Harvard Business Review

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May–June 2021

Doing Hybrid Right

How to manage the new reality of work
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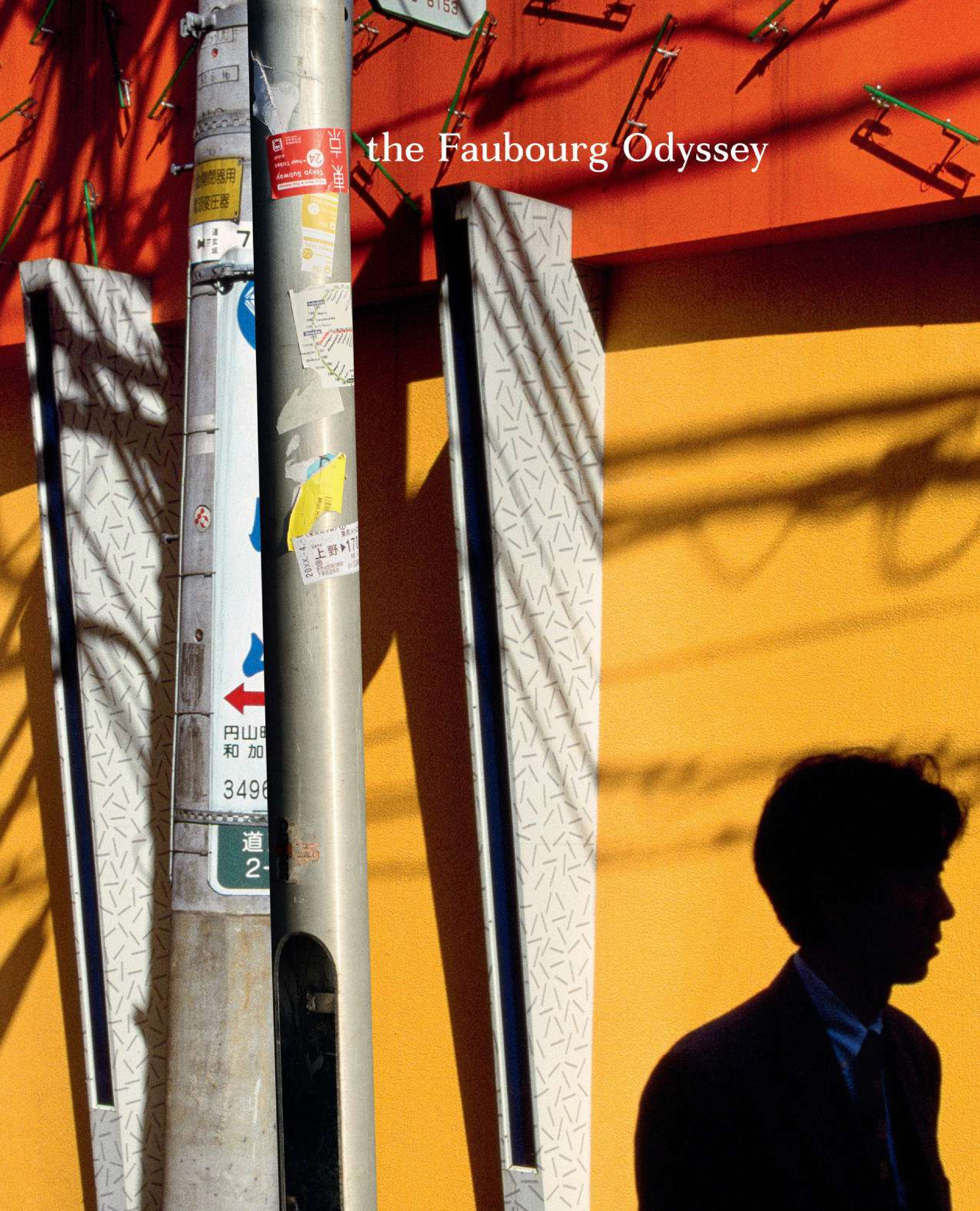
the Faubourg Odyssey

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"China has defied predictions that its authoritarianism would inhibit its capacity to innovate."

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Illustration by YUKAI DU

Photograph by ISAMU SAWA

CHICAGO BOOTH'S ADVANCED MANAGEMENT PROGRAM

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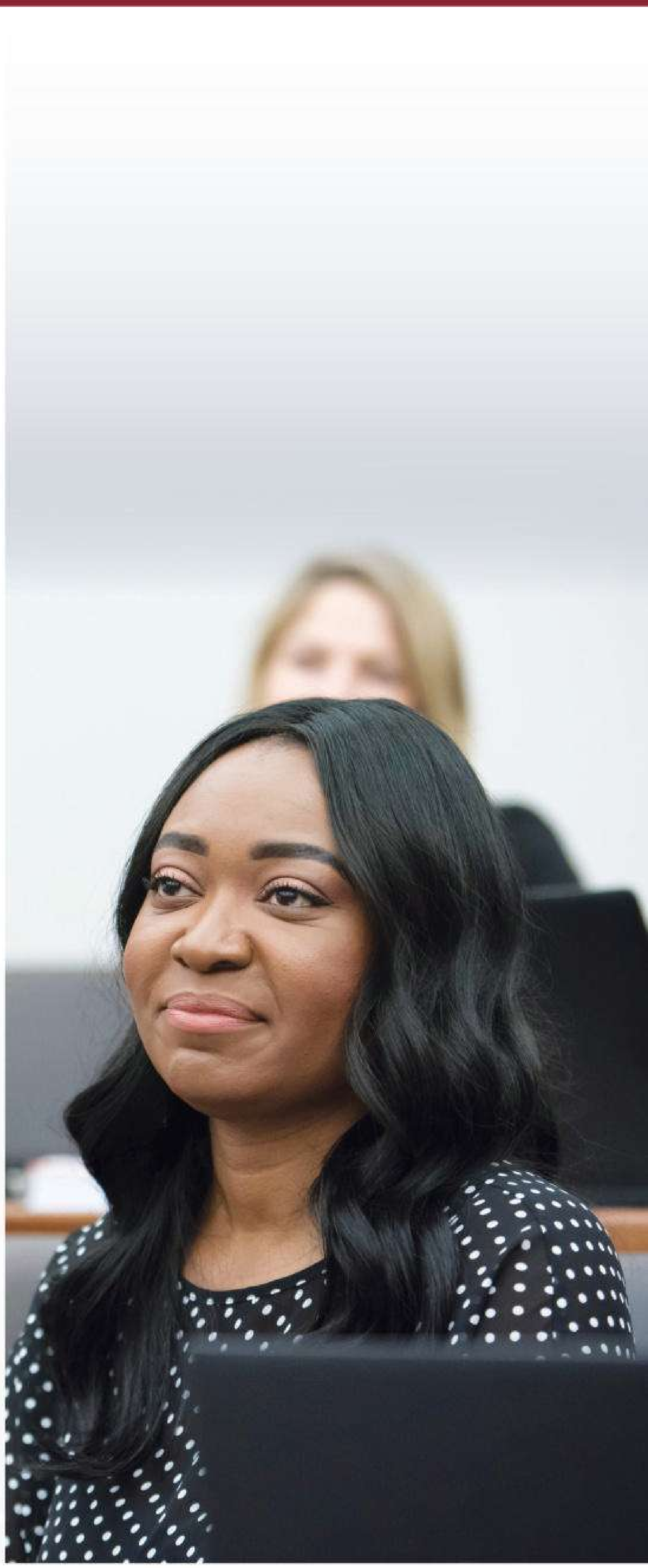

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May–June 2021

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"We remained clear about one thing: We would move only as fast as the science allowed."

–ALBERT BOURLA, PFIZER CEO

The New York Times/Redux

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From the Editor

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A Complicated Relationship

Adi Ignatius, Tiananmen Square, 1989

DURING THREE YEARS as a foreign correspondent in Beijing in the 1980s, I experienced some of China's highs and lows: the promising first wave of economic liberalization, followed by the crushing tragedy of the Tiananmen Square massacre. Since then I've watched interactions between China and the rest of the world with particular interest. For the past few years the U.S.-China trade war has threatened to derail relations between Beijing and Washington. A partial decoupling in certain areas is already under way.

The world is a messy place, and you don't have to be a fan of either government to appreciate that the two nations need each other. It will be difficult to solve the world's biggest problems unless smart people in the United States and China continue to engage.

In that spirit, "Understanding China," our Spotlight in this issue, examines this complicated relationship. One article explores Western misunderstandings about China. Another looks at how decoupling may require global companies to alter their strategies. A third explains how Chinese consumers' willingness to quickly adopt new products and technologies is helping their country advance. To complete the package, I interviewed Weijian Shan, CEO of the Hong Kong–based private equity firm PAG, about economic prospects for China and the United States.

I hope these articles help you think through your own company's place in our shifting world.

ADI IGNATIUS
Editor in chief

Contributors

Zak Dychtwald, a fluent Mandarin speaker who for years has worked in and traveled around China, spends a lot of time studying how young people affect its culture and economy. "There are more young people in China than in North America, Europe, and the Middle East combined," he says. "To understand where the country is headed, you have to understand who these people are, what they want, and how they see the world." In this issue he argues that their willingness to adopt new products and technologies is an underappreciated driver of Chinese innovation.

Not long after **Colleen Ammerman** met Boris Groysberg, a colleague at Harvard Business School, they began discussing gender equity. "I think about gender as a social institution and system of power relations," Ammerman says, "and Boris has a deep understanding of how organizations manage talent." Together, they realized, they were uniquely qualified to provide an accessible assessment of how and why gender inequity persists at work. So this spring they published *Glass Half-Broken: Shattering the Barriers That Still Hold Women Back at Work,* from which their article in this issue is adapted.

When **Felix Oberholzer-Gee** studied why some companies far outperform others in their industry, he noticed that focusing on just a few strategic initiatives often made all the difference. But he also observed that many managers struggle not to drown in a vast sea of projects. He has helped executives apply a simple framework—value-based strategy—to select fewer but more-powerful strategic initiatives. In this issue, in an article adapted from his new book, *Better, Simpler Strategy: A Value-Based Guide to Exceptional Performance,* he shares the best ways to do that.

As a professor of management practice at London Business School, **Lynda Gratton** loves to study how work is evolving. When the pandemic hit, she started paying careful attention to the way organizations, managers, and employees were making the shift to hybrid work. She tracked the data, had lots of conversations, and developed a powerful sense of just how transformative this shift might be, if properly enabled. "My dream," she says, "is that good comes out of this terrible period, and we design work in a way that suits everyone."

Ori Toor is a self-proclaimed "freestyle illustrator and avid doodler" based in Tel Aviv. His colorful drawings, like the ones he created to accompany an article in this issue, capture what he calls "worlds for you (and me) to get lost in." Toor's influences range from the surrealist René Magritte to Looney Tunes—and include his mother, a retired carpet designer.

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VOLUME 99, NUMBER 3 | MAY–JUNE 2021
Printed in the U.S.A.

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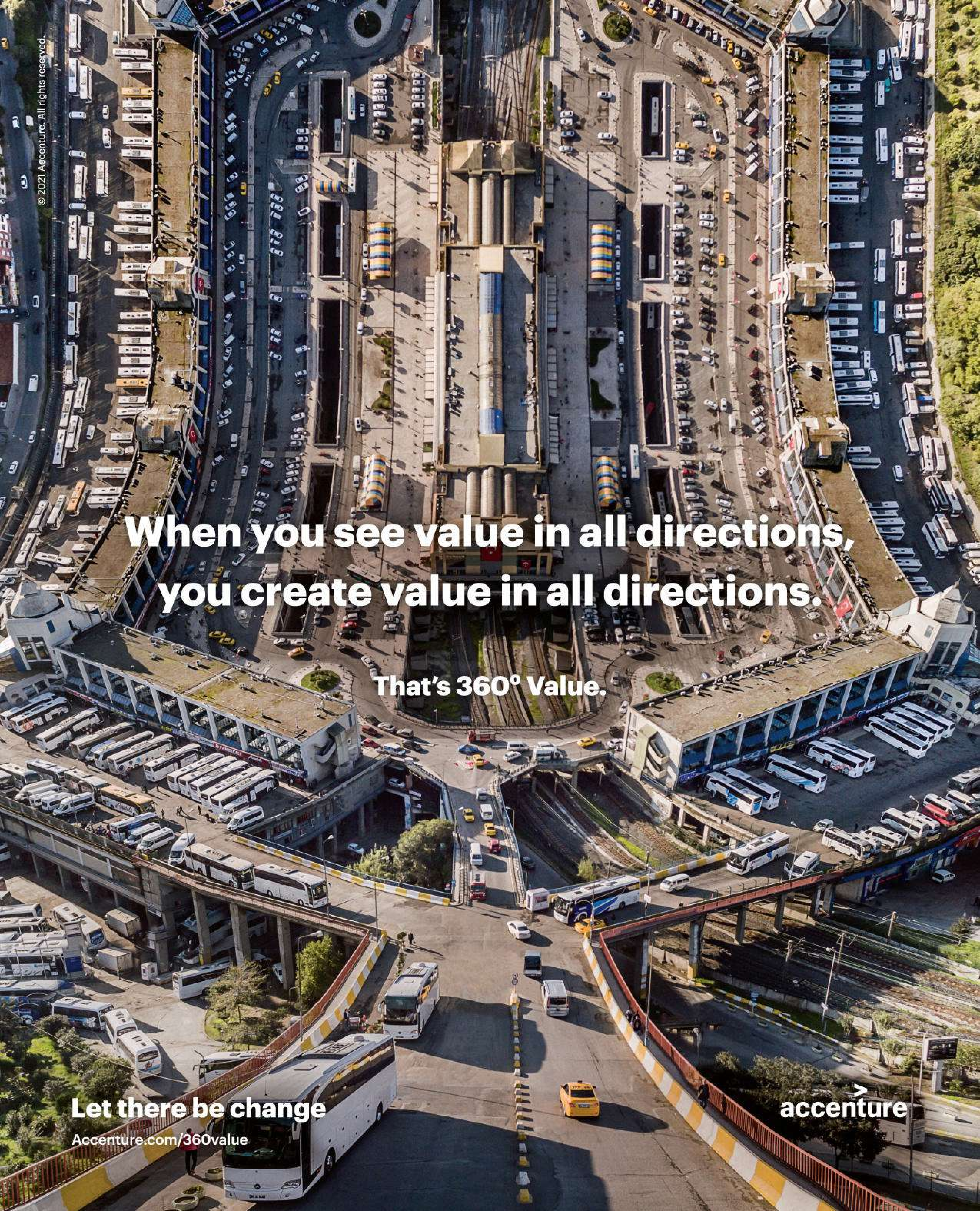
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Harvard Business Review

“Highly valuable customers are getting bounced around between departments and struggling to get resolution.”

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“Why Customer Loyalty Programs Can Backfire”

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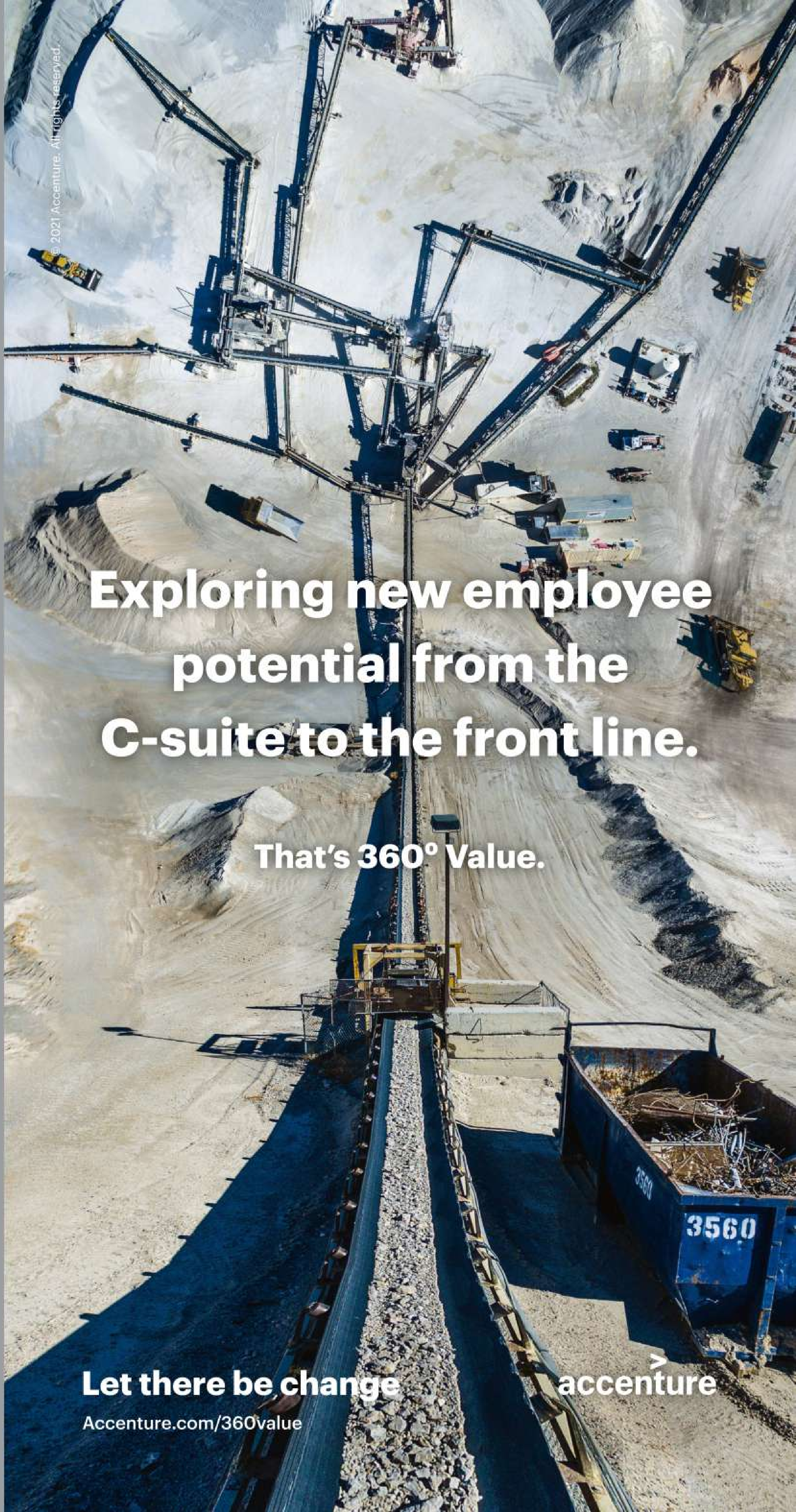
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IdeaWatch

New Research and Emerging Insights

IN THEORY

Why Customer Loyalty Programs Can Backfire

When members experience service failures, they get *more* upset than nonmembers. Here's how to mitigate the damage.

CUSTOMER LOYALTY PROGRAMS are ubiquitous, accounting for more than 3.3 billion memberships in the United States alone. And they can confer tremendous advantage: Members are more likely than others to buy from a retailer whose program they belong to, they visit the website or store more frequently, and they are more likely to download the retailer's app, follow or otherwise engage with the retailer on social media, and recommend it to family and friends.

But new research, conducted by professors at the Wharton School along with the customer experience consultancy the Verde Group, reveals an important downside of loyalty programs. When loyal members encounter service failures—shipping issues, problems with

Illustrations by TIM BOWER

"These customers aren't getting anything close to white-glove treatment, and that is frustrating."

returns, stockouts, and the like—they get *more* upset than customers who are not members of the program. Because they shop the brand more frequently than nonmembers do, they experience such problems more often; and the pandemic-fueled increase in online shopping, where service failures are more prevalent, has compounded the problem to the point where loyalty programs are causing significant damage. The researchers call this the boomerang effect, because the very loyalty a brand engenders comes back to hurt it.

"This is a real problem for retailers," says Thomas Robertson, the academic director of the Baker Retailing Center at Wharton and one of the study's authors. "Businesses are inadvertently killing their golden geese."

The researchers surveyed more than 5,000 U.S. retail consumers in February 2020 and an additional 2,500 in May, after the pandemic took hold. The results showed that members of loyalty programs not only experienced more service friction than other shoppers but were more likely to struggle to have their issues resolved. For instance, loyalty members surveyed in May required an average of four contacts with the company before reaching a solution, and the process took 5.1 days. Nonmembers needed just 2.8 contacts and 3.3 days.

"These highly valuable customers are getting bounced around between different departments and are struggling to get resolution," says Paula Courtney, CEO of the Verde Group and a coauthor of the study. Part of the problem is that members who have a complaint often begin by calling a dedicated number, only to learn that the loyalty department is not empowered to help them. That's especially damaging given that members have high expectations for how they should be served. Another issue is that members frequently need to ensure that the points or rewards they have earned are properly accounted for, which often means they are bounced back to the loyalty or marketing department. "These customers aren't getting anything close to white-glove treatment, and that is frustrating them," Courtney says.

The researchers suggest three steps to mitigate the boomerang effect.

Understand which problems are the most damaging. As they audit the customer journey, retailers should avoid the temptation to blindly focus on the most frequent service failures. "Don't get distracted by the squeaky wheel," Robertson says. "Your most common sources of friction aren't necessarily the ones that need immediate attention." Indeed, the surveys revealed no overlap between the 10 most frequent service failures and the 10 that caused the biggest erosion in loyalty, as measured by Net Promoter Scores. The three


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problems most often cited by respondents in both February and May related to items' availability. The three most destructive in the pre-pandemic survey had to do with finding and purchasing items efficiently. During the pandemic, the most destructive issues were having to pay for return shipping, needing an original receipt to make a return, and experiencing problems navigating the website.

Implicit in a loyalty program's contract, Robertson explains, is an understanding that just as the brand is special to members, members are special to the brand. While failures such as stockouts are annoying, they aren't particularly destructive because they don't violate that contract. But asking members to pay for return shipping and provide an original receipt signals that the company doesn't know who they are, doesn't trust them, and doesn't care about making it easy for them to do business.

Deliver on the benefits that can protect against defections. Several loyalty program perks tempered dissatisfaction in the face of service failures both before and during the pandemic: insider access to information such as limited-time offers or invitations to exclusive events, free shipping and returns, cash back for purchases, alerts when desired items went on sale, access to one's shopping history, and Alexa or Google Assistant notifications about order and shipping status. Those benefits tend to make loyalty members feel valued, the researchers say, and they can temper shopping frustrations much as frequent-flier perks can assuage travel-related glitches. "You're less likely to mind having your baggage delayed if you're sipping champagne in the arrivals lounge," Courtney says. Benefits such as special member pricing and gifts, by contrast, did little to shore up loyalty when problems arose.

Integrate loyalty programs with overall strategy and processes. Rather than silo loyalty programs within marketing departments, retailers should integrate them into operations, technology, and finance to facilitate swift, streamlined service recoveries. Seamless returns, for example, aren't possible if a loyalty program doesn't utilize point-of-sale technology that recognizes repeat customers. Other damaging service failures, such as rudeness from reps answering the phones, can't be remedied if the loyalty department is powerless to drive operational changes—in the case of rude reps, by pushing for a reappraisal of staffing and training priorities, for example.

The boom in online shopping is likely to continue after the pandemic abates, and while some of the associated service problems should smooth out as once-deluged companies adjust, firms will still need to monitor and manage any backlash from their loyalty programs. "No retailer can afford to lose its most valuable customers," Robertson says. "The boomerang effect shows the urgency of tackling problems that specifically aggravate loyalty members and investing in benefits that can mitigate the damage."

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ABOUT THE RESEARCH *"The New Reality: Understanding the Retail Consumer Experience During a Pandemic," by Thomas S. Robertson and Paula Courtney (research report)*

IN PRACTICE

"If You Violate Emotional Trust, You Might Lose the Customer Forever"

As chief customer officer at Walmart, **Janey Whiteside** oversees its customer loyalty program, Walmart+. Before joining the company, in 2018, she spent two decades at American Express, where her responsibilities included oversight of its rewards program. Whiteside recently spoke with HBR about how companies can protect against defections by loyalty members. Edited excerpts follow.

Do you agree with the main finding of the research: that loyalty programs can backfire?
Yes, I consistently see that. Loyalty members put their trust in your company in two ways—functional and emotional. Functional trust is the promise that you will deliver a smooth shopping experience: Items will be in stock and priced correctly,

and so on. Emotional trust is more important. If you violate that, you might lose the customer forever.

What do you mean by emotional trust?
I talk to my team often about loyalty being like a friendship. We understand that our friends aren't perfect, and we're willing to forgive a lot of inconsiderate behavior. If a friend fails to pick you up when he said he would, that's a breach of functional trust; you can get past it. If you confided in him and he spread the information around, that would breach your emotional trust. And when emotional trust is violated, friendships often struggle to recover. It's the same with loyalty members. I can't tell you how many letters I've seen that start, "I've been a loyal customer of your firm for 30 years." Members are genuinely hurt when you let them down, just as a friend would be.

What kind of service failure would violate emotional trust?
The most egregious failures are related to the fact that the company should have known the customer better. If I'm a member of our loyalty program and a lifelong vegetarian and one week my order arrives with meat products substituted for out-of-stock vegetarian items, that might, paradoxically, be more damaging than if it arrives half empty because of stockouts. Walmart should know me well enough not to make that mistake.

That sounds like a lot of pressure for the retailer.
It is. Customer expectations are only going up. People now anticipate a highly personalized, frictionless experience, whether shopping in traditional brick-and-mortar stores, online, or through an app. That's been a particular challenge for retailers since the outbreak of the pandemic, as shopping habits have changed.

How have you adjusted?
We've gone back to marketing basics. We've done ethnographic work and customer listening to remap the customer journey. We've had to understand every single touchpoint and ask, "How are we going to recognize that this person is a loyal customer? How are we going to personalize their treatment?" We've had to identify the points of friction and where the biggest failures are—not necessarily the most frequent ones but the most meaningful ones: the failures that violate emotional trust. And we've had to understand that customers now have different entry and exit points for their journeys. They might start shopping on their app and then finish with an in-store pickup. My team and I shop at Walmart a lot. I'm a huge believer that you have to engage with your product yourself to really understand it.

If you violate trust, how can you save the relationship?
You need to have a set of things in your back pocket to try to win people's trust back. It's more than compensation. I go back to the friendship analogy. When you let down a friend, you should accept responsibility, apologize, and make a gesture that shows you want to make it up to them. If you view loyalty programs as friendships, you'll never go far wrong.

IdeaWatch

THANKS, BUT NO THANKS

People who were sent a small gift as an inducement to join an employee wellness program were more likely to enroll if given the opportunity to return the gift should they decline participation. "Returnable Reciprocity: Returnable Gifts Are More Effective Than Unreturnable Gifts at Promoting Virtuous Behaviors," by Julian J. Zlatev and Todd Rogers

GENDER

Why Shareholders Often Turn Against Female Directors

Given societal and regulatory pressure on companies to seat more women on their boards, shareholders ought to generally support female directors—and many times they do. But according to a new study, that support is fragile and depends on context.

The researchers examined more than 50,000 director elections held at public firms from 2003 to 2015. They found that female nominees—whether first-time candidates or incumbents up for reelection—generally received fewer dissenting votes than their male counterparts did, an effect that was heightened when existing female representation on the board was especially low. However, when firms were under threat from low performance or unfavorable media coverage—or once a significant number of women had made it onto the board—that support disappeared. And when the perceived threats stemmed from directors themselves (such as from poor attendance or nonindependence), women were punished far more harshly than men were. Votes against directors with spotty attendance were 27% higher for women than for men; and among nonindependent directors, women received 17% more "no" votes than men did. Although a high level of dissent typically doesn't result in immediate removal, it increases the probability of turnover in the following year by 30%.

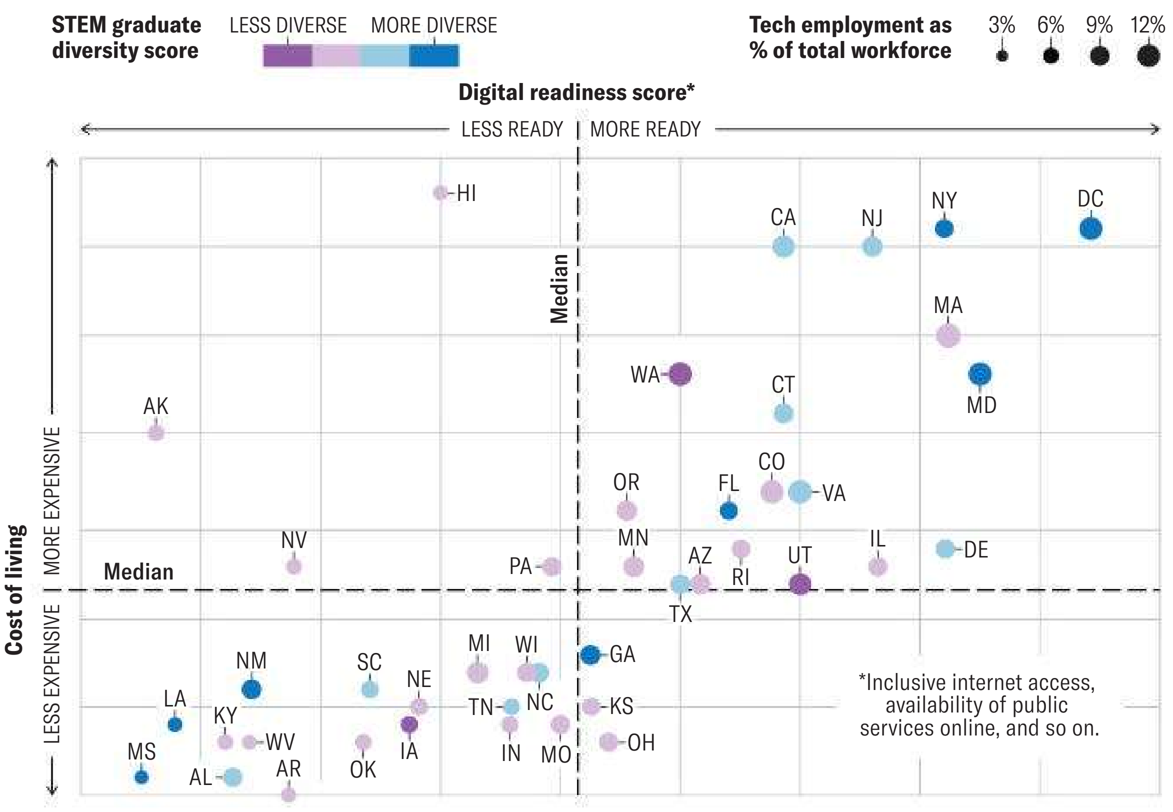
When people feel threatened, the researchers say, they tend to become more resistant to new ideas, such as the importance of diversity. Latent stereotypes and biases may surface, causing shareholders to see male directors as more capable of safeguarding the firm than women are. Shareholders may also conclude that a female director who has missed meetings is more devoted to her family than to work, or that a nonindependent female director is not assertive enough to be objective. "Our study urges directors and firms to be cognizant of these perceptions and take actions to prevent escalation of such negative beliefs," the researchers write. "Until these biases and stereotypes fade, female director nominees who want to avoid disproportionate dissent may have no other choice than to engage in faultless board behavior."

ABOUT THE RESEARCH *"Evaluating Board Candidates: A Threat-Contingency Model of Shareholder Dissent Against Female Director Candidates," by Arjun Mitra, Corinne Post, and Steve Sauerwald* (Organization Science, *forthcoming)*

DIVERSITY

How Tech Could Become More Inclusive

The rise in remote work gives tech firms a chance to hire outside of their usual hubs and thus boost diversity. Promising states include Georgia, Texas, Delaware, Florida, Virginia, Connecticut, and Maryland. Each has a large share of Black, Latinx, and female STEM grads, along with good digital infrastructure, a moderate cost of living, and enough tech workers to form a network.



Note: Some states were omitted owing to lack of comparable data.

Source: Digital Planet, the Fletcher School, Tufts University; U.S. Bureau of Economic Analysis, 2018; U.S. Census Bureau, 2018; CompTIA, 2020; Bhaskar Chakravorti

GROUP DYNAMICS

New Leaders Bring Unwanted Cultural Baggage with Them

Leaders are often hired in the hope of incorporating a fresh perspective into an organization's existing culture. But according to a recent study, too often they simply import elements of culture from their previous job regardless of whether they meet the new organization's needs.

The researchers focused on one aspect of culture—tightness, or the strength of organizational norms—and its influence on employee behavior. They began by studying a Korean start-up that had recently created groups within its sales department and brought in leaders from the outside. First they surveyed the new group leaders about the level of cultural tightness in their previous organizations. A year later they asked team members to rate the cultural tightness of their groups. This showed that group leaders had transferred the level of cultural tightness of their former groups to their new ones, with the effect especially strong among those who had highly identified with or served long tenures in their previous groups. The researchers subsequently surveyed division heads about any negative ways in which group members deviated from cultural norms (by arriving late to work, say) and asked HR about positive deviations—namely, the extent to which members voiced task-related suggestions or complaints. The surveys showed that high cultural tightness in a group suppressed both types of deviations, increasing stability but inhibiting constructive dialogue. A lab experiment in the United States produced similar results and confirmed that it was the leaders' past experiences—not the followers'—that shaped the cultural tightness of their groups.

Tight cultures are desirable when rules and predictability are important (as in assembly-line work, for example), whereas loose cultures are helpful when diverse opinions and approaches are needed (as in software development). Managers should consider these factors along with the likelihood of cultural transfer when bringing in new group leaders, the researchers say. As for the leaders themselves, "the awareness of the possible rigidities of the past cultural experience may help [them] to be more vigilant and responsive" to the aspects of culture best suited to their new groups' tasks and goals.

ABOUT THE RESEARCH *"Stuck in the Past? The Influence of a Leader's Past Cultural Experience on Group Culture and Positive and Negative Group Deviance," by Yeun Joon Kim and Soo Min Toh* (Academy of Management Journal, *2019)*

COMMUNICATION

No Harm in Asking

We often shy away from subjects that could make others uncomfortable, such as money, lifestyle choices, and relationships. Is such circumspection really warranted, or are our conversational partners hardier than we think?

Across five experiments, people overestimated the interpersonal costs of asking sensitive questions, potentially depriving themselves of useful information. In the first experiment, 360 participants were split into pairs, and one person was designated to ask the other five questions off a list. Some had sensitive questions to choose from (Have you ever cheated on a partner? What is your salary?), some had innocuous questions

(Are you a morning person? What route do you take to work?), and some had a mix. After the conversations the respondents reported on their level of comfort and their impressions of the questioner, while questioners described how they thought the respondent felt and what impression they believed they had made. The questioners vastly overestimated respondents' discomfort with sensitive questions and underestimated their own likability. Those who had a mix to choose from asked more innocuous questions than sensitive ones, with 40% asking only one sensitive question or none at all. And the more sensitive questions people had asked, the more uncomfortable they imagined their partners to be—though in reality, respondents' comfort levels were unaffected by the number of sensitive questions they fielded. Intriguingly, the questioners did not report being especially uncomfortable themselves.

Subsequent experiments showed that the pattern held in both face-to-face and online conversations and regardless of whether the questioner was a stranger or a friend. People even avoided inquiring about sticky issues when offered monetary rewards to do so. "Many individuals limit their conversations to topics such as the weather...and consequently miss valuable opportunities to gain information and potentially strengthen their relationships," the researchers write. "We exhort individuals to go ahead and ask!"

ABOUT THE RESEARCH *"The (Better Than Expected) Consequences of Asking Sensitive Questions," by Einav Hart, Eric M. VanEpps, and Maurice E. Schweitzer* (Organizational Behavior and Human Decision Processes, *2021)*

BIAS

BLM and the Fortunes of Black Entrepreneurs

Numerous studies have shown that investors routinely undervalue minority founders. A research team wondered whether civic events that highlight systemic racism would affect such discrimination. Would a march for racial justice, say, evoke empathy and increase support for Black founders, or activate latent bias and reduce their opportunities?

In the first of two experiments, the researchers primed some of the 323 mostly white participants to think about racial divisions by having them read an article about Starbucks's decision to provide racial-bias training to its employees. (The other participants read about a snowstorm.) All participants then evaluated a crowdfunding project headed by either a Black or a white entrepreneur. Unprimed participants evaluated the project similarly regardless of the founder's race, but primed participants gave lower assessments to the project with the Black founder and expressed less confidence that it would succeed. As information becomes more salient, the researchers say, it plays a larger role in people's decisions—so people become more likely to discriminate in contexts where race is at the fore.

The second experiment replicated the first but had an important difference: The researchers assembled 400 Black and 400 white participants, assigning 100 members of each race to each experimental condition (primed or not primed; Black or white founder). Here, too, the unprimed participants evaluated the projects similarly in terms of quality and likelihood of delivering the finished goods regardless of the race of the founder. But when primed to think about race, white participants gave the Black founder lower marks in those areas, and vice versa. This suggests that racial salience doesn't just raise concerns about Black founders but also activates in-group preference—and because Blacks are in the minority, that means a steeper reduction in their support.

Last, the researchers analyzed 21,973 Kickstarter projects from racially identifiable solo entrepreneurs, mapping them against high-profile police shootings of Blacks to see how they fared before and after those events. Success rates for projects with Black founders dropped from 19% to 15% but were stable (at about 37%) for campaigns with non-Black founders. "Our findings paint a grim picture," the researchers write. "Each moment of violence may reverberate

MOST LIKE IT HOT

People have an inherent (though mistaken) belief that warm foods contain more calories than cold ones and thus have greater nutritional value—and they're willing to pay 25% more for the same item when it is heated up. "Make It Hot? How Food Temperature (Mis)Guides Product Judgments," by Amanda P. Yamim, Robert Mai, and Carolina O.C. Werle

beyond its tragic beginnings, as the reaction reshapes the opportunities for an entire community, leaving minority founders at a disadvantage once more."

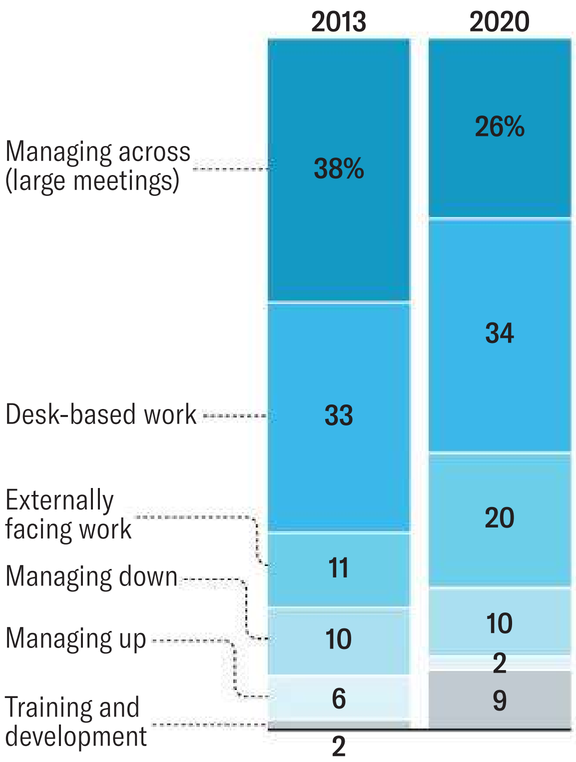
ABOUT THE RESEARCH *"Collateral Damage: The Relationship Between High-Salience Events and Variation in Discrimination," by Andreea D. Gorbatai, Peter Younkin, and Gord Burtch (working paper)*

PRODUCTIVITY

How Knowledge Work Has Changed in the Pandemic

Surveys of U.S. and European employees before and during Covid-19 lockdowns show two notable shifts: Less time is now spent in big meetings, and more time is devoted to customers and external partners.

How workers spent their time



Note: 2020 figures do not add to 100 due to rounding.
Source: Julian Birkinshaw, Jorden Cohen, and Pawel Stach

EXECUTIVE COMPENSATION

Do CEOs Make More Than We Think?

Performance-based equity awards are an important part of executive compensation, with performance-vested stock awards, or PVSAs, being the most common type in the S&P 1,500 firms. Under a PVSA contract, the number of shares a CEO receives depends on how well the firm does in a given period of time, with the company generally setting minimum and maximum amounts that may be awarded, along with a target in between. For outsiders, assessing amounts paid is difficult, because firms' accounting statements typically disclose only the targets. Other information can be found elsewhere, but it is scattered among many sources, in nonstandard formats, and may be buried in the fine print.

A researcher meticulously gathered data from numerous sources on the PVSAs granted by the S&P 500 firms from 2010 to 2014. Her analysis showed that 75% of the time, firm performance fell between the minimum and maximum levels established by contract—that is, within the zone in which CEOs would have an incentive to boost results—indicating that the awards are an effective lever. It also showed that on average, CEOs received 115% of the targets reported by their firms, meaning that disclosures are generally underreporting CEO compensation. "The accuracy of…PVSA valuations matters because industry professionals and academics use [them] to evaluate compensation, including Say-on-Pay voting decisions [in which shareholders have a voice in executive pay]," the researcher writes. "My results support calls from industry experts for improved disclosures for performance-based compensation."

ABOUT THE RESEARCH *"Performance-Vesting Share Award Outcomes and CEO Incentives," by Andrea Pawliczek* (The Accounting Review, *forthcoming)*

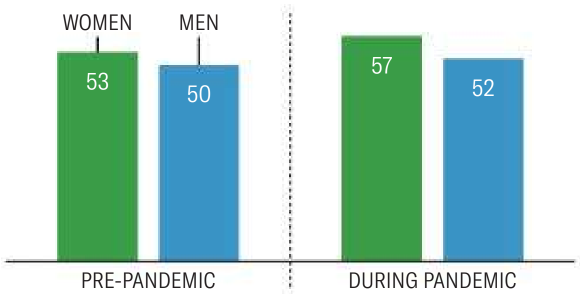
IdeaWatch

LEADERSHIP

Women Are Better Leaders—Especially in a Crisis

Female heads of state have been widely praised for their handling of Covid-19; for example, most countries led by women have had lower death rates than countries led by men. Two global analyses of 360-degree reviews of leaders—one in 2012 and one in 2020—found that women in business are also seen as more effective, and the gap was larger during the pandemic.

Overall leadership effectiveness ratings



According to reviews submitted during the pandemic, women outscored men on a majority of leadership competencies.

Competencies	Ratings: WOMEN	Ratings: MEN
Takes initiative	60	50
Demonstrates learning agility	59	50
Inspires and motivates others	59	52
Develops others	58	49
Builds relationships	58	51
Displays high integrity and honesty	57	49
Communicates powerfully and prolifically	57	52
Works collaboratively; fosters teamwork	56	50
Champions change	56	51
Makes decisions	56	49
Innovates	56	53
Solves problems and analyzes issues	56	53
Applies customer and external focus	56	54
Drives for results	55	48
Values diversity	55	45
Establishes stretch goals	55	50
Develops strategic perspective	55	54
Shows technical expertise	53	55
Takes risks	52	51

Source: Zenger Folkman

CORPORATE MISCONDUCT

Should Whistleblowers Be Paid a Bounty?

Cash-for-information programs have gained traction as a regulatory enforcement tool; in 2019, for example, the U.S. Securities and Exchange Commission paid some $60 million to eight people whose reports helped bring violators to heel. Critics say the programs encourage baseless allegations and deter informants from giving firms a chance to investigate complaints themselves. A new study examines those beliefs.

The researchers analyzed thousands of lawsuits filed from 1994 to 2012 under the False Claims Act—a law intended to protect the U.S. government from procurement fraud. They studied what happened after three U.S. courts of appeals issued rulings that increased the financial incentives for whistleblowing, comparing suits subsequently filed in those districts with suits filed elsewhere. Although the number of filings in those districts increased, the proportion submitted without first informing the company was unaffected. And regulators spent more time, on average, investigating those cases; the Department of Justice joined more of the suits; and the share of suits that resulted in a settlement increased.

"These findings support the view that cash-for-information programs help to expose misconduct," the researchers write. "[They] are inconsistent with the critics' view that greater financial incentives for whistleblowers trigger meritless lawsuits."

