiment were decidedly mixed. For every 50 beef burgers sold, only one of Olga's special-recipe V-Burgers was. The new item didn't seem to have attracted many new customers. Those who had bought it gave it mostly positive reviews, but some were unimpressed. And a few tweeted complaints that Protein Power Plates had become too "woke."

Indira's executive assistant had sent Mila several emails asking whether she and Jamie

6. *How much leeway does Protein Power Plates have to extend its brand beyond meat?*

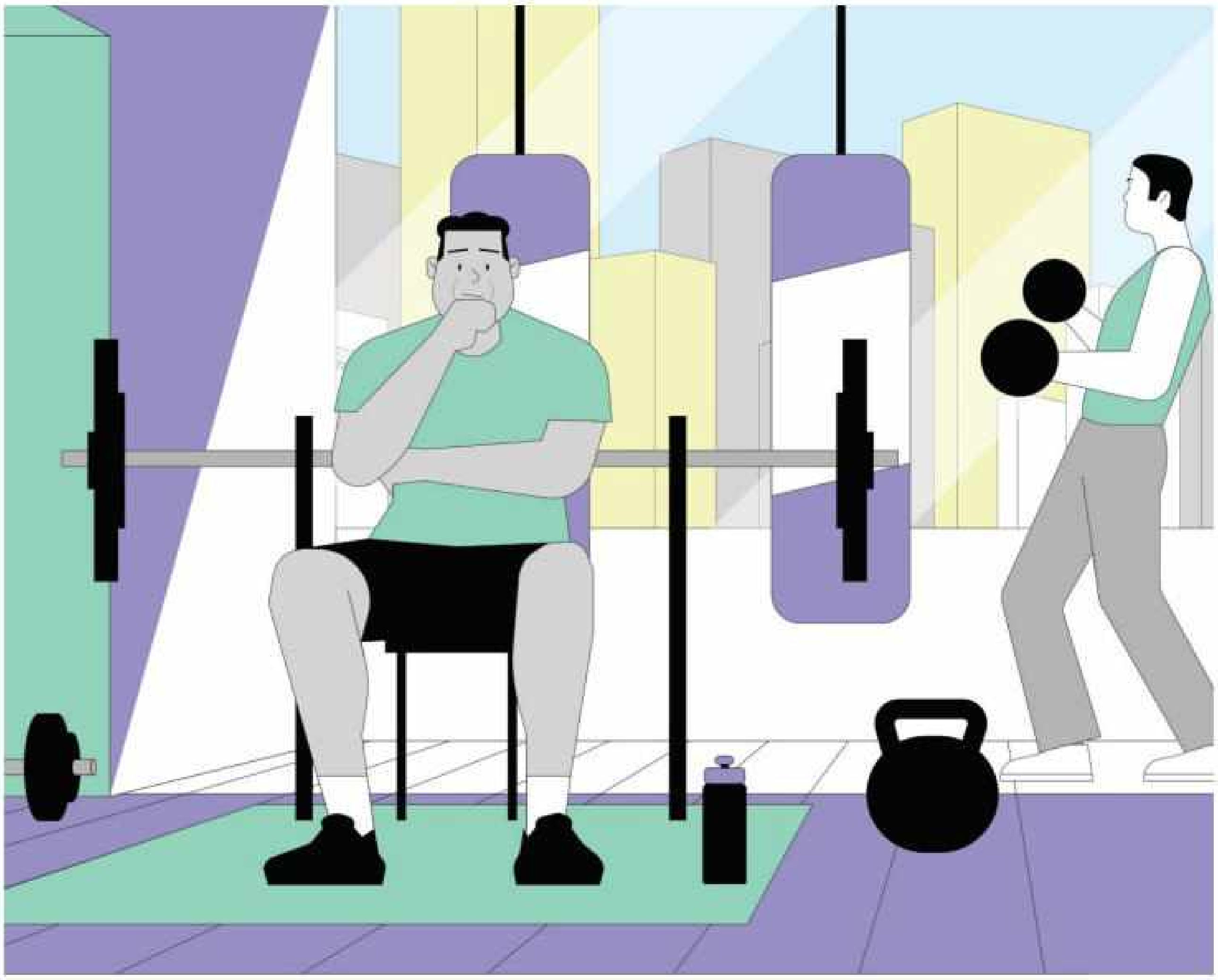
7. *Nielsen's 2015 Global Corporate Sustainability Report indicated that 66% of consumers were willing to spend more on a product from a sustainable brand. The percentage increased to 73% for Millennials.*