What of whistleblowers themselves? Nearly half the time, they filed suit without first taking the issue to the company, often citing fear of retaliation—and indeed, among informants who did file internal reports, nearly 80% said they were fired, harassed, threatened, or demoted as a result. To track the effects of such retaliation, the researchers analyzed information from the lawsuits, a professional networking site, and public background checks. This showed that informants who were forced to leave their jobs incurred no social costs (such as an increased incidence of divorce), but many saw modest drops in income. However, with bounties averaging $140,000, the financial repercussions were largely or fully offset for rank-and-file and middle-management whistleblowers, the researchers conclude.

ABOUT THE RESEARCH *"Cash-for-Information Whistleblower Programs: Effects on Whistleblowing and Consequences for Whistleblowers," by Aiyesha Dey, Jonas Heese, and Gerardo Pérez-Cavazos (working paper)*

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

Squeeze every drop out of work

Turbulent Times

Wicked Problem Solving is a simple, scalable framework to tackle complexity and uncertainty

Vol. CLXIX.... No. 66,666 — *THURSDAY, JUNE 3, 2021*

EVERYDAY COLLABORATION IS BROKEN!

Business Challenges Grow More Complex than Ever

For decades, business challenges have steadily become more complex, interconnected, requiring the coordinated efforts of people with complementary and competing interests. But teams often struggle to get on the same page. And because few organizations have systematic methods to foster clarity, people become frustrated and overwhelmed as they try to navigate the growing uncertainty and ambiguity within their world. What organizations need is a comprehensive approach that teaches how to solve complex problems and lead teams. The lessons of lean, agile, and design thinking, reveal an underlying operating system of creative collaboration to find inspiring and elegant solutions, quickly and consistently.

Every person, every team, every organization, every one of us faces a constant rush of problems and opportunities, from simple challenges to staggeringly complex dilemmas. Our ability to deliver creative, elegant outcomes is key to staying sharp and relevant. Success now depends on how well we deal with change, how effectively we innovate, and how much impact we make in the world. Those who do this well will thrive in the years ahead. And those who help others do this will be our most important leaders. Lurking beneath our thinking and conversations are deep and predictable biases. For many people working in a business, the default approach to solving a problem is to spend some time thinking about it, coming up with one or two solutions, and then talking through the options with the team. It's fast, familiar, straightforward—and broken. But, there is a better way.

Problems are everywhere. They come in the form of grand global challenges, (climate change, water security, fake news, immigration, gun control, and poverty, etc.) and also smaller, every-day challenges (relationships, the daily grind, the 200 decisions we make each day).

CEO Unveils New Vision, Room Silent Except for One Cough

It May Have Been a Gasp

Madame Dubois, CEO of CurrentGeneration, a multi-billion-dollar energy company, is in the midst of setting a new direction for the company. The mission reads, "We generate sustainable energy and create a bright future of safe, clean, reliable power that improves people's lives and leaves the world a better place." Problems arise when trusted advisors remind her that 80% of CurrentGeneration's revenue is generated from coal. Madame Dubois has an upcoming corporate retreat in which she will need all forty-nine senior executives to be fully on board with the new vision. Hope that goes well.

Madame Dubois, at the moment of unveiling.

BUSINESS

Boredom Makes Us Buy

Another peculiar side effect of the global pandemic—access to just about anything from a few clicks away.

PAGE 26

Teammate Keeps Ideas to Herself, Team Suffers

Fiona McMillan, software developer, is facing criticism. Albert an expert in her field, she does not contribute much to team discussions. During team brainstorm sessions and meetings, she remains quiet and withdrawn. This behavior contributes to a culture where team members silently observe and don't speak up. Instead of actively collaborat- ing and pro remain idle. to program a to help influe in its evolutio willingness and try new solutions

Company Turned Upside Down and Rattled by Change

Problems and Dilemmas Lea

The Future of Work

The shift to remote work and the impact of emerging technologies have upended the ways we collaborate with our teams and clients. These shifts stretch our capabilities, organizationally and personally, and underscore the persistent need for agility, resilience, imagination and connection.

Mr. Potter Having Hard Time Getting Kids to Bed at Reasonable Hour

With the onset of daylight savings time this past March, the Potter children will not accept normal bedtime hour.

Vaccinating the Human Population, One Dose at at Time

This tremendous effort requires the coordinated efforts of people with complementary skills and competing interests.

Staff Tired of Meetings that Don't Go Anywhere

Empoyees report that meetings have become intolerable. Teams spend excessive time talking in circles and are unable to reach alignment, make good decisions, think creatively, and create meaningful outcomes.

Lily Gordon Has Had it "Up to Here"

Gordon has restless nights, can't tolerate solid foods and needs caretakers to help with bathing. She's just a baby, so maybe that's why.

Halim Sa Form Tru

Teams within have different values which and creativity.

Amanda Trapped i Organizat

Wright is unab "pushes the po

Organizati Playbook

When orgs have they are mor principle and p make change.

Social Medi Political Pola

In the last 25 year Americans who fe political party is nation's well-bein This widening pola government increasing social general feeling of doom.

Stimulus Money Future Gens to F

Relief is arriving fo Americans; however, generations will suffer the consequences, such as rising deficits and accelerating inflatio

Barbara Casu of Cass Business School at City University of London and four coresearchers compared data on board and leadership diversity at large European banks against records of fines levied on those banks by the U.S. government since the global financial crisis of 2008. They found that banks with more female directors faced lower and less-frequent fines for misconduct, saving those institutions $7.84 million a year, on average.

The conclusion:

Banks with More Women on Their Boards Commit Less Fraud

Professor Casu, DEFEND YOUR RESEARCH

CASU: The result was clear and moderately strong: The financial institutions with greater female representation on their boards were fined less often and less significantly. We proved both correlation and causation by controlling for many other factors, including the number and dollar amount of fines received the previous year, board size, director tenure, director age, CEO tenure, CEO age, CEO turnover, bank size, banks' return on equity, and the volatility of the banks' stock returns. We even controlled for diversity itself. In other words, was the better behavior a function of boards' being more diverse in general—with members representing a variety of ages, nationalities, and both executives and nonexecutives—rather than because boards had more women? It turns out that gender diversity was what mattered—though I should acknowledge that other types of diversity contribute to fewer or lower fines, too.

HBR: Why look at fines levied on European banks by U.S. authorities? Two reasons. One, the data is really, really good. Any transaction in U.S. dollars can be reviewed and, if malfeasance is found, penalized by U.S. regulators, and folks have created amazing databases tracking violations. Second, it helps us avoid data that's been skewed by "regulatory capture"—that is, the lobbying and connections between banks and their domestic regulators. That's largely absent when you're looking at actions of U.S. regulators against foreign banks.

What types of offenses were committed? Banking and economic sanctions violations, money laundering, market manipulations, misleading or dishonest sales practices, tax and accounting fraud, and employment discrimination, among other things. We looked at all fines issued by all U.S. regulators and had information on the amounts, dates, offenses, whether sanctions were civil or criminal, and the sanctioning regulatory bodies.

Are we talking about a lot of bad behavior or only a little? Across the world from 2008 to 2018, the U.S. government levied about $500 billion in fines. That's half a trillion dollars.

Wow. So we need a lot more women on bank boards? Well, our research showed that you need a critical mass. If you have just one female director, the effect is quite weak. It's viewed as

We found that you need at least three women to change the dynamic inside a board.

tokenism, and it's quite hard for one person to challenge existing corporate behavior. We found that you need at least three women to change the dynamic inside a board. We also found that the effect is even stronger when you have both female directors and women in executive positions at banks. We think that gender diversity in both areas is critical.

Is this evidence that women are just more ethical than men? That certainly could be one explanation. Women tend to be nurtured from a very young age to be more caring, accommodating, and nice, whereas men are often rewarded for being aggressive and ambitious and seeking personal gain. Women could also be more risk-averse, which would cause them to speak out when something—like committing fraud—seems dangerous. We also know that there's a gender punishment gap: Women are punished much more harshly than men for the same infraction. That might cause them to be more vigilant about stopping fraud; not speaking up carries much greater consequences for them. That's where we want to take this research next—to understand if women are behaving more ethically or if they're ethically similar but more risk-averse. The answer is probably some combination of the two.

What else might female board directors do better than men? We're not arguing that women are better than men—simply that they bring a different skill set and contribute to better monitoring and risk management. They're good for business.

How have men reacted to your research? You get a few ridiculous reactions. One person said to me, "You can push this all you want, but in the end children prefer to be with their mothers"—suggesting that women belong at home with the kids, not on boards.

Ugh. But that was the exception rather than the rule, right? The most common response was the immediate "Not all men are untrustworthy!" And of course, that's true. But we looked at billions of dollars in fines for egregious schemes in an industry that's more dominated by men than any other and found this positive effect with gender diversity at the board level. That's all we're saying.

If gender diversity works—if it saves a company from fraud and fines—wouldn't the market naturally move that way? Well, there are implementation costs, especially in the short term. Some research on gender quotas for boards has latched on to this. In particular the transition to more diversity incurs costs, including for the search for board members and recruiting, onboarding, and less obvious things like building the relationships needed to function as a team. And when you finally have a more diverse group, there are more points of view, more negotiations, and more compromise, so decision-making takes longer. Do those costs outweigh the benefits? I don't think so, but it's something people use to rationalize the status quo. So if we wait for the market to move naturally, for the culture to evolve, we may never get there. That's my belief. You need to force the issue.

Interview by **Scott Berinato**

HBR Reprint F2103B

HOW WE DID IT

The New York Times/Redux

The CEO of Pfizer on Developing a Vaccine in Record Time

by Albert Bourla

ON MARCH 19, 2020, as Covid-19 swept across the world, I challenged everyone at Pfizer to “make the impossible possible”: to develop a vaccine more quickly than anyone ever had before, ideally within six months and certainly before the end of the year. Uğur Şahin, the CEO of our partner BioNTech—a German company focused on cancer immunotherapies—did the same with his team.

Less than eight months later, on Sunday, November 8, a few senior executives and I gathered to hear whether our researchers, scientists, clinical trial organizers, manufacturers, and logistics experts had collectively accomplished that goal. Four independent data monitors were meeting remotely to review the preliminary results of the vaccine candidate trial our two companies were running. This was a double-blind study—none of the scientists, the clinical trial investigators, or the patients knew who was getting the real thing versus a placebo—so we were braced for three possible outcomes: The data monitors might tell us to stop the trial because it was a failure, to continue because the results were inconclusive, or to continue and immediately apply for

Photograph by BRYAN DERBALLA

emergency-use authorization because the vaccine worked and was safe.

Knowing that the monitors would meet at 11 AM, a group of us congregated then as well: Mikael Dolsten, the chief scientific officer; Rod MacKensie, the chief development officer; Sally Susman, the chief corporate affairs officer; Yolanda Lyle, my chief of staff; our general counsel, Doug Lankler; and I. Our lead Covid-19 scientists, who had been working around the clock at our Pearl River, New York, facility, would get the news first and pass it on to us. We tried to distract ourselves by discussing other matters, but anxiety was high.

Finally, at close to 2 PM, Yolanda got a text message: The results were in, and the Pearl River researchers wanted to videoconference with us via Webex. During the agonizing minutes it took them to connect, I joked that this was payback for all the pressure I'd put on them over the past few months. But when their faces appeared on-screen, their smiles told us that the news was good. The independent committee had "highly" recommended that we seek approval for use. Ten minutes later we were confidentially informed of the exact efficacy rate: a stunning 95.6%.

By December, 74 million doses of our vaccine had been manufactured, and 46 million had been released. By the time this article is published, thanks to our work and that of the other companies whose vaccines have also been authorized, we hope that 300 million doses will be available around the world.

That's our short story. But we believe the longer one is worth telling because of what we learned along the way. It took a moon-shot challenge, out-of-the-box thinking, intercompany cooperation, liberation from bureaucracy, and, most of all, hard work from everyone at Pfizer and BioNTech to accomplish what we did in 2020. Organizations of any size or in any industry can use these strategies both to solve their own problems and to produce important work that benefits society.

A PATIENT-FIRST MENTALITY

A veterinarian with a PhD in the biotechnology of reproduction, I joined Pfizer in 1993 as a technical director in its animal health division in my native Greece. I worked my way up through various positions across Europe to group president overseeing the unit's global operations from our U.S. headquarters. In 2014 I became group president of our global vaccines, oncology, and consumer health care businesses, and two years later I took on the leadership of Pfizer Innovative Health, overseeing R&D in our consumer health care, vaccines, oncology, inflammation and immunology, internal medicine, and rare disease business groups. In that role I tried to operate like a venture capitalist or a private equity fund manager: The best ideas got the biggest investments. In January 2018 I was promoted to COO, and a year later I succeeded Ian Read as CEO.

During my 27 years with Pfizer, my family and I have lived in eight cities and five countries. My exposure to so many cultures, my background as a scientist, and the diversity of roles I had taken on across Pfizer helped prepare me for my new responsibilities, as did my Jewish upbringing in Greece. Coming from a country that's a small player on the world stage and being a religious minority taught me to fight for what I believe is right and to never give up.

Throughout my career my focus has always been on the end users of our products, whether they are animals and their caregivers or general consumers, and I have encouraged the entire organization to adopt the same patient-first mentality, measuring outcomes by people (or animals) served rather than drugs sold. That included spearheading the creation of a Patient and Health Impact Group, which is dedicated to increasing innovation and access.

When I assumed the top job at Pfizer, the company was in a good position. Ian, my predecessor, had successfully navigated a large wave of revenue loss as products came off patents. Perhaps more important, he had transformed our R&D function from mediocre to one of the best in the industry. During his tenure we won approval of the first CDK inhibitor for breast cancer and the first JAK inhibitor for various autoimmune diseases, and Pfizer expanded from having a single vaccine to having multiple marketed ones and a robust vaccine pipeline.

I wanted to build on that success by focusing on science and patients. To get to the next level, we would need to find better homes for our consumer health business and Upjohn and acquire cutting-edge innovation to supplement our areas of expertise, such as targeted cancer and gene therapies. We would need to focus on all stakeholders, not just shareholders, to create long-term value. We hung pictures of patients on the walls of our buildings around the world to drive that point home for our

Left: Hospital nurses in Italy receive the Pfizer-BioNTech vaccine on December 27, 2020. Right: Vaccine doses are prepared for shipping at a Pfizer manufacturing plant in Portage, Michigan, on December 13, 2020.

executives and employees. Finally, we had to become a more modern company, digitizing data through every link in our value chain.

To that end, we strengthened the leadership team. We brought on Lidia Fonseca as chief digital and technology officer, to expand and improve our digital capabilities; Angela Hwang as group president of our biopharmaceuticals unit, to reimagine our go-to-market model; Payal Sahni as chief human resources officer, to drive a culture of courage, excellence, equity, and joy; and Bill Carapezzi as an executive vice president, to transform our business services. From June 2019 through April 2020 we also added four board members with either significant scientific backgrounds or global business expertise: Sue Desmond-Hellmann, previously the CEO of the Bill & Melinda Gates Foundation and a former Genentech executive; Susan Hockfield, a neuroscientist and the president emerita of MIT; Scott Gottlieb, a physician and a former FDA commissioner; and James Quincey, the chairman and CEO of Coca-Cola.

THE PANDEMIC STRIKES

Covid-19 first came onto our radar screen in January 2020, when we began hearing reports of severe respiratory illness and deaths in Wuhan, China. As a company deeply invested in infectious disease and vaccine research, we paid close attention. By February it was clear that this virus would spread to many parts of the world, and we knew Pfizer would have to play a pivotal role in stopping it.

We had already been working with BioNTech to apply its primary technology, messenger RNA (mRNA), to flu vaccines. Traditionally, making a vaccine starts with growing weakened forms of the virus, which can take months. That's why it took four years for the mumps vaccine, heralded as one of the fastest ever previously developed, to move from the lab to distribution in the 1960s. But mRNA vaccines are created synthetically, using just the pathogen's genetic code, which can be done much more quickly.

Uğur Şahin and Özlem Türeci, the Turkish husband-and-wife team behind BioNTech, immediately saw how mRNA could be applied to a Covid-19 vaccine and put their team on the case. On March 1 they called Kathrin Jansen, our head of vaccine R&D, to ask if we were interested in partnering with them to test the candidates they had already developed, which numbered about 20. Of course we were interested! The only downside was that no mRNA vaccines had ever been approved for clinical use.

As we initiated this collaboration, the outbreak spread. On March 11 the World Health Organization declared a pandemic. On March 13, even as we were virtualizing our operations to account for new social-distancing protocols around the world, we released a five-point plan to guide our company and its big-pharma peers in a cooperative effort to defeat the coronavirus. We suggested that we share insights and tools, such as viral screening and other models, along with associated data and analysis; marshal our people, including virologists, biologists, chemists, clinicians, epidemiologists, and other experts; share drug development expertise with smaller biotechs, as

From left to right: Piero Cruciatti/AFP via Getty Images; Morry Gash/Getty Images

By February 2020 it was clear that this virus would spread to many parts of the world, and we knew Pfizer would have to play a pivotal role in stopping it.

we were doing with BioNTech, to help them navigate complex clinical and regulatory processes; offer manufacturing capabilities to any approved therapy or vaccine; and reach out to federal agencies to build a rapid-response team of scientists for future epidemics.

On March 16 our top executives met and agreed that it was time to go all in on developing this vaccine with BioNTech—along with treatments for Covid-19—even if that meant spending as much as $3 billion. For context, the typical vaccine development program can take up to 10 years and cost anywhere from $1 billion to more than $2 billion. We did not want our decision to be driven by the need for financial returns alone. Saving lives—as many and as soon as possible—would be our top priority.

I pushed to have a vaccine ready by the fall, when cases were expected to spike again. Everyone knew it would be an enormous, perhaps unattainable, task, but we all knew it was one we were obligated to take on.

THE WORK BEGINS

Pfizer signed a letter of intent with BioNTech the next day—a commitment to pair its innovative mRNA technology with our research, regulatory, manufacturing, and distribution capabilities. The financial details would be hashed out later. Time was of the essence. We decided to work on several vaccine candidates in parallel instead of testing the most promising ones in sequence, as was usual. This was financially risky but, again, would generate results more quickly. We also declined government funding, to liberate our scientists from bureaucracy and protect them from unnecessary slowdowns.

Our Covid-19 vaccine project group began meeting via Webex on Mondays and Thursdays, but ad hoc meetings were held regularly too. By April 12 we had narrowed the candidates from 20 to four on the basis of molecular signs of efficacy seen in lab cultures and in mice. Normally we would have run tests on larger animals before starting phase one human trials, which involve 20 to 100 participants and typically last several months, but given the urgency, we asked for and received approval from the U.S. Food and Drug Administration and the German regulatory authority, the Paul Ehrlich Institute, to do them simultaneously. The same was granted for our unprecedented request to combine phase two trials (which cover hundreds of subjects and typically last one to three years) and phase three trials (hundreds to thousands over one to four years).

On April 23 we began phase one trials. A small number of volunteers in Germany got the first injections, and we began to collect data on the efficacy of each of our four candidates: Did it demonstrate an immune response? Cause any serious side effects? By May we had narrowed our choices to two and begun testing in the United States at varying doses.

Early results were promising, and we saw that each candidate would require two injections, three weeks apart, but we couldn't tell immediately which was the best bet. Finally, on July 23, the day before we'd told the FDA we would decide which vaccine would move to the combined phase two and three trials, we learned that although both seemed to generate a strong immune response, one produced considerably fewer side effects, such as fever and chills.

Meanwhile, our manufacturing team, led by Mike McDermott, the president of global supply, was gearing up to deliver tens of thousands of trial doses and hundreds of millions of final doses around the world as soon as the vaccine was ready. Pfizer had never produced an mRNA vaccine before, and it would require new equipment and processes. We purchased new mRNA formulation machines, installed them in plants from Michigan and Massachusetts to Belgium, and came up with novel approaches to accelerate our eventual output—from storage in disposable bags instead of steel tanks to cold transportation and storage solutions. One big wrinkle was the fact that any of the vaccine candidates would have to be stored at subzero temperatures to stay stable and potent. Our engineers started working on a thermal shipping and storage box that could hold thousands of doses for hospitals and health centers and had it ready, complete with a remotely monitored temperature gauge and a GPS tracker, by July.

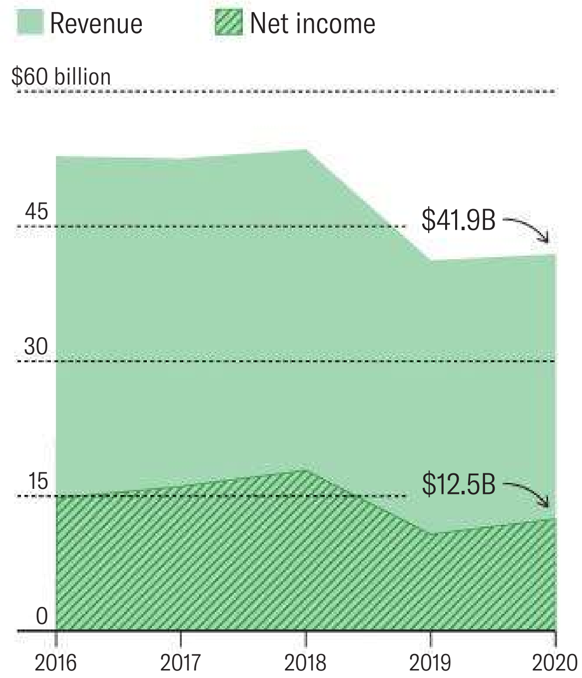
Once we'd settled on our final vaccine candidate, we preemptively began production. We were banking on a successful trial and had 1.5 million doses made, frozen, and ready to ship as early as September. Obviously, if it had failed, we'd have had to throw them all out.

Though our scientists and manufacturing teams were working harder than ever to meet the accelerated timetable, and we all faced immense political and personal pressure, we remained clear about one thing: We would move only as fast as the science allowed. During one of

FACTS & FINANCIALS

Pfizer

Founded: 1849
Headquarters: New York, NY
No. of employees: 78,525



Source: Pfizer

my calls with Alex Gorsky, the chairman and CEO of Johnson & Johnson, we agreed to initiate the signing of an industrywide pledge to adhere to rigorous scientific processes and safety standards in our collective search for a Covid-19 vaccine. We decided to engage all the companies that were developing one. I called half of them and Alex called the other half; within 48 hours seven other biopharma companies had signed on. Speed was critical—but not at the expense of scientific rigor.

Of course, Pfizer is a massive company, with close to 79,000 employees, a presence in more than 125 countries, and many other concerns besides the Covid-19 vaccine. Some of our other research groups were hard at work on treatments that would ameliorate the effects of the coronavirus. Those initiatives included the development of antiviral compounds and studies on Covid-19's interaction with pneumonia and the use of azithromycin.

While our vaccine group was preoccupied with Covid-19, it continued to work on other debilitating ailments, such as respiratory syncytial virus and meningitis. And although I was devoting about 70% of my time to the pandemic response, we empowered our other five units to keep at their important efforts—and they delivered. For example, our biopharma business increased revenues 7% on an operational basis during the first nine months of the year.

Throughout the early fall, data slowly filtered in. We needed to recruit more trial volunteers and go to places where the coronavirus was picking up steam. By November only 94 of the 43,538 people to whom we had administered the vaccine candidate or a placebo had become sick, which triggered the independent review that brought us such good news on November 8. Nearly every person who had come down with Covid was in the placebo group. Those in the vaccine group had been almost completely protected, despite the likelihood that they had also been exposed. Once the data had been presented to regulatory agencies and the vaccine was authorized, the rollout could finally begin.

The UK was the first country to authorize the use of our vaccine, and Margaret Keenan got the first dose, on December 8, 2020. The United States followed suit, and Sandra Lindsay was the first American to get the injection, on December 14. There have been hiccups—including challenges in securing raw materials—but we produced 74 million doses and released more than 45 million by the end of 2020, and we are on track to produce more than 2 billion in 2021.

LESSONS LEARNED

In the insane year that was 2020, what did we learn at Pfizer?

First and most important, success is a team effort. Every single person in our company and at BioNTech—from senior executives to manufacturing and transportation staffers—was instrumental in the development of our vaccine. Without the tremendous sacrifices of team members who gave up their weekends and holidays, went months on end without seeing their families, and worked harder and more hours than they ever had before, we never would have succeeded. I am awed by, and immensely grateful for, what all these people have accomplished.

Second, it can pay to put purpose first. The positive financial impact for Pfizer of the Covid-19 vaccine became possible only because return on investment was never a consideration. We drove ahead with mission in mind. Still, even if we hadn't developed an impressively effective vaccine, distributed it as quickly as we did, and earned back our outlay, our decision to do the right thing would have been worth it for me, our employees, and our industry. The private sector has a responsibility to help solve society's biggest problems. If it doesn't, none of us have a future.

Third, moon-shot challenges that align with the right purpose are galvanizing. When I first suggested a six-month vaccine development timeline, our scientists were incredulous. But they got to work with the BioNTech team and nearly hit that mark. The same was true for our supply group when we tasked its members with finding a way to produce

Moon-shot challenges that align with the right purpose are galvanizing. When I first suggested a six-month vaccine development timeline, our scientists were incredulous.

and transport at arctic temperatures millions of doses of a vaccine that had yet to be finalized. They didn't think they could, but they ultimately found a way to make the impossible possible.

Fourth, when you set a huge goal, you must encourage the out-of-the-box thinking required to achieve it. What worked in the past won't build you a new reality. In the spring of 2020 various teams presented senior leaders and me with multiple ideas for solving particular problems: "One, two, three. This is what has been done before." We kept asking them for a fourth, fifth, and sixth choice, and creatively, they complied. After a few months it became a habit. People brainstormed new options on their own.

I think a fifth key to our success was that we isolated our scientists from financial concerns and freed them from excessive bureaucracy. Our board accepted that this was a high-risk endeavor but understood the significance of success and gave us the leeway to spend as needed. Our people didn't need to worry about the budget targets we'd set in 2019 or hitting our annual earnings per share expectations. And because we took no money from the U.S. or the German government, we didn't have to report or explain our decisions, and we were subject to oversight only from the appropriate regulatory authorities.

A final lesson is the need to embrace cooperation—especially in a crisis. As I said, our work on Covid-19 with BioNTech began without a final contract. In fact, the terms of that partnership weren't hammered out until after the year's end. But investments were made and confidential information shared in March because we already had experience working together, had the same high ethical standards, and were aligned on wanting to move quickly to make a difference.

Similarly, I've been heartened by the growing information- and expertise-sharing we've seen across companies and countries as this pandemic has progressed. If today's science were simpler, we could all operate independently and make our own bets. But to beat back scourges like Covid-19 and cancer, we need to regard ourselves as contributors to a broad scientific ecosystem and innovation network. The business world can step up and insist on it.

Sometimes personal outreach is critical in this regard. In February, when Gilead Sciences was showing some early success with remdesivir treatments in China, I phoned its leader and said that if the company needed access to our large manufacturing capacity in that country, we were ready to help—which we eventually did in the United States. When we and BioNTech needed to persuade a relatively small supplier in Austria to drop everything to make a certain compound critical to our vaccine, Uğur and I flew to talk to the supplier's CEO face-to-face. We told him this was his chance to help save the world, and he agreed.

A BRIGHT FUTURE

The pandemic was the ultimate test of the pharmaceutical industry's credibility and relevance, and in my view, the industry passed with flying colors. Although the public has vilified it in recent years, accusing it of focusing on the wrong products, excessively marketing unnecessary drugs, price gouging, and caring more about sales than about patient support, we have proved that we're a group of vibrant companies willing and able to mobilize our exceptionally talented workforces and marshal all other resources to solve a life-or-death problem. Dozens of companies have developed effective treatments and vaccines, and more are on the way. We're now working together to prepare for the next virus or disease.

I also see a bright future for Pfizer. Messenger RNA technology is poised to revolutionize vaccines, and we and BioNTech have a competitive edge. Our other business units also continue to thrive. For instance, our inflammation and immunology business has one of the most robust pipelines of targeted JAK inhibitors in the industry; our rare-disease business is pioneering gene therapy with three late-stage programs; and our oncology business has a number of flagship therapies for melanoma and breast and prostate cancer and is working to bring forward the next generation of targeted cancer agents and immunotherapies. The can-do, mission-driven culture at Pfizer will take innovation to new and higher planes.

Throughout my career at Pfizer, I've seen our people do extraordinary things when motivated. None of us know what we're capable of until confronted with the most challenging tasks. Our work in 2020 was just the latest and greatest example. So the next time a colleague says that something is impossible, I expect his or her peers to say, "Look at what the Covid-19 vaccine group accomplished. If they could do that, we can do this."

HBR Reprint R2103A

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Harvard Business Review

"The past decade has, if anything, strengthened Chinese leaders' view that economic reform is possible without liberalizing politics."

"What the West Gets Wrong About China"

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Spotlight

Understanding China

Illustrations by YUKAI DU

Spotlight

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What the West Gets Wrong About China

Three fundamental misconceptions

WHEN WE FIRST traveled to China, in the early 1990s, it was very different from what we see today. Even in Beijing many people wore Mao suits and cycled everywhere; only senior Chinese Communist Party (CCP) officials used cars. In the countryside life retained many of its traditional elements. But over the next 30 years, thanks to policies aimed at developing the economy and increasing capital investment, China emerged as a global power, with the second-largest economy in the world and a burgeoning middle class eager to spend.

One thing hasn't changed, though: Many Western politicians and business executives still don't get China. Believing, for example, that political freedom would follow the new economic freedoms, they wrongly assumed that China's internet would be similar to the freewheeling and often politically disruptive version developed in the West. And believing that China's economic growth would have to be built on the same foundations as those in the West, many failed to envisage the Chinese state's continuing role as investor, regulator, and intellectual property owner.

Why do leaders in the West persist in getting China so wrong? In our work we have come to see that people in both business and politics often cling to three widely shared but essentially false assumptions about modern China. As we'll argue in the following pages, these assumptions reflect gaps in their knowledge about China's history, culture, and language that encourage them to draw persuasive but deeply flawed analogies between China and other countries.

MYTH 1

Economics and Democracy Are Two Sides of the Same Coin

Many Westerners assume that China is on the same development trajectory that Japan, Britain, Germany, and France embarked on in the immediate aftermath of World War II—the only difference being that the Chinese started much later than other Asian economies, such as South Korea and Malaysia, after a 40-year Maoist detour. According to this view, economic growth and increasing prosperity will cause China to move toward a more liberal model for both its economy and its politics, as did those countries.

It's a plausible narrative. As the author Yuval Noah Harari has pointed out, liberalism has had few competitors since the end of the Cold War, when

Spotlight

both fascism and communism appeared defeated. And the narrative has had some powerful supporters. In a speech in 2000 former U.S. President Bill Clinton declared, "By joining the WTO, China is not simply agreeing to import more of our products, it is agreeing to import one of democracy's most cherished values: economic freedom. When individuals have the power...to realize their dreams, they will demand a greater say."

But this argument overlooks some fundamental differences between China and the United States, Japan, Britain, Germany, and France. Those countries have since 1945 been pluralist democracies with independent judiciaries. As a result, economic growth came in tandem with social progress (through, for example, legislation protecting individual choice and minority rights), which made it easy to imagine that they were two sides of a coin. The collapse of the USSR appeared to validate that belief, given that the Soviet regime's inability to deliver meaningful economic growth for its citizens contributed to its collapse: Russia's eventual integration into the global economy (perestroika) *followed* Mikhail Gorbachev's political reforms (glasnost).

In China, however, growth has come in the context of stable communist rule, suggesting that democracy and growth are not inevitably mutually dependent. In fact, many Chinese believe that the country's recent economic achievements—large-scale poverty reduction, huge infrastructure investment, and development as a world-class tech innovator—have come about because of, not despite, China's authoritarian form of government. Its aggressive handling of Covid-19—in sharp contrast to that of many Western countries with higher death rates and later, less-stringent lockdowns—has, if anything, reinforced that view.

China has also defied predictions that its authoritarianism would inhibit its capacity to innovate. It is a global leader in AI, biotech, and space exploration. Some of its technological successes have been driven by market forces: People wanted to buy goods or communicate more easily, and the likes of Alibaba and Tencent have helped them do just that. But much of the technological progress has come from a highly innovative and well-funded military that has invested heavily in China's burgeoning new industries. This, of course, mirrors the role of U.S. defense and intelligence spending in the development of Silicon Valley. But in China the consumer applications have come faster, making more obvious the link between government investment and products and services that benefit individuals. That's why ordinary Chinese people see Chinese companies such as Alibaba, Huawei, and TikTok as sources of national pride—international vanguards of Chinese success—rather than simply sources of jobs or GDP, as they might be viewed in the West.

Thus July 2020 polling data from the Ash Center at Harvard's Kennedy School of Government revealed 95% satisfaction with the Beijing government among Chinese citizens. Our own experiences on the ground in China confirm this. Most ordinary people we meet don't feel that the authoritarian state is solely oppressive, although it can be that; for them it also provides opportunity. A cleaner in Chongqing now owns several apartments because the CCP reformed property laws. A Shanghai journalist is paid by her state-controlled magazine to fly around the world for stories on global lifestyle trends. A young student in Nanjing can study propulsion physics at Beijing's Tsinghua University thanks to

IDEA IN BRIEF

THE PROBLEM
Politicians and business leaders continue to misread China's strategy and politics.

WHY IT HAPPENS
They make three plausible but false assumptions: Democracy is an inevitable consequence of economic development; authoritarian regimes are never seen as legitimate; and the Chinese think, behave, and invest much like anyone in the West.

THE SOLUTION
Accept that economic development in China will not inevitably lead to democracy; acknowledge that the Chinese regard their government as both legitimate and effective; and recognize that while Chinese consumers have short-term horizons, their rulers are focused on the country's long-term security.

> Many Chinese believe that the country's recent economic achievements have actually come about because of, not despite, China's authoritarian form of government.

social mobility and the party's significant investment in scientific research.

The past decade has, if anything, strengthened Chinese leaders' view that economic reform is possible without liberalizing politics. A major turning point was the financial crisis of 2008, which in Chinese eyes revealed the hollowness of the "Washington consensus" that democratization and economic success were linked. In the years since, China has become an economic titan, a global leader in technology innovation, and a military superpower, all while tightening its authoritarian system of government—and reinforcing a belief that the liberal narrative does not apply to China. That, perhaps, is why its current president and (more crucially) party general secretary, Xi Jinping, has let it be known that he considers Gorbachev a traitor to the cause for liberalizing as he did, thereby destroying the Communist Party's hold on the USSR. And when Xi announced, in 2017, that the "three critical battles" for China's development would fall in the areas of reducing financial risk, addressing pollution, and alleviating poverty, he also made it clear that the objective of these reforms was to solidify the system rather than to change it. The truth, then, is that China is not an authoritarian state seeking to become more liberal but an authoritarian state seeking to become more *successful*—politically as well as economically.

In much Western analysis the verb most commonly attached to China's reforms is "stalled." The truth is that political reform in China hasn't stalled. It continues apace. It's just not *liberal* reform. One example is the reinvention in the late 2010s of the Central Commission for Discipline Inspection. Empowered by Xi to deal with the corruption that had become so prevalent early in that decade, the commission can arrest and hold suspects for several months; its decisions cannot be overturned by any other entity in China, not even the supreme court. The commission has succeeded in reducing corruption in large part because it is essentially above the law—something unimaginable in a liberal democracy. *These* are the reforms China is making—and they need to be understood on their own terms, not simply as a distorted or deficient version of a liberal model.

One reason that many people misread China's trajectory may be that—particularly in the English-language promotional materials the Chinese use overseas—the country tends to portray itself as a variation on a liberal state, and therefore more trustworthy. It often compares itself to brands with which Westerners are familiar. For example, in making the case for why it should be involved in the UK's 5G infrastructure rollout, Huawei styled itself the "John Lewis of China," in reference to the well-known British department store that is regularly ranked as one of the UK's most trusted brands. China is also often at pains to suggest to foreign governments or investors that it is similar to the West in many aspects—consumer lifestyles, leisure travel, and a high demand for tertiary education. These similarities are real, but they are manifestations of the wealth and personal aspirations of China's newly affluent middle class, and they in no way negate the very real differences between the political systems of China and the West.

Which brings us to the next myth.

MYTH 2

Authoritarian Political Systems Can't Be Legitimate

Many Chinese not only don't believe that democracy is necessary for economic success but do believe that their form of government is legitimate and effective. Westerners' failure to appreciate this explains why many still expect China to reduce its role as investor, regulator, and, especially, intellectual property owner when that role is in fact seen as essential by the Chinese government.

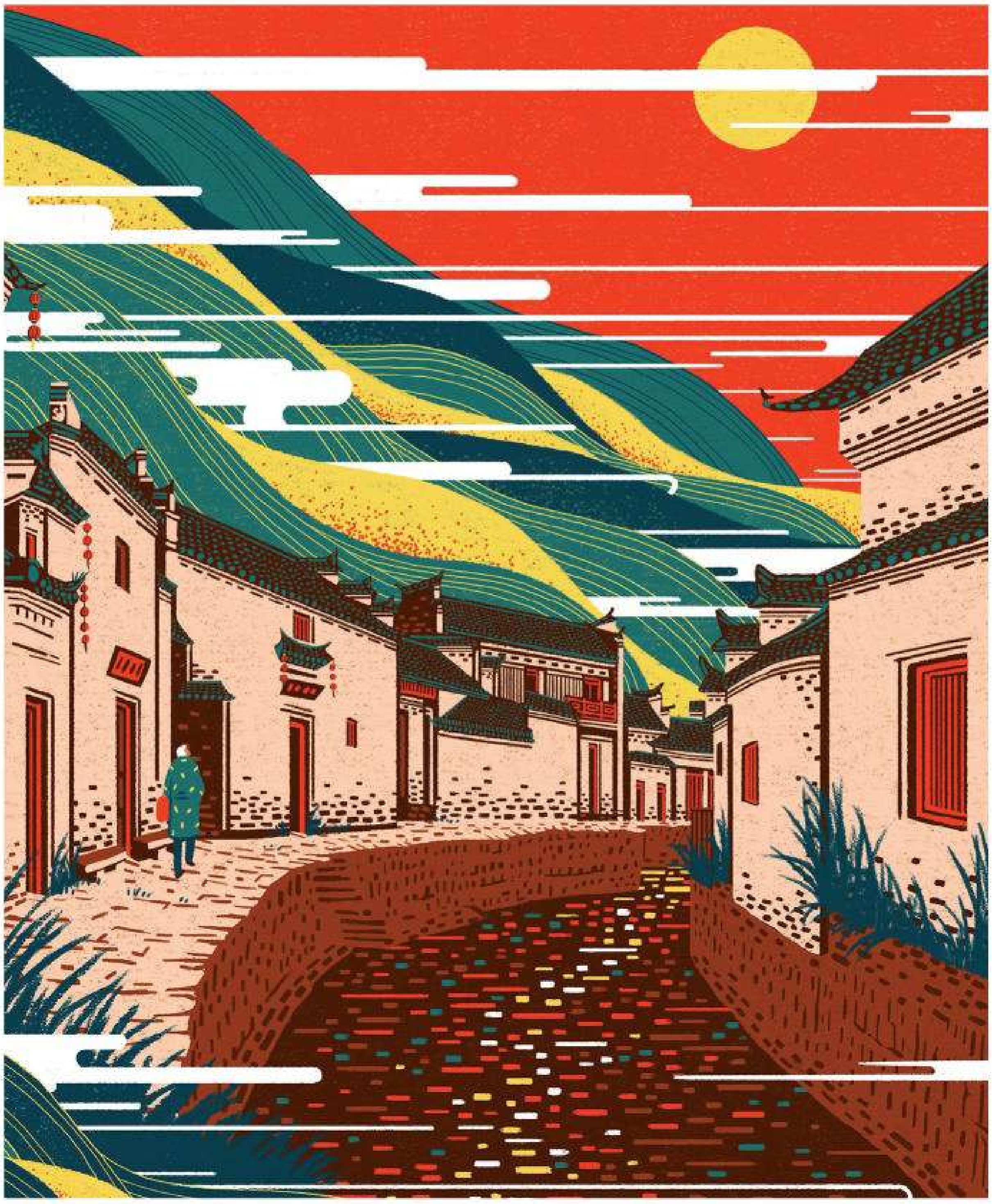
Part of the system's legitimacy in the eyes of the Chinese is, again, rooted in history: China has often had to fight off invaders and, as is rarely acknowledged in the West, fought essentially alone against Japan from 1937 until 1941, when the U.S. entered World War II. The resulting victory, which for decades the CCP spun as its solo vanquishing of an external enemy, was reinforced by defeat of an internal one (Chiang Kai-shek in 1949), establishing the legitimacy of the party and its authoritarian system.

Seventy years on, many Chinese believe that their political system is now actually more legitimate and effective than the West's. This is a belief alien to many Western business executives, especially if they've had experience with other authoritarian regimes. The critical distinction is that the Chinese system is not only Marxist, it's Marxist-*Leninist*. In our experience, many Westerners don't understand what that means or why it matters. A Marxist system is concerned primarily with economic outcomes. That has political implications, of course—for example, that the public ownership of assets is necessary to ensure an equal distribution of wealth—but the economic outcomes are the focus. Leninism, however, is essentially a political doctrine; its primary aim is control. So a Marxist-Leninist system is concerned not only with economic outcomes but also with gaining and maintaining control over the system itself.

That has huge implications for people seeking to do business in China. If China were concerned only with economic outcomes, it would welcome foreign businesses and investors and, provided they helped deliver economic growth, would treat them as equal partners, agnostic as to who owned the IP or the majority stake in a joint venture. But because this is also a Leninist system, those issues are of critical importance to Chinese leaders, who won't change their minds about them, however effective or helpful their foreign partners are economically.

This plays out every time a Western company negotiates access to the Chinese market. We have both sat in meetings where business executives, particularly in the technology and pharmaceutical sectors, expressed surprise at China's insistence that they transfer ownership of their IP to a Chinese company. Some have expressed optimism that China's need for control will lessen after they've proved their worth as partners. Our response? That's not likely, precisely because in China's particular brand of authoritarianism, control is key.

A Leninist approach to selecting future leaders is also a way the CCP has maintained its legitimacy, because to many ordinary Chinese, this approach produces relatively competent leaders: They are chosen by the CCP and progress through the system by successfully



running first a town and then a province; only after that do they serve on the Politburo. You can't become a senior leader in China without having proved your worth as a manager. China's leaders argue that its essentially Leninist rule book makes Chinese politics far less arbitrary or nepotistic than those of many other, notably Western, countries (even though the system has its share of back-scratching and opaque decision-making).

Familiarity with Leninist doctrine is still important for getting ahead. Entry to the CCP and to a university involves compulsory courses in Marxist-Leninist thought, which has also become part of popular culture, as evidenced by the 2018 TV talk show *Marx Got It Right.* And with handy apps such as Xuexi Qiangguo ("Study the powerful nation" and a pun on "Study Xi") to teach the basics of thinkers including Marx, Lenin, Mao, and Xi Jinping, political education is now a 21st-century business.

The Leninist nature of politics is also evidenced by the language used to discuss it. Political discourse in China remains anchored in Marxist-Leninist ideas of "struggle" (*douzheng*) and "contradiction" (*maodun*)—both seen as attributes that force a necessary and even healthy confrontation that can help achieve a victorious outcome. In fact, the Chinese word for the resolution of a conflict (*jiejue*) can imply a result in which one side overcomes the other, rather than one in which both sides are content. Hence the old joke that China's definition of a win-win scenario is one in which China wins twice.

China uses its particular authoritarian model—and its presumed legitimacy—to build trust with its population in ways that would be considered highly intrusive in a liberal democracy. The city of Rongcheng, for example, uses big data (available to the government through surveillance and other data-capturing infrastructure) to give people individualized "social credit scores." These are used to reward or punish citizens according to their political and financial virtues or vices. The benefits are both financial (for example, access to mortgage loans) and social (permission to buy a ticket on one of the new high-speed trains). Those with low social-credit scores may find themselves prevented from buying an airline ticket or getting a date on an app. For liberals (in China and elsewhere), this is an appalling prospect; but for many ordinary people in China, it's a perfectly reasonable part of the social contract between the individual and the state.

Such ideas may appear very different from the outward-facing, Confucian concepts of "benevolence" and "harmony" that China presents to its international, English-speaking audience. But even those concepts lead to considerable misunderstanding on the part of Westerners, who often reduce Confucianism to cloying ideas about peace and cooperation. For the Chinese, the key to those outcomes is respect for an appropriate hierarchy, itself a means of control. While hierarchy and equality may appear to the post-Enlightenment West to be antithetical concepts, in China they remain inherently complementary.