Experience

wanted to sign a one-year contract to buy $500,000 worth of V-Burgers for their 30 restaurants. Several Protein Power Plates competitors had inquired about partnerships, but Indira was honoring her commitment to give them right of first refusal. Mila wanted to go ahead with a yearlong deal and ramp up marketing to see whether they could attract more new customers. Rebecca did too. Jin-Yi and Olga didn't see enough uptake to justify the logistical hassles of engaging another small-scale supplier and reconfiguring all their kitchens to prevent cross-contamination. Jamie needed to break the tie.

Early on a Monday, Jamie was just starting his 7 AM weights routine when he got a text from Mila: *Morning! I need to give Indira an answer ASAP!* He often did his best thinking while he was in the gym, so maybe this was a good time to make a final decision. He wished the V-Burger test had been either a total failure or a home run. He really didn't know much more now than he had at the outset.

LENA G. GOLDBERG *is a retired senior lecturer in business administration at Harvard Business School and a former executive vice president and general counsel at Fidelity Investments.* **MICHAEL S. KAUFMAN** *is a senior lecturer in general management at HBS and a partner at Positive Strategy.*



Should Protein Power Plates commit to a partnership with V-Burger?
The experts respond

LYNN BLASHFORD *is the chief marketing officer at White Castle.*

Protein Power Plates should sign the contract with V-Burger.

A $500,000 investment for a year over 30 restaurants is relatively low risk. The ratio of Protein Power Plates customers ordering beef burgers as opposed to V-Burgers—50 to 1—is going to improve. Industry data reveals that the percentage of consumers who buy plant-based products is growing by double digits annually. The trajectory leveled out a bit during the pandemic, but I expect interest in this food category to keep rising as more products become available in grocery stores and on restaurant menus.

Protein Power Plates is in a position to be a somewhat early adopter, and there's an enormous benefit to that. When White Castle launched the Impossible Slider, in 2018, our strategy was to be the first fast-food hamburger chain to offer plant-based protein systemwide. We were unlikely to outspend larger competitors on advertising, but we benefited from positive media coverage of this new trend in food and from partnering with Impossible, the leading brand in the category. We earned exposure and recognition as an innovator.

The name of Jamie and Mila's company is Protein Power Plates, not Meat Power Plates, so the addition of a high-protein nonmeat item on the menu maintains their brand positioning while allowing the company to access a new category of customers who haven't previously considered their restaurants. The slogan "Let's meat!" will have to change—but slogans often do.

And there's a financial upside to selling V-Burgers. Consumers are accustomed to paying premium prices for such offerings. No matter what Protein Power Plates is thinking about putting on its menu, it should carefully consider whether the addition will increase its average check and profit margin.

Of course, Olga's V-Burgers need to be delicious. Research shows that taste is the greatest driver of plant-based protein purchases, followed by health and environmental concerns. So the team must get that right.

But assuming that they will, my recommendation is to proceed with the partnership, as we did with Impossible. I don't see the plant-based protein trend losing steam anytime soon.

SCOTT UEHLEIN *is the head of culinary innovation at Sonic Drive-In.*

Protein Power Plates shouldn't sign a yearlong deal with V-Burger.

And Jamie might need to fire his CFO for letting him even consider it on the terms being offered. With 30 restaurants and $30 million in total annual sales, the company is probably spending $8 million to $9 million a year on food—which means that a $500,000 commitment to V-Burger will amount to nearly 6% of its annual food costs. Each restaurant would have to sell $150 worth of V-Burgers every day to offset that expense. Judging from the test results, I don't think they can do that. Sure, Jamie and Mila could invest in more marketing—but they'd need to recoup that spending with even more sales.