Recognizing that the authoritarian Marxist-Leninist system is accepted in China as not only legitimate but also effective is crucially important if Westerners are to make more-realistic long-term decisions about how to deal with or invest in the country. But the third assumption can also mislead those seeking to engage with China.

MYTH 3

The Chinese Live, Work, and Invest Like Westerners

China's recent history means that Chinese people and the state approach decisions very differently from Westerners—in both the time frames they use and the risks they worry about most. But because human beings tend to believe that other humans make decisions as they do, this may be the most difficult assumption for Westerners to overcome.

Let's imagine the personal history of a Chinese woman who is 65 today. Born in 1955, she experienced as a child the terrible Great Leap Forward famine in which 20 million Chinese starved to death. She was a Red Guard as a teenager, screaming adoration for Chairman Mao while her parents were being re-educated for being educated. By the 1980s she was in the first generation to go back to university, and even took part in the Tiananmen Square demonstration.

Then, in the 1990s, she took advantage of the new economic freedoms, becoming a 30-something entrepreneur in one of the new Special Economic Zones. She bought a flat—the first time anyone in her family's history had owned property. Eager for experience, she took a job as an investment analyst with a Shanghai-based foreign asset manager, but despite a long-term career plan mapped out by her employer, she left that company for a small short-term pay raise from a competitor. By 2008 she was making the most of the rise in disposable incomes by buying new consumer goods that her parents could only have dreamt about. In the early 2010s she started moderating her previously outspoken political comments on Weibo as censorship tightened up. By 2020 she was intent on seeing her seven-year-old grandson and infant granddaughter (a second child had only recently become legal) do well.

Had she been born in 1955 in almost any other major economy in the world, her life would have been much, much more predictable. But looking back over her life story, one can see why even many young Chinese today may feel a reduced sense of predictability or trust in what the future holds—or in what their government might do next.

When life is (or has been within living memory) unpredictable, people tend to apply a higher discount rate to potential long-term outcomes than to short-term ones—and a rate materially higher than the one applied by people living in more-stable societies. That means not that these people are unconcerned with long-term outcomes but, rather, that their risk aversion increases significantly as the time frame lengthens. This shapes the way they make long-term commitments, especially those that entail short-term trade-offs or losses.

Thus many Chinese consumers prefer the short-term gains of the stock market to locking their money away in long-term savings vehicles. As market research consistently tells us, the majority of individual Chinese investors behave more like traders. For example, a 2015 survey found that 81% of them trade at least once a month, even though frequent trading is invariably a way to

China's rulers see foreign engagement as a source less of opportunity than of threat, uncertainty, and even humiliation.

destroy rather than create long-term fund value. That figure is higher than in all Western countries (for example, only 53% of U.S. individual investors trade this frequently); it's also even higher than in neighboring Hong Kong—another Han Chinese society with a predilection for gambling and a similar, capital-gains-tax-free regime. This suggests that something distinctive to mainland China influences this behavior: long-term unpredictability that's sufficiently recent to have been experienced by or passed on to those now buying stocks.

That focus on securing short-term gain is why the young asset manager in Shanghai left a good long-term job for a relatively small but immediate pay raise—behavior that still plagues many businesses trying to retain talent and manage succession pipelines in China. People who *do* take long-term career risks often do so only after fulfilling their primary need for short-term security. For example, we've interviewed couples in which the wife "jumps into the sea" of starting her own business—becoming one of China's many female entrepreneurs—because her husband's stable but lower-paid state-sector job will provide the family with security. The one long-term asset class in which increasing numbers of Chinese *are* invested—that is, residential property, ownership of which grew from 14% of 25-to-69-year-olds in 1988 to 93% by 2008—is driven also by the need for security: Unlike all other assets, property ensures a roof over one's head if things go wrong, in a system with limited social welfare and a history of sudden policy changes.

In contrast, the government's discount rate on the future is lower—in part because of its Leninist emphasis on control—and explicitly focused on long-term returns. The vehicles for much of this investment are still the CCP's Soviet-style five-year plans, which include the development of what Xi has termed an "eco-civilization" built around solar energy technology, "smart cities," and high-density, energy-efficient housing. Ambition like that can't be realized without state intervention—relatively fast and easy but often brutal in China. By comparison, progress on these issues is for Western economies extremely slow.

Decisions—by both individuals and the state—about how to invest all serve one purpose: to provide security and stability in an unpredictable world. Although many in the West may believe that China sees only opportunity in its 21st-century global plans, its motivation is very different. For much of its turbulent modern history, China has been under threat from foreign powers, both within Asia (notably Japan) and outside it (the UK and France in the mid nineteenth century). China's rulers, therefore, see foreign engagement as a source less of opportunity than of threat, uncertainty, and even humiliation. They still blame foreign interference for many of their misfortunes, even if it occurred more than a century ago. For example, the British role in the Opium Wars of the 1840s kicked off a 100-year period that the Chinese still refer to as the Century of Humiliation. China's history continues to color its view of international relations—and in large part explains its current obsession with the inviolability of its sovereignty.

That history also explains the paradox that the rulers and the ruled in China operate on very different time frames. For individuals, who've lived through harsh times they could not control, the reaction is to make some key choices in a much more short-term way than Westerners do. Policy makers, in contrast, looking for ways to gain more control and sovereignty over the future, now play a much longer game than the West does. This shared quest for predictability explains the continuing attractiveness of an authoritarian system in which control is the central tenet.

MANY IN THE West accept the version of China that it has presented to the world: The period of "reform and opening" begun in 1978 by Deng Xiaoping, which stressed the need to avoid the radical and often violent politics of the Cultural Revolution, means that ideology in China no longer matters. The reality is quite different. At every point since 1949 the Chinese Communist Party has been central to the institutions, society, and daily experiences that shape the Chinese people. And the party has always believed in and emphasized the importance of Chinese history and of Marxist-Leninist thought, with all they imply. Until Western companies and politicians accept this reality, they will continue to get China wrong.

HBR Reprint R2103B

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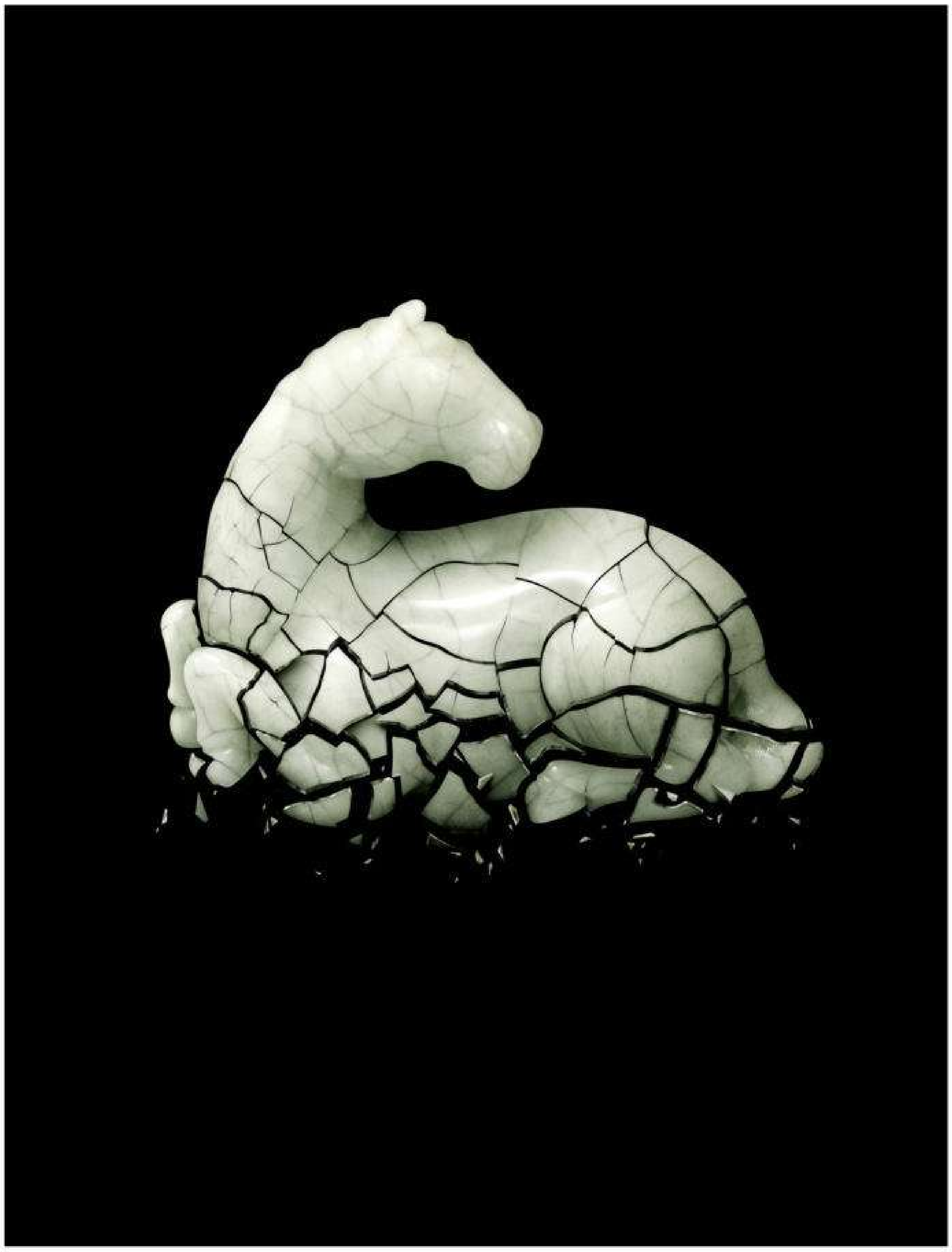
Spotlight



The Strategic Challenges of Decoupling

Navigating your company's future in China

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Trunk Archive

For U.S. politicians and the public, shortages of N95 masks and other key medical equipment at the beginning of the coronavirus crisis highlighted just how dependent the United States had become on production in China. The Trump administration's aggressive policy toward China was broadly popular, despite potential negative side effects. In the first 10 months of 2020 the exact phrase "decouple from China" or "decoupling from China" appeared in three times as many articles as in the previous three years combined.

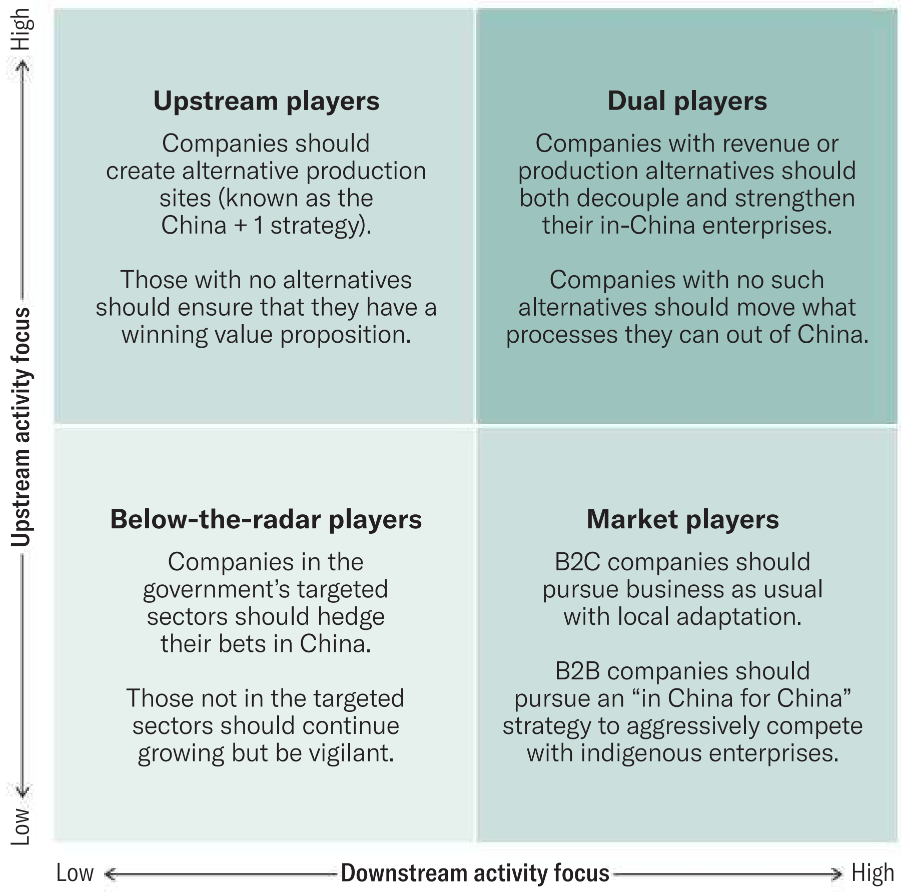
But most business executives don't want to decouple, and it's easy to understand why. As one told us, "We spent 13 years getting into China. It's impossible for us to just pull out." That view is common: No executives we've met want to see the time, effort, and investment they've put into developing a presence in China go to waste.

With the Biden administration likely to take a less confrontational approach, CEOs may hope that the issue will blow over. If decoupling were just a twist in U.S. politics, it might. But for more than 15 years—spanning the Bush, Obama, and Trump administrations—China has followed a strategy of reducing its dependence on foreign technology and capabilities. Moreover, it has projected that strategy forward another 15 years. Decoupling will play an important role in the future, with significant implications,

Photograph by BARTHOLOMEW COOKE

Four Strategies for Foreign Companies in China

A foreign company's strategic response to decoupling will depend on where it lands in this grid. The vertical axis measures the importance of the market opportunity in China, and the horizontal axis measures the importance of China's production capabilities to the company's strategy there.



which we explore here, for the strategies of global corporations.

Our observations draw on decades of research and consulting, which have taken us to China on more than 120 occasions, including multiple stints as visiting professors at leading Chinese institutions. We have interviewed scores of Chinese government officials, from the national to the municipal level, and have talked with more than 200 Western business executives who are working and living in China. We have authored a dozen in-depth case studies and advised numerous companies on how to effectively compete in China up and down the value chain, focusing not just on their Chinese rivals but on the nation's competitive strategy as well.

The China Vision

Widely publicized tit-for-tat exchanges over tariffs in the past four years have reinforced the popular view in the United States that decoupling largely involves discouraging imports so as to safeguard or repatriate U.S. jobs and ensure the safety and security of America's civil and military infrastructure. From the Chinese perspective, however, decoupling is a strategic shift whereby China switches its focus from economic growth to economic control. (See the sidebar "China's Decoupling Strategy.") To that end, it is pursuing three key objectives: (1) eliminating its dependence on foreign countries and corporations for critical technology and products; (2) facilitating the domestic dominance of indigenous firms; and (3) leveraging that dominance into global competitiveness. The term *dual circulation* is often used to refer to these objectives, with the first two considered internal circulation and the third considered external circulation.

The implications for foreign enterprises are staggering. For example, today Intel exports billions of dollars' worth of microchips to China, whose market accounts for about 50% of global semiconductor demand. Domestic-content targets have forced Intel to increase its local production, but if China meets its market-share goals, over time Intel's revenue in China will be squeezed by rising domestic champions.

How do China's government and companies plan to achieve its objectives? Through three core mechanisms:

Purchase and investment. The Made in China 2025 (MIC 2025) plan, launched in 2015, states that the central government will "support enterprises to perform mergers, equity investment, and venture capital investment overseas" to reduce China's dependence on foreign-owned technology. In 2016 the value of Chinese acquisitions of U.S. firms grew 376%, to about $55 billion, prompting the U.S. Committee on Foreign Investment and other agencies to scrutinize acquisitions on national security grounds. Dealmaking fell back to less than $9 billion in 2017 and to just under $3 billion in 2018. Similarly, according to the private equity data-tracking company Prequin, VC deals in the U.S. with at least one Chinese investor soared 700% from 2014 to 2015, to $8 billion, and stayed at that level until reaching a record of close to $11 billion in 2018, when the United States passed a law allowing government agencies to review investments by Chinese VC funds and requiring those funds to disclose their funding sources. Such investments subsequently nearly halved.

Subsidies and funding. Our analysis of MIC 2025 initiatives suggests that the Chinese government has set aside more than $500 billion in various funds to support indigenous R&D in technologies and products for which China currently depends on foreign companies. Some notable ones are the special constructive funds ($270 billion), the Shaanxi MIC2025 Fund ($117 billion), MIIT and China Development Bank ($45 billion), the Gansu MIC2025 Fund ($37 billion), and a fund to support the development of semiconductor capabilities ($31 billion). Not included in these amounts are subsidized loans and other assistance to bolster local champions. In fact, our analysis finds that debt held by state-owned enterprises as a percentage of GDP will soon exceed 100%.

Extraction. An investigation by the U.S. Trade Representative determined that "China uses foreign ownership restrictions, such as joint venture (JV) requirements and foreign equity limitations, and various administrative review and licensing processes, to require or pressure technology transfer from U.S. companies." The U.S.-China Economic and Security Review Commission concurred: "As part of China's licensing documentation procedures, commercial firms are required to provide detailed product and process information to Chinese government agencies at the local and central levels…that is typically not required in other markets." In some cases China moves beyond extraction to outright theft. In 2010 American Superconductor (AMSC), a leading provider of the software used to control wind turbines, discovered that its Chinese partner Sinovel paid Dejan Karabasevic, a Serbian engineer employed at AMSC's Austrian development facility, $1.7 million for AMSC's full source code. Although the U.S. government filed and in 2018 won a criminal case against Sinovel, two Chinese Sinovel executives, and Karabasevic (who served a year in prison), AMSC has estimated that 20% of the wind turbines deployed in China in 2020 illegally continued to use its software.

Clearly, China's efforts to control technology and extract know-how have served to stoke U.S. and European suspicions, especially in the context of slower growth following the 2008 financial crisis and, more recently, the Covid-19 pandemic. Although the Biden administration, as noted, will most likely temper the decoupling rhetoric, China's efforts to pursue its ultimate goal will continue. Thus foreign companies doing business in China are caught between a rock and a hard place. Their response to this challenge will largely depend on why they are in China in the first place.

Strategies for a Decoupled Future

Although more than a million foreign companies operate in China, we can put them into four categories by examining them along two dimensions: the extent to which they are focused on upstream activities, such as raw materials, components, and production; and the extent to which they are focused on downstream activities, such as China-based distribution, marketing, and sales. This two-by-two categorization scheme allows us to better understand the challenges a company faces and how it can best respond to them. (See the exhibit "Four Strategies for Foreign Players in China.")

Below-the-radar players. These companies have a low focus on both upstream and downstream activities. Some are at an early, experimental stage of engaging with China. Others may be taking a "follow the leader" approach and don't want to be left out. Executives in this category had a hard time articulating for us clear and compelling reasons for their small presence in China.

A surprisingly large number of U.S. companies are below-the-radar players: A 2020 report by Goldman Sachs found that among the S&P 500, revenues from China made up less than 2% of their total revenues, on average, and many of those companies had quite limited upstream activities as well. For example, even though International Paper generates more than a quarter of all its revenue outside the United States, less than 2% comes from China, and the company has sold off most upstream assets it had there.

For below-the-radar players in MIC 2025–targeted industries, the odds of surviving in China are poor. Take the medical-device maker Fresenius. China accounts for a low single-digit share of its total sales and a small share of its upstream operations. Because its products sit in the crosshairs of MIC 2025, it could easily lose ground to Mindray, the national champion, which is more than twice as large as its closest domestic competitor and growing faster in China than any of its major foreign rivals—largely because government directives require Chinese hospitals to increase their purchase of domestically sourced medical devices to 70%. Fresenius and other below-the-radar players whose products are targeted by MIC 2025 would be wise to hedge their bets in China by placing significant ones in other markets.

For below-the-radar companies not targeted by MIC 2025, the immediate implications are less severe. Assuming that they continue to remain small-scale sellers and producers in China, the strength of their value propositions and business models, not Chinese policy, will determine their fate in the medium term. Longer term, of course, the government's strategy is likely to ripple across even currently untargeted sectors, putting pressure on foreign enterprises in every category. For example, Black Crows, a French maker of freestyle skis, sells some but not many skis in China and has minimal upstream activities there. Because skis are not a

In 2010 China overtook the United States to become the largest value-added manufacturer in the world.

targeted segment, as long as its products are superior to those of Chinese rivals, it may be left alone to grow. But the acquisition of Amer Sports (maker of Armada, Atomic, and Salomon skis) in 2019 by a Chinese consortium led by Anta Sports should cause Black Crows some concern. It could be squeezed out as Chinese competitors buy the technology and brand power needed to dominate at home—and abroad.

Staying competitive in China may be difficult for below-the-radar players for another reason: In addition to being small in China, their operations there are almost always small within the global scope of their own companies. Thus the unit heads have difficulty capturing the time and attention of executives at the corporate level and getting the resources needed to stay ahead of their local competitors. For example, over the past decade Carrefour's revenues in China never exceeded 5% of global sales, so in 2019 the company sold 80% of its China business to the local retailer Suning. Similarly, a number of other big foreign companies, including Etam, Tesco, Amazon, Forever 21, and Uber, never reached a critical threshold in China and subsequently closed or sold off their Chinese operations, ceding control of the market to indigenous rivals.

Upstream players. The Florida-based toy maker Basic Fun is a classic example in this category. It sources most of its raw materials (cloth, plastic, wood) and components (batteries, small electric motors) in China and concentrates nearly 90% of its global production there. It then exports nearly all its products to more than 60 other countries; China accounts for just 2% of total revenues.

Over the past 20 years China has been extraordinarily successful at attracting upstream players, and in 2010 it overtook the United States to become the largest value-added manufacturer in the world, accounting for 28% of all global production by 2018. To achieve this dominant position, China has done more than just leverage its size and abundant low-skilled labor. It has also invested heavily in education to expand its skilled talent pool, increasing the number of college graduates from one million in 2000 to more than 8 million in 2019, 5 million of whom earned degrees in science, technology, engineering, and math, giving China more STEM graduates than India, the United States, Japan, Germany, France, Italy, the UK, and Canada combined. It has also upgraded its physical infrastructure by spending more money on building roads, rails, and airports than the U.S. and Europe combined.

A danger for upstream players comes from U.S. tariffs. If foreign companies in China send a significant portion of their China-based production to the United States while tariffs continue to be a dominant decoupling tool under the Biden administration, the impact on revenues and profits could be severe.

Many upstream players have been planning for this scenario by applying a strategy often labeled China + 1. For example, F-tech, which had a brake pedal factory in Wuhan that supplied Honda's final assembly operations in both China and Japan, also had a sister plant in the Philippines that primarily supplied Honda production facilities in Canada and the United States. When the coronavirus hit Wuhan and F-tech had to shut down the factory, its China + 1 strategy allowed it to increase output in the Philippines to partially supply Honda's demand in Japan until the factory in Wuhan could get up and running again.

China + 1 is more easily proposed than implemented. As noted, China has become "the world's factory" not just because it has abundant labor but because that labor force is increasingly higher skilled and includes more than 200 million people who can flexibly move across producers as demand fluctuates. As Jay Foreman, the CEO of Basic Fun, has put it: "China offers a suite of benefits...a highly trained labor force, a well-financed infrastructure, a great safety and quality control regimen, excellent transportation and communication points...." He acknowledges that moving operations would be really difficult. "For example, if we went to Vietnam...it's only 10% of the size of China. So if you just moved 5% or 10% of Chinese production into Vietnam, you're going to max out the capacity.... You can go to India...but India's infrastructure is really not set up for this."

Companies that are heavily dependent on China for their upstream activities may face difficulties independent of tariffs or labor supply. For example, Daikin, the leading Japanese air-conditioner maker, recognized that to grow it had to expand outside Japan, but to do that it would need to make more-affordable AC units. In 2009 its executives decided to move production to China. In the process, they gave their Chinese rival Gree Electric access to Daikin's advanced inverter technology in exchange for being able to tap into Gree's low-cost mass-market production capabilities. Daikin succeeded in producing price-competitive AC units in China and exporting them to the rest of the world. In fact, it grew international sales to the point where they account for 80% of its total revenue. But Gree leveraged the IP it extracted from Daikin to become the number one domestic player. It and other indigenous companies (notably Midea

China's Decoupling Strategy

China's strategy began in 2005, with the launch of its Medium- and Long-Term Plan for Science and Technology Development (2006–2020), or MLP, in which the government called for increasing domestic content in 11 sectors to 30% by 2020 through import substitution. Ten years later, with the launch of the Made in China 2025 (MIC 2025) plan, it increased those goals, calling for domestic content of 40% by 2020 and 70% by 2025 in 10 sectors: information technology, robotics and AI, aerospace, shipping, railways, energy, materials, medical equipment and medicines, agriculture, and power equipment.

MIC 2025 also set market-share goals for domestic corporations. For example, the plan envisioned that Chinese makers of electric vehicles and energy equipment would capture 80% and 90% of the domestic market, respectively. In the fall of 2020 President Xi announced his China Standards 2035 plan, which would establish China as the global standard setter for technologies including 5G, the internet of things, and artificial intelligence. Thus, while significant domestic-content targets push foreign companies to increase production in China, high market-share targets ensure that indigenous firms will dominate the Chinese market.

and AUX) control more than 70% of the Chinese AC market, which a little over a decade ago was dominated by foreign players such as Daikin, Lennox, Electrolux, Carrier, and Trane. In line with the Chinese government's strategy, Gree is leveraging its strength at home into global competitiveness, generating $3 billion in international revenue (about 10% of its total) and growing twice as fast as Daikin has over the past six years. Unfortunately, Daikin's story is not unique; companies should think carefully about the medium- and long-term risks of an all-in upstream strategy in China.

Market players. These companies import finished products to sell in China's huge and increasingly wealthy markets. A good example in the B2B space is provided by the Italian company Danieli, the second-largest supplier of steelmaking equipment in the world.

In 1990 China produced just 8% of the world's steel. By 2000 that share had doubled, and by 2013 China was producing more steel than the rest of the world combined. Virtually all the steel produced in China was made by Chinese companies. To capture such a large percentage of global steel production, the Chinese manufacturers needed steelmaking equipment. Danieli set out to win as much of that business as possible. In 2003 its global revenues stood at $740 million. By 2010 they had more than quadrupled, to about $4.1 billion, mostly from the sale and installation of products made in Italy to Chinese steel plants.

China's dramatically rising per capita income provided similar opportunities in the B2C space. In 2005 China had approximately 236,000 millionaires; by 2020 that number had soared to 5.8 million. The Swiss watchmaker Rolex was determined to capture a share of wallet from those affluent consumers. Its strategy in China, like Danieli's, involved no local manufacturing: It imported 100% of its watches, nearly all from Switzerland, and attracted demand by focusing its downstream activities on distribution through high-end retailers, celebrity endorsements, and event sponsorships. By 2019 China was Rolex's second-largest market, and sales there had more than quadrupled since 2010.

The implications of China's competitive strategy for market players vary depending on whether those companies are focused on the B2B or the B2C segment and whether they fall within sectors targeted by MIC 2025 or their home country's export controls. B2C companies outside the MIC 2025–targeted sectors, such as providers of luxury goods, are unlikely to run afoul of import substitution efforts by China or export controls imposed by the U.S. or other home countries in the near term. But few of them are tied to the dominant Chinese social media platforms, such as WeChat (with more than a billion unique users), or digital pay ecosystems such as Alipay and WeChat Pay, which control more than 92% of all digital payments in China. B2C market players, therefore, will have to integrate with those China-specific platforms and the ecosystems around them to better access and deliver to consumers. And as domestic brands gain credibility, some market players will need to adapt their value propositions to evolving local tastes and growing levels of sophistication.

B2B market players in targeted sectors will be affected by decoupling. Not only will China's import substitution policies drive them to invest in onshore production, but the strength of local competitors will be bolstered by China's efforts to buy or "borrow" foreign-owned capabilities, or to build their own. In response, Danieli has strengthened its bet with an "*in* China *for* China" strategy that calls for tripling its revenues there to $1.2 billion. In pursuit of that goal, it has also tripled the number of its employees in China to 1,200, of whom only about 30 are expatriates. And it has substantially increased its investments in local R&D, design, and production capabilities. However, it is finding that its toughest competitors in China are no longer the German SMS or the Japanese Primetals but the state-owned China Metallurgical Group and two of its 15 construction subsidiaries, CERI and CISDI, which target the same Chinese steelmakers

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that have been Danieli's customers for years. Retaining old customers in China or acquiring new ones will be increasingly difficult for the Italian company, because CERI and CISDI have the benefit of state ownership, subsidized debt, and government influence on purchases of steelmaking equipment, plant construction, and modernization contracts that favor domestic companies.

Ultimately, many B2B market players may find that they must strengthen their investments in and commitment to not just their downstream operations but their upstream ones as well.

Dual players. This category includes Apple, Intel, and Nike, all of which generate substantial sales in China (20%, 28%, and 16% of total revenues, respectively) and use it as a significant base for global production. Apple assembles 100% of its more than 200 million iPhones in China each year; if its business in that country were a stand-alone, it would be among the 300 largest companies on the planet.

Dual players are the most challenged by decoupling. Apple, for example, may struggle to sell its phones in China simply because the government favors indigenous players such as Alipay and WeChat Pay over Apple Pay. And import tariffs of 10% to 25% imposed on iPhones by the U.S. (or any other country) could severely affect sales. Apple has found a way around this for the moment by exporting its phones to Singapore before re-exporting them to the United States.

The pressures will drive some dual players to an *in* China *for* China strategy for both upstream and downstream activities, effectively decoupling their entire value chains in China from those outside. For that strategy to work, two conditions must be satisfied: significant potential for revenue growth in China for the foreign player, and reasonable production bases outside China to meet the company's global needs.

Not all big dual players can meet those conditions, which means that some will struggle to maintain their existing approach. Apple may be among these. Indigenous Chinese firms, which just a decade ago controlled only 10% of the domestic smartphone market, now control nearly 90% of it and more than 90% of the electronic-payment market. Furthermore, Lenovo and other local players also sell the lion's share of laptop computers and tablets in China, further restricting Apple's market opportunities. And Apple has few if any production alternatives outside China. It employs some 3 million to 4 million workers there—a scale hard to replicate elsewhere. At least as important is Apple's freedom to flex this labor force up and down by hundreds of thousands of workers in response to seasonal demand shifts, which it couldn't do in any other country. What's more, few other countries can match the quality of Chinese workers at a comparable cost. Apple's CEO, Tim Cook, has noted: "China has moved into very advanced manufacturing, so you find in China the intersection of craftsman kind of skill and sophisticated robotics and...computer science.... That intersection, which is very rare to find anywhere...is very important to our business because of the precision and quality level that we like."

Many of Apple's technologies and products, and thus its activities both downstream and upstream, are likely to be severely affected by China's decoupling initiatives, to the benefit of local competitors. Apple has already begun to move the assembly of some units, such as iPads and Macs, out of China to Vietnam and other places.

The situation is very different for Nike, which has plenty of revenue headroom in China because the fast-growing sports shoe market there is dominated by foreign companies rather than indigenous ones. Leveraging its global brand while having the flexibility of local production to tailor products to increasingly fashion-conscious and sophisticated Chinese consumers may enable Nike to stay ahead of domestic brands such as Li-Ning and Anta. What's more, unlike Apple, Nike—which has factories in more than 40 countries—could continue to produce *in* China *for* China and still have alternatives for serving other markets. In fact, it has already increased production in some of those countries.

GIVEN THAT CHINA and the United States feel overly dependent on each other, decoupling is likely to continue even if it's a lower priority for the Biden administration. CEOs will have no choice but to confront the attendant challenges. Foreign companies must clarify why they are even in China and what their strategic intent is going forward. Inevitably, that will result in a major shakeout, as some companies hedge their bets and others double down. The latter, if they are in any of China's targeted industries, will need such compelling value propositions that Chinese customers beat a path to their door despite the government's goals.

HBR Reprint R2103B

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Magnum Photos

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China's New Innovation Advantage

China is achieving a new level of global competitiveness, thanks to its hyper-adaptive population.

THE FUTURE OF the Chinese economy lies in innovation, and everyone in China knows it. But that hasn't always been true. Innovation didn't drive the manufacturing miracle that has unfolded in China over the past half century, during which some 700 million people have been raised—or lifted themselves—out of desperate poverty. Instead the driver has in large part been what might be called brute-force imitation. Relying on a seemingly limitless supply of cheap labor, provided by the hundreds of millions of ambitious workers born during the postwar baby boom, China devoted itself prodigiously

Photographs by PATRICK ZACHMANN

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to the production of other countries' innovations. The effort enabled a country that missed the Industrial Revolution to absorb the world's most modern manufacturing advances in just a decade or two. Fittingly, China earned a reputation as a global copycat.

Now times are changing. China's Baby Boomers are being replaced by its Millennials, born under the country's one-child policy, which was officially launched in 1979 and designed to get birth rates below replacement level. It worked—but it also created a new demographic reality: China today doesn't have enough people in its rising Millennial and Gen Z workforce to replenish the ranks of its disappearing Baby Boomers. According to its National Bureau of Statistics, China will have 81 million fewer working-age people in 2030 than in 2015; after 2030 that population is projected to decline by an average of 7.6 million annually. This has profound implications. With its pool of younger workers shrinking, China can no longer rely on imitation if it hopes to grow and support its aging population. It will have to rely on innovation instead.

But can China innovate? Can it compete at a global level with developed nations that have built their economies on innovation for decades? Many observers are doubtful. In recent years, they note, the West has steadily produced an abundance of innovations and innovators, while China has produced relatively few. In March 2014 this magazine published "Why China Can't Innovate," by Regina M. Abrami, William C. Kirby, and F. Warren McFarlan, an article that captured the conventional wisdom. The authors' arguments were sound and well supported at the time. But just two

years later eight of the 10 companies that had reached a $1 billion valuation in the shortest time ever were Chinese—and six of those eight were founded the year that article was published.

Those are startling numbers for a country that in 2020 ranked only 14th on the Global Innovation Index. Something clearly propelled those Chinese companies to the top, but the metrics we use to evaluate innovation have missed it. We tend to focus on people and companies that generate big new ideas—charismatic heroes with dash, daring, and dynamic thinking. By that measure the U.S. innovation ecosystem stands apart. But in the past five years, as an "innovation cold war" has taken shape between world powers, China has achieved a kind of parity with the United States—and the driving force behind its success may not be its innovators at all.

To understand what's powering the global rise of Chinese companies, we need to recognize that China now has at its disposal a resource that no other country has: a vast population that has lived through unprecedented amounts of change and, consequently, has developed an astonishing propensity for adopting and adapting to innovations, at a speed and scale that is unmatched elsewhere on earth.

It's *that* aspect of China's innovation ecosystem—its hundreds of millions of hyper-adoptive and hyper-adaptive consumers—that makes China so globally competitive today. In the end, innovations must be judged by people's willingness to use them. And on that front China has no peer.

The Story of Old Yang and the Growth of Mobile Payment

Old Yang is a beggar who lives in Beijing. He can usually be found just outside the Gu Lou Street subway stop in one of the city's tourist districts, where for years he survived on loose change and spare bills from commuters. But life changed dramatically for him in 2015, when everyone in Beijing abruptly stopped carrying cash. Seemingly overnight, the entire Chinese population began to download apps such as WeChat Pay and Alipay and integrate mobile payment into their daily lives.

For Old Yang, this tech disruption could have spelled disaster: His livelihood relied on cash. But faced with a crisis, he adapted. First he scraped together enough money to buy a cheap Xiaomi smartphone. Next he printed a sign that displayed the QR codes for his WeChat Pay and Alipay accounts. Then he returned to his spot outside the Gu Lou Street station, where, with the sign strung around his neck, he connected his phone to the subway Wi-Fi—and waited.

Old Yang didn't simply survive in China's new cashless world. He thrived. Today, when people want to give him something, they no longer reach into their pockets for spare change. Instead they open the mobile-payment app on their phones, scan a code on Old Yang's sign, and transfer a few yuan to him. The average donation he receives has grown from one or two RMB to three to five RMB—an almost 300% increase. Digital upgrading works.

No payment is too small or too big for Chinese mobile-payment apps, and no business is too informal. In 2015 in Chengdu, I used my phone to pay for a new laptop from a global brand. Then I went outside the store and used my phone to buy a breakfast sandwich from a woman who cooked it on an upside-down metal trash can suspended over hot coals on the side of the road.

Old Yang, the computer-store owner, and the breakfast-sandwich vendor are not innovators. They don't have much "value" in the systems we use to rank global economies on innovation. But what happens when rapid adoption and adaptation become normal for more than 900 million internet users in every social stratum? You get an economic force that can change the terms of global competition.

The story of mobile payment is especially instructive, because the technology that enables it emerged in the United States and China at almost exactly the same time. Thus their comparative innovativeness or timing—who copied whom?—becomes almost a nonfactor. In 2014 Apple Pay was launched in the U.S., followed a year later by Samsung Pay and Android Pay, and Alipay and WeChat Pay were launched in China.

In timing and tech the innovations were all but equal, but their adoption rates have differed dramatically. In early 2019 Apple announced with much fanfare that 383 million phones around the world had activated Apple Pay—but at that point only 24% of U.S. iPhone owners had ever actually used the technology. And not until that year did Apple Pay surpass the Starbucks mobile app—used only in Starbucks stores—as the most-used mobile-payment app in the United States.

Things have unfolded very differently in China, where WeChat Pay has won 84% market penetration among smartphone users. (The app is available to users of Tencent's super-app WeChat, which has 1.2 billion monthly active users.) That kind of penetration explains why in 2018 WeChat Pay did 1.2 billion transactions a day, whereas Apple Pay did one billion *a month*. And it's why in 2019 the total gross expenditure in China via mobile app (347 trillion yuan, or roughly $54 trillion) was *551 times greater* than the total expenditure in the United States ($98 billion).

So in the case of mobile payment, which country or company was more innovative? And did it matter?

Young China

Undeniably, the regulatory environment has helped mobile payment take off there. Though this article focuses on the underexamined *will* of Chinese citizens to try and to trust new technology, the specific *way* China widely adopted mobile payment was paved by two groups: Chinese innovators, who are increasingly at parity with their Silicon Valley counterparts, and the government. In this case Chinese regulators did the unprecedented by granting banking licenses to two nongovernmental tech giants, Alibaba and Tencent, at the expense of state-owned lenders. Without that support the mobile-payment rocket wouldn't have left the ground.

But what has made China's adoption of mobile payment so successful—and globally unique—is its people. Even here the government has played a significant role, because it has conditioned its citizens to expect less data privacy than Americans do—and indeed, has granted them fewer rights. But there's more to the story than that. To understand why the Chinese public is so fiercely adoptive, let's think about Young China, by which I mean two things: first, the 700 million Chinese who are under the age of 40; and second, a new national identity, which in the past decade has emerged as distinct from the manufacturing identity of the late 1990s and the 2000s.

Lived experience has shaped China's unique attitude toward adoption in recent years, and that experience has been unlike any other country's. To understand just how different it is, consider what I call the Lived Change Index, which uses lifetime per capita GDP to track how much economic change

ABOUT THE ART

Patrick Zachmann photographed 20-year-olds and their grandparents in Yunnan and Sichuan in 2012 and 2015. His photographs reflect the rapid and dramatic cultural shocks that have occurred over the past 30 years in China.

The Shanghai skyline in 1989 (top) and today.

Top: Gerhard Joren/LightRocket/Getty Images; bottom: lupengyu/Getty Images

people have lived through. As the exhibit "The Lived Change Index" illustrates, to have lived in China since 1990, broadly speaking, is to have lived in a country that is moving faster and changing more quickly than any other place on earth.

When we talk about the speed of change in China today, we tend to focus on its rapidly changing physical landscape—and the differences there *are* dramatic. But in doing so we neglect changes in the mental landscape of China's people. Looking at the exhibit, or at side-by-side pictures of Shanghai in 1989 and today, you might ask yourself how living through that sort of change would shape your expectations for progress and your sense of what government, technology, and commerce can do.

American Millennials have lived through dramatic, life-altering changes since 1990, the year I was born. First came the internet. Then cell phones. Then smartphones, social media, dating apps, mobile banking, electric cars, big data, CRISPR, and so much more. Since 1990 Americans have seen U.S. per capita GDP grow by roughly 2.7 times, which sounds impressive until you realize that somebody born in China in 1990 has seen per capita GDP grow by 32 times—a whole order of magnitude greater. In 1990 China's GDP represented less than 2% of the global total. By 2019 its share had jumped to nearly 19%.

Consider some of the specifics. In just three years, from 2011 to 2013, China poured more concrete than the United States had poured in the entire 20th century. In 1990 China's rural population had one refrigerator per 100 households; today that number is 96 per 100. (Food preservation is a common benchmark for development.) In 1990 China had only 5.5 million cars on the road; today it has 270 million, of which 3.4 million are electric, representing 47% of the global electric fleet. In 1990 three-quarters of the country's population was rural; today nearly two-thirds is urban, an increase of more than half a billion people.

India's Counterexample

Perhaps it's not fair to compare the United States and China. Most observers write off China's high rates of mobile-payment adoption as the result of "leapfrogging"—that is, modernizing so recently and so quickly that the country has been able to skip some of the cumbersome stages of technological development that the United States had to live through. Think of what Google calls the "next billion users" market, where internet users are leapfrogging expensive desktops or laptops and getting online for the first time using cheap smartphones. India, China's "other" in Asia, is part of that market. So let's compare it for a moment with China.

The two countries are ripe for comparison. They were founded as modern polities at nearly the same time—India in 1947, and the People's Republic of China in 1949. As recently as 1992 both had a per capita GDP of about $350. Both have an exceptionally large population. India's is younger than China's, suggesting a greater openness to new technologies. The two countries put a similar emphasis on education and STEM.

Study the data a bit more closely, however, and big differences emerge. Just half of India's population uses the internet, and many Indians resist the idea of scanning QR codes to pay for things. As a result, only about 100 million people in India use mobile-payment apps, compared with some 850 million in China—even though Google, through its Next Billion Users initiative, has invested hugely, along with other organizations, to improve India's infrastructure and access. That's an extraordinary differential, and it can't be explained away by leapfrogging. In both countries mobile payment and QR codes are demonstrably faster, easier, safer, and cheaper than cash. Yet the incredible adoption disparity persists.

What explains it? You can find the answer on the Lived Change Index. During the past three decades per capita GDP in India has grown in a roughly linear fashion, from just over $350 to more than $2,000—whereas in China it has grown almost exponentially, from just under $350 to more than $10,000. That disparity helps explain why many Chinese will scan a QR code but many Indians will not. The point here is not that any one culture is better at innovation but, rather, that certain developmental ecosystems create naturally different attitudes toward change, adoption, and newness. More than any other population in the world, the Chinese in recent years have had to adapt to radical change—and

In 1990 China had only 5.5 million cars on the road; today it has 270 million, of which 3.4 million are electric, representing 47% of the global electric fleet.

they have learned that innovative technologies can be key to their survival.

Closing the Innovation Gap

To compete successfully with China in the decades ahead, countries and companies will need to start strategically prioritizing not just innovation input, in the form of heroically imagined new tools and technologies, but also innovation output that becomes transformational through rapid adoption on a very large scale. In the short term, China has a clear advantage in terms of output, thanks to its huge population of hyper-adopters and hyper-adapters, and as a result it is poised to take the lead in the innovation arms race. But if business leaders outside China take the following steps, they can begin to close the gap.