I recommend that they ask to extend the 30-day trial and do a little more homework. Here are some crucial questions to ask: Is the V-Burger option bringing consumers who prefer plant-based food to Protein Power Plates, or do they still shy away from the chain because of its original real-meat focus? Do existing customers want to try V-Burgers, or are they happy with the current offerings? And finally, what percentage of marketing dollars will have to be put behind the product to improve sales? Executives and employees should fan out to all the restaurants to hear from customers directly about why they bought a V-Burger—or didn't. Does the new offering enhance the menu, the brand, and customers' willingness to spend?

Equipped with that information, Jamie can continue the conversation with V-Burger and make a more informed decision on whether to partner. Even if he decides to go ahead, I suspect he'll want to negotiate better terms. Maybe V-Burger would be willing to put marketing dollars into a joint campaign or would accept a lesser commitment to make the numbers work. But if Indira says, "Sign today or we go away," I'd advise Protein Power Plates to pass and either double down on quality meat or diversify in other ways.

HBR Reprint R2204M
Reprint Case only R2204X
Reprint Commentary only R2204Z

SYNTHESIS

Exploring the Metaverse

Is it really the future of human interaction?

by Thomas Stackpole

WITH THE WORLD what it is these days, you can see why people might be itching for an alternate reality—a way to reboot the system and start fresh. That's the appeal of virtual realms: They're places where power can be inverted, disappointments escaped, and capitalist inequities left behind for something more exciting, malleable, and meaningful.

It's no wonder, then, that online universes like Fortnite and Roblox currently attract nearly 400 million users, and others like Decentraland and the Sandbox are growing rapidly. The market for them will soon be worth more than $1 trillion, estimates show. Facebook has changed its name to Meta to signal its belief in a virtual future. Microsoft is preparing for workplaces populated by digital avatars. Fashion brands from Nike to Gucci are designing clothes and accessories for the metaverse. J.P. Morgan and Samsung have set up shop in Decentraland. On Roblox players can operate their own Forever 21 stores and even sell their own designs in them. Many companies are making big bets on the metaverse (even if most people still aren't quite sure what it is).

Three new books help explain why. ***Navigating the Metaverse,*** by Cathy Hackl, Dirk Lueth, and Tommaso Di Bartolo; ***The Metaverse Handbook,*** by QuHarrison Terry and Scott Keeney; and ***Step into the Metaverse,*** by Mark van Rijmenam, all set themselves up as Lonely Planet guides to the digital frontier.

While definitions of it vary, here are some basics about the metaverse: It's actually many metaverses, or digital spaces, which typically are decentralized, incorporate augmented and virtual reality, store information on blockchain, and allow users to own digital goods. So like "the internet," the term "the metaverse" describes a sprawling network of sites and spaces.

Illustration by JUN CEN

In practice the metaverse offers a new way to be online, with new markets and products. In their book, Hackl, Lueth, and Di Bartolo state that it presents three paradigm shifts:

1. *Experience:* People don't just want to consume. It's far more engaging to have gamified, contextual experiences.
2. *Identity:* People value their digital persona and want to carry it with them across the metaverse and even into the real world.
3. *Ownership:* Wherever people choose to spend their time, they want skin in the game.

In other words the endgame is to have a unified digital identity on blockchain—an identity that's the same whether you're signing in to your work computer or gaming at night. It will contain the keys to your crypto, the NFTs you bought for your digital house in Decentraland, and all your other important data. In the metaverse you're less a user than you are a member.

This opens a whole new world of possibilities. Terry and Keeney point to Roblox as an example of what's to come. On it players design games and spaces, and people gather for events in a way that they can't on social media sites. Keeney (who is also known as "DJ Skee") worked with Paris Hilton to build Paris World on Roblox, where she threw a New Year's Eve celebration that drew more attendees than Times Square's did. "This is the future of partying," she tells the authors.

What's most striking about the metaverse (and its cousin, Web3) is the emphasis on ownership. Users can have a stake in almost anything; they can vote on decisions about the communities they belong to and the apps they use, make and sell NFTs, and even get paid for playing games in decentralized apps (dApps) that run on peer-to-peer networks rather than on servers. User ownership is a real revolution because it creates a new economy. The best version of the metaverse, says van Rijmenam, will liberate users, allowing them to easily move communities and digital goods from platform to platform—to, say, take a Facebook group to Roblox, and then transfer a piece of art made there over to Fortnite. In this vision, users can monetize their digital assets, selling, renting, or even borrowing against them.