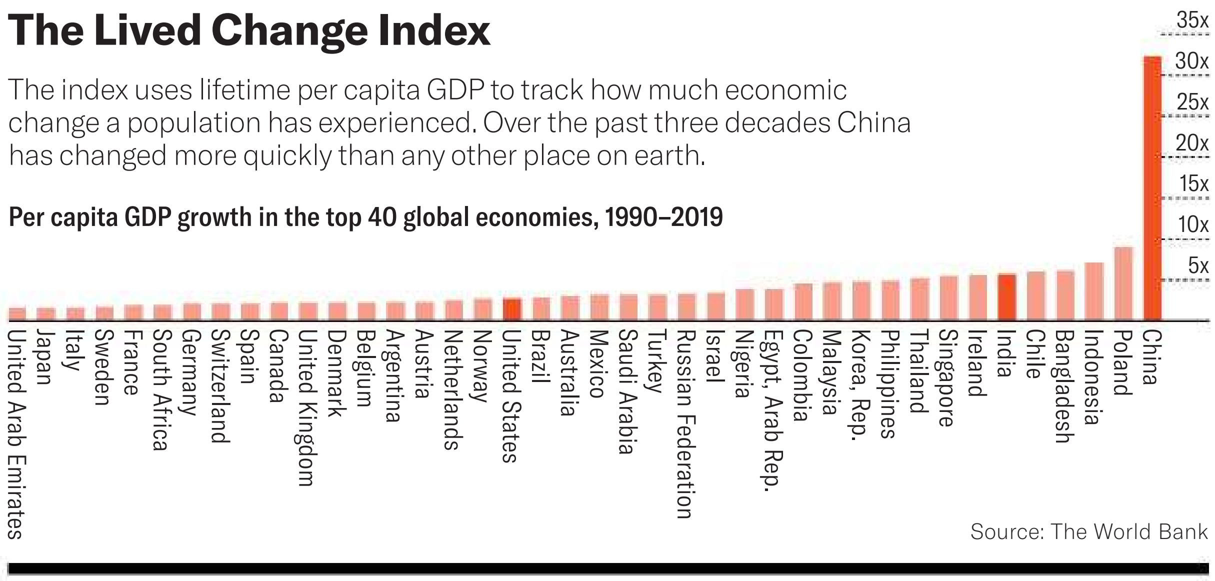
Pay attention. As the science-fiction writer William Gibson once wrote, “The future is already here—it’s just not evenly distributed.” That’s an insight worth applying to China, which in some cases is years ahead of global markets and so provides an excellent way of peering into the future, particularly when it comes to digital and retail trends.

Consider Visa, Mastercard, and other key global players in noncash payments, which to date have resisted encouraging mobile payment, ostensibly unwilling to fully disrupt their credit card empires. If China is any guide, those companies could be headed for a “Kodak moment,” as when Kodak, in response to the emergence of the digital camera, read the future wrong and made the disastrous decision to define itself as a film rather than a photo company. What’s in store globally is probably a lot like what we already see in China, where people trust platforms like AliPay and WeChat Pay for all things financial, from purchases to loans to investments. But the big credit card companies still have an opportunity to pioneer and encourage mobile payment globally rather than ceding the market to tech giants, as the banks in China have largely done.

The Lived Change Index

The index uses lifetime per capita GDP to track how much economic change a population has experienced. Over the past three decades China has changed more quickly than any other place on earth.

Per capita GDP growth in the top 40 global economies, 1990–2019



Source: The World Bank

Similarly, the online and offline retail ecosystems in China are merging in ways that are years ahead of what’s happening in the United States. In Chinese grocery and convenience stores, it is now commonplace to see rows of QR codes below meat and produce. Scanning a QR code with a smartphone will reveal the product’s entire story, from, say, where a cut of salmon was sourced to how far it was shipped. Similarly, scanning a tech product in a store can bring up the brand video and user ratings. This is what Alibaba calls New Retail, and it could well become the global norm, because it allows brands to deepen their relationships with customers directly. Nearly all multinationals operating in China have adopted this sort of digital-first, China-forward strategy. (U.S. companies operating there have rolled out far more advanced versions of this strategy than the ones they currently use at home.)

The lesson here is that Chinese consumers have come to expect such a rich online brand experience. Failing to provide it, or being seen as having fallen behind, will doom a company in the market. The Chinese can show companies looking to gain competitive advantage in U.S. markets how to develop better touch points with consumers.

Up your imitation game. If you’re used to believing in your own exceptionalism, leaning into imitation as a strategy can feel like a declaration of defeat. But innovation has always been about both invention *and* imitation. We don’t think less of Apple because Steve Jobs got the idea for the mouse from Xerox. Genius steals, and it always has. To compete with China, imitation must be a weapon in the arsenal of global companies—one they’re willing to use.

Some of the smartest non-Chinese companies already understand this and are looking to Chinese rivals for ideas. That’s what Facebook did in 2019 when it added an integrated payment option to

ByteDance, TikTok's parent company, is the highest-valued unicorn in the world.

its chat function, five years after WeChat had introduced a similar option on a mass scale, in a pioneering example of how to productively fuse the worlds of social and commercial technology. It's what Amazon did when it modeled its Prime Day (a wildly successful annual event during which Prime members receive all sorts of sale offers and discounts) on Alibaba's Singles Day. Instagram got the idea for its Reels feature from TikTok. The list goes on and on.

Companies looking to China for ideas should consider these courses of action:

→ ***Lead from your China team.*** We've all been told to localize *for* China. Take that a step further and, at least in part, lead *from* China. Few companies empower their China teams to help create global strategy. That's a missed opportunity. What is second nature to your China team may be revelatory to your other teams. What you learn about local strategy in China may well help transform your global strategy.

→ ***Expose your best.*** Send your best and brightest to China. Expose them to new ideas there. Expand their sense of what's possible. I have spoken with delegations representing a range of companies, from German auto manufacturers to U.S. retailers, who told me that part of their mission in visiting China was to learn from the digital ecosystem there and take those lessons back home.

→ ***Stay informed at China speed.*** As the saying goes, "If you haven't been to China in the past six months, you haven't been to today's China." Stay informed constantly and consciously. Quarterly updates from trendspotters and on-the-ground resources are a good start. For global executives, video updates illustrating trends and experiences can be a close second to travel.

Measure and use adaptiveness. Global companies should develop criteria for measuring the adaptiveness of specific populations. Deeper behavioral testing of attitudes toward newness, change, and adaptation across countries and age cohorts would be a strong start, as would a closer focus on populations that, like China's, have been forced to adapt on a grand scale to keep up with the times. The Lived Change Index is a decent way to extrapolate adaptiveness, though it is only a blunt instrument.

Such metrics could help companies guide product launches by aiming them at populations that are friendlier to change and more willing to seize on new technologies. Some countries, cultures, and cohorts are naturally more adoptive—and, thus, adaptive—than others. Launching and iterating products in change-friendly countries would help companies incubate products until they're ready for broader release. It would also help them determine which product lines might or might not be suited for less-adoptive environments.

Optimize your comparative strengths. The speed of adoption isn't everything. Global trust also matters, and much of the world simply does not trust "brand China." Recent Pew data show that opinions of China have never been worse and that most people outside the country don't think of Chinese companies as distinct, in terms of policies and practices, from the Chinese government. The story of Huawei makes this clear. Despite producing globally competitive products and earning premium market share against Apple in China, even before nationalism encouraged further consumer support, Huawei was unable to expand globally as much as it had hoped because of its opaque relationship with the Chinese government.

Learning from Huawei's example, the social media giant TikTok scrubbed itself clean of any association with the Chinese government before entering the U.S. market. By the time the Trump administration sought to ban it in the United States for security reasons, just three years after it was released, the app had already captured nearly 100 million monthly active users in the U.S. TikTok's problem was perception, not product, and it has managed to overcome that. Today ByteDance, TikTok's parent company, is the highest-valued unicorn in the world, worth three times the second-highest-valued, the Chinese ride-hailing company Didi Chuxing.

The West still wins out when it comes to trust. In a world of equivalent products and pricing, a discomfort with brand China often tips global consumers toward Western brands. The trick for those brands going forward will be to acknowledge that China is a newly powerful innovative force—one from which they will have to learn if they hope to successfully compete.

AS CONSUMERS, COLLABORATORS, and competitors, the Chinese are destined to play an increasingly significant role in the global marketplace. Competition with China should not be considered a zero-sum game. Nevertheless, it's time to acknowledge that its greatest asset in the innovation arms race may be its uniquely adoptive and adaptive population. If the rest of us can recognize and learn from that, we can make China's new innovation advantage our own.

HBR Reprint R2103B

ZAK DYCHTWALD *is the author of* Young China: How the Restless Generation Will Change Their Country and the World *(St. Martin's Press, 2018) and the founder of Young China Group.*

Spotlight

“Americans Don’t Know How Capitalist China Is”

WEIJIAN SHAN understands the delicate U.S.-China dynamic as well as anyone. He was born in China, and his life was upended during the Cultural Revolution, when he was sent off to do farm labor in the Gobi Desert. Eventually he came to the United States, where he earned a master’s and a PhD at UC Berkeley, worked for the World Bank and J.P. Morgan, and taught at the Wharton School. A candid observer of Asian society and business, Shan is the author of *Out of the Gobi: My Story of China and America* and the newly published *Money Games: The Inside Story of How American Dealmakers Saved Korea’s Most Iconic Bank*. Now CEO of the Hong Kong–based $40 billion private-equity firm PAG, Shan spoke with HBR Editor in Chief **Adi Ignatius** about the economic prospects for China and the United States.

HBR: China’s economy seems to be the healthiest in the world at the moment. Does that create new investment opportunities?

SHAN: Despite initial blunders, China has handled the coronavirus pandemic well through strict lockdowns and mass testing. Its GDP dropped 6.8% in the first quarter of 2020, but resumed growth from the second quarter onward. China has been shifting away from an investment-driven growth model to one led by private consumption. A decade ago its retail-goods market was

Illustration by JUN CEN

> “Trump’s trade war was an abject failure. In November 2020 China’s trade surplus with the U.S. was 70% greater than it had been in January 2017, when Donald Trump took office.”

about $1.8 trillion—less than half that of the United States. In 2019 that market reached $6 trillion, surpassing the U.S. level of $5.5 trillion. Even now China’s private consumption represents only about 39% of its GDP—way below the U.S. level of 68% and the world average of 63%. That leaves much room for growth and many opportunities for investors, particularly in businesses that cater to consumers.

Investors have always been enticed by China’s vast market. How accessible is it these days? Our firm, PAG, invests throughout Asia and occasionally beyond. China’s is the only major economy that requires no special approval for foreign direct investments, although some sectors, such as Lived Change media and the internet, are on a “negative list” that restricts them. However, there are usually lawful ways to get around that. PAG invested about $100 million in a digital music business in China a few years back which subsequently merged with a similar business and changed its name to Tencent Music Entertainment. Today it’s traded on the New York Stock Exchange with a market cap of about $45 billion and has more than 800 million unique active users. The name of the game in China is scale. If a business is successful, it’s usually open to taking outside capital so that it can quickly expand nationwide. That’s why China is the most active private-equity market in Asia.

Trade wars, nationalism, and the pandemic have led many companies to question their supply chain strategy—in particular basing manufacturing in China, thousands of miles from their markets. Are you seeing a significant shift in supply chains out of China? Some manufacturing has been relocated away from China since the trade war with the U.S. began in 2018, but that hasn’t made a dent in either China’s exports or America’s trade deficit. In fact, the pandemic has made the world *more* dependent on Chinese exports, which grew 21% in November over the previous year. The point is that a China-based supply chain has proved a blessing, not a curse, in this pandemic. Any shift in supply chains will be gradual and partial, because it’s very costly to move from the most efficient supplier to the second or third best. American companies will do so only if U.S. tariffs become more penalizing than moving would be. Also, while it’s relatively easy to shift the sourcing of a low-value-added product from China to Vietnam or Mexico, how can you move an entire supply chain with many indigenous players? And what if the market itself is in China? GM sells more cars in China than in the U.S., Canada, and Mexico combined. Where can it move its production if the target market is China? China is also Apple’s biggest market for iPhones: It has about twice as many iPhone users as the United States does.

The U.S. continues to vilify China, and China does itself no favors with its poor policy on human rights. How can outside investors ensure that they don’t become collateral damage in a bigger political and economic war? Both countries have human rights issues, although in different forms. Investors anywhere should invest in a socially responsible way to advance human rights, adhering to a high standard for labor practices, gender equality, investment in human capital, and charitable contributions. Wherever PAG operates, we adhere to the same environmental, social, and governance policies.

The Trump administration was determined to damage China’s economy and businesses. Does the U.S. even have the power to hurt China economically? Here and there, yes, but not in a meaningful way in general, and not without harm to itself. Trump’s trade war was an abject failure. Its stated purpose was to reduce America’s trade deficit. In November 2020 China’s trade surplus with the U.S. was 70% greater than it had been in January 2017, when Donald Trump took office. Meanwhile, American consumers have paid for the higher tariffs, because the average prices of Chinese exports haven’t decreased. China’s GDP is forecast to grow 7% to 8% this year. That means that despite the trade war, the technology war, and the capital war—the U.S. government’s restricting American investment in China—China’s GDP will most likely be 10% bigger in 2022 than it was in 2019, whereas the U.S. economy probably will only recover to 2019 levels by 2022, according to the International Monetary Fund. It seems that the only country that can stifle China’s growth is China itself—if it makes major policy mistakes. And only the U.S. can threaten America’s economic supremacy—by underinvesting in its own infrastructure and by limiting trade.

What are the dangers in America’s continued demonization of China? Much of Donald Trump’s rhetoric and his actions on China were meant to deflect attention from his leadership failures

Spotlight

at home, such as neglecting his duty to protect the public from the coronavirus. With less than a quarter of China's population, America has a death toll about 100 times China's and counting. Some real differences between the two countries do exist, but they have historically managed them without escalating tensions. The United States had maintained a fairly consistent foreign policy until Trump. The Biden administration is expected to restore that policy and to work within the rules of international institutions, which I expect will defuse tensions. When Nixon first visited China, in 1972, the differences between the two countries were vast, in political and economic systems and of course in ideology. Yet they found common ground to work in mutually beneficial ways. Today the differences are arguably a lot smaller, and there are many areas in which the two can benefit from cooperation. After all, each is the other's largest trading partner, and China has lent more than $1 trillion to the U.S. government by holding U.S. Treasury bills. Let's be honest: A rising China may be a threat to America's economic and technological supremacy, but not to its national security, because China doesn't export its ideology or political system and doesn't seek regime change anywhere in the world. But it won't back off from its territorial claims, all of which predate the People's Republic of China. The real danger is the Taiwan issue. If the U.S. abandons the one-China policy and supports Taiwan's independence, conflict will be inevitable, with unimaginable consequences for the world market.

Is a China-U.S. decoupling a real possibility? Not completely and not without very high costs. The technology war waged by the Trump administration forced China to develop critical technologies, such as semiconductor chips, for which it has relied on U.S. suppliers. It will take years if not decades for China to catch up in some areas, at great cost. But the technology war also hurts U.S. suppliers. The top 10 American semiconductor chip makers sell about three times as much in China as in the United States. Losing the China market will be costly for American tech companies and deprive them of funds for further R&D.

What are the biggest risks for China's economy in the coming years? The economy has grown 36-fold over the past three decades, chiefly because of market-oriented reforms that have created a vibrant private sector, which now accounts for about two-thirds of China's GDP. But the state-owned sector remains too big and inefficient. Great challenges lie ahead. China's saving rate will drop significantly as its population ages, and investment will slow. The country will need to continue to reform and privatize its state-owned firms—and shift from investment to private consumption—or it will not be able to sustain its growth.

Are you concerned about China's debt? I see no systemic risk either in China's banking system or in its economy. Pundits tend to be alarmed by a default here and there. But defaults and bankruptcies are common in a market economy. Only a sudden surge of such events would herald an economic crisis. In 2020, a year of severe difficulties all over the world, there was no significant increase in Chinese corporate defaults. In fact, China is the only G20 country to have posted positive growth. Its monetary policy is reasonably tight, with the yield on government bonds about 3.5 times that on U.S. Treasuries. Its currency appreciated 6% against the dollar last year. All these testify to the strength of the Chinese economy.

What is it that Americans don't understand about China? They don't know how capitalist China is. China's rapid economic growth is the result of its embrace of a market economy and private enterprise. China is among the most open markets in the world: It is the largest trading nation and also the largest recipient of foreign direct investment, surpassing the United States in 2020. The major focus of government expenditure is domestic infrastructure. China now has better highways, rail systems, bridges, and airports than the United States does. For example, over the past 15 years it has built the longest high-speed rail system in the world. At 22,000 miles, it is twice as long as the rest of the world's combined. China's high-speed rail could cover the distance between Boston and Chicago in about four hours, whereas Amtrak's fastest service takes 22 hours. One reason China can spend so much on infrastructure is that its defense budget, after years of increases, is still only about a quarter that of the United States.

And what is it that the Chinese don't understand about the United States? They don't know how socialist it is, with its Social Security system and its policies to tax the rich by collecting capital gains taxes. China is still in the process of building a social safety net that is largely undefined and underfunded, and it has no tax on personal capital gains. In 2020 China had more billionaires than the U.S. did, and it outpaces the U.S. three to one in minting them. Consequently, inequality is greater in China than in the United States, measured by the Gini coefficient.

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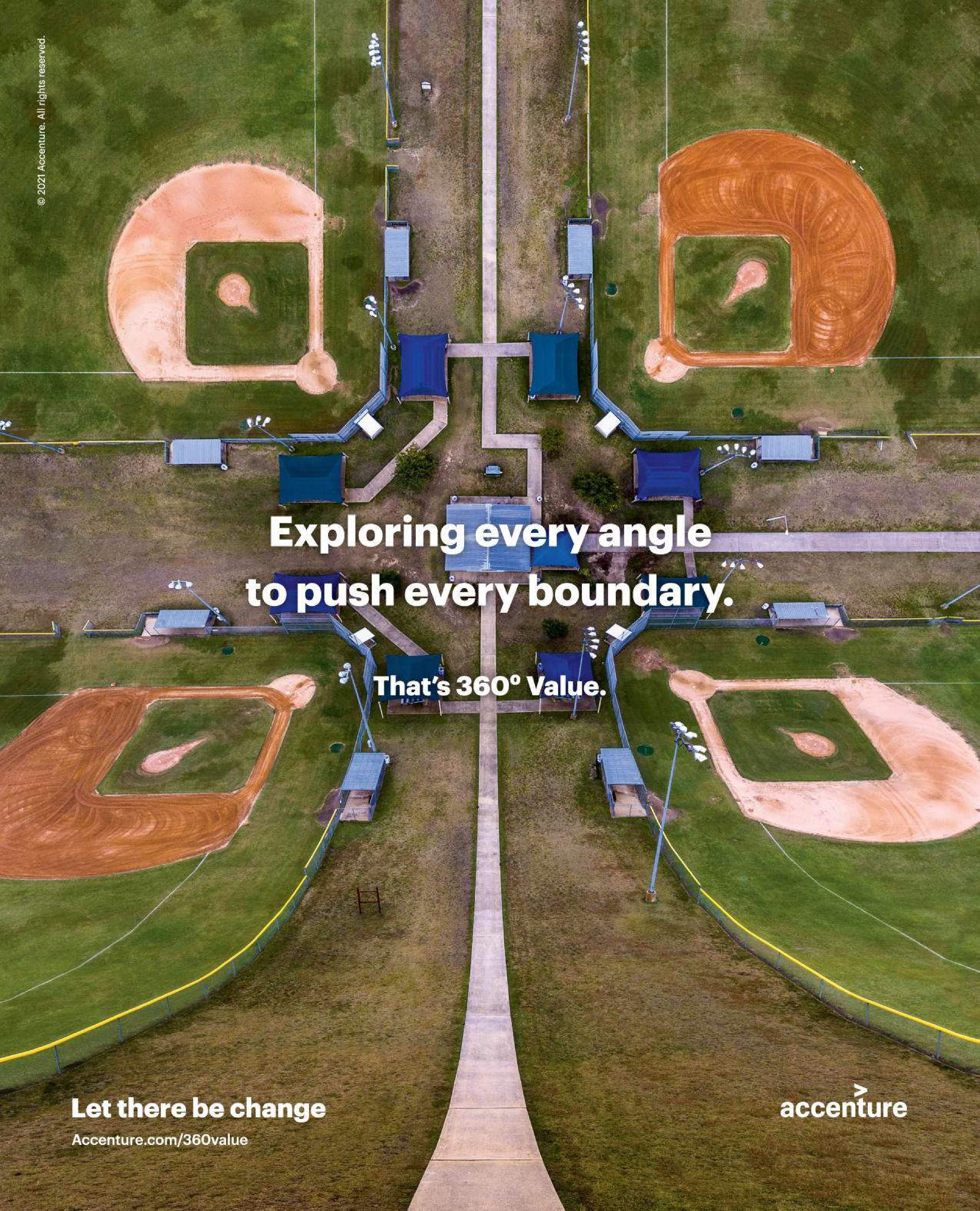

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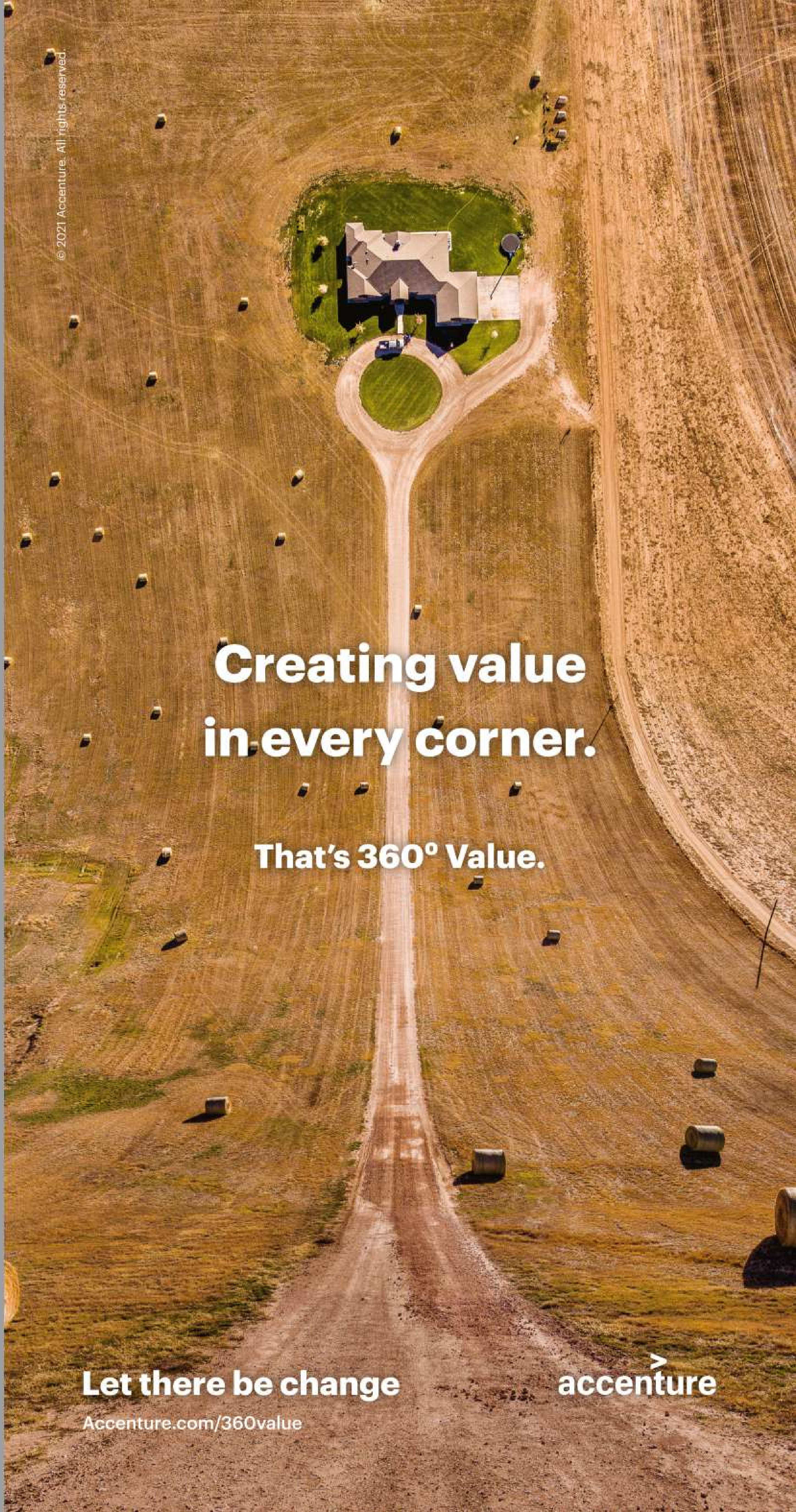
“Ultimately, the companies that can’t take full advantage of AI will be sidelined by those that can—as we already see happening in several industries.”

“Getting AI to Scale”

PAGE 116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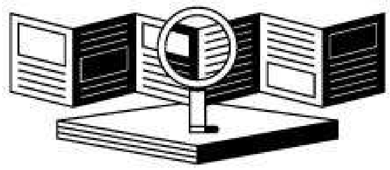
“GETTING AI TO SCALE,” PAGE 116



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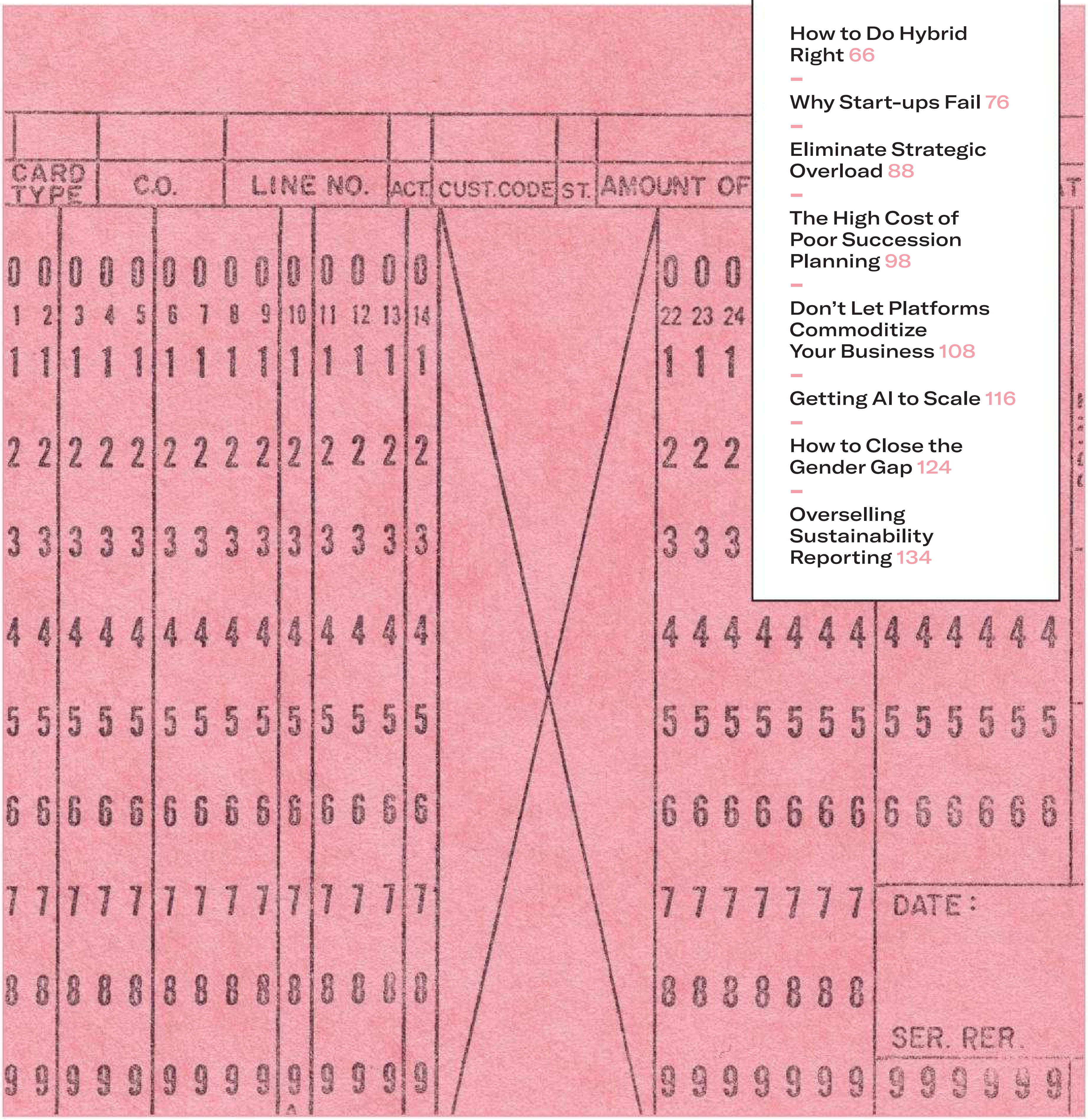


Photograph by **PATRICK FRY**

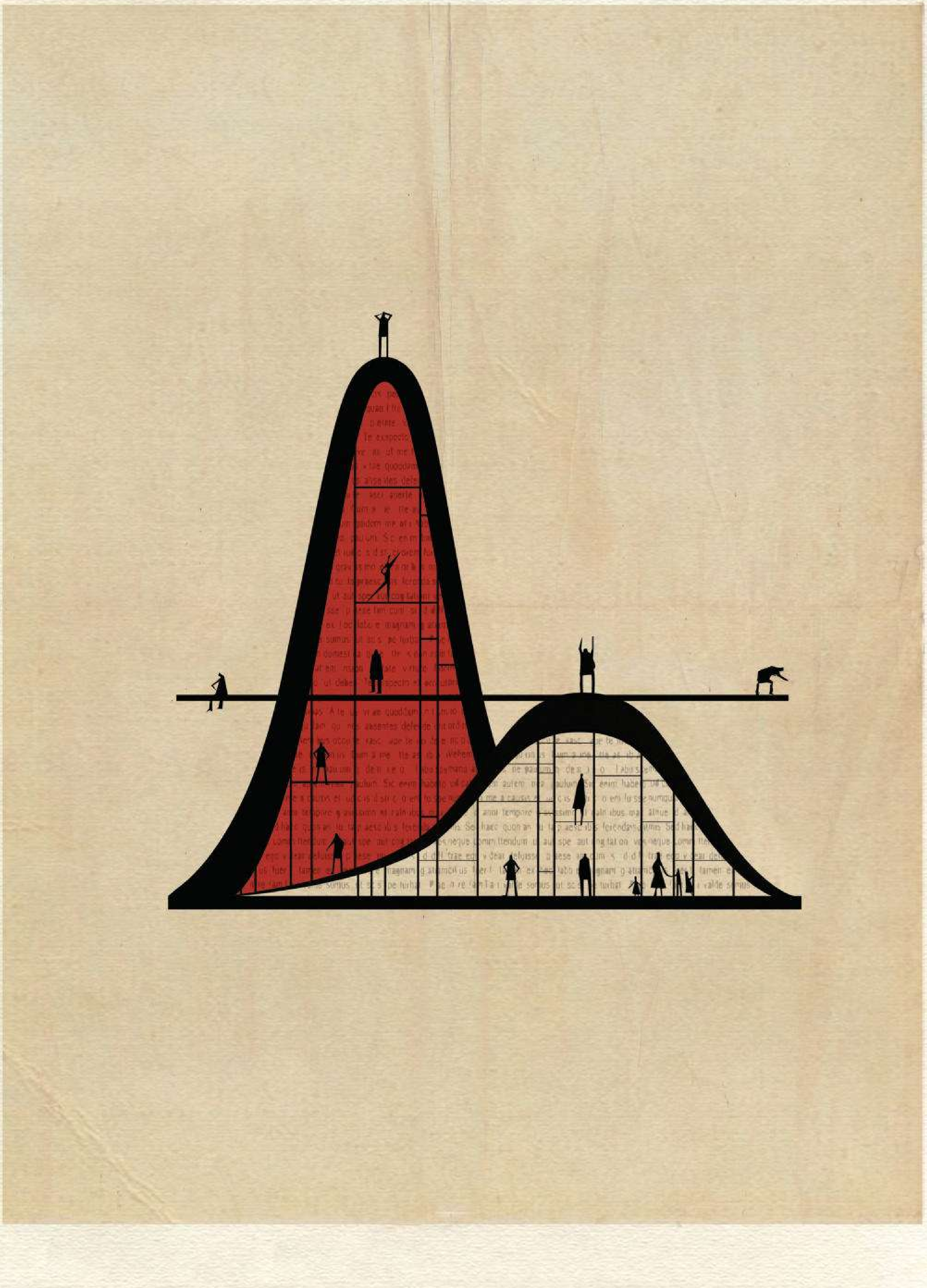
MANAGING PEOPLE

ILLUSTRATOR
FEDERICO BABINA

AUTHOR
Lynda Gratton
Professor, London Business School

How to Do Hybrid Right

When designing flexible work arrangements, focus on individual human concerns, not just institutional ones.



MANAGING PEOPLE

BY LATE FEBRUARY 2020, as the implications of Covid-19 were becoming clear, Hiroki Hiramatsu, the head of global HR at Fujitsu, realized that the company was in for a shock.

For years, flexible work arrangements had been on the agenda at Fujitsu, but little had actually changed. Most managers in the Japan offices still prized face-to-face interaction and long office hours—and according to an internal survey conducted not long before, more than 74% of all employees considered the office to be the best place to work. But the pandemic, Hiramatsu foresaw, was about to turn everything upside down.

By the middle of March, the majority of Fujitsu's Japan-based employees—some 80,000—were working from home. And it didn't take long for them to appreciate the advantages of their new flexibility. By May, according to a follow-up survey, only 15% of Fujitsu employees considered the office to be the best place to work. Some 30% said the best place was their homes, and the remaining 55% favored a mix of home and office—a hybrid model.

As employees settled into their new routines, Hiramatsu recognized that something profound was happening. "We are not going back," he told me this past September. "The two hours many people spend commuting is wasted—we can use that time for education, training, time with our family. We need many ideas about how to make remote work effective. We are embarking on a work-life shift."

For 10 years, I've led the Future of Work Consortium, which has brought together more than 100 companies from across the world to research future trends, identify current good practice, and learn from emerging experiments. Since the pandemic I've focused our research on the extraordinary impact that Covid-19 is having on working arrangements. As part of that effort, I've talked extensively to executives, many of whom, like Hiramatsu, report that they've detected a silver lining in our collective struggle to adapt to the pandemic. These executives told me that given the astonishing speed with which companies have adopted the technology of virtual work, and the extent to which most employees don't want to revert to past ways of working, they're seeing a once-in-a-lifetime opportunity to reset work using a hybrid model—one that, if we can get it right, will allow us to make our work lives more purposeful, productive, agile, and flexible.

If leaders and managers want to make this transition successfully, however, they'll need to do something they're not accustomed to doing: design hybrid work arrangements with individual human concerns in mind, not just institutional ones.

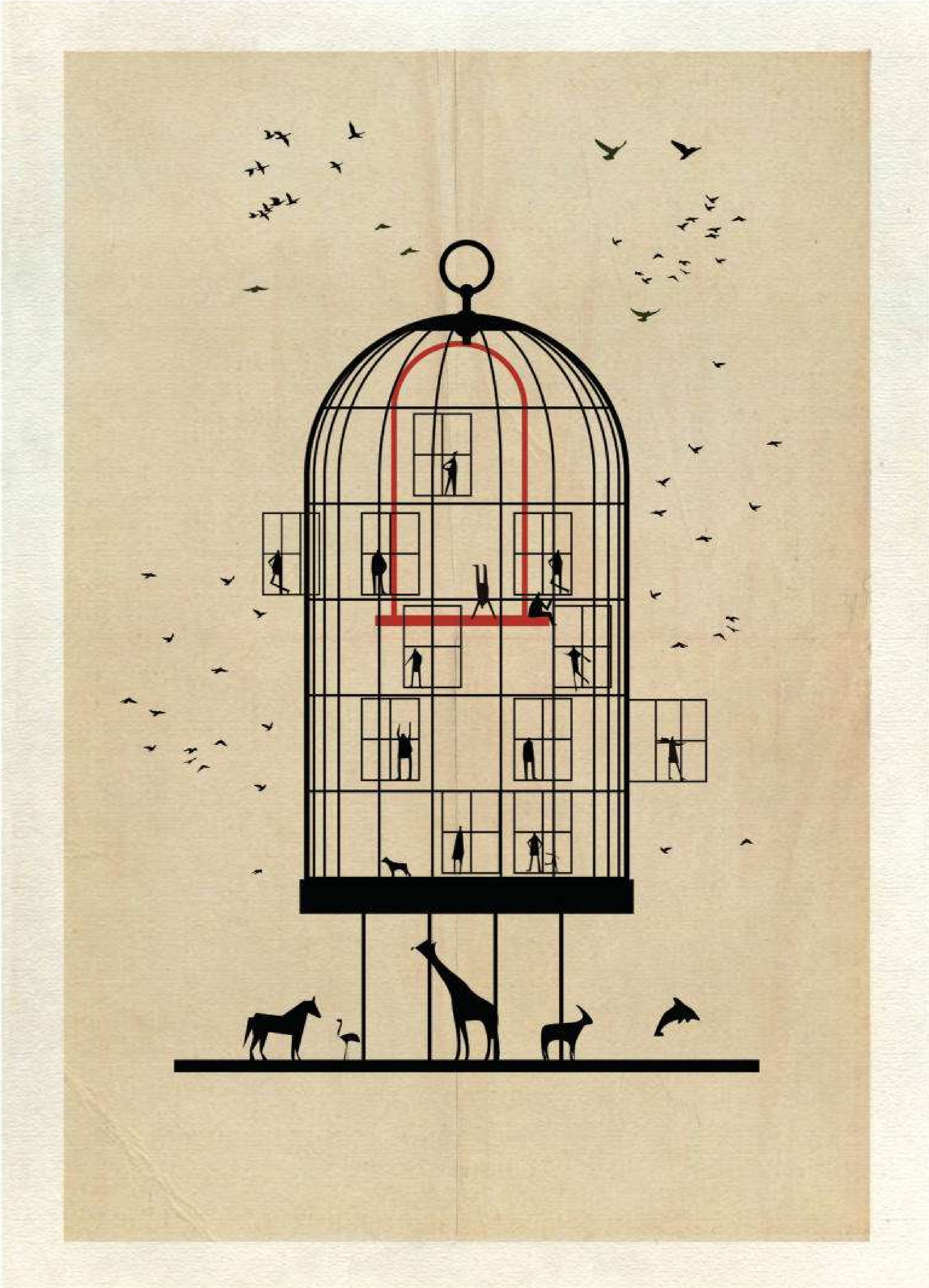
THE ELEMENTS OF HYBRID

Figuring out how to do this is far from straightforward. That's because to design hybrid work properly, you have to think about it along two axes: place and time.

Place is the axis that's getting the most attention at the moment. Like Fujitsu's employees, millions of workers around the world this year have made a sudden shift from being place-constrained (working in the office) to being place-unconstrained (working anywhere). Perhaps less noticed is the shift many have also made along the time axis, from being time-constrained (working synchronously with others) to being time-unconstrained (working asynchronously whenever they choose).

To help managers conceptualize the two-dimensional nature of this problem, I've long used a simple 2x2 matrix that's organized along those axes. (See the exhibit "Work Arrangements in Place and Time.") Before Covid-19, most companies offered minimal flexibility along both dimensions. This put them in the lower-left quadrant, with employees working in the office during prescribed hours. Some firms had begun to venture into the lower-right quadrant, by allowing more-flexible hours; others

Executives are seeing a silver lining as they adapt to the pandemic: the opportunity to make work lives more purposeful, productive, agile, and flexible.



IDEA IN BRIEF

THE OPPORTUNITY
Since the pandemic, companies have adopted the technologies of virtual work remarkably quickly—and employees are seeing the advantages of more flexibility in where and when they work. As companies recognize what is possible, they are embracing a once-in-a-lifetime opportunity to reset work using a hybrid model.

THE CHALLENGE
Moving to an anywhere, anytime hybrid model will succeed only if it is designed with human concerns in mind, not just institutional ones.

THE WAY FORWARD
That requires companies to approach the problem from four different perspectives: (1) jobs and tasks; (2) employee preferences; (3) projects and workflows; and (4) inclusion and fairness.

were experimenting in the upper-left quadrant, by offering employees more flexibility in where they work, most often from home. Very few firms, however, were moving directly into the upper-right quadrant, which represents an anywhere, anytime model of working—the hybrid model.

But that's changing. As we emerge from the pandemic, many companies have firmly set their sights on flexible working arrangements that can significantly boost productivity and employee satisfaction. Making that happen, I've learned in my research, will require that managers consider the challenge from four distinct perspectives: (1) jobs and tasks, (2) employee preferences, (3) projects and workflows, and (4) inclusion and fairness. Let's look at each in turn.

1 | Jobs and Tasks

When thinking about jobs and tasks, start by understanding the critical drivers of productivity—energy, focus, coordination, and cooperation—for each. Next, consider how those drivers will be affected by changes in working arrangements along the axes of time and place.

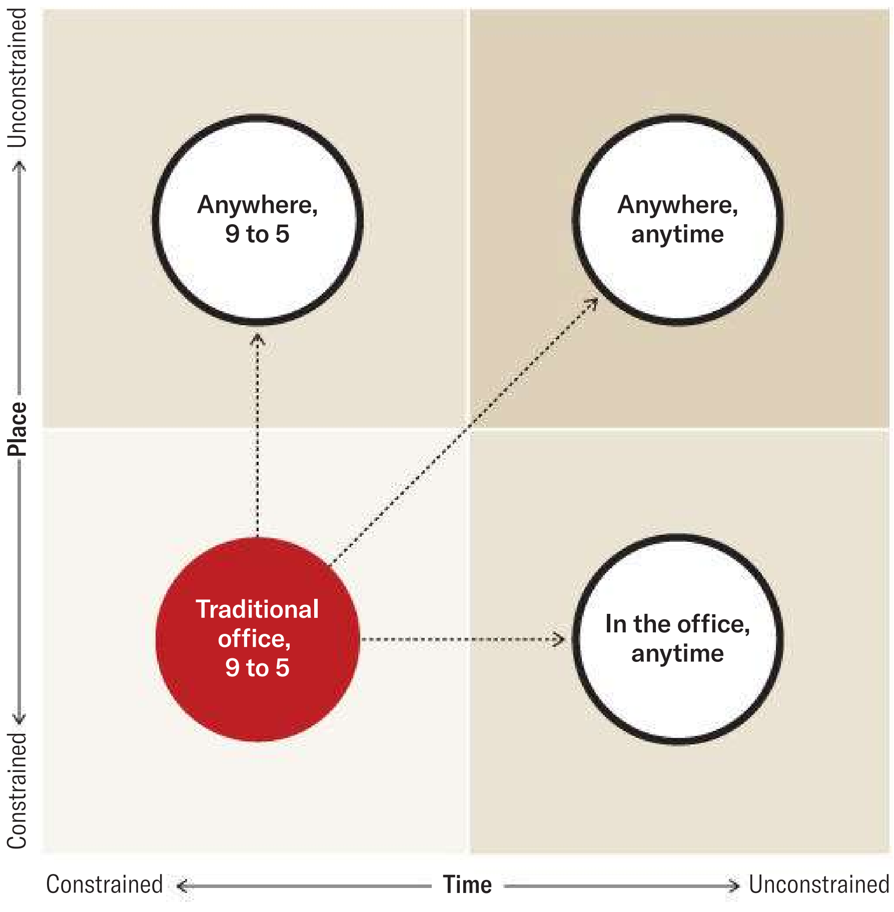
To illustrate, let's consider a few kinds of jobs and tasks, their key drivers, and the time and place needs that each involves:

Strategic planner. A critical driver of productivity for this role is focus. Planners often need to work undisturbed for stretches of at least three hours in order to, for example, gather market information and develop business plans. The axis that best enables focus is time—specifically, asynchronous time. If planners are freed from the scheduled demands of others, place becomes less critical: They can perform their work either at home or in the office.

Team manager. Here the critical driver of productivity is coordination. Managers need to regularly communicate in-the-moment feedback with team members. They need to engage in conversation and debate, share best practices, and mentor and coach those on their team. The axis most likely to encourage this aspect of productivity is once again time—but in this case, the time needs to be synchronous. If that can be arranged, then place again becomes less critical: Managers and employees can do their coordination tasks together in

Work Arrangements in Place and Time

Working in the office from 9 to 5 used to be the norm, with companies allowing limited flexibility in where or when employees worked. The pandemic has upended that model, as managers recognize that many employees can work productively anywhere, anytime.



the office or from home, on platforms such as Zoom and Microsoft Teams.

Product innovator. For this role, the critical driver is cooperation. But now the important axis is place. Innovation is stimulated by face-to-face contact with colleagues, associates, and clients, who generate ideas in all sorts of ways: by brainstorming in small groups, bumping into one another in the hallways, striking up conversations between meetings, attending group sessions. This kind of cooperation is fostered most effectively in a shared location—an office or a creative hub where employees have the chance to get to know one another and socialize. To that end, cooperative tasks must be synchronous and conducted in a shared space.

When thinking about jobs and tasks, consider how key productivity drivers—energy, focus, coordination, and cooperation—will be affected by changes in working arrangements.

Looking to the future, we can expect that the development of more-sophisticated cooperative technologies will render shared physical space less of an issue.

Marketing manager. Productivity in this role—indeed, in most roles—requires sustained energy. Both time and place can play a role here. As we've learned during the pandemic, many people find being at home energizing, because they are freed from the burden of long commutes, they can take time out during the day to exercise and walk, they can eat more healthily, and they can spend more time with their families.

The challenge in designing hybrid work arrangements is not simply to optimize the benefits but also to minimize the downsides and understand the trade-offs. Working from home can boost energy, but it can also be isolating, in a way that hinders cooperation. Working on a synchronous schedule can improve coordination, but it can also introduce constant communications and interruptions that disrupt focus.

To combat these potential downsides, Hiramatsu and his team at Fujitsu have committed to creating an ecosystem of spaces that together make up what they call the borderless office. Depending on employees' or teams' specific drivers of productivity, these spaces can take several forms: hubs, which maximize cooperation; satellites, which facilitate coordination; and shared offices, which enable focus.

Fujitsu's hubs are designed with cross-functional cooperation and serendipitous encounters in mind. Located in the major cities, they are comfortable and welcoming open-plan spaces, equipped with the advanced technologies necessary for brainstorming, team building, and the cocreation of new products. When Fujitsu employees want to work creatively with customers or partners, they invite them to a hub.

The company's satellites are spaces designed to facilitate coordination within and between teams that are working on shared projects. They contain meeting spaces where teams can come together, both in person and virtually, supported by secure networks and advanced videoconferencing facilities. These opportunities for coordination, especially face-to-face, address some of the isolation and loneliness that employees may suffer when working from home.

Shared offices, which make up most of Fujitsu's ecosystem of spaces, are located all over Japan, often near or in urban or suburban train stations. They can be used as short stopovers when people are traveling to visit customers, or as alternatives to working at home. They are designed to function as quiet spaces that employees can easily get to, thus minimizing commuting time. The productivity aim here is focus. The shared offices are equipped with desks and internet connections, allowing employees to work independently and undisturbed or to attend online meetings or engage in online learning.

2 Employee Preferences

Our capacity to operate at peak productivity and performance varies dramatically according to our personal preferences. So in designing hybrid work, consider the preferences of your employees—and enable others to understand and accommodate those preferences.

Imagine, for example, two strategic planners who hold the same job at the same company, with focus as a critical driver of performance. One of them, Jorge, is 40. He and his family live some distance from his office, requiring him to commute an hour each day to and from work. He has a well-equipped home office, and his children are at school during the day—so, not surprisingly, Jorge feels he is most productive and focused when he can skip the commute and stay home alone to work. He prefers to go into the office only once or twice a week, to meet with his team.

Lillian's situation is very different. She's 28. She lives in the center of town and shares a small apartment with three other people. Because of her living situation, she can't work for long stretches of time at home without being disturbed. To focus, she prefers to be in the office, which is not far from where she lives.

Jorge and Lillian differ in another way: tenure with the company. This, too, affects their preferences. Jorge has been with the firm for eight years and has established a strong network, so time in the office is less crucial for his learning or development. Lillian, on the other hand, is new to her role and is keen to be mentored and coached, activities that demand time with others in the office.

Companies on the hybrid journey are finding ways to take their employees' perspective. Many, like one of the technology companies in the Future of Work Consortium,

ABOUT THE ART
In his project Archisolation, *artist, architect, and graphic designer Federico Babina explores the experience of quarantine and isolation and examines our relationship with technology, imagination, and play.*

are providing managers with simple diagnostic survey tools to better understand their teams' personal preferences, work contexts, and key tasks—tools that allow them to learn, for example, where their team members feel most energized, whether they have a well-functioning home office, and what their needs are for cooperation, coordination, and focus.

Equinor, a Norwegian energy company, has recently taken an ingenious approach to understanding its employees: It surveyed them about their preferences and developed nine composite "personas," with guidelines for hybrid work arrangements tailored to each one. One of the personas is described like this: "Anna" is a sector manager in Oslo who has been with the company for 20 years. She has three teenagers at home and a 40-minute bicycle commute into the office. Before Covid-19, she worked every other week from home, primarily to focus. But with her teenagers now doing remote schooling in the house, she is often distracted when working from home. When the pandemic is at last behind us, and her kids are back at school, she hopes to spend two days a week at home, doing focused work, and three days in the office, collaborating with her team.

As managers seek to identify the hybrid arrangements that are best for their teams, they consider, for example, how they would respond to an "Anna": How would her circumstances and preferences affect her capacity to collaborate with others? More broadly, managers consider the implications of coordinating a variety of personas across virtual teams. What are the risks to the safety, security, and effectiveness of operations? How will changes affect collaboration, leadership, and culture? What might the overall effects be when it comes to taxes, compliance, and external reputation?

3 | Projects and Workflows

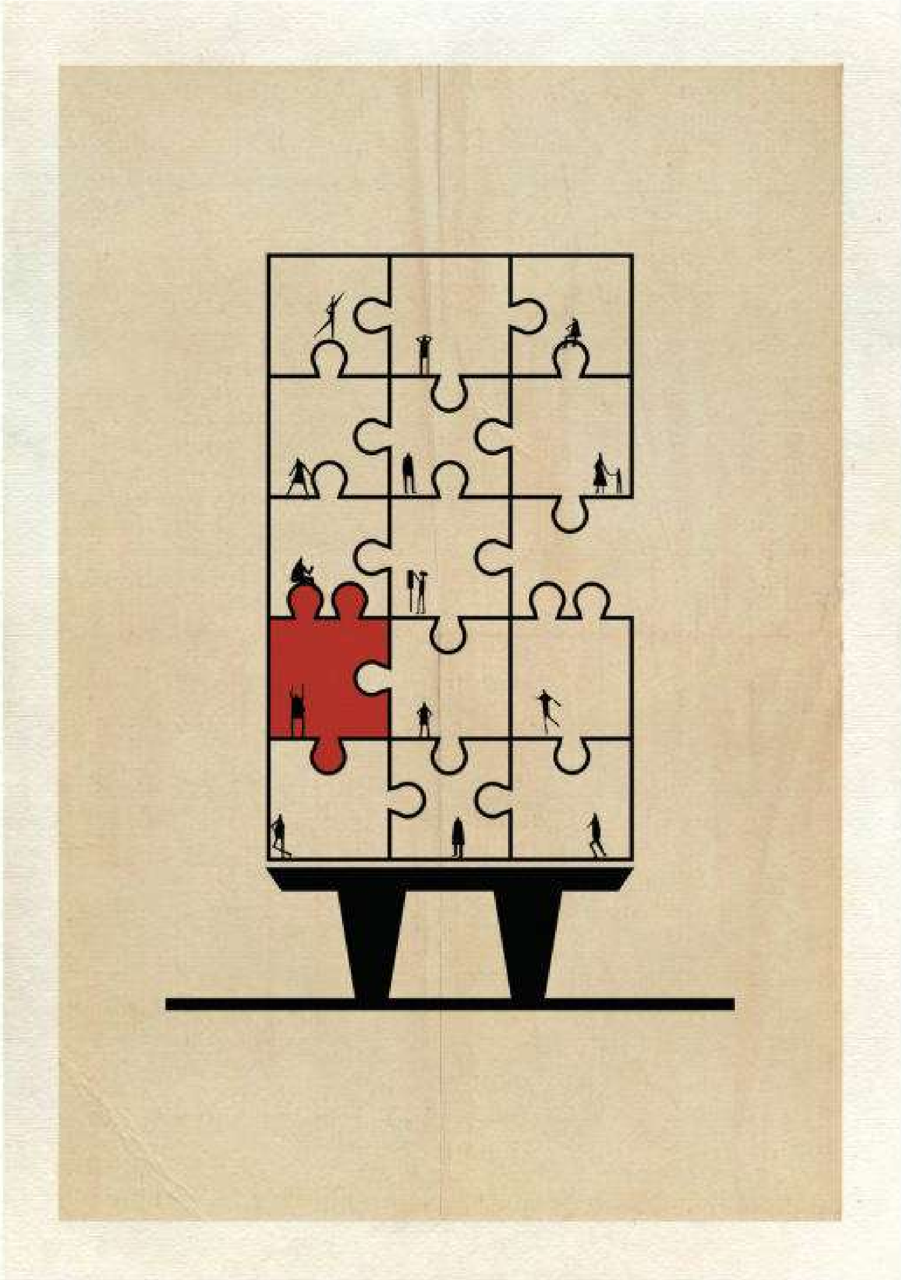
To make hybrid a success, you have to consider how work gets done. An executive who manages Jorge and Lillian, the hypothetical strategic planners mentioned above, must not only consider their needs and preferences but also coordinate the work they do with that of the others on their team—and with other functions and consumers of their work. That kind of coordination was relatively straightforward when team members all worked in the same place at the same time. But in the era of hybrid work it has grown significantly more complex. I've observed executives tackling this in two ways.

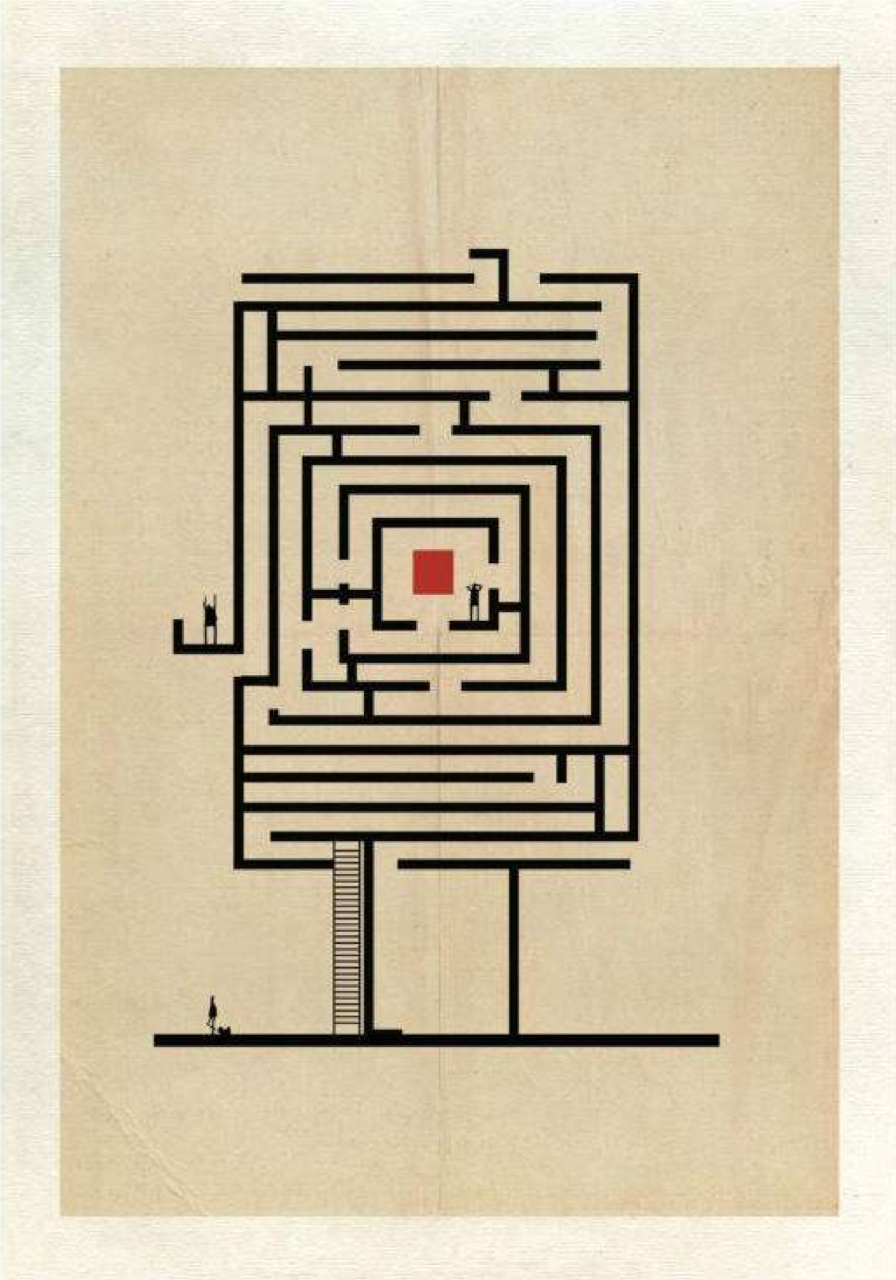
One is to significantly boost the use of technology to coordinate activities as employees move to more-flexible work arrangements. Consider the case of Jonas, an Equinor employee. Jonas works as an inspection engineer in the Kollsnes plant, which processes gas from fields in the North Sea. After the pandemic hit, the plant's managers made it possible for Jonas and his team to carry out some inspection tasks from home, by supplying them with state-of-the-art video and digital tools. These include, for example, robotic devices that move around the plant recording detailed in-the-moment visual data, which is then streamed back to all the team members for analysis. As a result of these changes, Jonas and his colleagues can now conduct very effective remote field-safety inspections.

Managers at Fujitsu, for their part, use a range of digital tools to categorize and visualize the types of work their teams are performing as they experiment with new arrangements on the axes of time and place. That, in turn, has enabled them to better assess individual and team workloads, analyze remote working conditions, and confirm work projections. Team leaders are also able to understand employee working patterns by studying detailed movement data and examining space utilization and floor density data. This allows Fujitsu managers to design the right arrangements for their workflows and projects.

Other companies are using this moment as an opportunity to reimagine workflows. New hybrid arrangements should never replicate existing bad practices—as was the case when companies began automating work processes, decades ago. Instead of redesigning their workflows to take advantage of what the new technologies made possible, many companies simply layered them onto existing processes, inadvertently replicating their flaws, idiosyncrasies, and workarounds. It often was only years later, after many painful rounds of reengineering, that companies really began making the most of those new technologies.

Companies designing hybrid arrangements need to work hard to get workflows right the first time. Leaders at one of





the retail banks in our Future of Work Consortium analyzed and reimagined workflows by asking three crucial questions:

Are any team tasks redundant? When executives at the bank asked themselves that question, they realized that in their new hybrid model they had retained too many traditional meetings. By eliminating some and making others (such as status updates) asynchronous, they boosted productivity.

Can any tasks be automated or reassigned to people outside the team? In many new hybrid arrangements, the bank executives realized, the simple answer was yes. Take the process for opening an account with a new high-net-worth customer. Before Covid-19, everybody assumed that this required face-to-face meetings and client signatures. But now, thanks to the redesigned process introduced during the pandemic, bank managers and customers alike recognize the ease and value of remote sign-up.

Can we reimagine a new purpose for our place of work? Here, too, the answer turned out to be yes. To make their hybrid model work successfully, the bank executives decided to reconfigure their existing office space in ways that would encourage cooperation and creativity, and they invested more in tools to enable people to work effectively and collaboratively at home.

4 | Inclusion and Fairness

As you develop new hybrid practices and processes, pay particular attention to questions of inclusion and fairness. This is vitally important. Research tells us that feelings of unfairness in the workplace can hurt productivity, increase burnout, reduce collaboration, and decrease retention.

In the past, when companies began experimenting with flexible approaches to work, they typically allowed individual managers to drive the process on an ad hoc basis. As a result, different departments and teams were afforded varying degrees of flexibility and freedom, which inevitably

MANAGING PEOPLE

> Hybrid arrangements should never replicate existing bad practices—as when firms began automating work processes, decades ago.

gave rise to accusations of unfairness. And many employees, of course, had time- and place-dependent jobs that made hybrid arrangements either impossible or far from optimal. They often felt treated unfairly.

Brit Insurance has done admirable work on inclusion and fairness. As the company's CEO, Matthew Wilson, and its chief engagement officer, Lorraine Denny, began the design and implementation of new ways of working, early in 2020, they made a bold choice. Rather than involving "the usual suspects" in the design process, they randomly chose employees from offices in the United States, Bermuda, and London—amounting to 10% of the workforce, from receptionists to senior underwriters—to participate.

During the following six months, teams of six employees—each drawn from multiple divisions, levels, and generational cohorts—worked together virtually across Brit Insurance. They began with diagnostic tools that helped them profile and share their own working capabilities and preferences. Then they embarked on a series of learning modules designed to create deeper insights into how they could work together to better serve one another's needs and those of the company as a whole. Finally, they engaged in a half-day virtual "hackathon," during which they came up with ideas and pitched them to the CEO. The result was what they called the Brit Playbook, which described some of the new ways they would now all work together.

Selina Millstam, the vice president and head of talent management at Ericsson, a Swedish multinational, recently conducted a similarly inclusive effort. Every new work arrangement, she and the executive team decided, would have to be rooted in the company culture, important aspects of which were "a speak-up environment," "empathy," and "cooperation and collaboration."

To ensure that this would be the case, Millstam and her team last year engaged employees in "jams" that were conducted virtually during a 72-hour period and supported by a team of facilitators, who subsequently analyzed the conversational threads. One of these jams, launched in late April 2020, played a crucial role in giving Ericsson employees a platform to talk about how hybrid ways of working during the pandemic might affect the company culture. More than 17,000 people from 132 countries participated in this virtual conversation. Participants made some 28,000 comments, addressing how working during the pandemic had created both challenges (such as lack of social contact) and benefits (such as increased productivity through reduced distraction).

This jam and others like it helped Ericsson's senior leaders develop a more nuanced understanding of the issues and priorities they need to take into account as they design hybrid work arrangements. Change, they realized, is bound to create feelings of unfairness and inequity, and the best way to address that problem is to ensure that as many employees as possible are involved in the design process. They need to have their voices heard, to hear from others, and to know that the changes being made are not just the result of individual managers' whims and sensibilities.

SO HOW CAN you propel your firm toward an anywhere, anytime model? Start by identifying key jobs and tasks, determine what the drivers of productivity and performance are for each, and think about the arrangements that would serve them best. Engage employees in the process, using a combination of surveys, personas, and interviews to understand what they really want and need. This will differ significantly from company to company, so don't take shortcuts. Think expansively and creatively, with an eye toward eliminating duplication and unproductive elements in your current work arrangements. Communicate broadly so that at every stage of your journey everybody understands how hybrid arrangements will enhance rather than deplete their productivity. Train leaders in the management of hybrid teams, and invest in the tools of coordination that will help your teams align their schedules.

Finally, ask yourself whether your new hybrid arrangements, whatever they are, accentuate your company's values and support its culture. Carefully and thoughtfully take stock: In the changes you've made, have you created a foundation for the future that everybody in the company will find engaging, fair, inspiring, and meaningful?

HBR Reprint R2103C

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ENTREPRENEURSHIP

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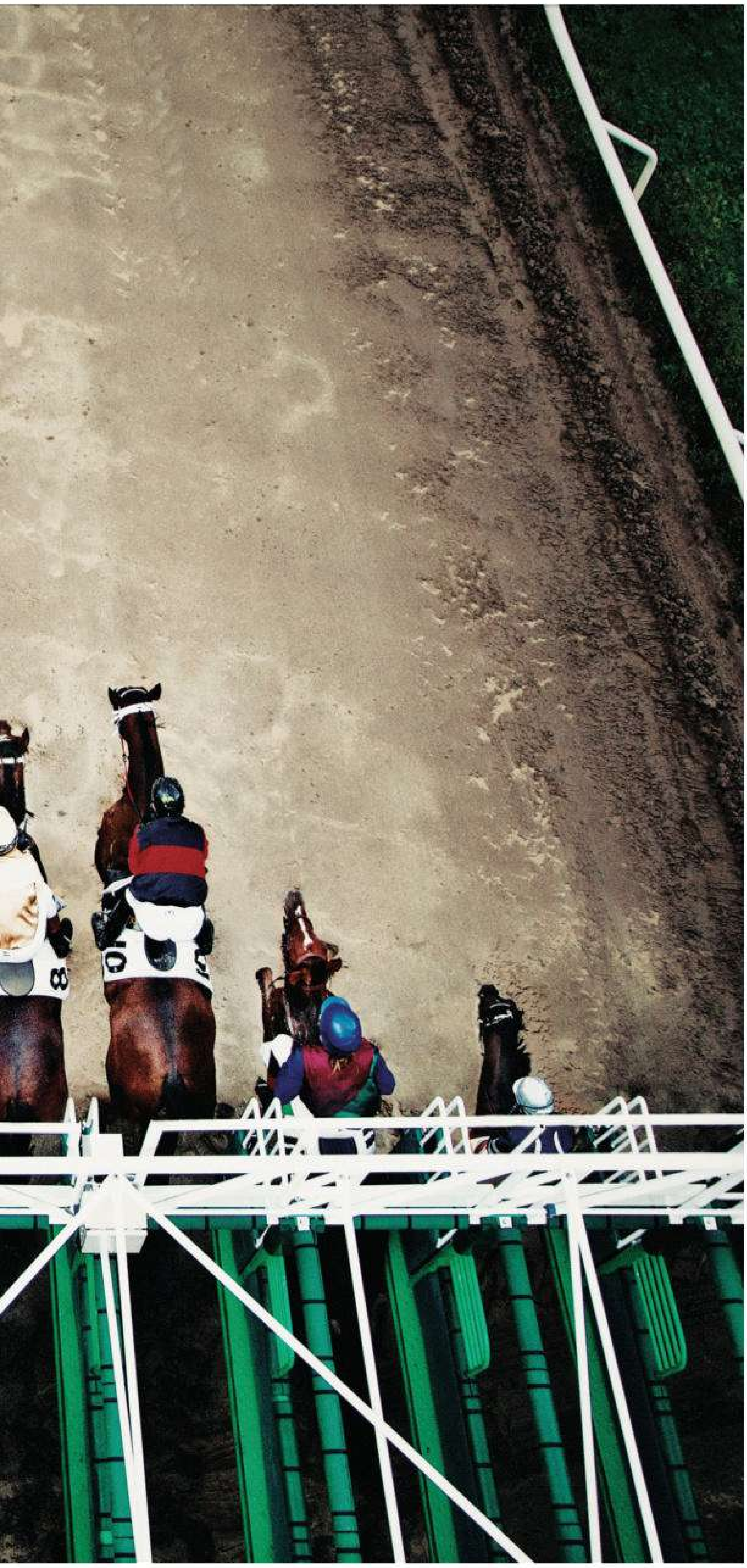

PHOTOGRAPHER
KALLE GUSTAFSSON

Why Start-ups Fail

It's not always the horse or the jockey.

ENTREPRENEURSHIP

Most start-ups don't succeed:

More than two-thirds of them never deliver a positive return to investors. But *why* do so many end disappointingly? That question hit me with full force several years ago when I realized I couldn't answer it.

That was unnerving. For the past 24 years, I've been a professor at Harvard Business School, where I've led the team teaching The Entrepreneurial Manager, a required course for all our MBAs. At HBS I've also drawn on my research, my experiences as an angel investor, and my work on start-up boards to help create 14 electives on every aspect of launching a new venture. But could I truly teach students how to build winning start-ups if I wasn't sure why so many were failing?

I became determined to get to the bottom of the question. I interviewed or surveyed hundreds of founders and investors, read scores of first- and third-person published accounts of entrepreneurial setbacks, and wrote and taught more than 20 case studies about unsuccessful ventures. The result of my research is a book, *Why Startups Fail*, in which I identify recurring patterns that explain why a large number of start-ups come to nothing.

My findings go against the pat assumptions of many venture capital investors. If you ask them why start-ups fall short, you will most likely hear about "horses" (that is, the opportunities start-ups are targeting) and "jockeys" (the founders). Both are important, but if forced to choose, most VCs would favor an able founder over an attractive opportunity. Consequently, when asked to explain why a promising new venture eventually stumbled, most are inclined to cite the inadequacies of its founders—in particular, their lack of grit, industry acumen, or leadership ability.

Putting the blame on the founders oversimplifies a complex situation. It's also an example of what psychologists call the *fundamental attribution error*—the tendency for observers, when explaining outcomes, to emphasize the main actors' disposition and for the main actors to cite situational factors not under their control—for example, in the case of a failed start-up, a rival's irrational moves.

Putting scapegoating aside, I identified six patterns of failure, which I describe fully in my book. In this article I've chosen to focus on two of them in greater detail, for two reasons: First, they're the most common *avoidable* reasons why start-ups go wrong. I'm not interested in clearly doomed ventures with no chance of success or even promising start-ups that were felled by unexpected external forces such as the Covid-19 pandemic. Rather, I've focused on ventures that initially showed promise but subsequently crashed to earth because of errors that could have been averted. Second, the two patterns are the most applicable to people launching new ventures within larger companies, government agencies, and nonprofits, which makes them especially relevant to HBR readers. Below, I'll explain each pattern more fully, illustrate it with a case study, explain when it's most likely to occur, and suggest ways to steer clear of it. (To learn more about the other common reasons for failure, see the sidebar "Four Other Patterns That Doom Start-ups.")

Good Idea, Bad Bedfellows

As I've noted, VCs look for founders with the right stuff: resilience, passion, experience leading start-up teams, and so forth. But even when such rare talent captains a new venture,

> A broad set of stakeholders, including employees, strategic partners, and investors, all can play a role in a venture's downfall.

there are other parties whose contributions are crucial to it. A broad set of stakeholders, including employees, strategic partners, and investors, all can play a role in a venture's downfall.

Indeed, a great jockey isn't even necessary for start-up success. Other members of the senior management team can compensate for a founder's shortcomings, and seasoned investors and advisers can likewise provide guidance and useful connections. A new venture pursuing an amazing opportunity will typically attract such contributors—even if its founder doesn't walk on water. But if its idea is merely good, a start-up may not become a talent magnet.

Consider the case of Quincy Apparel. In May 2011 two former students of mine, Alexandra Nelson and Christina Wallace, came to me for feedback on their start-up concept. I admired both of them and was impressed with their idea, which identified an unmet customer need: Young professional women had a hard time finding affordable and stylish work apparel that fit them well. Nelson and Wallace, who were close friends, devised a novel solution: a sizing scheme that allowed customers to specify four separate garment measurements (such as waist-to-hip ratio and bra size)—akin to the approach used for tailoring men's suits.

Following the lean start-up method, Nelson and Wallace then validated customer demand using a textbook-perfect minimum viable product, or MVP—that is, the simplest possible offering that yields reliable customer feedback. They held six trunk shows at which women could try on sample outfits and place orders. Of the 200 women who attended, 25% made purchases. Buoyed by these results, the cofounders quit their consulting jobs, raised $950,000 in venture capital, recruited a team, and launched Quincy Apparel. They employed a direct-to-consumer business model, selling online rather than through brick-and-mortar stores. At this point I became an early angel investor in the company.

Initial orders were strong, as were reorders: An impressive 39% of customers who bought items from Quincy's first seasonal collection made repeat purchases. However, robust demand required heavy investment in inventory. Meanwhile, production problems caused garments to fit poorly on some customers, resulting in higher-than-expected returns. Processing returns and correcting production problems put pressure on margins, rapidly depleting Quincy's cash reserves. After Quincy tried and failed to raise more capital, the team trimmed the product line, aiming to simplify operations and realize efficiencies. However, the business lacked enough funding to prove out the pivot, and Quincy was forced to shut down less than a year after its launch.

So why did Quincy fail?

Quincy's founders had a good idea. The venture's value proposition was appealing to target customers, and the business had a sound formula for earning a profit—at least over the long term, after shaking out the bugs in production. The team had credible projections that customers in priority segments, who'd accounted for more than half of Quincy's sales, would each have a lifetime value of over $1,000—well in excess of the $100 average cost to acquire a new customer. (Quincy's out-of-pocket marketing costs were kept low by social-network-fueled word of mouth and enthusiastic media coverage.)

Were Wallace and Nelson simply poor jockeys? Temperamentally, their fit with the founder role was good. They were sharp and resourceful and had complementary strengths.

IDEA IN BRIEF

THE LIGHT BULB
Most start-ups don't succeed. A foremost expert on entrepreneurship realized he didn't understand why.

THE AUTOPSY
An examination of start-up failures revealed two common mistakes by founders: failing to engage the right stakeholders, and rushing into an opportunity without testing the waters first.

THE REMEDY
Founders should take conventional entrepreneurial advice with a grain of salt, because it often backfires. They also should find the right investors and management team and avoid giving short shrift to customer interviews and research.

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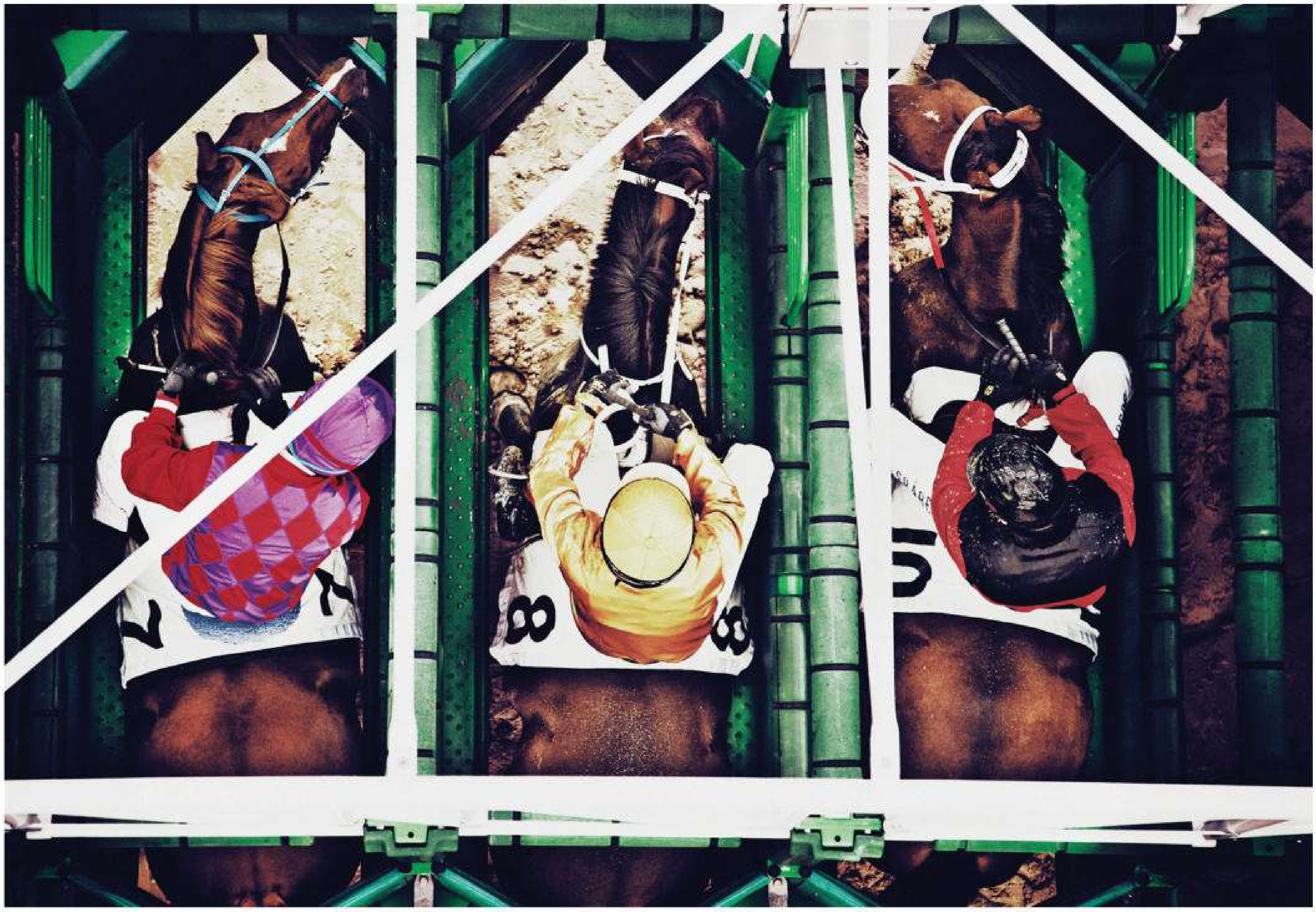

Wallace, who was responsible for marketing and fundraising, had a big vision and the charisma to sell it. Nelson, who led operations, was deliberate and disciplined. However, the founder team wobbled in two important ways. First, unwilling to strain their close friendship, Wallace and Nelson shared decision-making authority equally with respect to strategy, product design, and other key choices. This slowed their responses when action was required. Second, neither founder had experience with clothing design and manufacturing.

Apparel production entails many specialized tasks, such as fabric sourcing, pattern making, and quality control. To compensate for their lack of industry know-how, the founders hired a few apparel company veterans, assuming that they'd fill multiple functions—as jack-of-all-trades team members do in most early-stage start-ups. However, accustomed to the high levels of specialization in mature apparel companies, Quincy's employees weren't flexible about tackling tasks outside their areas of expertise.

Quincy outsourced manufacturing to third-party factories, which was not unusual in the industry. But the factories were slow to meet production commitments for entrepreneurs who had no industry reputation, required unusual garment sizing, and placed small orders. This meant shipping delays for Quincy.

Investors also played a role in Quincy's demise. The founders had aimed to raise $1.5 million but managed to

Trunk Archive

Many entrepreneurs who claim to embrace the lean start-up canon actually adopt only part of it, neglecting to research customer needs.

secure only $950,000. That was enough to fund operations for two seasonal collections. Before launching, the founders had correctly assumed that at least three seasons would be needed to fine-tune operations. Quincy had some traction after two seasons but not enough to lure new backers, and the venture capital firms that had provided most of its money were too small to commit more funds. Furthermore, the founders were disappointed with the guidance they got from those VCs, who pressured them to grow at full tilt—like the technology start-ups the investors were more familiar with. Doing so forced Quincy to build inventory, burning through cash before it had resolved its production problems.

In summary, Quincy had a good idea but *bad bedfellows:* Besides the founders, a range of resource providers were culpable in the venture's collapse, including team members, manufacturing partners, and investors.

Could this outcome have been avoided? Perhaps. The founders' lack of fashion industry experience was at the root of many problems. It took time for Wallace and Nelson to master the complexities of apparel design and production. Without industry connections, they couldn't leverage their professional networks to recruit team members or count on past relationships with factory managers to ensure prompt delivery. And without an industry track record, they had difficulty finding investors willing to bet on first-time founders.

An ideal solution would have been to bring in another cofounder with apparel industry experience. Nelson and Wallace tried to do this, without success. They did have some advisers who could offer guidance—but adding more would have helped. In a postmortem analysis, Quincy's founders also concluded that they could have sidestepped operational problems by outsourcing their entire design and production process to a single factory partner. Likewise, rather than raising funds from venture capital firms, they could have sought financial backing from a clothing factory. A factory with an equity stake in Quincy would have expedited its orders and worked harder to correct production problems. Also, the factory owners would have known how to pace the growth of a new apparel line, in contrast to Quincy's VCs, who pressured the team for hypergrowth.

Quincy's troubles shed some light on the attributes that may make start-ups vulnerable to this particular failure pattern. Entrepreneurs' lack of industry experience will be especially problematic when large, lumpy resource commitments are required, as they are in apparel manufacturing: Quincy's founders had to design a multistep product process from scratch, and revising such a process is disruptive once it's in place. Another factor was ever-shifting fashion trends; the founders had to commit to garment designs and then build inventory for an entire collection many months before it went on sale.

With such challenges, learning by doing can result in expensive mistakes. Compounding the pressure, investors prefer to mete out capital one chunk at a time, waiting to see if the business can stay on the rails. If the start-up stumbles or stalls, follow-on financing may not be forthcoming from existing investors, and potential new investors will be scared off. Pivoting to a better solution isn't feasible when it requires large amounts of capital along with weeks or months to see if new approaches are working. In that situation entrepreneurs have no room for big errors, but a lack of industry experience makes missteps all the more likely.

False Starts

I have long been an apostle of the lean start-up approach. But as I dug deeper into case studies of failure, I concluded that its practices were falling short of their promise. Many entrepreneurs who claim to embrace the lean start-up canon actually adopt only part of it. Specifically, they launch MVPs and iterate on them after getting feedback. By putting an MVP out there and testing how customers respond, founders are supposed to avoid squandering time and money building and marketing a product that no one wants.

Yet by neglecting to research customer needs *before* commencing their engineering efforts, entrepreneurs end up wasting valuable time and capital on MVPs that are likely to miss their mark. These are *false starts.* The entrepreneurs are like sprinters who jump the gun: They're too eager to get a product out there. The rhetoric of the lean start-up movement—for example, "launch early and often" and "fail fast"—actually encourages this "ready, fire, aim" behavior.

The online dating start-up Triangulate experienced this syndrome in 2010. Its founder, Sunil Nagaraj, had originally intended to build a matching engine—software that Triangulate would license to existing dating sites such as eHarmony and Match. The engine would automatically extract consumers' profile data—with their permission—from social networks and media sites such as Facebook, Twitter, Spotify, and Netflix. The engine would then use algorithms to pair up users whose tastes and habits suggested that they might be romantically compatible. But VCs wouldn't back the plan. They told Nagaraj, "Come back after you've signed a licensing deal."

To prove to potential licensees that the matching engine worked, Nagaraj decided to use it to power Triangulate's own dating site, a Facebook app that would also leverage the rich user data available to Facebook's platform partners. VCs now showed interest: Nagaraj raised $750,000 and launched a dating site called Wings. The site was free to use and earned revenue from small payments made by users who sent digital gifts or messages. Wings soon became Triangulate's main event; the licensing plan went on the back burner.

Wings automatically populated a user's profile by connecting to Facebook and other online services. It also encouraged users to invite their friends to the site as "wingmen" who could vouch for them—and provide a viral boost to the site's growth. Less than a year after launching Wings, however, Nagaraj's team abandoned both the matching engine and the wingman concept. Users found more value in recommended matches that were based on potential partners' physical attractiveness, proximity, and responsiveness to messages—criteria routinely employed by existing dating sites. The wingman role, meanwhile, was not delivering hoped-for virality and made the site cumbersome to navigate. Furthermore, many users were uncomfortable making their dating life an open book to their friends.

A year after launch, Wings' user base was growing, but user engagement was much lower than expected. As a result, revenue per user fell far short of Nagaraj's original projections. Also, with limited virality, the cost of acquiring a new user was much higher than his forecast. With an unsustainable business model, Nagaraj and his team had to pivot once again—this time, with cash balances running low. They launched a new dating site, DateBuzz, that allowed users to vote on elements of other users' profiles—before seeing their photos. This addressed one of the biggest pain points in online dating: the impact of photos on messaging. On a typical dating site, physically attractive individuals get

FOUR OTHER PATTERNS THAT DOOM START-UPS

False positives. Early-stage entrepreneurs often misinterpret signals about market demand. Beguiled by an enthusiastic response from initial adopters, they expand rapidly. But if mainstream customers have needs that differ from those of the first customers, the start-up may have to reengineer its product and reeducate the market. Those efforts can be costly and consume scarce capital, boosting the odds of failure.

Speed traps. In this pattern a venture discovers an attractive opportunity and initially grows rapidly. That lures investors who pay a high price for equity and push for more expansion. The start-up eventually saturates its original target market, so growth then requires broadening its customer base to new segments. Its next wave of customers, however, don't find its value proposition nearly as compelling as the first adopters did. To keep growing, the firm must spend heavily on customer acquisition. Meanwhile, the start-up's rapid growth attracts rivals that cut prices and pour money into promotions. At some point new customers begin to cost more to acquire than they're worth. As the venture burns through cash, investors become reluctant to commit more capital.

Help wanted. Start-ups that experience this pattern manage to sustain product-market fit while adding legions of new customers, but they stumble because of shortfalls in funding or their senior management team or both. Sometimes an entire industry suddenly falls out of favor with venture capitalists, as cleantech did in the late 2000s. If a funding dry spell begins just as a fast-growing start-up is trying to raise a new round, the venture may not survive. Start-ups that are scaling up also need senior executives with deep functional expertise who can manage bigger pools of employees in engineering, marketing, finance, and operations. Delays in hiring those executives or the recruitment of the wrong people can lead to strategic drift, spiraling costs, and a dysfunctional culture.

Cascading miracles. Entrepreneurs who pursue an incredibly ambitious vision face multiple challenges, such as persuading a critical mass of customers to fundamentally change their behavior; mastering new technologies; partnering with powerful corporations that have prospered from the status quo; securing regulatory relief or other government support; and raising vast amounts of capital. Each challenge is a "do or die" proposition: Missing the mark on any will doom the venture. Assuming there's a 50% chance of a good outcome for any given challenge, the probability of getting five out of five good outcomes is the same as the odds of picking the winning number in roulette: 3%.

Entrepreneurs should conduct a competitive analysis, including user testing of existing solutions, to understand the strengths and shortcomings of rival products.

too many messages, and other users get too few. DateBuzz redistributed attention in ways that boosted user satisfaction. Less-attractive individuals were contacted more often, and attractive users still got plenty of queries.

Despite this innovation, DateBuzz—like Wings—had to spend far more than it could afford to acquire each new user. Lacking confidence that a network effect would kick in and reduce customer acquisition costs before cash balances were exhausted, Nagaraj shut down Triangulate and returned $120,000 to investors.

So why did Triangulate fail?

The problem was clearly not with the jockey or his bedfellows. Nagaraj had raised funds from a topflight VC and had recruited a very able team—one that could rapidly process user feedback and in response iterate in a creative and nimble manner. Weak founders rarely attract strong teams and smart money. This was not a case of "right opportunity, wrong resources," as with Quincy's failure. Rather, Triangulate's demise followed the opposite pattern: "wrong opportunity, right resources."

A clue about the cause of Triangulate's failure lies in its three big pivots in less than two years. On one hand, pivots are foundational for lean start-ups. With each iteration, Nagaraj's team had heeded the "fail fast" mantra. The team also followed the principle of launching early and often—putting a real product into the hands of real customers as fast as possible.

But there's more to the lean start-up approach than those practices. Before entrepreneurs begin to build a product, lean start-up guru Steve Blank insists, they must complete a phase called "customer discovery"—a round of interviews with prospective customers. (See "Why the Lean Start-up Changes Everything," HBR, May 2013.) Those interviews probe for strong, unmet customer needs—problems worth pursuing. In Nagaraj's postmortem analysis of Triangulate's failure, he acknowledged skipping this crucial step. He and his team failed to conduct up-front research to validate the demand for a matching engine or the appeal of the wingman concept. Nor did they conduct MVP tests akin to Quincy's trunk shows. Instead they rushed to launch Wings as a fully functional product.

By giving short shrift to customer discovery and MVPs, Triangulate's team fell victim to a false start—and turned the "fail fast" mantra into a self-fulfilling prophecy. If the team members had spoken to customers at the outset or tested a true MVP, they could have designed their first product in ways that conformed more closely to market needs. By failing with their first product, they wasted a feedback cycle, and time is an early-stage entrepreneur's most precious resource. With the clock ticking, one wasted cycle means one less opportunity to pivot before money runs out.

Why do founders like Nagaraj skip up-front customer research? Entrepreneurs have a bias for action; they're eager to get started. And engineers love to build things. So entrepreneurs who are engineers—like Nagaraj and his teammates—often jump into creating the first version of their product as fast as they can. Furthermore, at the risk of stereotyping, I'd offer that many engineers are simply too introverted to follow Blank's advice and get out of the building to learn from prospective customers.

Founders without technical training also fall victim to false starts. They hear repeatedly that having a great product is crucial, so they bring engineers on board as soon as they can. Then, feeling pressure to keep those expensive engineers busy, they rush their product into development.

The good news is that false starts can easily be avoided by following a structured, three-step product design process.

1

Problem definition. Before commencing engineering work, entrepreneurs should conduct rigorous interviews with potential customers—at which they resist the temptation to pitch their solutions. Feedback on possible solutions will come later; instead the focus should be on defining customers' problems. Also, it's important to interview both likely early adopters and "mainstream" prospects who may be inclined to purchase later. Success will hinge on attracting both groups, whose needs may differ. If their needs do vary, entrepreneurs will have to take the differences into account when formulating a product road map.