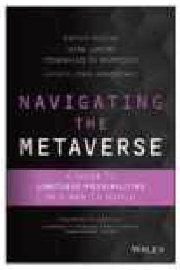
The message, it seems, is that while users got the short end of the stick on the old web, where they traded their data for free search engines and social media platforms, they (or, rather, the architects of this new web) are renegotiating that deal. "Play becomes labor that produces assets worth something within that dApp (or even in the broader metaverse)," write Hackl, Lueth, and Di Bartolo. That might involve creating monsters in the game Axie Infinity and selling them to other players or earning tokens with them, freelancing as a brand ambassador in Decentraland, or hawking digital art or avatar gear. Instead of the dopamine hit of likes, the rewards of online life come in cold, hard crypto.

It's an exciting pitch—because the old web leaves a lot to be desired. The ad-based model makes users' information the product; a few giant companies have so much power that they're almost impossible to regulate; and the endless drive for engagement promotes divisive content, conspiracy theories, and trolling. All of which makes spending time on social media seem like a light vice: I for one talk about Twitter as if it's a casual smoking habit I can't give up. An alternative that could break up some of the entrenched power and reinvigorate the web should be welcome news.

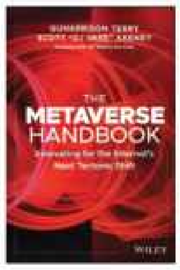
Yet I can't help seeing the dystopian side of this future. Work isn't becoming play; play is becoming work. It feels as if instead of offering digital liberation and ownership, the metaverse is offering more responsibilities without a promotion. Do I want to bring everything I do in my free time to work with my avatar, dragging all my other interests and relationships along with me? Do I want to turn my leisure activity into a small business? And do I want to spend even more of my life online? Or have my online life supplant my humble one in the physical world?

Those are exactly the kinds of quandaries that characters work to escape in books, TV shows, and movies about virtual reality, from Neal Stephenson's 1992 sci-fi classic *Snow Crash* (which coined the term "metaverse") to the Netflix series *Black Mirror*.

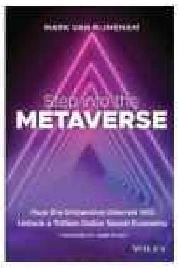
Is the metaverse our future? Companies like Meta and Microsoft seem to think so, though their virtual worlds remain closed rather than the open ideal. There's no doubt that excitement, money, and momentum are pushing us to some new form of digital reality. One way or another, it will reflect the desires of its user base, be they entrepreneurship, escape, or convenience. Dystopia is one risk. Another is disappointment: We dream of the metaverse but end up with a mall. **HBR Reprint** R2204N



Navigating the Metaverse
Cathy Hackl, Dirk Lueth, and Tommaso Di Bartolo
Wiley, 2022



The Metaverse Handbook
QuHarrison Terry and Scott Keeney
Wiley, 2022



Step into the Metaverse
Mark van Rijmenam
Wiley, 2022

THOMAS STACKPOLE *is a senior editor at HBR.*

Executive Summaries
July–August 2022

SPOTLIGHT

Choosing Your Next CEO

Expectations for company leaders have never been greater. This issue's Spotlight illuminates the changing conditions that CEOs must adapt to, the skills they particularly need, certain executive lifestyle behaviors to watch out for, and the reasons you might want two people in the top job. | **page 41**


The C-Suite Skills That Matter Most
More than ever, companies need leaders who are good with people.

The C-Suite Skills That Matter Most

Raffaella Sadun, Joseph Fuller, Stephen Hansen, and PJ Neal
page 42

Landing a job as a CEO today is no longer all about industry expertise and financial savvy. What companies are really seeking are leaders with strong social skills. That's what the authors discovered after analyzing nearly 7,000 job descriptions for C-suite roles. Their explanation for this trend? Business operations are becoming more complex and tech-centered; workforce diversity is growing; and firms face greater public scrutiny than ever before. Those conditions call for leaders who are adept communicators, relationship builders, and people-oriented problem solvers. To succeed in the future, the authors argue, companies will need to focus on those skills when they evaluate CEO candidates and develop in-house talent.

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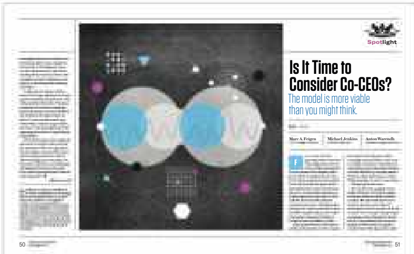
Is It Time to Consider Co-CEOs?
The model is more viable than you might think.

Is It Time to Consider Co-CEOs?

Marc A. Feigen, Michael Jenkins, and Anton Warendh
page 50

"Two heads are better than one." It's a familiar expression—and one that businesses might want to heed. The authors' study of 87 companies led by co-CEOs showed that those firms tended to generate better returns than did peer companies with a sole CEO.

Successful power sharing at the top depends on multiple factors: strong commitment to the partnership by both leaders, complementary skill sets, clear responsibilities and decision rights, mechanisms for conflict resolution, the projection of unity, shared accountability, board support, and an exit strategy. The authors caution that the co-CEO model won't work everywhere. But for large, multifaceted firms, those with agile-based management, and those engaged in technology transformations, it's a promising option.

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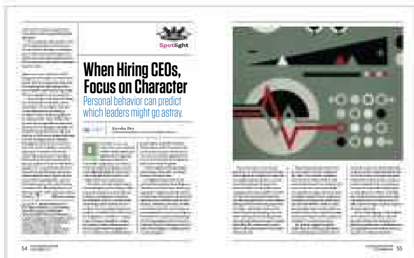
When Hiring CEOs, Focus on Character
Personal behavior can predict which leaders might go astray.

When Hiring CEOs, Focus on Character

Aiyesha Dey | page 54

The author, an associate professor at Harvard Business School, has studied the ways in which the lifestyle behaviors of CEOs—in particular, materialism and a propensity for rule breaking—may spell trouble for a company. Her research, which includes looking at executives' criminal records and the costs of their homes and automobiles, has found some intriguing links: Firms led by CEOs with even minor traffic tickets or excessive spending habits are disproportionately prone to fraud, insider trading, and other risky business activities. In this article Dey outlines the evolution of this work and suggests that boards should pay attention to executives' off-the-job behavior.

HBR Reprint S22043


As the World Shifts, So Should Leaders
Research shows that different eras call for different approaches.

As the World Shifts, So Should Leaders

Nitin Nohria | page 58

Two decades ago, extensive research led Nohria, the former dean of Harvard Business School, to conclude that the hallmark of great leadership is the ability to adapt to the times. Today, he says, we're in a period of significant change, thanks to global events, governmental responses, technological changes, and shifts in demographics, social mores, and labor relationships. Here he discusses those developments and the skills that CEOs will need to successfully steer through them.

HBR Reprint S22044

Each article in this Spotlight is available as a single reprint. The complete Spotlight is also available as a package.

HBR Reprint R2204B

HOW WE DID IT


HOW WE DID IT

Two Cofounders of Xendit on Pioneering Fintech in Southeast Asia

by Moses Lo and Tessa Wijaya

36

Two Cofounders of Xendit on Pioneering Fintech in Southeast Asia

Moses Lo and Tessa Wijaya | page 36

The payments platform company Xendit came to life with a pivot. Its founders first built a product that would allow individuals to exchange funds—like Venmo but with more privacy—and then rolled out a simple business-to-consumer interface, similar to a pared-down version of Shopify. But they soon realized that such apps couldn't be successful without an infrastructure for digital transactions and banking. They'd already built an internal system to ensure quick and seamless incoming and outgoing payments, so they decided to offer it externally to speed transactions from bank to business and business to business, easing a significant pain point for enterprises of all sizes in the region. In the years since, they've maintained month-over-month revenue growth of more than 10% and expanded from a few dozen employees to more than 1,000 distributed around the world. And in its latest funding round Xendit achieved a valuation of more than $1 billion. Its leaders are taking the lessons learned in the company's earliest years—know your market, stay nimble, prioritize talent and culture—to overcome new challenges, from the Covid-19 pandemic to the war in Ukraine. Their ethos is to move fast but thoughtfully, working product by product and country by country, to build and strengthen Southeast Asia's digital economy.