In addition, entrepreneurs should conduct a competitive analysis, including user testing of existing solutions, to understand the strengths and shortcomings of rival products. Likewise, surveys can help start-up teams measure customer behaviors and attitudes—helpful data when segmenting and sizing the potential market.

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> The behaviors that conventional wisdom holds make a great entrepreneur can paradoxically increase the risk of failure.

2 **Solution development.** Once entrepreneurs have identified priority customer segments and gained a deep understanding of their unmet needs, the team's next step should be brainstorming a range of solutions. The team should prototype several concepts and get feedback on them through one-on-one sessions with potential customers. Most teams start with crude prototypes, reject some and iterate, and then refine the ones that seem promising, gradually producing "higher fidelity" versions that more closely resemble the future product in functionality and look and feel. Prototype iteration and testing continue until a dominant design emerges.

3 **Solution validation.** To evaluate demand for the favored solution, the team then runs a series of MVP tests. Unlike the prototype review sessions during step 2—conducted across the table with a single reviewer—an MVP test puts an actual product in the hands of real customers in a real-world setting to see how they respond. To avoid waste, the best MVPs have the lowest fidelity needed to get reliable input—that is, they provide no more "looks like" polish and "works like" functionality than are strictly necessary. Early MVP tests may take things further, assessing demand for a planned product through a Kickstarter campaign or by soliciting letters of intent to purchase from business-to-business customers.

Success with the product design process may require a shift in the founders' mindset. At a venture's outset many entrepreneurs have a preconceived notion of the customer problems they'll address and the solutions. They may fervently believe they're on the right path. But during the product design process, they should avoid being too emotionally attached to a specific problem-solution pairing. Entrepreneurs should stay open to the possibility that the process will uncover more-pressing problems or better solutions.

Maintaining Balance

Of course, there is no way for founders to know which deadly trap they may face as they launch. Familiarizing oneself with these two dominant failure patterns can help. But so too can understanding why they afflict start-ups so frequently.

Part of the answer is that the behaviors that conventional wisdom holds make a great entrepreneur can paradoxically increase the risk of encountering these failure patterns. It's important for an entrepreneur to maintain balance. Guidance based on conventional wisdom is good—most of the time—but it shouldn't be followed blindly. Consider the following advice given to many first-time founders and how it can backfire:

Just do it! Great entrepreneurs make things happen and move fast to capture opportunity. But a bias for action can tempt an entrepreneur to truncate exploration and leap too soon into building and selling a product, as I've explained. When that happens, founders may find themselves locked prematurely into a flawed solution.

Be persistent! Entrepreneurs encounter setbacks over and over. True entrepreneurs dust themselves off and go back at it; they must be determined and resilient. However, if persistence turns into stubbornness, founders may have difficulty recognizing a false start for what it is. They likewise may be reluctant to pivot when it should be clear that their solution isn't working. Delaying a pivot eats up scarce capital, shortening a venture's runway.

Bring passion! A burning desire to have a world-changing impact can power entrepreneurs through the most daunting challenges. It can also attract employees, investors, and partners who'll help make their dreams a reality. But in the extreme, passion can translate into overconfidence—and a penchant to skip critical up-front research. Likewise, passion can blind entrepreneurs to the fact that their product isn't meeting customer needs.

Bootstrap! Because resources are limited, entrepreneurs must conserve them by being frugal and figuring out clever ways to make do with less. True enough, but if a start-up cannot consistently deliver on its value proposition because its team lacks crucial skills, its founders must decide whether to hire employees with those skills. If those candidates demand high compensation, a scrappy, frugal founder might say, "We'll just have to do without them"—and risk being stuck with bad bedfellows.

Grow! Rapid growth attracts investors and talent and gives a team a great morale boost. This may tempt founders to curtail customer research and prematurely launch their product. Also, fast growth can put heavy

demands on team members and partners. If a team has bad bedfellows, growth may exacerbate quality problems and depress profit margins.

IT'S FASHIONABLE IN start-up circles to speak glibly about failure as a badge of honor or a rite of passage—just another phase of an entrepreneur's journey. Perhaps doing so is a coping mechanism, or perhaps failure's ubiquity inures those in the business world to its true human and economic costs. I've counseled dozens of entrepreneurs as they shut down their ventures. Raw emotions are always on display: anger, guilt, sadness, shame, and resentment. In some cases the founders were in denial; others just seemed depressed. Who could blame them, after having had their dreams dashed and their self-confidence shattered? In my work I try to help people come to terms with failure, but I can tell you that at ground zero, there's no way to avoid the fact that it hurts. It also can destroy relationships. When they founded Quincy Apparel, Nelson and Wallace vowed not to let conflict over the business threaten their close friendship. But after clashing over how to wind the company down, they weren't on speaking terms for two years. (Their relationship has since been repaired.)

Failure also takes a toll on the economy and society. A doomed venture ties up resources that could be put to better use. And it acts as a deterrent to would-be entrepreneurs who are more risk-averse, have financial obligations that make it hard to forgo a paycheck, or face barriers when raising capital—which is to say, many women and minorities. To be sure, failure will (and should) always be a reality for many entrepreneurs. Doing something new with limited resources is inherently risky. But by recognizing that many failures are avoidable and follow the same trajectory, we can reduce their number and frequency. The payoff will be a more productive, more diverse, and less bruising entrepreneurial economy.

HBR Reprint R2103D

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HOW HONG KONG OFFERS BUSINESS RESILIENCE

The Covid-19 pandemic's disruptive effects on business worldwide are hard to overstate. In a recent Harvard Business Review Analytic Services survey, 83% of the respondents said the disruption has had a "significant" or "somewhat significant" effect on their organizations. Many businesses viewed the crisis as an opportunity to accelerate their digital transformation plans and to reevaluate the way they work with customers, partners, and employees.

Opening in a location with favorable financial, technology, talent, and management conditions and resources can make your organization resilient now and ready for tomorrow.

Favorable Location

For many decades, Hong Kong's geographic, regulatory, and cultural attractions have made the city a magnet for business. Its identity as a global financial hub includes a burgeoning financial technology sector, thanks not only to a supportive regulatory and compliance climate but also to other foundational benefits for building your future.

Gekko Lab, a Hong Kong–based developer of financial intelligence knowledge-management software at Cyberport, has leveraged its location in Hong Kong in several ways to thrive through the forces of disruption currently impacting the world.

"Our company received pandemic stimulus relief from the Hong Kong SAR Government and took advantage of government programs connecting it to fintech talent coming out of local universities," says Ric Cheng, CEO and founder of Gekko Lab.

Hong Kong's geographical location also allows it to capture the opportunities arising from a shift in the global economic gravity from West to East. In particular, Hong Kong is poised to be a facilitator, a promoter, and a beneficiary of important national development strategies such as the Guangdong–Hong Kong–Macao Greater Bay Area and the Belt and Road Initiative.

Cultural Change

Digital transformation initiatives, rapidly evolving consumer expectations, and emerging technology—ranked in the survey as the top sources of disruption—did not begin with the pandemic. But 2020 was the year many companies first felt the impact of digital transformation, experiencing abrupt changes to policies and practices including the shift to working from home and rapid growth in digital commerce.

And disruption inspires opportunity: 59% of the respondents say they are discovering and addressing significant flaws in their organization's current business model, product line, and/or go-to-market strategy, and 77% say their organizations need to be more agile.

"Some more traditional companies find it quite difficult to evolve, because they just have too many existing cultural issues," says Dr. Duncan Wong, CEO of CryptoBLK, a Hong Kong–based blockchain technology fintech company at Hong Kong Science Park. Companies need to move to more agile and technologically oriented work processes and change business workflows, Wong says.

"Ironically, in the midst of the pandemic, digital transformation demonstrates that we've actually become more resilient to the changes of the world," Wong says. "This is really a great time to demonstrate that digital transformation and mobility enablement actually make companies more productive and resilient."

Hong Kong ranked 11th in infrastructure out of the 131 surveyed economies in the Global Innovation Index 2020. The Hong Kong SAR Government is promoting innovation and technology (I&T) development along eight major areas: increasing resources for research & development, pooling technology talent, providing investment funding, providing I&T infrastructure, reviewing existing legislation and regulations, opening up government data, leading changes to procurement arrangements, and popularizing science education. So far, the government has committed over HK$100 billion (US$12.8 billion) for different initiatives in these eight areas.

Think Globally, Hire Locally

Although 30% of the respondents reported having insufficient access to talent, or to address disruption, close to half are now taking steps to find and develop talent, or absorb talent through acquisitions and partnerships.

A location's access to talent is important or very important to 85% of the respondents, along with personal safety, an entrepreneurial business environment, and a reputation for technological innovation—all found in Hong Kong.

In a changing talent marketplace, an organization's choice of location or relocation for headquarters could make a critical difference in its ability to hire an agile, flexible workforce with the skills to work with emerging technology. "Hong Kong sits within the Greater Bay Area, where the new Silicon Valley of China, Shenzhen, is," says Dr. Victor Fung, group chairman of Fung Group, a Hong Kong-based multinational enterprise engaged in trading, logistics, distribution, and retailing.

Hong Kong is also home to the Hong Kong Science and Technology Parks Corporation as well as Cyberport and a variety of incubation and acceleration programs that focus on fostering tech start-ups.

Gekko Lab, a graduate of Cyberport Incubation Programme, and other Hong Kong–based companies find significant advantage in their access to the steady talent pool graduating from local, highly ranked universities. These companies are also unencumbered by work-visa red tape that can tangle their counterparts in Silicon Valley, when they recruit from outside the U.S.

"Hiring is so different now," Cheng says. "In the past, people visited a company physically to conduct the interview, but now they do a lot of things online and you don't know whether you can find the right talent. There are some university-level programs where the government sponsors a summer or winter internship to help us to reach the right talent."

Learn more about the financial services in Hong Kong at brandhk.gov.hk

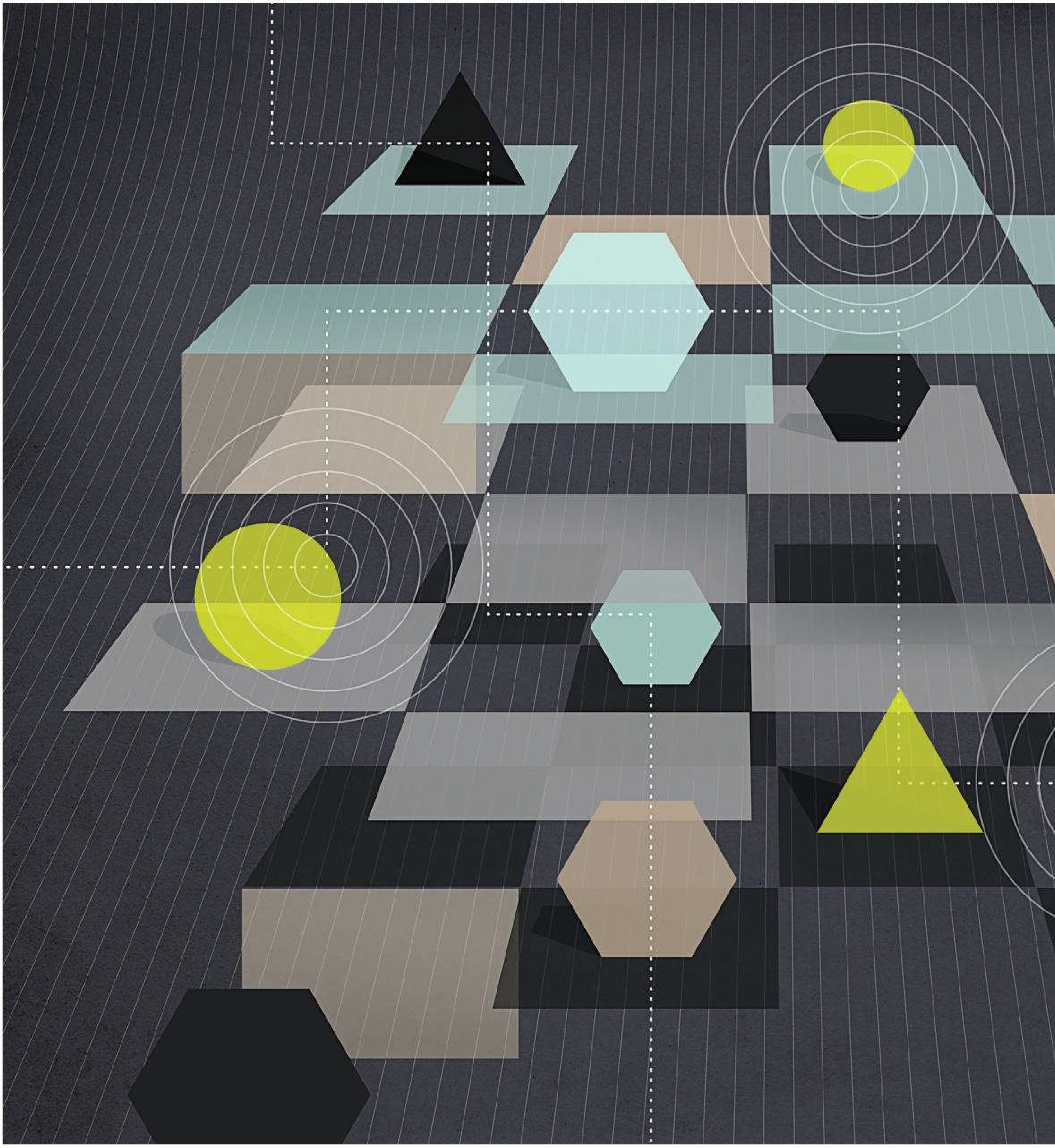
Hong Kong's position as a global financial center allows it to tap into a rich talent pool far beyond technology. "The workforce is flush with talent when it comes to lawyers, accountants, and bankers," says Benjamin Quinlan, CEO and Managing Partner of the Hong Kong-based strategy consulting firm Quinlan & Associates. "So, if you want to start a virtual bank, and you need compliance professionals, lawyers, and people that understand the underlying operations of an actual bank, Hong Kong is great for that."

Hong Kong and the Future of Resilience

Few businesses can predict a pandemic, or its ensuing effects. But businesses in fintech and other financial and tech-oriented sectors based in Hong Kong were geographically positioned to meet the challenges by displaying a cultural openness to change—and an ability to change it by finding and hiring the right talent with the right skills at the right time.

If your organization is confronting similar internal challenges, or you're considering a launch, having a base in Hong Kong may help you manage the factors that could bring you short-term resilience and long-term growth.

HONG KONG
ASIA'S WORLD CITY



ILLUSTRATOR CHAD HAGEN

STRATEGY

Eliminate Strategic Overload

How to select fewer initiatives with greater impact

AUTHOR

Felix Oberholzer-Gee
Professor, Harvard Business School

STRATEGY

In the past few decades, strategy has become increasingly sophisticated and complicated. If you work for a sizable organization, chances are your company has a marketing strategy (to track and shape consumer tastes), a corporate strategy (to benefit from synergies), a global strategy (to capture worldwide business opportunities), an innovation strategy (to pull ahead of the competition), a digital strategy (to exploit the internet), and a social strategy (to interact with communities online). In each of those domains, talented people work on a long list of urgent initiatives.

Companies are right, of course, to consider all these challenges. Rapid technological change, global competition, and ever-evolving consumer tastes—to name just a few of the pressures companies confront—all conspire to upend traditional ways of doing business. By responding to each of the new challenges, we ask ever more of our organizations and place ever-higher expectations on our employees. When I visit companies to do research and write cases, I am astonished by how much people accomplish in short periods of time with limited resources—but also very concerned about their long work hours and seemingly impossible stretch goals.

With alarming frequency, all these well-intentioned initiatives don't add up to corporate success. Take firm profitability as one example: A quarter of the firms in the S&P 500 earn long-term returns below their cost of capital. How can it be that so many companies, their ranks filled with talented and highly engaged employees, have so little to show for so much effort? Why do hard work and sophisticated strategy lead to enduring financial success for some companies but not for others?

I believe that strategic management faces an attractive, back-to-basics opportunity. By simplifying strategy—by selecting fewer initiatives with greater impact—we can make it more powerful. In this article, I describe an easy-to-use framework called value-based strategy, which gives executives a common language for evaluating strategic initiatives and developing a holistic view of the many activities taking place within their organizations.

The Elements of Value-Based Strategy

There's a simple principle at the heart of this approach: Companies that achieve enduring financial success create substantial value for their customers, their employees, and their suppliers. Therefore, a strategic initiative is worthwhile only if it does one of the following:

Creates value for customers by raising their willingness to pay (WTP). If companies find ways to innovate or to improve existing products, people will be willing to pay more. In many product categories, Apple gets to charge a price premium because the company raises the customers' WTP by designing beautiful products that are easy to use,

> Unless an initiative creates value for customers, employees, or suppliers—unless it moves willingness to pay or willingness to sell—it's not worth doing.

for example. Gucci increases customers' WTP by creating products that confer social status. In casual conversations, we often use WTP and price interchangeably. But it is helpful to distinguish between the two. WTP is the most a customer would ever be willing to pay. Think of it as the customer's walk-away point: Charge one cent more than someone's WTP, and that person is better off not buying.

Too often, managers focus on top-line growth rather than on increasing willingness to pay. A growth-focused manager asks, "What will help me sell more?" A person concerned with WTP wants to make her customers clap and cheer. A sales-centric manager analyzes purchase decisions and hopes to sway customers, whereas a value-focused manager searches for ways to increase WTP at every stage of the customer's journey, earning the customer's trust and loyalty. A value-focused company convinces its customers in every interaction that it has their best interests at heart.

Creates value for employees by making work more appealing. When companies make work more interesting, motivating, and flexible, they are able to attract talent even if they do not offer industry-leading compensation. Paying employees more is often the right thing to do, of course. But keep in mind that more-generous compensation does not create value in and of itself; it simply shifts resources from the business to the workforce. By contrast, offering better jobs not only creates value, it also lowers the minimum compensation that you have to offer to attract talent to your business, or what we call an employee's willingness-to-sell (WTS) wage. Offer a prospective employee even a little less than her WTS, and she will reject your job offer; she is better off staying with her current firm. As is the case with prices and WTP, value-focused organizations never confuse compensation and WTS.

Value-focused businesses think holistically about the needs of their employees (or the factors that drive WTS). When the Gap learned that one of retail workers' biggest problems was the lack of predictable and personalized schedules, it experimented with standardizing the start and end times of work shifts and scheduled employees for the same shift every day. In addition, Shift Messenger, an innovative app created specifically for the multistore experiment, allowed workers to trade shifts freely. During a 10-month test period, labor productivity went up 6.8% and sales rose nearly $3 million in participating stores. By creating value for its workers, the Gap increased employee well-being—workers even reported better sleep quality—and the company's financial performance improved.

Creates value for suppliers by reducing their operating cost. Like employees, suppliers expect a minimum level of compensation for their product. A company creates value for its suppliers by helping them raise their productivity. As suppliers' costs go down, the lowest price they would be willing to accept for their goods—what we call their willingness-to-sell (WTS) price—falls. When Nike, for example, created a training center in Sri Lanka to teach its Asian suppliers lean manufacturing, the improved production techniques helped suppliers reap better profits, which they then shared with Nike.

Value-focused executives evaluate every strategic move, every idea that comes across their desk, through the lens of

IDEA IN BRIEF

THE PROBLEM
As companies respond to intensifying competitive pressures and challenges, they ask more and more of their employees. But organizations often have very little to show for the often Herculean efforts of their talented and engaged workers.

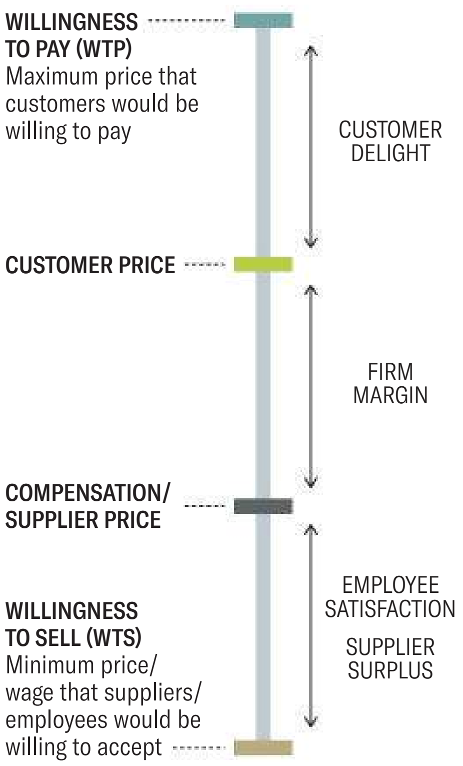
THE APPROACH
Leaders can address this problem by simplifying strategy—that is, selecting fewer initiatives with greater impact. A value-based strategy gives executives a holistic view of the many activities taking place within their organizations.

THE PROCESS
A strategic initiative is worthwhile only if it does one or more of the following: creates value for customers by raising their willingness to pay, creates value for employees by making work more attractive, or creates value for suppliers by reducing their operating cost.

Value-focused companies get to serve the very customers who like their products best, and they attract talent that values the organization's strategy and culture.

The Value Creation Opportunity

When companies find ways to increase customer delight, employee satisfaction, and supplier surplus, they expand the total amount of value they create and position themselves for extraordinary financial performance.



value creation. Unless an initiative creates value for customers, employees, or suppliers—unless it moves the needle on WTP or WTS—it's not worth doing.

This idea is captured in a simple graph, called a value stick. WTP sits at the top and WTS at the bottom. When companies find ways to increase customer delight and increase employee satisfaction and supplier surplus (the difference between the price of goods and the lowest amount the supplier would be willing to accept for them), they expand the total amount of value created and position themselves for extraordinary financial performance. (See the exhibit "The Value Creation Opportunity.")

Value-Based Strategy in Action

The strategic insight is simple; implementing it requires discipline. In my research work with organizations that exemplify value-based strategy, I've observed some key patterns.

They focus on value, not profit. Perhaps surprisingly, value-focused managers are not overly concerned with the immediate financial consequences of their decisions. They are confident that superior value creation will result in improved financial performance over time.

By contrast, companies obsessed with short-term returns often undermine value creation. In 1997, Excite, one of the original internet portals, declined to purchase the search technology that ultimately became Google for a paltry $1.6 million because it was *too good*. Excite's business model depended on advertising. The longer users spent on its site, and the more often they returned, the more money the company would make. In Excite's world, it was a terrible idea to quickly send users elsewhere by providing highly relevant search results. To optimize profitability, the company thought, it was best to have a search engine that was about 80% as good as other engines. Had its executives been thinking about value for their customers rather than their own bottom line, they would have made a different—and ultimately far more profitable—decision.

They attract the employees and customers whom they serve best. As companies find ways to move WTP or WTS, they make themselves more appealing to customers and employees who particularly like how they add value. Uber has twice the share of female drivers that taxi companies have because it made the job safer, increasing satisfaction for those drivers in particular. Florida's BayCare health organization is nationally recognized for the quality of its training programs. Not surprisingly, it is an attractive employer for health care professionals who value continuing education.

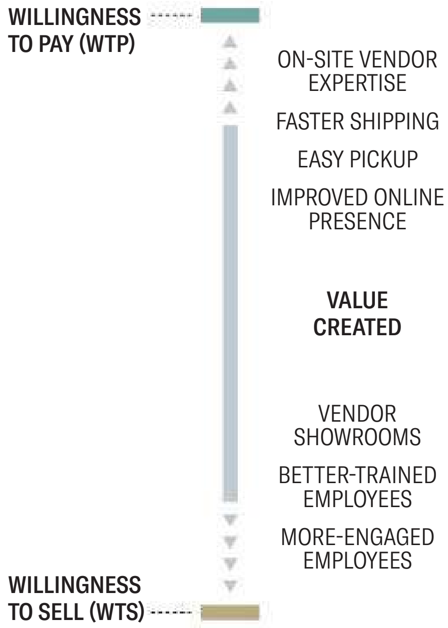
Similar dynamics play out in competition for customers. South Africa's Discovery insurance company creates value by offering an entire suite of health-improving services, including access to fitness clubs, health wearables, and even incentives to buy healthful foods in supermarkets. Predictably, individuals who are especially health conscious find Discovery's policies extra appealing.

It is an unfair advantage, really. Value-focused companies get to serve the very customers who like their products best, they attract talent that values the organization's strategy and culture, and they boost corporate performance.

They create value for customers, employees, or suppliers (or some combination) simultaneously. Traditional thinking, informed by our early understanding of success in manufacturing, holds that costs for companies will rise if they boost consumers' willingness to pay—that is, it takes

Best Buy's Value-Based Strategy

In response to increased competitive pressure from online and low-cost rivals, Best Buy transformed its physical stores from a liability to an asset. It invited suppliers to develop stores-within-the-store, raising willingness to pay and greatly increasing value for customers, vendors, and employees.



more-costly inputs to create a better product. But value-focused organizations find ways to defy that logic.

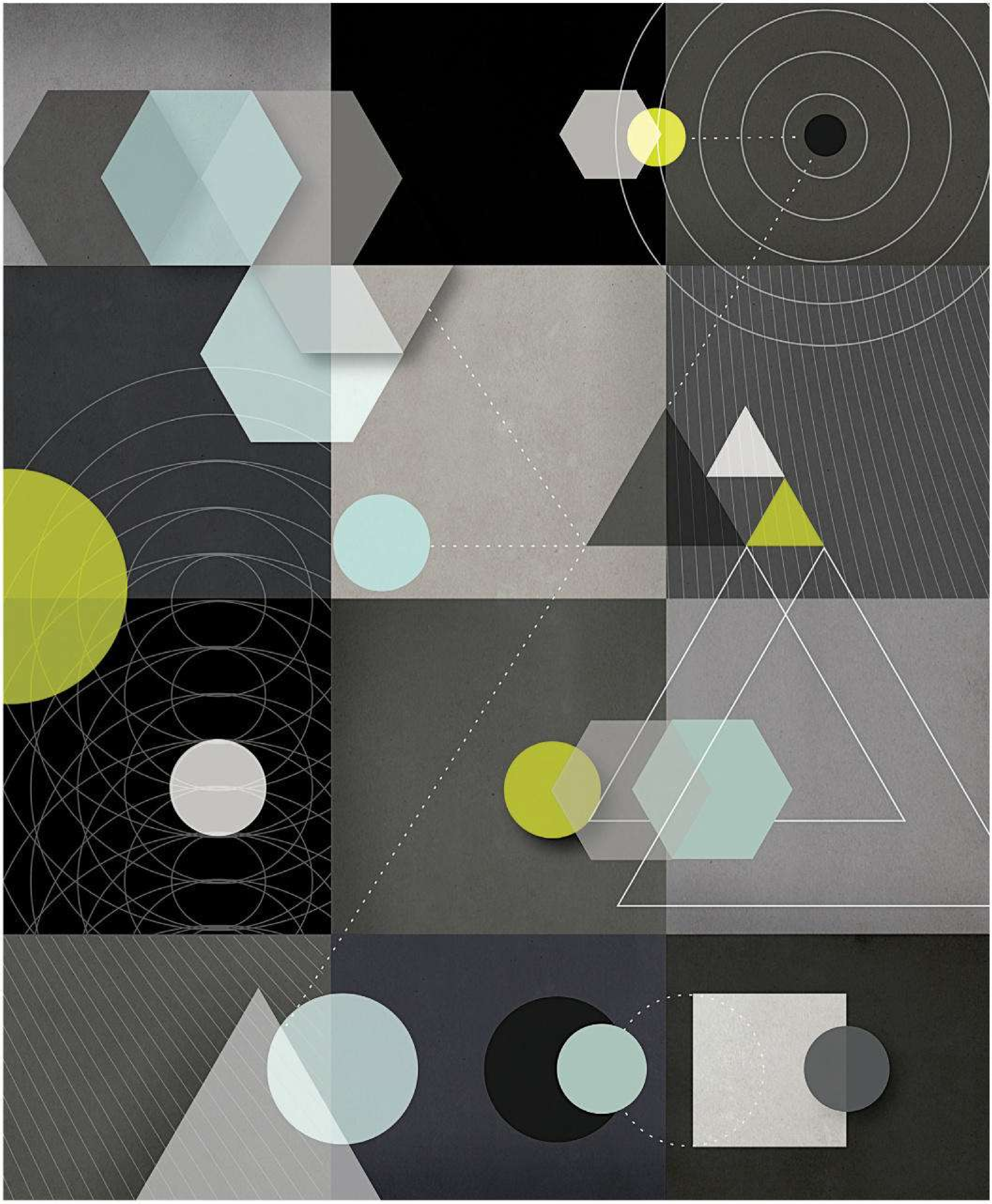
Best Buy, circa 2012, illustrates the point. Amazon was threatening the big-box giant by offering consumers a broad selection of products, aggressively priced. Walmart and other brick-and-mortar competitors were stealing market share by focusing on the most popular electronic devices and selling high volumes of them at low prices. Consumers had started to "showroom," visiting stores to decide what they liked and then buying products elsewhere online. In response, Hubert Joly, Best Buy's new CEO, led a far-ranging strategic and operational overhaul. Rather than thinking of Best Buy's more than 1,000 stores as liabilities, the company turned them into assets. They invited suppliers to create stores-within-the-store as a way to draw customers in and hold on to them. Apple, Samsung, Sony, and eventually even Amazon signed on, investing hundreds of millions of dollars in Best Buy's stores and subsidizing the company's employees. The stores-within-a-store concept allowed Best Buy to offer deeper product and sales expertise (raising customers' WTP) and also benefited the vendors by lowering their operating costs, thus increasing supplier surplus. In addition, the retailer started using the stores as distribution centers, which allowed it to beat Amazon on shipping times. And finally, the initiative changed how managers thought about Best Buy's online presence. The company had long seen its website as a substitute, threatening the core business, and so it had underinvested in it. Now the company reimagined the website as a way to allow customers to explore their options before coming to a physical store—and invested in building a strong online presence. (See the exhibit "Best Buy's Value-Based Strategy.")

The turnaround provided Best Buy with a new lease on life. As is typical for value-focused companies, the retailer found many ways to simultaneously increase WTP and WTS. Predictably, profits followed. By 2016, Best Buy's return on invested capital had climbed from negative territory to 23%, and its pretax margins had doubled.

Additional examples, from a variety of industries, abound. When Quest Diagnostics created more-attractive work conditions for its call center employees, attrition dropped, unplanned absences fell, and the percentage of calls answered within 60 seconds rose. In other words, employee-related costs went down (even though opportunities to make more money through exceptional performance increased) and the value created went up. Because of the improved service quality, Quest customers' willingness to pay went up at the same time. Zara's fast-fashion model reduces inventory (lowering suppliers' required working capital and increasing their surplus) and provides customers with the latest trends in cuts and color (increasing their WTP). Progressive's fleet of emergency vehicles allows the insurer to take better care of customers who have had an accident, increasing WTP, and it lowers fraud and administrative expenses, reducing costs and WTS.

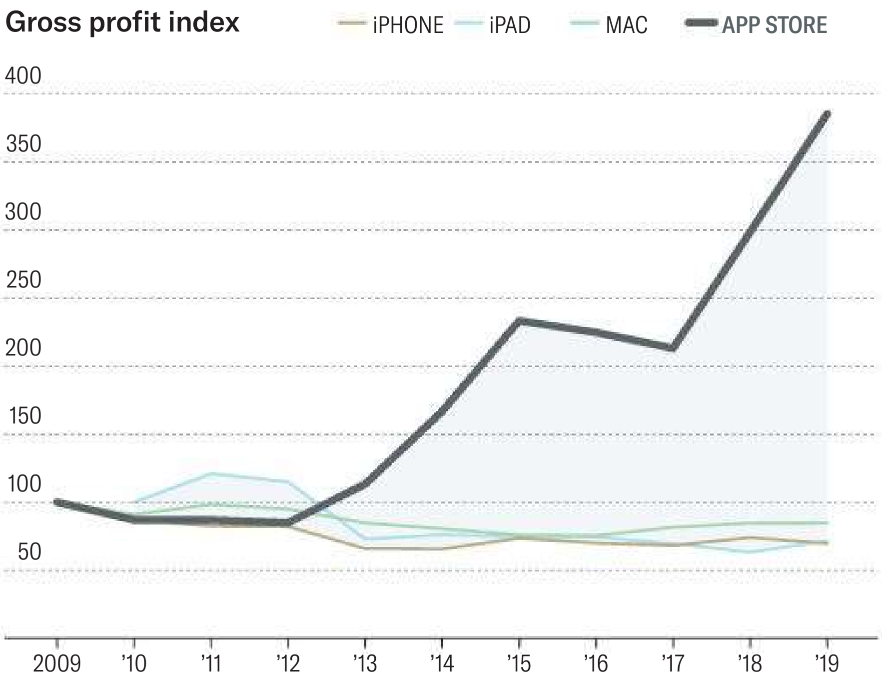
They pursue complements as a rich source of value creation. Value-based organizations are good at spotting complements, or products and services that enhance the value of their core offering. Complements are a familiar feature of the strategy landscape—think printers and cartridges, coffee machines and capsules, tablets and e-books. But at the outset, they can be difficult to identify. When I ask students what would complement a movie theater's offering, they think of popcorn and Coke, advance ticket sales, and more-comfortable seats. They rarely suggest childcare services—but that's what Harkins Theatres, an Arizona-based chain of movie theaters, offers its patrons. It staffs its play centers with trained professionals who look after children while their parents watch a movie, pager in hand to inform them if problems arise. As this example illustrates, complements often seem unrelated to the core business. Identifying them requires you to think creatively about customer journeys.

Even if a new offering is quite obviously a complement to an existing business, keeping a close eye on the customer's journey can uncover new ways to use it to create customer value. Amazon beat Sony on e-readers even though it was late to the market, had no technology advantage, and



Apple’s Shifting Profit Pool

As competition in hardware intensified, it became tougher for Apple to earn a higher WTP on its devices, so it shifted its profit pool to software, increasing gross margins in its app store fourfold from 2009 to 2019. (Calculating Apple’s margins is tricky, but detective work by analysts Horace Dediu and Kulbinder Garcha reveals the dramatic shift.)



was working with a more limited marketing budget. How? Wireless access. The Kindle’s free 3G internet access made books an impulse purchase and turned out to be of huge value to customers—and thus to Amazon.

Complements raise customers’ willingness to pay for the core product, whereas substitutes have the opposite effect—so you might think that it’s easy to distinguish between the two. But this is true only in hindsight. Personal computers were supposed to be a substitute for paper. (Remember the paperless office?) They turned out to be a complement: As personal computers became ubiquitous, the demand for paper exploded. ATMs were thought to eliminate bank teller positions. They didn’t. Digital music formats proved to be a substitute for CDs—but a complement for live concerts. Across many examples and industries, business history reveals a clear pattern: Companies often mistake complements for substitutes. Value-focused organizations are better at spotting the true relationship between new technologies and legacy products because they are keenly aware of how customers benefit from technological changes. By contrast, companies that focus on sales growth and monetization see most advances as threats to their business models. They habitually take a defensive stance, missing important opportunities to create value in novel ways.

They shift profit pools to capture value over time. Traditionally strategists have differentiated between value creation (the topic of this article for the most part) and value capture (how to make money from the value you’ve created). Value-focused businesses concentrate on the former, but they tend to be flexible about the latter. Because they take a broad view of customer needs, they frequently offer solutions that go beyond their core products. These product-and-service bundles enhance value capture opportunities because they allow businesses to shift their profit pools from one offering to another as the life cycle of the product—or the market overall—changes.

Apple’s mobile devices are a good example. Early in its history, the iPhone was clearly differentiated from competing products and provided substantial value for its customers. Apple later created services like iTunes, but it barely monetized them. Keeping the price of complements low, the company understood, further increased the appeal of Apple hardware. More recently, however, it is harder to argue that customer WTP for Apple’s devices is far higher than the WTP for competing phones. How did Apple respond to the increased competition? It shifted the profit pool from hardware to services (or apps), the segment where its competitive standing is barely contested. (See the exhibit “Apple’s Shifting Profit Pool.”)

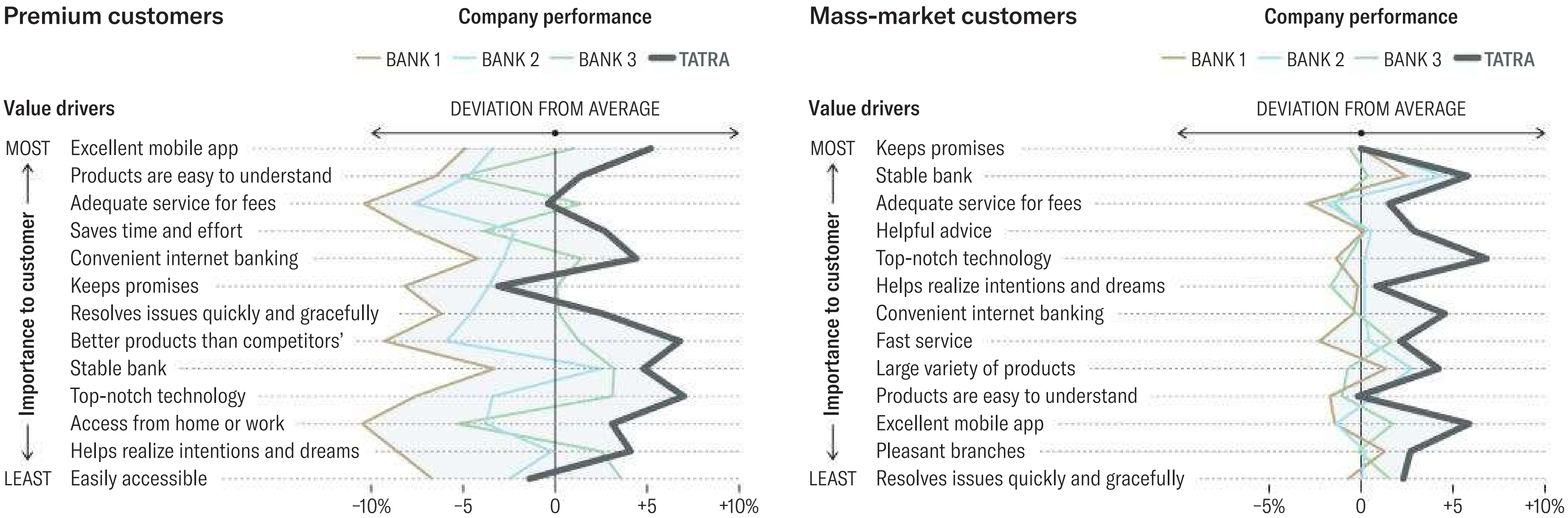
Shifts in profit pools are not unique to Apple. Amazon subsidizes the Kindle to boost the WTP for e-books. Microsoft shifts profits from its game console to the games. The Indian ride-sharing company Ola created an entire suite of payment options (including Hospicash, an innovative offering that covers travel to hospitals and postdischarge expenditures) that contribute to Ola’s strategic flexibility. Two patterns are noteworthy. First, businesses tend to shift profit pools away from hotly contested markets to segments where it is easier to defend high margins. Second, the financial consequences of these shifts are particularly favorable if the products are complements: As the price of one product declines, WTP (and value capture opportunities) for the complement increases.

Getting Started

WTP and WTS sit at the core of value-based strategy, but because the concepts are quite abstract, it can be challenging to see how to bring them to life in your organization. At Harvard Business School, we often use a visualization tool

Tatra's Customer Value Maps

As these value maps demonstrate, Tatra banka's value proposition is better aligned with the preferences of premium customers than its competitors'. It has more room for improvement with its mass-market customers.



Source: Tatra banka and Kantar Slovakia

called the value map to help executives identify strategic opportunities. It's proven helpful for anything from a half-day examination of a particular business to a full-bore strategy overhaul, and it's useful for testing the tenets of value-based strategy against whatever's happening in your company.

You begin by selecting a group of customers: your most profitable segment, perhaps. Next you compile a list of criteria that are important to those customers when they make a purchase. These criteria are called value drivers. Think of them as the product and service attributes that determine WTP. You then rank the value drivers from most to least important from the customers' point of view. In a final step, you determine for each driver how good your company is at meeting customers' expectations and do the same for your major competitors.

It's important not to make assumptions about what your customers value most and how well you deliver. If you're going to reformulate your strategy on the basis of your value map, you need good data to assist you in building it. When I see companies undertake a serious value-map analysis, there is almost always a surprise—a driver that turns out to be less critical than commonly thought or an unexpected level of performance on another dimension. These surprises aside, I find that most companies have a fairly accurate sense about their own performance but tend to know far less about how their customers view the performance of their competitors. That too requires research and data gathering.

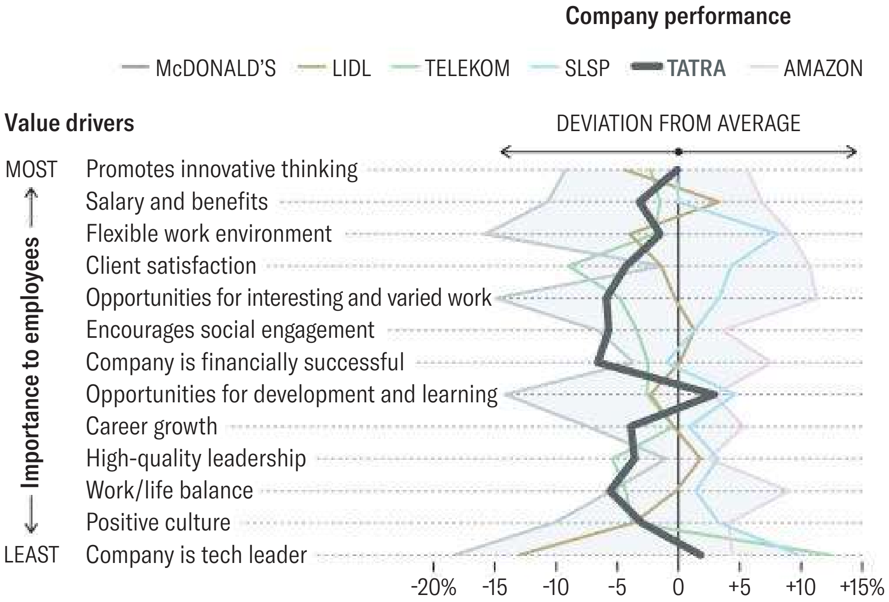
Consider the two value maps for Tatra banka, Slovakia's first postcommunist private bank. Founded in 1990, Tatra quickly led European banking in the adoption of digital technology. It first offered mobile banking in 2009 and introduced voice biometrics in 2013 and facial recognition in 2018, earning more than 100 awards for its innovative services. As I worked with Tatra to develop its strategy, the bank collected data from customers through surveys and interviews and used it to create value maps for premium and mass-market customers. Looking at the maps, it is evident why Tatra had particular success with the former segment: Excellent mobile technology is what premium customers value most, and the bank led its competitors on that measure. Mass-market customers, by contrast, were most concerned with whether the bank kept its promises, one of the areas where Tatra did not stand out. (See the exhibit "Tatra's Customer Value Maps.")

Value drivers can serve as innovation engines because they live midway between the rather abstract notion of WTP and WTS and the very specific attributes that describe your current product or service. This has two advantages. First, value drivers are useful for analyzing the existing business. It's a straightforward task to link a given value driver to operating models and KPIs and to compare performance with that of competitors. Second, they can be helpful in thinking about opportunities, because they don't specify in any detail how you will meet a particular customer need. They help you explore new ways to satisfy customers, employees, and suppliers. Focusing on value drivers, rather than patterns of past success or industry trends, you are less likely to equate business success with selling more of what you already offer. (See the exhibit "Value Maps for Employees and Suppliers.")

Once you've created the map, it's time to identify the drivers that offer the most potential for future value creation and

Value Maps for Employees and Suppliers

Value maps also provide a deep understanding of employee or supplier willingness to sell. Here we see that Tatra lags competing employers in satisfying the value drivers that matter most to tellers.



to think through strategic initiatives that will support them. That work is too nuanced and company-specific to do justice to here (a fuller description is available in my book *Better, Simpler Strategy*), but keep these three principles in mind.

Invest in a small number of related value drivers. Choosing how to improve your company's value proposition is ultimately a question of forecasting the return on various investment opportunities. How much does it cost to move a particular value driver, and what increase in WTP can you expect in return? Many companies find it beneficial to identify a cluster of related value drivers that add up to a bigger theme. This helps them stand out in the minds of their customers ("Tatra is the technology leader in banking"), and it is operationally efficient because closely related drivers are often supported by similar activities. For instance, building digital capabilities allowed Tatra to improve on several important value drivers.

Resist the temptation to play catch-up. When executives first study their value maps, many concentrate on drivers where their company lags, and they quickly identify initiatives that would allow them to catch up with the competition. This is a mistake. The ability to capture value depends on differences in value creation. When a customer is choosing between two companies with nearly identical value maps, her attention will go to price. The greater the similarity between two companies' value maps, the greater the pressure to compete on price. The goal is to increase differentiation, not to close gaps.

Insist on making trade-offs. When I work on value maps with executives, they understand in the abstract that all companies need to choose where to focus their energy and resources. But when they examine their own value maps, they want to bring every value driver up to the maximum rating. I see this so often that I know it's a powerful impulse—but it needs to be quashed, because a strong strategy always involves trade-offs. No company can be good at everything.

CREATING VALUE FOR customers, employees, and suppliers sits at the very heart of strategies that result in stellar performance. In the best companies, this orientation toward value creation is reflected in every decision made by employees at all levels of the organization. The focus on creating value shows up in big strategic plans and in small everyday choices.

A few years ago, I had an interaction with a salesperson at a flower shop that illustrates how a focus on value creation can permeate an entire organization, even in the briefest of customer interactions. I had meant to send flowers to a friend for her birthday, but her day came and went and somehow I forgot. A few days later, I remembered and called the shop to place an order. It was late afternoon, and the salesperson asked whether I wanted to have the flowers delivered that day or the next. I confessed to being late for my friend's birthday and urged the salesperson to send them as quickly as possible. Her response caught me by surprise. "Shall we take the blame for the late delivery?" she asked.

I didn't want her to lie for me, of course, so I didn't take her up on the offer. But even in that brief conversation, I recognized that this salesperson didn't see her job as simply selling flowers. Rather, she was focused on creating value for her customers by increasing their WTP—which she did. The following year, I received an email from the flower shop a few days before my friend's birthday, reminding me it was time to place an order. I did so, at what seemed to me an inflated price. But I was willing to pay it as a fair trade for the shop's solving my problem—a win for the flower shop's strategy.

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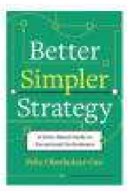

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LEADERSHIP DEVELOPMENT

The High Cost of Poor Succession Planning

A better way to find your next CEO

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PHOTOGRAPHER **BALINT ALOVITS**

In August 2013, Steve Ballmer abruptly announced that he would step down as chief executive of Microsoft as soon as his replacement could be found. Thus began one of the most important CEO searches in the past decade—and a case study in the dos and don'ts of senior leadership succession.

At the time Microsoft was the third-most-profitable company in the United States and the fourth most valuable. Nevertheless, this well-respected global technology giant didn't seem to have a plan for replacing Ballmer, even though he had, according to most informed observers, underperformed for years. (Critics cite his slow move into mobile, social media, and video along with ill-fated acquisitions and product reboots.) While a few high-profile executives, such as Windows chief Steven Sinofsky and Xbox head Don Mattrick, had jumped ship during his tenure—another sign of trouble—with a workforce of 100,000, Microsoft surely could have identified other promising candidates in senior management roles, not to mention outsiders, who'd be ready to step in for Ballmer.

Instead, Microsoft seemed to start from square one, concentrating mostly on external candidates. According to the director who chaired the search committee, the board cast a wide net across a number of industries and skill sets, identified more than 100 candidates, talked with several dozen, and then focused intensely on about 20. Among them was Steve Mollenkopf, the COO of Qualcomm, who fell out of contention when he was promoted to that company's top job. Alan Mulally, who had just turned around Ford and was the favorite candidate, took his name off the list in January—at which point the press described Microsoft's board as turning to Plan B.

Finally, in February, six months after Ballmer had declared himself a lame duck, Microsoft announced that an insider, Satya Nadella, would become the third CEO in its history.

We know now that despite that bumbling succession process, Nadella was a terrific pick. He moved Microsoft away from fiefdoms and a "know-it-all" culture and toward a more open, collaborative "learn-it-all" one; built up the cloud-computing business; made Office available on all smartphones; and executed dozens of accretive acquisitions, including the purchase of LinkedIn. In his first nine months as CEO, Microsoft's stock rose 30%, increasing its market value by $90 billion. As we write this, seven years into his tenure, it is the world's second-most-valuable company.

But what if Microsoft hadn't promoted Nadella? What if its hastily put together, extremely broad, and externally focused search had resulted in the hiring of an outsider? What if Mulally, who had no tech sector experience, had been appointed? Why hadn't the board already been grooming Nadella—a 21-year veteran of the company with clear leadership competence, cultural fit, and expertise in

ABOUT THE ART

Balint Alovits's project Time Machine *explores Budapest's Bauhaus and art deco spiral staircases, using perspective and the repetition of form to evoke a sense of infinity.*

IDEA IN BRIEF

THE PROBLEM

Many large companies fail to pay adequate attention to their top-level leadership pipelines and succession processes, which results in excessive turnover and significant value destruction for companies and investment portfolios.

THE RESEARCH

Analysis suggests that the market value wiped out by badly managed CEO and C-suite transitions in the S&P 1500 alone is close to $1 trillion a year. Better succession planning could, by contrast, help the large-cap U.S. equity market add a full point to the 4% to 5% annual gains Wall Street projects for it.

THE ADVICE

Companies—and especially their directors—must plan leadership changes before they're needed, identify and develop rising stars, give them access to the board, look at both internal and external candidates, and partner cautiously with executive search firms.

up-and-coming areas of technology—or any of his similarly qualified peers?

While Microsoft did make the right decision in the end, its lack of planning could have led to a costly disaster.

Like Microsoft, many large companies fail to pay adequate attention to their leadership pipelines and succession processes. And most of them don't get as lucky as Microsoft did. In our combined nine decades of experience in executive search and talent development (Claudio), professional investment (Carrie), and management and financial research (Gregory), we've seen flawed succession practices lead to excessive turnover among senior executives and, in the end, significant value destruction for companies and investment portfolios.

In our recent research we've attempted to quantify those costs. According to our analysis, the amount of market value wiped out by badly managed CEO and C-suite transitions in the S&P 1500 is close to *$1 trillion* a year. We estimate that better succession planning could help the large-cap U.S. equity market add a full point to the 4% to 5% annual gains that Wall Street projects for it. In other words, company valuations and investor returns would be 20% to 25% higher.

In this article we'll examine those findings and then make recommendations for how to significantly improve corporate performance and investor returns through better practices for grooming and selecting CEOs. Of course, these lessons can apply to succession planning for other key senior management roles as well.

QUANTIFYING THE PROBLEM

In our opinion large companies' excessive tendency to hire leaders from outside is one of the biggest problems with succession practices. This propensity incurs three major kinds of costs: underperformance at companies that hire ill-suited external CEOs, the loss of intellectual capital in the C-suites of the organizations that executives leave behind, and for those companies promoting from within, the lower performance of ill-prepared successors.

A landmark study that Rakesh Khurana and Nitin Nohria of Harvard Business School conducted years ago sheds light on the first kind of cost. Khurana and Nohria examined the impact that different types of CEO succession had on operating returns in 200 organizations over a 15-year period. They compared four scenarios: (1) an insider promoted in a firm doing reasonably well; (2) an insider promoted in a firm doing poorly; (3) an outsider hired in a firm doing reasonably well; and (4) an outsider hired in a firm doing poorly. They found that, on average, insiders didn't significantly change their company's performance. That makes sense: Similar people working in similar ways at the same company will produce similar results. With outsiders, the change was much more extreme. In the infrequent cases when a company was doing very poorly, outsiders added great value, on average. But at companies doing reasonably well, outsiders destroyed massive value. This suggested that companies looking for a new CEO should hire external candidates only in exceptional cases, when a major turnaround or cultural change is called for.

Other research has confirmed that external hiring usually doesn't deliver on its promise. For example, Matthew Bidwell of the Wharton School of Business found that while outsiders often appear to have better experience and education than insiders do, they are paid more, perform worse, and have higher exit rates. Additional studies support that: One by Cláudia Custódio, Miguel Ferreira, and Pedro Matos showed that external CEO hires were paid 15% more than internal hires, on average; and one by Sam Allgood and Kathleen Farrell revealed that CEOs brought in from the outside have an 84% greater chance of turnover than insiders in the first three years, usually for poor performance.

Another recent study found that companies often choose outsiders because they have already served as CEOs elsewhere—indicating the firms value previous experience in the role over insiders' potential to excel. But that experience rarely guaranteed success: When the researchers looked at S&P 500 CEOs who had led more than one company, they found that 70% had generated better performance the first time around.

Despite those downsides, S&P 1500 companies hired their CEOs from outside 26% of the time from 2014 to 2018, according to ExecuComp data—perhaps because, as Wharton's Peter Cappelli has found, companies have an irrational bias toward exciting and unblemished external hires whom they know less about.

We wanted to investigate how external CEOs performed relative to what insiders might have done in the same positions. Without the ability to rewind time and play out

Large companies' excessive tendency to hire leaders from outside is one of the biggest problems with succession practices.

different scenarios, that would seem impossible to do. However, we believe that with statistics, we can predict what would have happened with different CEO hires.

We used a technique known as structural self-selection modeling (SSSM), directly derived from Nobel Prize winner James Heckman's research. It is similar to the multiple regression modeling that companies frequently employ in forecasting and scenario-planning exercises. We first identified 80 independent variables, including firm characteristics (like size and capital expenditures), sector, risk, board structure, and short- and long-term performance before and after a change in CEOs. The performance metric we used was cash-flow return on assets, which unlike operating return on assets accounts for the reorg and restructuring costs that are frequent following the arrival of an outsider CEO.

We then looked at every instance in which an outsider CEO was hired to lead a public U.S. firm over a 17-year period and calculated the change in cash-flow return on assets for his or her tenure. We plugged the 80 independent variables for each of those companies into the SSSM to create a "counterfactual": what the expected change in cash-flow return on assets would have been if the company had promoted an insider. We found that only 39% of outside hires would have done better than a theoretical inside hire.

Of course, nobody knows in advance what the performance of any appointed executive will be. But boards should base consequential and risky hiring decisions on their best estimate of future outcomes. Our analysis shows that in only 7.2% of instances will an outside CEO hire have a 60% chance of outperforming an insider, and in a mere 2.8% of cases will he or she have a 90% chance of outperforming an insider.

Dramatic as those figures are, they tell only part of the story. One key knock-on effect of external choices for CEO and other senior positions is the loss of intellectual capital in the C-suites of the firms those executives were hired from. And because on average executives perform worse at the company they jump to, the negative impact on the entire market is even greater. We can calculate the effect that loss of intellectual capital has on market valuations by both analyzing the impact of sudden CEO departures and using the economic model provided by Hanno Lustig, Chad Syverson, and Stijn Van Nieuwerburgh to track how much intellectual capital a departing manager can transfer to his or her next employer.

Our analysis shows that the decrease in intellectual capital at new executives' previous employers leads to a 0.7 percentage point reduction in total shareholder returns for the S&P 1500, or $255 billion, each year. When we add in the underperformance at the firms hiring external CEOs, total shareholder returns fall by about another half a percentage point, costing investors an additional $182 billion. The final impact, where companies do promote CEOs from within but fail to properly prepare them to take over, costs an additional 0.3 percentage point, bringing the total loss across the S&P 1500 portfolio to $546 billion. To calculate the third cost, we drew from a study of 2,900 companies done by Olubunmi Faleye of Northeastern University, which found that the return on assets of firms with poorly prepared internal CEO successors is significantly lower than that of firms that properly prepared them. A simple extrapolation of these findings to global equity markets, collectively worth about $58 trillion at the time of this writing, implies that the total annual costs to global shareholders would amount to $870 billion. This global estimate is probably conservative, given that governance, succession, and talent practices usually are significantly better in the United States than in most other countries. We're currently extending our analysis to other major equity markets to try to confirm it.

Another negative by-product of poor succession planning and excessive outside hiring is rising CEO compensation as companies compete for the same top executives. *Financier Worldwide* reported that at the top 350 U.S. companies, average CEO pay had climbed to $17 million in 2018, or about 278 times a typical employee's compensation. From 1978 to 2018, CEO pay had jumped by more than 1,000%, while the average worker's pay had risen just 12%. Though those figures are shocking, our analysis shows that skyrocketing CEO compensation actually plays only a small role in value destruction. The main costs of ill-considered successions remain poor performance by outsider CEOs, loss of C-suite intellectual capital at the firms that CEOs and other top executives leave behind, and ill-prepared internally promoted executives.

One final note: We intentionally focused this analysis on large firms because we believe that's where the problem of poor succession at the top is most acute. Small firms usually lack a deep talent pool, so they can be better served by hiring CEOs from the outside.

LEADERSHIP
DEVELOPMENT

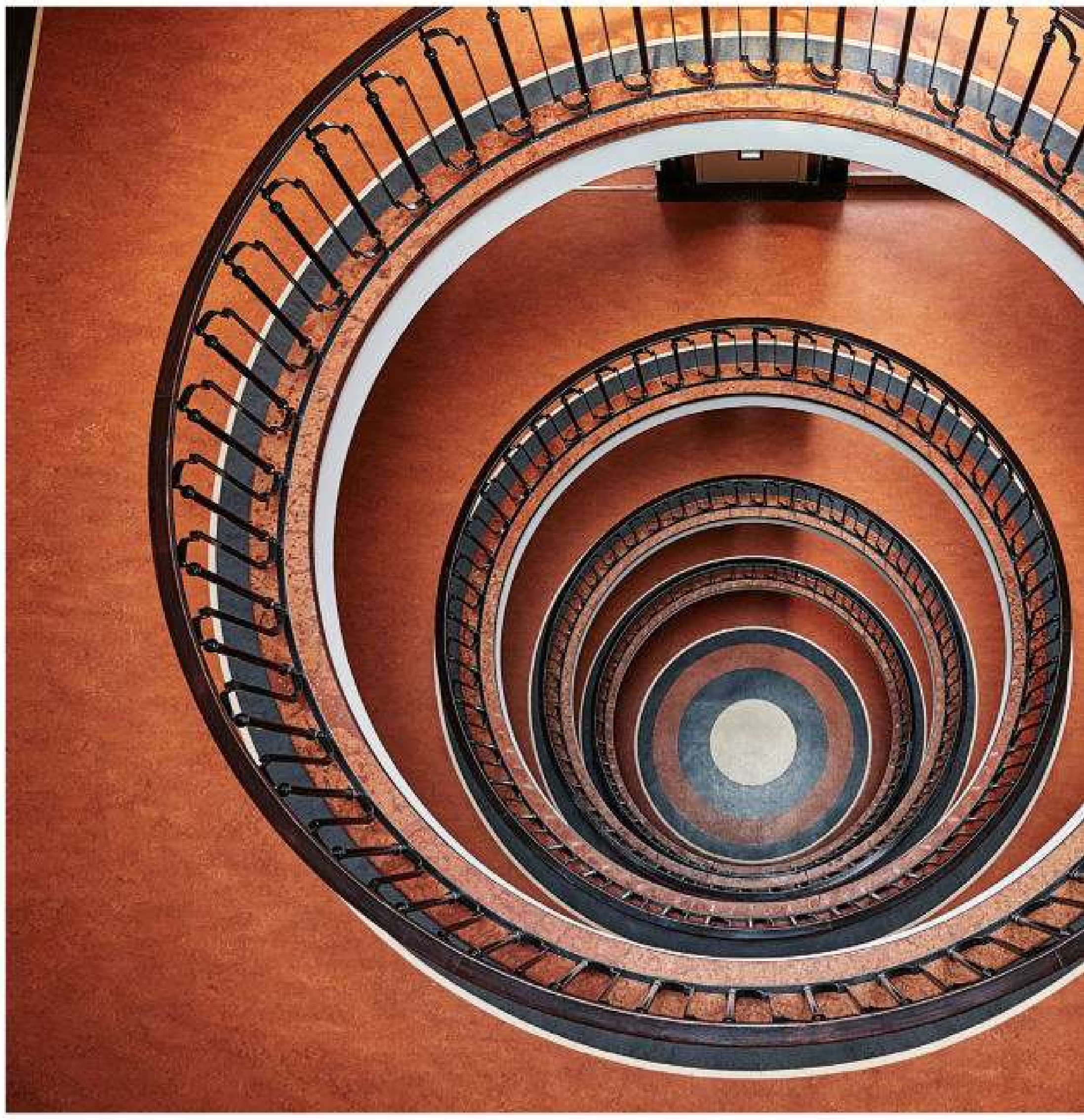
IMPLEMENTING SOLUTIONS

Why are some of the world's biggest and most powerful organizations getting CEO appointments so wrong? For five main reasons: lack of attention to succession, poor leadership development, suboptimal board composition, lazy hiring practices, and conflicted search firms. Here are some recommendations for fixing those problems.

Plan succession well before you think you need to. According to PwC's latest *Strategy&* "CEO Success" study, in 2018 turnover among CEOs at the world's largest 2,500 companies reached nearly 18%—the highest rate PwC had ever tallied. A disturbing 20% of those departing CEOs were forced out, and for the first time in the study's history, more CEOs were dismissed for ethical lapses than for financial performance or conflicts with their boards. Looking forward, we suspect that unanticipated CEO turnover will continue to rise because of the growing attention to moral issues (such as sexual harassment) and industry and market volatility.

Despite this trend, boards continue to be caught off guard because they haven't spent enough time developing talent and mapping out possible lines of succession. Some believe that having a casual "if the CEO gets hit by a bus tomorrow" plan, which picks a replacement but doesn't prepare or vet that person or weigh alternatives, is enough. It is not. Others delegate succession planning to the CEO, which is an equally unacceptable abnegation of duty. For instance, we know of a major company, valued at hundreds of billions of dollars, with a CEO in his late sixties who has been unwilling to properly develop any potential replacements. Unfortunately, because the firm's recent results and stock market performance have been good, board members are afraid to confront him.

Succession planning should start the moment a new CEO is appointed. Take Ajay Banga, the former chief executive and current chairman of Mastercard: He began discussing when he might cede the CEO role to a successor even as he was interviewing for the job himself. The process should remain robust, with directors constantly monitoring and if need be adjusting the pipeline. If there isn't already a potential successor among the CEO's direct reports, the board should look to the next level and consider advancement and development opportunities that will help executives there progress. If that level is empty, directors can promote or hire high potentials into it or the C-suite. While hiring externally



is usually not ideal, it's much less risky to do it at a lower level than in the top job.

Purposefully identify and develop your rising stars. By now most directors know the attributes and skills that senior executives need. At the leadership advisory firm Egon Zehnder, where one of us (Claudio) worked for three decades, the list used for CEO searches includes intelligence and values. The firm also assesses candidates on strategic orientation, market insight, results focus, and customer impact, and their competence at collaborating with and influencing others, organizational development, leading teams, and change management. Meaningful succession planning calls for finding rising managers who either have the right levels of all those capabilities or, more likely, the potential to develop them. Four critical traits—curiosity, insight, engagement, and determination—signal potential, and with the proper coaching and support, people who demonstrate them can be groomed for high-level positions. (For more on this subject, see "Turning Potential into Success: The Missing Link in Leadership Development," HBR, November–December 2017.)

One important development area for any CEO is emotional intelligence, which encompasses flexibility, adaptability, self-control, and relationship management. You might think that those soft skills would be more challenging to learn than hard ones such as calculus or coding. But as Richard Boyatzis of the Weatherhead School of Management has conclusively demonstrated, people can pick up these crucial leadership competencies even as adults.

Another way for boards to help potential successors get ready is to insist that they be given challenging rotations and stretch assignments, as was common at General Electric in its glory days and is practiced with great success at Unilever and McKinsey today. When you expose your highest potentials to new geographies, businesses, situations, and functions, you can become a leadership factory.

Appoint the most promising executives to the board—or give them more access to it. In the United States, in part because of regulatory mandates following executive malfeasance at Enron, Tyco, and other companies, most large companies' boards have become fully independent, with the CEO as the only employee director. Faleye found that the proportion of U.S. boards set up this way exploded from about a third in 1998 to more than two-thirds in 2011. Our analysis shows that the percentage of fully independent boards has continued to increase, rising to 76% by 2018.

While there are clear benefits to getting oversight and advice from outside experts, we believe independent boards are less equipped to manage CEO succession. With so little exposure to internal up-and-comers but extensive knowledge of potential external hires from their own organizations and other board experiences, directors are understandably more likely to favor outside CEO candidates or be unduly influenced by individual opinions. As one veteran director recently told us, "It's scary to see how little insight boards have about top internal executives these days; a lot of the views are painted, either too positively or too negatively, by the sitting CEO."

We believe that boards should make room for one to three executives who are potential successors to the CEO. Not only does that allow directors to see likely candidates in action, but it better prepares those individuals to take on the top job. When Faleye compared the performance of internally promoted CEOs who had prior director experience against that of insiders who lacked it, he saw that during their first two years the CEOs with board experience had an average return on assets that was 12.5 percentage points higher. Interestingly, this massive difference disappeared during year three, suggesting that while both types of executives had similar levels of competence and potential, the exposure to strategic board-level discussions as well as the relationships established with directors drastically flattened learning curves.

Indra Nooyi, for example, joined PepsiCo's board when she was the company's CFO—five years before becoming its CEO. Watching her firsthand, the board became confident in her competence and potential and, after her appointment as CEO, was more open to her plans to radically transform the company by expanding its portfolio beyond sugary drinks and steering it toward greater social responsibility. During Nooyi's tenure as CEO, PepsiCo's net profit increased 122%.

If you have too many directors already or too many promising potential CEO successors in your ranks, an alternative (though suboptimal) approach is to ask your rising stars to frequently attend and present at board meetings. This will improve their exposure, contributions, and development. Before the pandemic, good boards ran dedicated off-sites or group trips where directors and top executives, and even their spouses, could connect professionally and

> Boards should make room for one to three executives who are potential successors to the current CEO. Board experience helps prepare those individuals to take on the top job.

personally. As boards get back into their rhythms post-Covid, we hope that such in-person social interaction will resume. For further development, you might also encourage some of your most likely successors to selectively join other companies' boards.

Look at internal and external candidates. The best practice is to carefully outline your ideal CEO profile and then look both inside and outside for the person who best matches that description. While we believe that every company should first master the art of spotting internal talent and create succession plans based on its current roster, we also see value in external searches for benchmarking and comprehensiveness. (And so do companies like Mastercard, PepsiCo, P&G, and American Express.) Research from the Center for Creative Leadership has consistently shown that when companies consider wide pools of insiders and outsiders, executive appointments are more successful. Whether you're shopping for a house or for your next top executive, comparative evaluations produce better decisions.

Make sure to conduct thorough assessments of all candidates, even the insiders who are well known to the board. Consider not who has performed the best until now but who is ready to meet the future challenges of the CEO role and has the potential to continue adapting in a volatile, uncertain, chaotic, and ambiguous world. Judge everyone against your job specs, grill candidates in well-structured interviews, and conduct in-depth reference checks. This is the only way to avoid appointing the wrong people to the job.

If you partner with search consultants, avoid the usual perverse incentives. Executive search firms can usually add great value to succession efforts. Consultants with the right training and experience can identify the competencies that each senior position requires, get more out of interviews and reference checks, and distinguish potentially great performers from the rest. Such consultants also tend to have trusting relationships with candidates, sources, and references.

However, the search profession as a whole still probably hurts as much as it helps, owing to two blatantly perverse incentives: the contingency arrangement and the percentage fee. Most search consultants are compensated when they produce a hire, regardless of that person's fitness for the job or origin. They make no money on inside hires, who don't need to be found and brought in. Traditionally, search consultants are paid a third of the new executive's annual cash compensation (salary plus bonus). As a result, whether consciously or unconsciously, many oversell high-priced outsiders and shoot down internal alternatives. The solution is to swap the percentage fee with a prearranged fixed fee that's based on the importance of the position and the complexity of the search and to replace the contingency fee with a retainer so that the consultant is paid the same no matter who is appointed. (Of course, the retainer fee makes financial sense only if you're planning to use the consultant for enough search and advisory work to justify the cost.)

Even if you have those two things right, you should still use search consultants only in special situations—for example, if your internal candidates are unsuitable, you can't identify or access appropriate external candidates on your own, or your company is entering a new business, region, or period of strategic change. Then approach the selection of your consultant as you would any other people decision: Ask for recommendations, consider multiple firms, and check references. Once you've developed a short list, meet the recruiters in person to get a read on their relevant experience, as well as their level of professionalism, candor, and concern.

COMPANIES AND INSTITUTIONS must do a better job of getting CEO succession right—their organizations, their industries, and their market returns depend on it. We hope this article helps senior executives, directors, and investors recognize the magnitude of the problem and act accordingly. Microsoft shouldn't have required a long and public search to conclude that Nadella was the right leader to get the company back on track after Ballmer's years of struggle. It should have already had him—and even other potential successors—waiting in the wings. How many rising stars like Nadella do you have at your company—and what can you do tomorrow to put them on a path to becoming your next (and ideally best ever) CEO?

HBR Reprint R2103F

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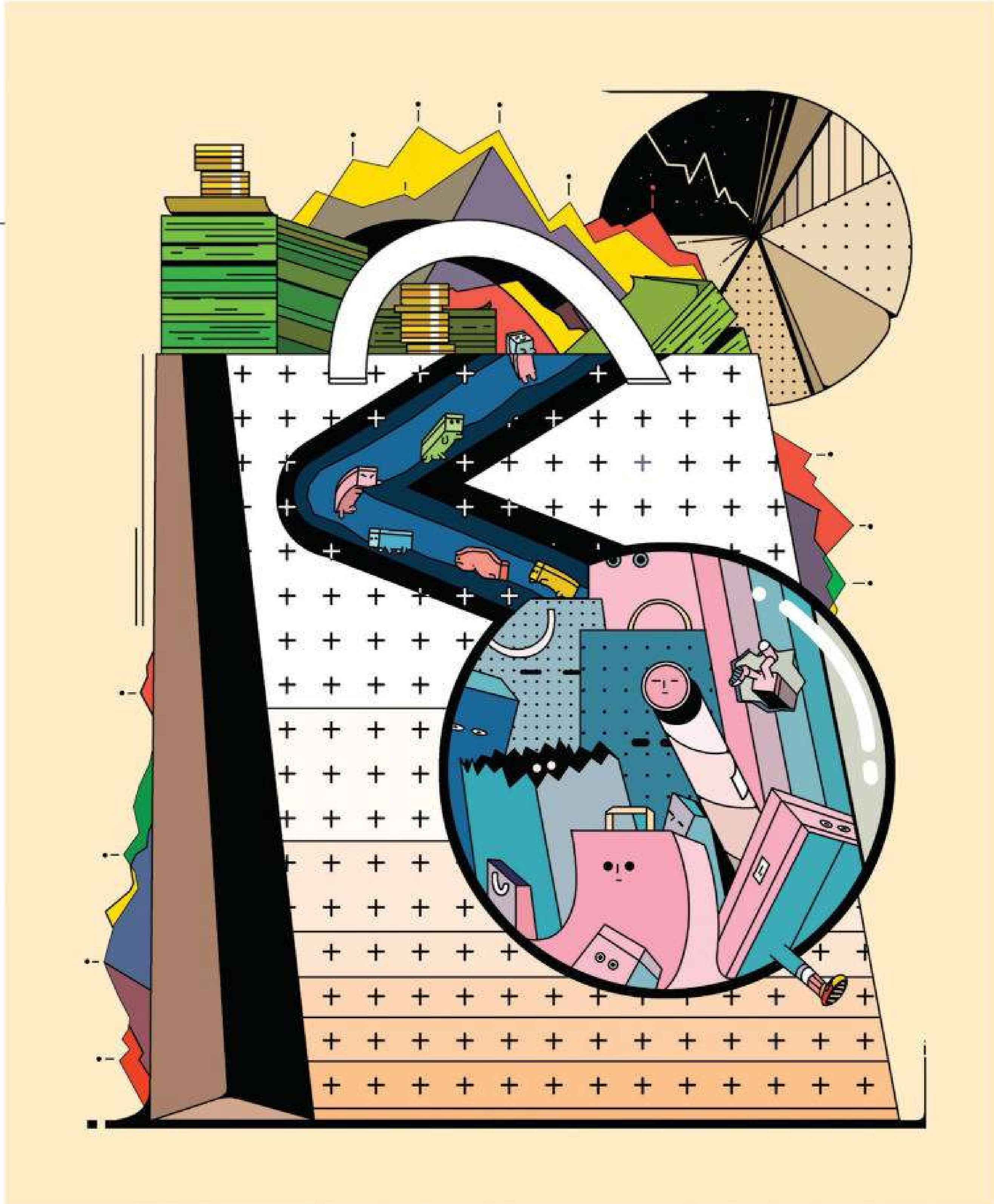
Don't Let Platforms Commoditize Your Business

How to make them work for your brand

ILLUSTRATOR ORI TOOR

COMPETITION



IDEA IN BRIEF

THE PROBLEM
Sellers of products, services, and content on large digital multisided platforms face fierce price competition, squeezed margins, and a loss of control over customer relationships.

THE ROOT CAUSE
With more and more business migrating online, sellers have grown increasingly dependent on the platforms to gain access to vast numbers of customers.

THE SOLUTION
Sellers can employ several strategies to take advantage of platforms while minimizing the risk of commoditization. They can develop and invest in direct channels while using platforms as showrooms to bring in new customers. They can either go deep on a platform, with highly specialized offerings, or go broad, with many different offerings that leverage expertise in specific platform features. And they can wage public relations and lobbying campaigns to take advantage of increased regulatory scrutiny of platforms.

Large digital multisided platforms (MSPs) such as Amazon, Alibaba, and Apple's App Store have made it much easier for sellers to reach new customers, but as thousands of companies large and small have discovered, conducting business on them carries significant risks and costs.

> Even if it is impossible to avoid operating on key platforms, sellers should limit their dependence by investing in their own channels to reach and serve customers directly.

Sellers are drawn into increasingly intense price competition as MSPs attract more and more of them. The platforms sometimes exploit sellers' dependency in subtle and not-so-subtle ways. They raise fees. They change their recommendation algorithms to put more emphasis on price. They require sellers to advertise if they want to maintain visibility in search results. They compete with sellers by imitating their products. They restrict the prices sellers can set elsewhere. And they change their rules and designs in ways that weaken sellers' relationships with customers.

A broad spectrum of enterprises are grappling with these problems, including sellers on Alibaba and Amazon; app developers on Apple's iOS and Google's Android; restaurants on DoorDash, Grubhub, and Uber Eats; hotels on Expedia and Booking.com; small businesses on Tencent's WeChat; and media outlets on Facebook, Google, and Twitter. And antitrust authorities and regulators around the world are investigating some of the largest MSP operators, including Amazon, Apple, Facebook, and Google, for possible abuses of their market power.

But all is not lost. Sellers can employ a number of strategies and tactics to avoid being exploited and commoditized. We have grouped those measures into four categories.

Develop and Invest in Your Direct Channel

Even if it is impossible to avoid operating on key MSPs, sellers should limit their dependence by investing in their own channels, such as branded websites and apps, to reach and serve customers directly. Given the widespread availability of business-in-a-box solutions such as Shopify, BigCommerce, Magento, WooCommerce, Mailchimp, Square, Appy Pie, and Wix, creating a fully functional online storefront is increasingly easy and affordable. The key difference between relying on those providers of software tools and relying on an MSP is that the former exert no control over brands' relationships with their customers. For example, Shopify provides all the digital tools and infrastructure a brand needs to sell online, typically without consumers' realizing that the brand's store is powered by it. Part of the reason Shopify is so appealing to online merchants (it has more than one million of them as customers) is that unlike Amazon, Shopify is not a marketplace connecting them with consumers and therefore does not commoditize them. As Shopify's founder and CEO, Tobias Lütke, has said, "Amazon is trying to build an empire. Shopify is trying to arm the rebels."

Similar business-in-a-box solutions are popping up in other market segments where MSPs are trying to build empires. Consider restaurants. DoorDash, Grubhub, and Uber Eats enable consumers to place takeout orders and arrange for delivery. Because restaurants have become increasingly reliant on them in the past five years, they now charge a 20% to 35% commission. According to some reports, they also engage in questionable practices (for example, Grubhub has allegedly created shadow websites that lead consumers to believe they are ordering from restaurants directly). They stand in contrast to ChowNow and Olo, two fast-growing start-ups providing back-end technology that lets restaurants sell directly online. Restaurants pay those companies subscription fees to power their websites and mobile apps and to provide other services associated with orders, payment, restaurant-specific loyalty programs, and marketing. But each restaurant keeps full control of its customer relationships and its chosen delivery and sales channels.

The downside to business-in-a-box solutions, of course, is that sellers must figure out how to get customers to their sites. The solutions providers can help to some extent through partnerships. For instance, Shopify partnered with Facebook in May 2020 to allow its merchants to create storefronts on Facebook and Instagram. It partnered with Walmart that June to allow its merchants to easily become third-party sellers on Walmart's e-commerce marketplace. By "multihoming," or listing on multiple MSPs, sellers become less reliant on any one platform. That means they can more easily delist from a platform that pushes unfavorable terms. And the threat to jump ship sometimes keeps an MSP in check, especially if it comes from a strategically important seller. (Disclosures: One of us, Julian, has consulted for Facebook, and HBR publishes content there.)

In recent years the "Shopify for X" approach has been applied in more and more sectors, and a variety of firms now help arm the rebels. Dumpling lets people start their own personal-shopping businesses so that they can reduce or eliminate their dependence on MSPs such as Instacart. Lyte provides the technology and tools for venues and event owners to control their ticketing, allowing them to bypass

StubHub and Ticketmaster. NearSt lets brick-and-mortar retailers in the United Kingdom make their inventories searchable on Google without listing them on Amazon. (Disclosure: Both of us are investors in NearSt.)

Use MSPs as Showrooms

Few sellers can become completely independent of MSPs, given the huge numbers of buyers the platforms attract. But by taking advantage of business-in-a-box solutions, sellers can use MSPs mainly as funnels for obtaining new customers. This approach gives them more control over their customer relationships, including customer data, enabling them to better tailor their offerings and differentiate themselves. Essentially, it lets them use MSPs as showrooms.

One tactic for doing so is to offer deals and directions to the seller's own channel when filling orders through an MSP. For example, restaurants can drop coupons into the bags picked up by food-delivery platforms, steering customers to their websites and offering discounts on the next direct order.

Sellers should also consider limiting their offerings on MSPs by presenting a broader variety of products, services, and loyalty rewards in their direct channels. Some do so with Amazon: They use the platform to obtain a first order (possibly for a loss-leader product), and when filling it they include a coupon aimed at attracting the consumer to their own channel for repeat orders, sales of other products, and subscriptions.

Of course, a powerful way to induce consumers to switch to a direct channel is to charge lower prices there. Some MSP contracts forbid that. For example, Booking.com and Expedia prohibit hotel websites from posting room rates that are lower than the ones they offer. Many hotel chains have responded by giving customers loyalty rewards and additional perks, such as the ability to choose specific rooms and to access upgrades, when they book through the hotel's own channel.

Go Deep or Go Broad

Doing business on MSPs forces sellers to choose one of two means of building competitive advantage and withstanding the threat of commoditization: They can go deep, by offering a highly specific product or service and leveraging MSPs' economies of scale, or they can go broad, by offering many different products or services and leveraging economies of scope.

Going deep. Specializing in a product or service is generally a good strategy for achieving competitive advantage—and it's even more important for sellers operating on MSPs. Digital platforms usually make it easy for consumers to compare many offerings and find their ideal product. And by breaking down geographic barriers and accumulating very large user bases, they greatly increase a seller's reach. Taken together, those qualities mean that becoming the highest-quality or lowest-cost provider in a narrowly defined product or service category is significantly more valuable for sellers who conduct business on MSPs.

Deep specialization on an MSP can create a self-reinforcing cycle. The more a product aligns with what consumers are searching for, the higher its ratings will be, increasing the chances that the platform's algorithms will drive target customers to it. That means more people will buy and rate the product, further heightening its advantage. Thus, highly specialized sellers can build a sustainable competitive advantage over time.

Take Anker, a Chinese company specializing in computer and mobile-phone peripherals such as chargers and power banks. With a market value of nearly $73 billion, it is one of the most successful third-party sellers on Amazon.com. "Amazon reviews are the single most important input to our new-product development process," founder Steven Yang has said. Initially only on Amazon, Anker now sells through many channels, including offline ones such as Best Buy, Target, and Walmart.

Examples in other contexts include unique and hyper-specialized content providers on YouTube (such as 5-Minute Crafts, Dude Perfect, and MrBeast), Facebook (Bored Panda), and Instagram (9GAG). The more views and likes they obtain, the higher their revenues, which they can invest in producing more and better content, leading to ever-larger audiences.

Going broad. Alternatively, sellers can build expertise around specific MSP features, which they can then leverage across multiple products and services to take advantage of economies of scope. Some third-party sellers on Amazon's marketplace have developed highly efficient processes for

The regulatory scrutiny of large platforms creates opportunities for sellers to drum up public support for their causes and to push back against practices that commoditize them.

listing, marketing, and selling products, allowing them to resell products from smaller merchants who lack comparable expertise.

One of the most successful adopters of this strategy is Thrasio, a third-party seller on Amazon. Founded in July 2018, it achieved unicorn status (a market value of more than $1 billion) in just two years—a record. It did so by aggressively acquiring other Amazon third-party sellers (more than 40 in that time, and another 50 by the end 0f 2020) and leveraging its operations, marketing, and search expertise to grow their sales. The economies of scope it exploits come from sharing best practices about how and what to sell in terms of pricing, advertising, product, and listing design across the more than 10,000 products it offers (from pet-odor eliminators to socks and kitchenware) and from cross-selling those products. It also benefits from economies of scale in shipping and ad spending for placement on Amazon. Other firms adopting a so-called rollup strategy on Amazon include Boosted Commerce, Heyday, and Perch, all of which have raised significant venture funding.

A version of this strategy is employed by Wave.tv, a rapidly growing start-up that publishes offbeat sports content on social media MSPs, including Instagram, Facebook, Snapchat, TikTok, and YouTube. Wave.tv acquires or licenses content from many sources and leverages its technology and data analytics to repackage it under more than 15 brands, including BenchMob, Haymakers, and Buckets, increasing the content's reach on the many MSPs on which it operates.

Although the go-broad strategy ideally involves aggregating a large number of products or services, even small to medium-size sellers can consider it. For them, the idea is to develop processes that take advantage of certain MSP features to create economies of scope across just a handful of products. That's an especially good option if the current sellers of those products are underperforming.

Choosing the optimal strategy. Deep specialization is the best strategy for small "native" sellers—ones that started out on an MSP. In fact, one of the most important ways in which the platforms create value is by generating unprecedented opportunities for niche products or services to succeed.

Going deep is also likely to be the best option for sellers (small or large) with established businesses outside the MSP in question. Because they already have a successful offering, they can more easily adapt it to the MSP than build expertise around specific MSP features that they could leverage horizontally—an area where "non-native" sellers have no comparative advantage. Still, they should recognize that succeeding on an MSP may require much more specialization than they needed on their own.

Going broad is a natural move for native MSP players that have succeeded with a specialized offering but run out of room to grow in that niche. They can leverage the deep expertise acquired while selling that offering through an MSP to expand horizontally to other products or services. Going broad is also increasingly the preferred approach for sellers, such as Thrasio, that were created and capitalized specifically to take advantage of the economies of scope available on large MSPs.

Sometimes exogenous capacity constraints limit what can be achieved by going deep. This is true of hosts on Airbnb (who face physical occupancy constraints) and restaurants on DoorDash and Grubhub (who have staffing and time constraints). That's not to say that all Airbnb hosts should rush to acquire more apartments or that all restaurants should start operating so-called cloud kitchens (shared facilities optimized for food delivery). Given that they have limited resources and have already carved out a niche, many will be better off doubling down on what makes them unique.

Wage Public Relations and Lobbying Campaigns

The intense scrutiny and criticism of large MSPs by regulators, researchers, and the media creates opportunities for sellers large and small to drum up public support for their causes and to push back against practices that commoditize their businesses.

Sellers can employ numerous tactics to that end, including negotiating more aggressively, taking to social media, bringing complaints to antitrust authorities or the courts, and joining with other participants to fight specific MSP practices. Epic Games—publisher of the wildly popular Fortnite—has made good use of all those tactics in its ongoing dispute with Apple. The disagreement is mainly over Apple's requirement that payments for purchases of digital items within iOS games go through its App Store so that it can collect a

COMPETITION

The intriguing possibility exists that some sellers could turn the tables on their platforms and at least partly commoditize *them.*

30% commission. In addition to demanding lower fees, Epic released a parody of Apple's iconic 1984 commercial, which riffed on George Orwell's dystopian novel as it introduced the Macintosh personal computer, to enlist support for its cause. It also filed an antitrust suit and, with Spotify, Match Group, and other Android and iOS developers, created the Coalition for App Fairness to lobby regulators. Those efforts caused Apple to relent on some policies—for example, by streamlining the process for approving app updates. In November 2020 it also announced that it would halve its commission for app developers with annual revenues below $1 million.

And consider restaurants in New Delhi, which in August 2019 mounted a coordinated public campaign against the large food-delivery MSPs they depend on: Zomato, Swiggy, and Uber Eats. The protest, headlined on Twitter with the hashtag #Logout, was aimed at forcing the platforms to reduce the deep discounts offered to consumers, the cost of which was borne by restaurants. The pressure forced Zomato's CEO to publicly apologize and to accede to some of the demands.

Going forward, it may be useful for sellers to know which MSP practices are likely to raise regulatory and antitrust concerns; that knowledge can point them toward the types of complaints that are most likely to succeed. Today, the easiest targets are restrictions on what sellers can do outside the MSPs they're on. Those include requirements we mentioned earlier, such as the ones Apple has used to prevent developers from bypassing its App Store, along with exclusivity clauses that prohibit sellers from operating on other platforms. Alibaba is under investigation in China for its exclusivity clauses, and Grab has been banned from imposing them on drivers in Singapore. Other promising targets include the contract restrictions we've described—so-called price-parity and most-favored-nation clauses—that are widely used by hotel-booking and other price-comparison MSPs to prevent sellers from setting lower prices in competing channels. Some of those restrictions have been lifted in Europe in response to regulatory pressure, and Amazon quietly removed its most-favored-nation clause from contracts with third-party sellers in the United States in 2019 (as it had done in Europe six years earlier).

Sellers can also push back against unfair competition from MSPs. Some platforms have used proprietary data generated by third-party sellers to launch competing products (both Amazon and Apple have been accused of doing so), and some engage in "self-preferencing," treating their own offerings more favorably in search and ranking algorithms than those of third-party sellers (as Amazon and Google have been accused of).

The recent Digital Markets Act in Europe provides further guidance on which MSP practices are likely to raise regulatory concerns. Most relevant to sellers, in addition to the practices just described, are attempts to prevent them from promoting their offerings directly to users obtained through the MSP, attempts to make them purchase services linked to the MSP's core offering, and restrictions on their ability to access and port the data they generate through the MSP.

AS NEW TOOLS and technologies enable sellers of all sizes to take more control of their destinies, and as new regulations reduce the risk of being held up by large MSPs, sellers can build powerful businesses on top of those platforms with greater confidence. We will see more of them leverage MSPs to reach large scale and financial success, as Anker and Thrasio did with Amazon. And the intriguing possibility exists that some sellers could turn the tables on their MSPs and at least partly commoditize *them*. For instance, the legal battle between Epic and Apple might well result in Apple's losing its ability to exclude rival app stores and payment systems from the iPhone. If that happens, some developers will almost certainly offer their own specialized app stores; it's not hard to imagine an Epic store for games or a Spotify store for music. More generally, we expect the emergence of new sellers that will create new types of platforms on top of iOS and Android platforms. The large MSPs of tomorrow could well be built by the MSP sellers of today.