HBR Reprint R2204A

MANAGING YOURSELF


Experience

Advice and Inspiration

MANAGING YOURSELF

How to Overcome Your Fear of the Unknown

Embrace the transformative potential of uncertainty.

by Nathan Furr and Susannah Harmon Furr

135

How to Overcome Your Fear of the Unknown

Nathan Furr and Susannah Harmon Furr | page 135

For many of us, uncertainty can be nerve-racking. That reaction, however, obscures a crucial fact: Uncertainty and possibility are two sides of the same coin. Chances are, your biggest achievements and transformational moments all came after a period of uncertainty—one that probably felt stressful but that you pushed through to accomplish something great.

Uncertainty doesn't have to be paralyzing. After studying innovators and changemakers who handle it well and reviewing research on resilience and tolerance for ambiguity, the authors have found that the following four principles can help: (1) Reframe your situation by focusing on the potential upside. (2) Prime yourself by taking small risks and reducing uncertainty in other areas of your life. (3) Take a series of modest actions instead of making bet-the-farm moves. And (4) sustain yourself by recasting setbacks and focusing on things that have true meaning for you.

HBR Reprint R2204L

Features

INNOVATION

Identifying Unmet Needs in a Digital Age

Jean-Louis Barsoux, Michael Wade, and Cyril Bouquet
page 64

Innovation is all about finding and filling people's unmet needs. But even innovators and organizations renowned for their scanning capabilities often have trouble perceiving and correctly interpreting those needs. Drawing on their work as researchers, teachers, and consultants, the authors outline a four-part framework to help innovators diversify how and where they look. It involves two main strategies: improving your vision (seeing in greater detail) and challenging your vision (looking at people other than mainstream users). Within each you can adopt a narrow focus or take a wider view. You can zoom in on individual mainstream users and their everyday experiences (what the authors call a *microscope strategy*) or pull back to discover patterns in their aggregate behavior (a *panorama strategy*). Likewise, you can take a look at users outside your core (a *telescope strategy*) or seek a broader view of the patterns they exhibit as a group (a *kaleidoscope strategy*). For each of the framework's four parts, the authors describe how digital technologies can augment more-traditional ways of looking. Used together, the approaches they present will enable entrepreneurs to look further afield and on a larger scale than ever before.

HBR Reprint R2204C

DIVERSITY & INCLUSION

To Drive Diversity Efforts, Don't Tiptoe Around Your Legal Risk

Edward Chang and Bonnie Levine | page 74

Many DEI initiatives are scuttled because DEI leaders and legal teams feel themselves to be at odds over questions of acceptable risk. DEI leaders see lawyers as guardians of the status quo, whereas legal experts, trained to anticipate the worst, believe they are protecting the company from legal risk.

However, as the authors point out, businesses routinely choose to accept significant legal risk. In most situations they're confronted with a risk-reward calculus that's easy to quantify. But with DEI that's harder, because the only thing on the balance sheet is the cost. Absent a foundation of trust and support, lawyers are skittish about signing off on initiatives, and the business is more likely to waste resources on performative exercises. And bad DEI poses a greater risk than does good DEI.

When it comes to establishing a productive partnership between DEI leaders and legal counsel, the key is to collaborate early and often. In this article, the authors provide a framework to help you balance the nuances of legal risk with the need to implement effective initiatives.

HBR Reprint R2204D

SUSTAINABLE BUSINESS PRACTICES

Private Equity Should Take the Lead in Sustainability

Robert G. Eccles et al.
page 82

Despite their reputation in the 1980s as corporate raiders, most private equity firms attempt to improve the performance of their portfolio companies through better corporate governance. But while the G in ESG (environmental, social, and governance) has always been important in the industry, the E and the S have been virtually nonexistent. Private equity has been comfortable seeking returns with little concern for the long-term sustainability of portfolio companies or their wider impact on society. That needs to change, the authors write, because PE has grown so large that society's most urgent challenges can't be addressed without the industry's active participation in the sustainability movement. Having interviewed a large sample of executives who run PE firms and the asset owners that fund them, the authors offer recommendations for how private equity can emerge as a leader in the ESG field—to benefit the wider world as well as its own long-term performance.

HBR Reprint R2204E

MARKETING

What You're Getting Wrong About Customer Journeys

Ahir Gopaldas and Anton Siebert | page 92

Companies often believe they should make their customers' experiences as effortless and predictable as possible. But the authors' research shows that this approach is overly simplistic—and can even backfire. While in some instances (say, watching movies on Netflix) customers want their journeys to be easy and familiar, in others (working out on a Peloton bike or playing World of Warcraft) they want to be challenged or surprised.

This article outlines four kinds of journeys: *Routines* are effortless and predictable and are suited to utilitarian products. *Joyrides* are effortless and unpredictable and work with products that deliver an on-demand thrill. *Treks* are effortful and predictable and are associated with products that help people achieve challenging long-term goals. *Odysseys* are effortful and unpredictable and are perfect for products that facilitate customers' passion projects.

Each type of journey has its own design principles. Routines should offer consistent touchpoints in familiar sequences; joyrides, endlessly varied moments of delight. Treks require goal-posting (breaking big objectives down into small ones), and odysseys, substantive variation and journey tracking.

HBR Reprint R2204F

ANALYTICS & DATA SCIENCE


A Better Way to Put Your Data to Work

A Better Way to Put Your Data to Work

Veeral Desai, Tim Fountaine, and Kayvaun Rowshankish
page 100

Most companies struggle to capture the enormous potential of their data. Typically, they launch massive programs that try to meet the needs of every data end user or have individual application-development teams set up customized data pipelines that can't easily be repurposed. Firms instead need to figure out how to craft data strategies that deliver value in the near term and at the same time lay the foundations for future data use.

Successful companies do this by treating data like a commercial product. When a business develops a product, it tries to maximize sales by addressing the needs of as many kinds of customers as possible with it—often by creating a standard offering that can be tailored for different users. A data product works similarly. It delivers a high-quality, easy-to-use set of data that people across an organization can apply to various business challenges. It might, say, provide 360-degree views of customers, of employees, or of a channel.

Because they have many applications, data products can generate impressive returns. The customer data product at one large bank, for instance, has nearly 60 use cases, and those applications generate $60 million in incremental revenue and eliminate $40 million in losses annually.

HBR Reprint R2204G

POLITICS


Leadership in a Politically Charged Age

Leadership in a Politically Charged Age

Nour Kteily and Eli J. Finkel
page 108

Why are discussions of politically charged issues often so fraught in the workplace today? How can managers ensure that they aren't caught flat-footed by the conflict these issues sometimes create among employees? Not long ago such questions lay at the periphery of corporate life. But today they're central, according to the authors. In recent decades we've witnessed a surge in the proportion of people whose identities are deeply informed by their political allegiances and who believe they need to bring those identities to work. The result is often conflict that can spiral dangerously out of control. This is a new and rapidly evolving problem, and most leaders are ill-equipped to cope with it. The authors provide a framework to help managers understand when and how political conflict can become corrosive, and they explain how to navigate it more effectively and even harness its potential to strengthen the workplace.

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BUSINESS ETHICS


Why You Need an AI Ethics Committee

Why You Need an AI Ethics Committee

Reid Blackman | page 118

Artificial intelligence poses a lot of ethical risks to businesses: It may promote bias, lead to invasions of privacy, and in the case of self-driving cars, even cause deadly accidents. Because AI is built to operate at scale, when a problem occurs, the impact is huge. Consider the AI that many health systems were using to spot high-risk patients in need of follow-up care. Researchers found that only 18% of the patients identified by the AI were Black—even though Black people accounted for 46% of the sickest patients. And the discriminatory AI was applied to at least 100 million patients.

The sources of problems in AI are many. For starters, the data used to train it may reflect historical bias. The health systems' AI was trained with data showing that Black people received fewer health care resources, leading the algorithm to infer that they needed less help. The data may undersample certain subpopulations. Or the wrong goal may be set for the AI. Such issues aren't easy to address, and they can't be remedied with a technical fix. You need a committee—comprising ethicists, lawyers, technologists, business strategists, and bias scouts—to review any AI your firm develops or buys to identify the ethical risks it presents and address how to mitigate them. This article describes how to set up such a committee effectively.

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SUPPLY CHAIN MANAGEMENT


How to Turn a Supply Chain Platform into an Innovation Engine
Lessons from Haier

How to Turn a Supply Chain Platform into an Innovation Engine

Kasra Ferdows, Hau L. Lee, and Xiande Zhao | page 126

Most companies have digital platforms that support specific functions, such as supply chain management, product design, or operations, and they tightly regulate who may join the platform.

The Chinese appliance manufacturer Haier has extended its supply chain management platform to facilitate a broader range of collaborations from innovation and design to supplying materials and components to solving technical problems and providing new services.

The platform allows Haier to capitalize on the expertise and resources of its ecosystem, rapidly exploit new business opportunities, respond quickly to disruptions, and achieve efficiencies in a wide range of activities.

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> "There's no way to be the dancer and the artist you want to be if you're not prepared, focused, and grounded."

Misty Copeland

From her first ballet class, at age 13, Copeland set out to be a professional dancer. As a Black girl entering a discipline dominated by white performers and appreciated mostly by white audiences, she knew the odds were stacked against her. But she pressed on, joining American Ballet Theatre and in 2015 becoming its first Black female principal dancer. She has broken ground in roles from Clara to Juliet, written several books, pushed for more diversity in the arts, and is building a charitable foundation. **Interview by Alison Beard**

HBR: Why did you choose ballet as a career?

COPELAND: I love the structure that it gave me at an early age, which has helped me navigate the twists and turns of my life as a dancer, a writer, an activist, and in my production company. Yes, I love performing, being onstage, but ballet also made me feel I was a part of something bigger than myself and gave me an outlet and an escape from the circumstances I grew up in. The discipline, the rigor, the sacrifice—all those are beautiful things that children in particular should experience, not necessarily to become professionals but to develop as people.

After your quick rise to ABT, there were setbacks such as your body maturing and injuries. How did you push through?

It's common for young athletes or artists to be called prodigies and then have the realities of how they evolve not match expectations. Mentors were what helped me survive. My first ballet teacher and the schoolteacher who pushed me into that ballet class stayed in my corner. Then some amazing Black women came into my life like angels. That's something innate in Black culture: When so few of us are in certain spaces, and opportunities are limited, you want to be there as a support. Victoria Rowell is an actress who had been in ABT's junior company. She left a note for me on the bulletin board at the stage door, invited me to her home, and spoke to me like a human: "I've been there." That opened the door for understanding that there were so many others to connect with. Even though I was the only Black woman in ABT for a decade, I shouldn't feel alone.

Still, I imagine it was tough to be "the only" for so long.

Yes, there were microaggressions, sometimes daily, and many times I almost quit. One of my saving graces, though, was my ability to watch and learn, especially from the Black men at ABT. I watched how they reacted to certain things, how they responded when they didn't get opportunities, how they interacted with their white counterparts, and how their careers went. I learned how to bring up issues with the artistic staff and be heard and accepted without being too aggressive, which is the label that's put on us. Still, I was very clear about what I was going through and the fact that it was connected to my race. As mentors came into my life, I learned even better ways to have those conversations and push the company to do more.

What did it take to finally become a principal dancer?

Patience, consistency, allowing myself to be vulnerable enough to learn and grow, staying strong when obstacles were thrown at me. Believing that my path was never a straight line or like anyone else's. I didn't let myself think, *I'm way too old to be promoted.* Instead it was *I'm going to keep pushing.* It was also having Alexei Ratmansky come in as choreographer, see the potential in me, and give me the lead role in his version of *Firebird.* That changed the perspective on what I could do.

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Masterclass

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