HBR Reprint R2103G

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ADVERTISEMENT

CIIE a stepping-stone to exploring opportunities in China's manufacturing industry

CHINA'S VALUE-ADDED industrial output reached 31.3 trillion yuan ($4.8 trillion) last year, making the country the largest manufacturing power in the world for 11 consecutive years, the Ministry of Industry and Information Technology said on March 1.

Lured by the ever-expanding manufacturing sector of China, many multinationals have turned their eyes to the vast opportunities in the Chinese market. For those interested in tapping into the potential of the booming Chinese manufacturing industry, the China International Import Expo (CIIE) might be just the right gateway.

The CIIE is the world's largest import expo and one of the top 10 business shows in the world, with the full breadth of the global marketplace on display.

The global trade fair caters to a complete range of industries, including food and agricultural products, automobiles, intelligent and information technology, consumer goods, medical devices, healthcare products, and trade in services.

Among the different segments, the Intelligent Industry Information Technology Exhibition Area highlights the latest products and technology in the manufacturing industry. In 2020, the area spanned more than 70,000 square meters and housed more than 300 enterprises from nearly 40 countries and regions.

Despite COVID-19, the area welcomed many newcomers last year, including Cheniere Energy, one of the largest liquefied natural gas producers in the United States. The company had a 150-sq-meter booth that displayed its new technologies and products.

Epson and Konica Minolta also made their debuts in this area during the third CIIE. A host of other leading brands, including GE, Hitachi, Siemens, Schneider Electric, Caterpillar, John Deere, and Volvo, were also featured here.

Last year, the Intelligent Industry Information Technology Exhibition Area also housed the Energy Conservation and Environmental Protection subsection, which focused on fields including water saving, new energy, resource recycling, and environmental protection.

A new special subsection for integrated circuit exhibitors will be set up at this year's CIIE, according to the CIIE Bureau.

Along with the newly added subsection, a special committee for the integrated circuit industry will also be established to serve as an advisory body, a move aligned with the expo's aim to become more specialized in different industries.

Previously, the CIIE set up a special committee on industrial digital transformation, which is committed to integrating the entire industrial chain for industrial digital transformation and offering advanced digital transformation solutions to enterprises in the field of industrial production to help these companies increase efficiency and improve quality.

About 10,000 exhibitors, including Global Fortune 500 companies and industry leaders, attended the first three editions of the CIIE.

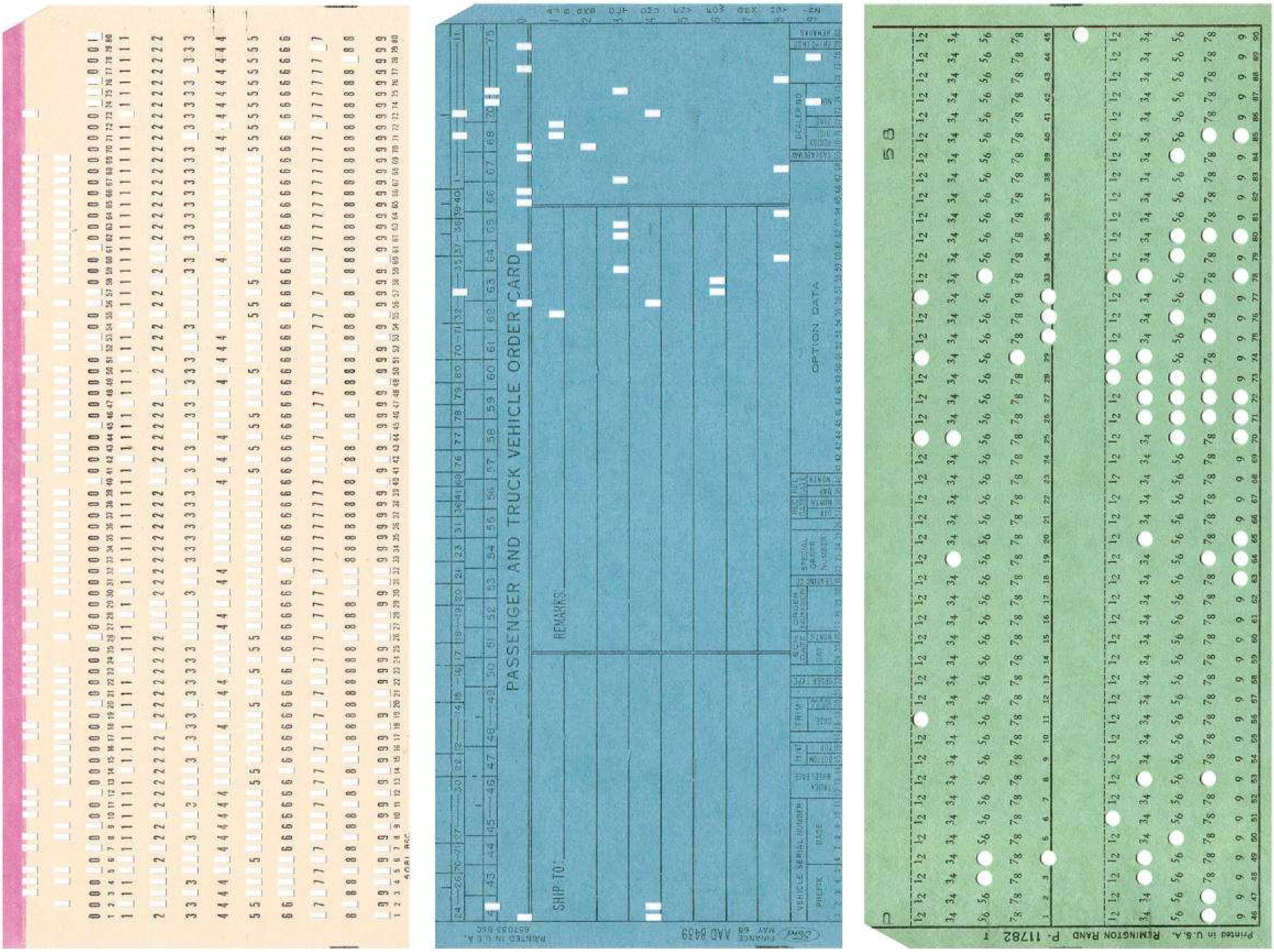
No other event in the world provides a better stage with such scale and influence for Asian and global product debuts. In the past three editions, more than 1,300 products and services have made their global or Chinese debuts at the expo.

Preparations for the fourth CIIE are proceeding smoothly, and more than 60% of the exhibition area has been booked.

Companies interested in attending the fourth edition can register at https://www.ciie.org/exhibition/f/book/register?locale=en. You can also contact: ciie2021@ciie.org.

TECHNOLOGY

Getting AI to



Don’t try to change everything at once,

Scale

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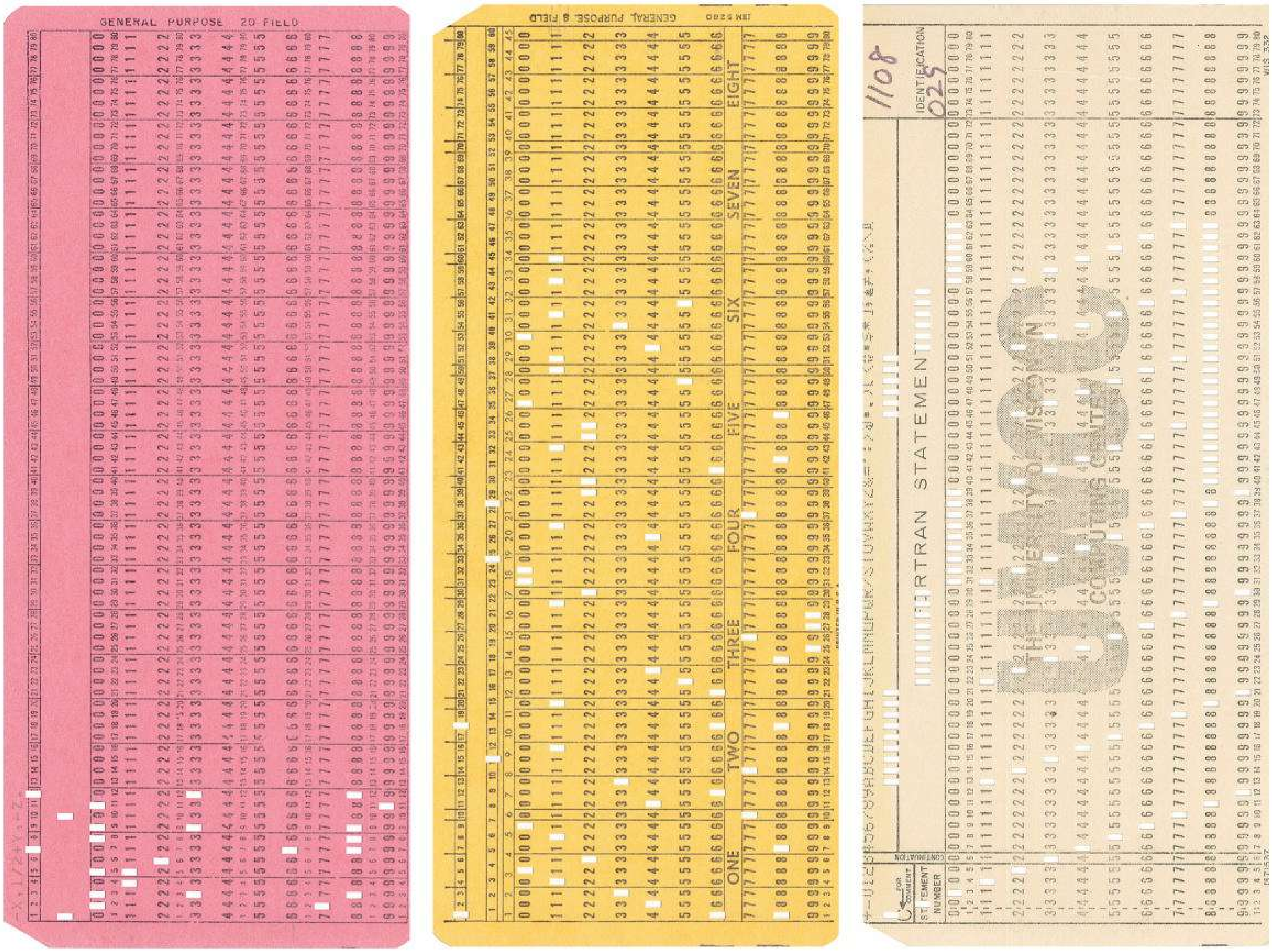
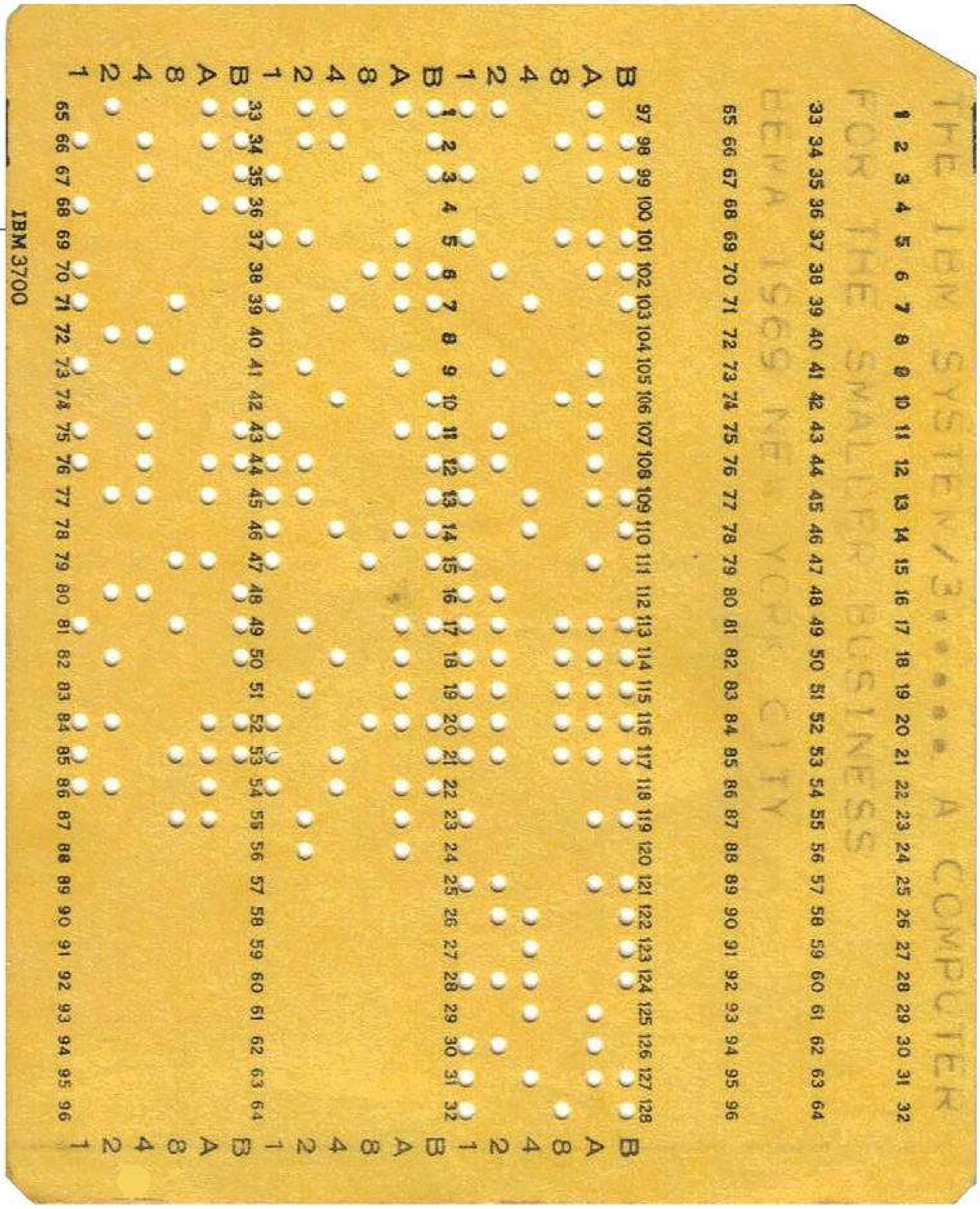


but do begin with something important.



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IDEA IN BRIEF

THE PROBLEM
Most companies aren't setting themselves up to realize the full potential of AI. That's because they focus on applying it in discrete use cases, which delivers only incremental change and requires much more effort to scale up.

THE SOLUTION
Organizations are most successful when they reimagine a core business process, journey, or function enabled by AI end to end. That allows each AI effort to build off the previous one, triggering an organic cycle of change.

HOW TO MAKE IT HAPPEN
Leaders must help their organizations identify business domains where AI can make a big difference and target one or two for a complete overhaul. That will involve deploying new technology, redesigning operational processes, changing how people work together, and even fundamentally rethinking business models.

MOST CEOS RECOGNIZE THAT artificial intelligence has the potential to completely change how organizations work. They can envision a future in which, for example, retailers deliver individualized products before customers even request them—perhaps on the very same day those products are made. That scenario may sound like science fiction, but the AI that makes it possible already exists.

What's getting in the way of that future is that companies haven't figured out how to change themselves to meet it. To be fair, most have been working hard to incorporate digital technologies, in some instances genuinely transforming the way they serve their customers and manufacture their offerings.

ABOUT THE ART
Patrick Fry's series Print Punch *explores the aesthetics of the punch card and reflects on a time when data was physically tangible.*

To capture the full promise of AI, however, companies must reimagine their business models and the way work gets done. They can't just plug AI into an existing process to automate it or add insights. And while AI can be employed locally across functions in a laundry list of specific applications (known as *use cases*), that approach won't drive consequential change in a company's operations or bottom line. It also makes it much harder and more costly to get AI to scale, because each far-flung team must reinvent the wheel with respect to stakeholder buy-in, training, change management, data, technology, and more.

But that doesn't mean companies should try to overhaul the whole organization with AI all at once. That would almost certainly end in failure. A complete makeover is an enormously complicated process involving too many moving parts, stakeholders, and projects to achieve meaningful impact quickly.

The right approach, we've found, is to identify a crucial slice of the business and rethink it completely. Introducing changes throughout an entire core process, journey, or function—what we call a *domain*—will lead to a major improvement in performance that isolated local applications simply cannot match. It also will enable each AI initiative to build off the previous one by, for example, reusing data or advancing capabilities for a common set of stakeholders. We've seen this approach trigger an organic cycle of change within domains and, ultimately, build momentum for the use of AI throughout the larger organization as business leaders and employees see it work. Moreover, this approach promotes a mindset of continuous improvement in the workforce, which is crucial because AI technology is advancing rapidly, requiring organizations to think of AI transformations as ongoing rather than one-time efforts.

Ultimately, the companies that can't take full advantage of AI will be sidelined by those that can—as we already see happening in several industries, like auto manufacturing and financial services. The good news is that over the past year many companies (even firms with limited analytics capabilities) have begun developing the skills required to capture AI opportunities, as the Covid-19 crisis forced them to alter the way they did business almost overnight. Now the challenge will be applying those skills to pull off larger initiatives.

In the following pages, we'll draw on our experience working with hundreds of clients, including some of the world's largest organizations, to describe what companies need to do to get AI to scale.

STEP 1

SET THE STRATEGY

It can be challenging to get the scope of AI initiatives just right. We advise CEOs to target areas of the business where AI will make a big difference in a reasonable period of time; it's relatively easy to find a sponsor, get stakeholders to buy in, and put together a team; and there are multiple interconnected activities and opportunities to reuse data and technology assets. (To find out if you haven't scoped your initiatives correctly, see the sidebar "Signs You're Thinking About AI Too Broadly or Too Narrowly.")

Potential impact. The chosen domains should be large enough to significantly improve either the company's bottom line or customer or employee experiences. One airline we advise determined that it had 10 main business domains fitting that description: cargo, crew, revenue management, e-commerce, customer service, airports, maintenance, network planning, operations, and talent. But it started with cargo, where it had identified a portfolio of AI initiatives that could be completed in about 18 weeks. The first would deliver some $30 million in additional profit by enabling more accurate forecasting of cargo volumes and weight and increasing the use of shipping capacity.

In another case a telecom provider chose to redesign its process for managing customer value (which spans all the ways a company interacts with its customers), using AI to understand and address each customer's unique needs. That work quickly reduced the time it took to execute marketing campaigns by 75% and enabled the company to lower customer churn by three percentage points. The company expects those improvements to add $70 million to its bottom line by the end of 2021.

Interconnected activities. Promising domains encompass a clear-cut set of business activities whose recalibration can solve systemic problems like chronic inefficiencies (such as lengthy loan approval times), high variability (rapidly fluctuating consumer demand), and routinely missed

There will be a start-up investment for the first model or two created, but over time new projects can build off past ones, dramatically reducing development time and cost.

opportunities (difficulties getting products to customers). In many cases AI solutions may address the root causes of these problems, partly through the insights delivered and partly through organizational improvements.

The airline identified six closely intertwined cargo activities: negotiating rates, allocating space, booking reservations, documenting shipments, managing ground operations and delivery, and billing. Customer satisfaction and pricing were both dependent on factors such as the availability of space on short notice, the ability to track shipments in real time, and the speed of delivery. When the six activities were reconfigured so that they could feed data into an AI-supported platform, the company was able to significantly reduce systemic waste while greatly improving the customer experience—bolstering its margins and its reputation at the same time.

Sponsor and team. In a promising domain you can readily identify the following:

- an internal business champion responsible for the entire value chain involved (at the airline, it was the vice president of cargo)
- dedicated senior business staff (at the airline this included the senior director of cargo and two of his direct reports) who can fill the roles of "product owner" (the person responsible for solution delivery), translator (who bridges the analytics and business realms), and change lead (responsible for change management efforts)
- a team of AI practitioners, such as data science and engineering experts, designers, business analysts, and a scrum master (these practitioners may also be drawn from a central team in the organization)
- a cluster of frontline users or knowledge workers responsible for day-to-day activities (at the airline, they included 250 sales and reservation agents across the Americas, Asia Pacific, and Europe)

Drafting employees from across the domain life cycle (regardless of where they formerly sat within the organization) and giving them accountability for the work builds engagement with an initiative and creates excitement and momentum. Those factors are crucial to getting employees to think beyond business as usual in devising solutions and help the project clear inevitable unexpected hurdles.

Reusable technology and data. It's also important to select domains where the data and technology components necessary to run the AI models can overlap. It's much easier when teams don't have to start from scratch every time and can reuse data or snippets of code that have already been prepared for AI. There will likely be a start-up investment for the first model or two created within a domain, but over time new projects can build off past ones, dramatically reducing development time and cost. The resources we're referring to here often include, on the data side, common libraries and metadata definitions, and on the technology side, machine learning scripts, application programming interfaces (APIs) that extract data from legacy systems, and data visualization capabilities.

Executive teams typically will identify about eight to 10 domains where AI can transform their business. Once they do, we recommend that they winnow the list down to one or two on the basis of feasibility and business value.

At the airline the CEO and his direct reports had held a series of strategy sessions over 12 weeks. They discussed how companies across different industries were innovating with AI, developed a vision for using AI to achieve a double-digit increase in operating profit within 15 months, prioritized which domains to start with, and committed the resources required to move forward. The executives each asked experts within their individual domains to identify what their areas could do differently to reach the profit goal and to assess the potential value and feasibility of their recommendations. In the cargo domain three senior business leaders, along with IT and finance staff, sketched out the opportunity to better fill available cargo space on planes, the expected returns for doing so, and the practicality of accomplishing this in terms of data availability, technology, talent, and so on.

STEP 2

STRUCTURE THE TEAM

The team responsible for AI initiatives within each domain should contain all the people necessary—from business, digital, analytics, and IT functions—to design, build, and support the new ways of working. To a great extent, once domain teams know their objective and are resourced, they

Signs You're Thinking About AI Too Broadly or Too Narrowly

TOO BROADLY	TOO NARROWLY
The work identified in one domain can't be completed within three or four waves of work over 12 to 15 months.	You're solving a niche challenge while leaving the root causes of problems untouched or not taking into account interrelated processes.
There are more than a dozen leaders with different goals who get to say what should happen next and there's no clear business owner with accountability.	The business leader in the target area doesn't feel ownership because the project won't move the needle, and you haven't involved leaders from across a specific value chain.
You need to redesign the whole data and tech architecture of the company to get any value.	You've created a solution that doesn't integrate with other upstream and downstream processes.

will organize their work on their own, using agile practices. The role of management, beyond creating the teams, will be to ensure that any employees moved onto them from other parts of the business are fully integrated and to remove any organizational barriers that might impede teams' success.

In many cases we've studied, most of the team members needed were already working in the target domain, and leaders simply had to shift them onto the project and then bring in the necessary technical talent from other areas of the company. At the airline, sales, customer service, operations, and finance employees all were involved in the cargo domain transformation, and most of them had reported to the business function from the outset. AI experts, such as data scientists and data engineers, were assigned to the team from the company's AI center of excellence for the duration of the work and reported directly to the senior director in the cargo division, who was the product owner for the new AI.

In some cases companies will have to explicitly reassign people in other, nontechnical roles from various parts of the organization to the team. Consider an energy utility retailer that also sought to use AI to revamp customer value management, including which customers were targeted, which offers were sent to them and through which channels, and how new ideas were tested. The company had to formally move previously siloed marketing campaign experts from across channels and teams under one umbrella. Trying to coordinate their work across separate silos would have created delays and disconnects as requests for input and approvals moved from one department to another. It would also have forced the individuals involved to juggle two sets of obligations.

Often AI project teams can simply be single squads, in which the whole team carries out all the work by itself. But when the tasks are relatively broad in scope, requiring the work of more than a dozen people, a single team will be too unwieldy. In those situations it will make sense to divide the team into several squads, with one squad providing shared capabilities. The telecom company divided its new customer value team into four business squads—one focused on prepaid customers, one on postpaid customers, one on customer acquisition, and one on customer retention. It gave each a mission of either reducing churn or improving cross-sell by 20% by the end of the year. A fifth squad, data utility, with data engineers and developers, was created to support the other four by building technology and assets that could be reused by each one and by developing new AI-enabled analytics models.

STEP 3

REIMAGINE BUSINESS AS USUAL

As we noted earlier, getting the most from AI requires reinventing business models, roles and responsibilities, and operational processes, using new ways of thinking and working. Typically, we find that companies are best served by applying first principles or design-thinking techniques and working backward from a key goal or challenge. For example, firms might envision what a five-star customer experience would look like and then explore in granular detail how they could achieve it.

At the airline the cargo team began by interviewing sales and reservation agents about how they allocated space on passenger planes and decided whether to accept or reject shipment requests. How did agents check on cargo space availability? What other information did they rely on, and

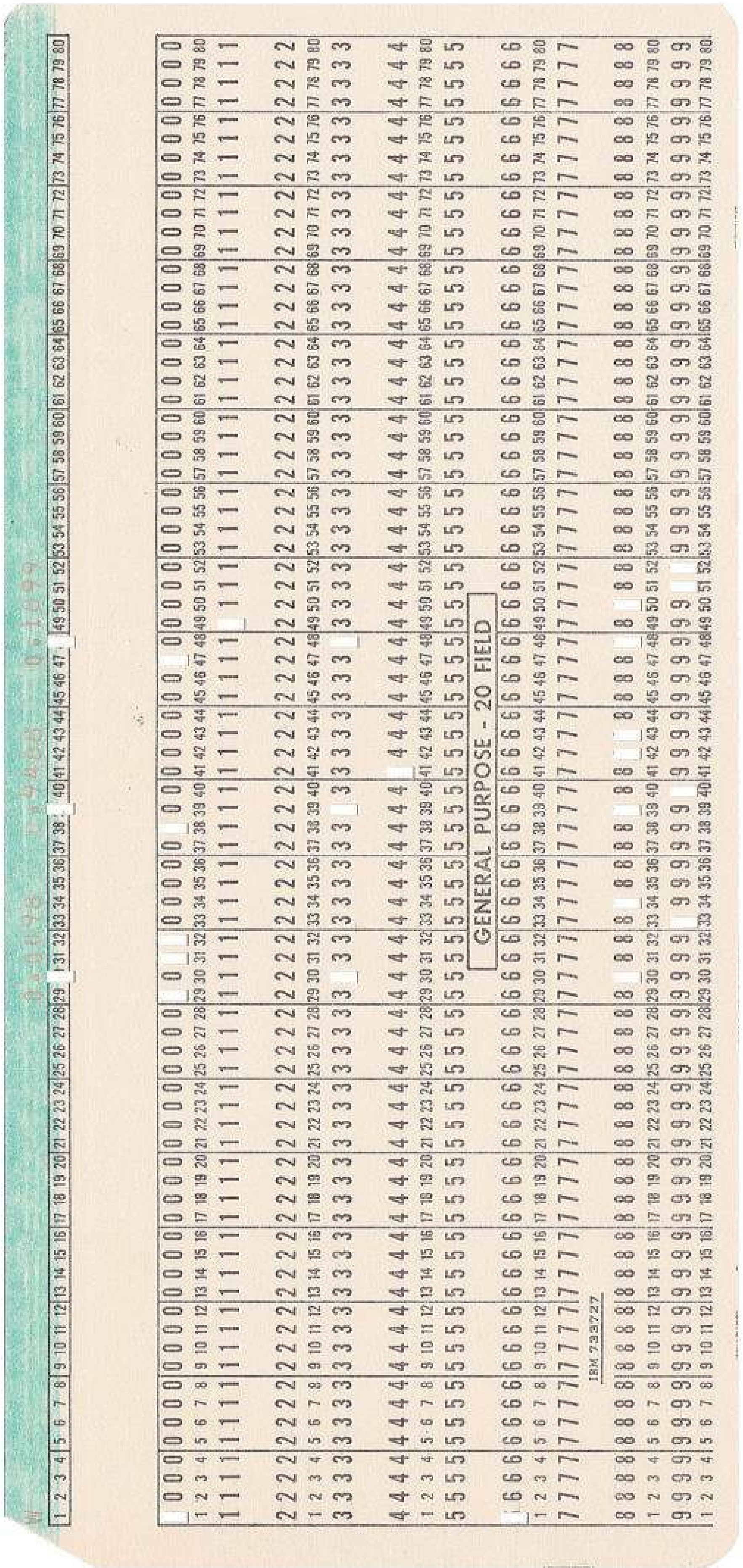
> Teams should consider the potential impact that AI initiatives will have on upstream and downstream processes and implement measures to address it.

how did they weigh the different pieces of information they collected? What concerns did they have when making decisions?

The team found that the legacy approach was plagued by inaccurate forecasts and guesswork by agents trying to estimate potential cancellations. (With cargo bookings, unlike passenger reservations, there's no penalty for canceling, so it's not unusual for a plane to look fully booked but leave with empty cargo space because of a no-show.) Cargo booking agents were also apprehensive about the impact on customer satisfaction if space was overbooked. To avoid conflicts, agents often waited until the day of the flight to book cargo space for their customers, resulting in suboptimal use of capacity and missed opportunities.

Having identified and understood the issues with the existing processes, the team then mapped out what an ideal process might look like, including the information that agents would need to determine whether to book, how much they could safely overbook and how far in advance, and how roles would be different. It then spent a few weeks developing a prototype of an AI-enabled dashboard that would provide the necessary information to agents, working in iterative sprints with them to incorporate input from the forecasting models, which were being developed in parallel. The team tested the dashboard with agents for 12 routes representative of the company's global network of 1,500. It compared how cargo utilization and profits differed on routes for agents who followed system recommendations and for a control group who used traditional processes. To build trust in the new system, executives eliminated any repercussions agents might normally face if a flight couldn't accommodate a reservation.

All agents now have access to intuitive dashboards that visually illustrate which flights are underutilizing space. They can view at a glance data on how cargo shipments for recent flights produced revenue. Integrated feedback loops enable the AI systems to continually learn from the agents as they decide whether to accept a cargo request, drawing on their expertise on shipment size and weight balance issues and their knowledge of changes in customers' supply chains, trade routes, and other factors. These new tools provide agents with information that gives them the confidence to sell cargo space well ahead of departure dates.



STEP 4

ADAPT FOR ORGANIZATIONAL AND TECHNOLOGICAL CHANGE

In most cases significant organizational changes, such as adopting interdisciplinary collaboration and agile mindsets, will be required to support the new AI-based processes and models. In fact, our research shows that the companies getting the highest returns on AI are more likely to enact effective change management practices, such as having leaders model desired behaviors, and that such efforts work best when facilitated by CEOs and top executives.

Take the energy utility retailer again. It invested in reskilling employees so that they could effectively work together in the new context and take on new leadership responsibilities; realigned AI project team members' goals and incentives with their new responsibilities; and backfilled responsibilities in the departments the team members had to leave.

While companies will need to update their tech to support AI, they won't need to do major surgery on their IT infrastructure or data architecture before they begin. Rather, we advise companies to focus on technology that will enable and accelerate AI development and then triage additional investments according to teams' priorities. Cloud-based data platforms and the use of APIs, microservices, and other modern dev-ops practices, for example, can help companies develop new business capabilities two to three times faster.

The telecom provider established a cloud-based platform for raw data from existing transaction and customer service systems so that it could be used more easily by data engineers and data scientists than data from the old warehouse system could. The company also implemented a new analytics workbench, which helped the data scientists train and deploy new models faster, and tools that streamlined data collection, analysis, and model building for its AI-driven customer-value-management system. Those moves allowed it to begin using unstructured data, apply more complex approaches, and work more efficiently.

When prioritizing additional technology investments, teams should map out the capabilities, data, and resources (such as robotics, biometrics, and sensors and connectivity platforms) they will require and when, and then chip away at each piece as needed. In designing its customer-value-management system, the telecom provider's team realized it would need new technology that automated outbound direct messaging and gave salespeople real-time guidance about the next conversation to have with customers.

Teams should also consider the potential impact that AI initiatives will have on upstream and downstream processes and implement measures to address it. For example, at the airline the AI team developed a reporting tool for managers overseeing the loading and unloading of cargo so that they could effectively support the higher volumes produced by the new sales and reservation process.

TECHNOLOGY

A DOMINO EFFECT

Once AI development matures within an initial domain and organizations have gotten into a rhythm for reimagining parts of the business, they're ready to expand. The tech foundation they've built and the skills they've learned—for example, how to successfully break down silos, make decisions that used to take weeks in hours, and create more data-driven teams—will help accelerate their efforts in new domains.

At this point companies can pursue multiple domains in parallel. Again, the idea is to build off past work. This might lead companies to prioritize domains that have data and skills in common, such as supply chain and logistics. Or they might pursue the same domain in other business units. The energy utility retailer estimates that nearly 80% of the work done on improving customer value management in one product division (which led to record growth in just a few months, including a 12% increase in customer profit and a 20% increase in customer retention) can be reused in several other business units and accelerate their growth as well.

The companies profiled in this article are all still in the earlier stages of their full AI transformations, but they're on the threshold of a new era. They've gained a taste of what's possible, and their bold choices have yielded significant returns within the domains they've targeted and new capabilities that discrete use cases couldn't deliver. These companies have created a playbook of methodologies and protocols they can turn to again. As they move on to other domains, their pace will quicken, their AI capabilities will rapidly compound, and they'll find that the future they imagined is actually closer than it once appeared.

HBR Reprint R2103H

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DIVERSITY

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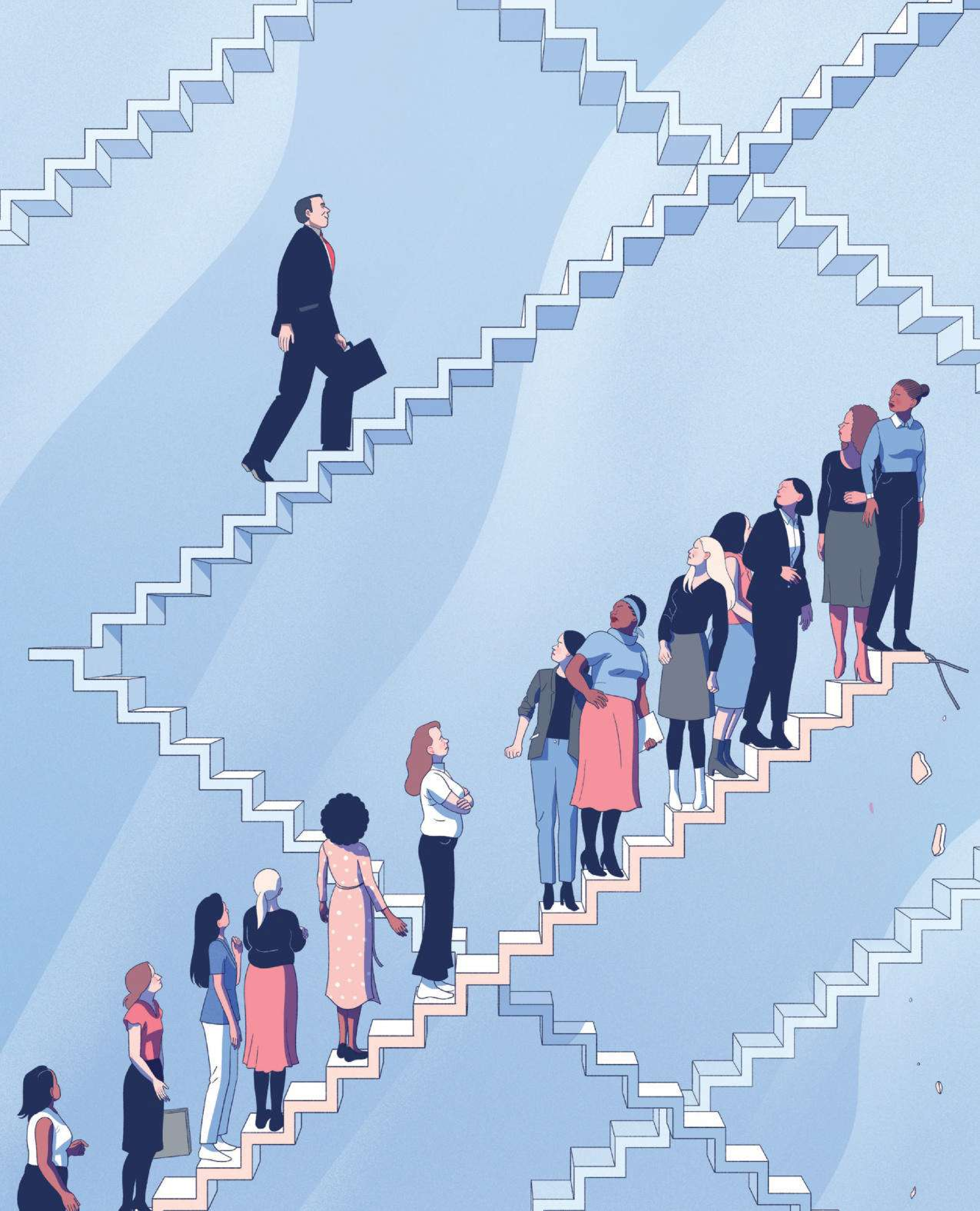
How to Close the Gender Gap

ILLUSTRATOR **BIANCA BAGNARELLI**

You have to be systematic.



Women's career opportunities may seem limitless today. Women make up about half of all college-educated workers in the United States, and they hold jobs in virtually every industry, working in more than 300 occupations tracked by the federal government. Yet women remain underrepresented in positions of power, often dramatically so: **Just 8% of *Fortune* 500 companies are led by women, and less than 1% by women of color.**

Fundamentally, this gender imbalance reflects a systemic talent-management problem. In the words of a (male) C-level executive at a major investment bank, "The more senior the group, the fewer women there are. And yet if you look at some of the younger groups—people that are right out of college or a little further along in their careers—there's a more balanced representation. We're losing very high quality talent, and there's no reason we should have this much asymmetry as we progress."

Women who have broken through the barriers see them all too clearly. We recently surveyed more than 150 female executives in a wide range of businesses around the globe and found strong agreement that gender bias and structural disadvantages are still impeding women's success and warping people management at all stages, from recruitment through employee retention. (See the exhibit "Perceptions of Barriers for Working Women.") These executives saw an especially uneven playing field when it comes to compensation and promotion, with nine out of 10 agreeing that women are at least somewhat disadvantaged in those matters. Roughly the same number agreed that companies need to audit management processes to identify gender differences in career outcomes, and more than two-thirds said that firms in their industry aren't doing enough to engage and retain women.

Talent acquisition, engagement, and retention are critical for any organization, and companies around the world say they're committed to advancing women

IDEA IN BRIEF

THE PROBLEM
Women make up about half of all college-educated workers in the United States, but they remain dramatically underrepresented in positions of power. For example, just a small minority of Fortune 500 *companies are led by women.*

THE INSIGHT
This imbalance reflects a systemic talent-management problem. To move beyond it, companies need to identify the patterns that prevent them from fully leveraging women's talents and contributions.

THE SOLUTION
Companies must address inequities in seven main areas of talent management: attracting candidates, hiring employees, integrating them into the organization, developing them, assessing performance, managing compensation and promotion, and retaining good performers.

into leadership roles. But many firms simply aren't focused enough on their female talent. In a recent Mercer survey of more than 1,000 companies in 54 countries, for example, 81% said it was important to have a plan for advancing gender equality—but only 42% actually did.

To move beyond this impasse, companies need to identify the patterns that prevent them from fully leveraging women's talents and contributions, and they must then use that knowledge to make systematic changes. They need to pay particular attention to addressing inequities in seven main areas of talent management: attracting candidates, hiring employees, integrating them into the organization, developing them, assessing performance, managing compensation and promotion, and retaining good performers.

This article describes common barriers holding women back—and an action plan for shattering them. The recommendations we provide are based not just on our own research and insights but on an extensive body of work by other scholars from varied disciplines. For a complete bibliography of the sources we drew on, visit hbs.me/gender-gap.

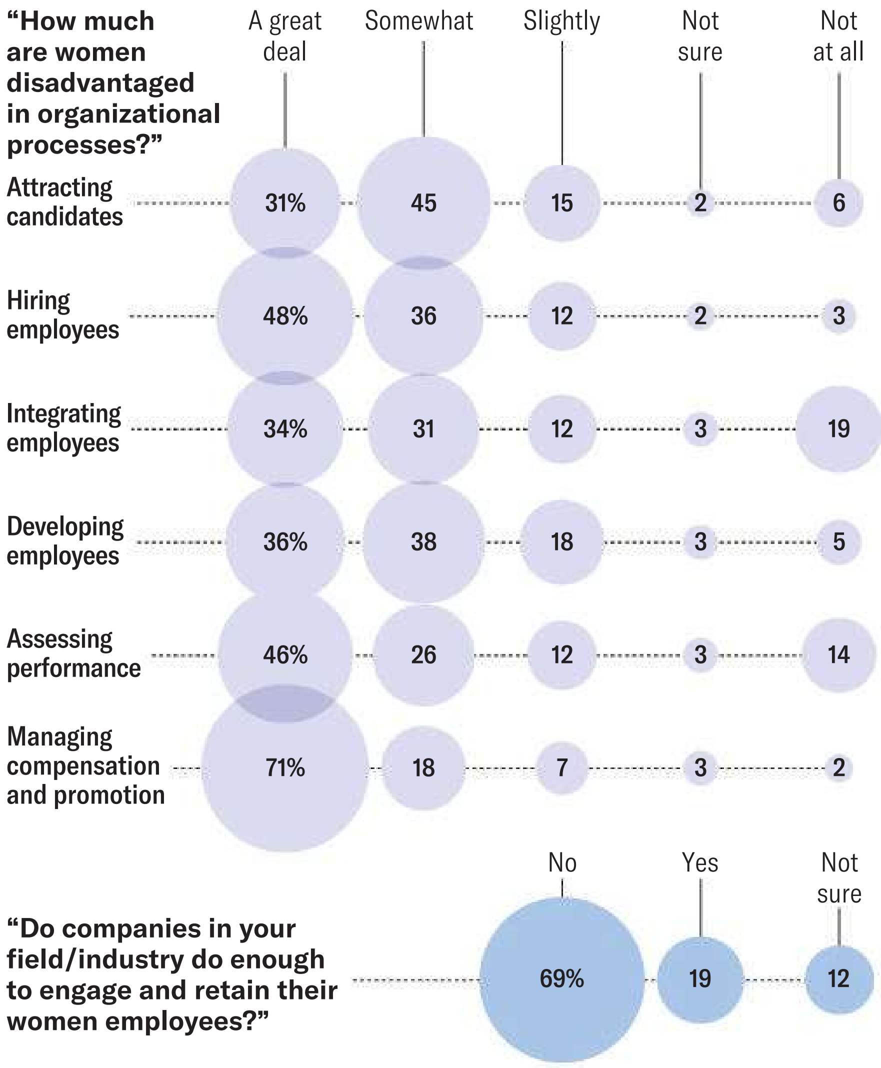
ATTRACTING CANDIDATES

Before you even have an applicant pool, your organization may have inadvertently weeded out qualified women. Consider how managers frequently identify candidates—by relying on personal networks for recommendations. This approach taps trustworthy sources but doesn't usually lead to much variety in the pool, because people tend to be drawn to those who are like them (a principle social scientists call *homophily*). Francis Collins, the director of the National Institutes of Health, found that he needed a different kind of outreach in order to diversify the leadership ranks of the NIH's 27 centers and institutes. When reflecting later on his efforts, he commented, "Of the last six [center directors] I recruited, five were women. I don't think it would have turned out that way if we had done the search in the usual crank-turning way of asking, 'Who do we know that's good?' It took some additional steps to make sure we weren't missing people who weren't on those short lists, which were mostly populated with men."

Job descriptions also often discourage qualified women from applying. Research has shown, for example, that

Perceptions of Barriers for Working Women

A global, multi-industry survey of female executives found broad agreement that women face bias and discriminatory practices in key areas of talent management.



Source: Authors' 2018–2019 survey of more than 150 female executives in North and South America, Europe, Asia, Africa, Australia, and New Zealand

women are less likely to apply for a job if the ideal candidate is described with traditionally masculine characteristics. A study of Canada's top two employment websites found that for occupations where men predominate, job announcements included stereotypically masculine terms (such as *competitive* and *forceful*), and for those where women predominate, the announcements used stereotypically feminine terms (such as *supportive* and *understanding*). The gendered

Before you even have an applicant pool, your organization may have inadvertently weeded out qualified women.

language deterred women from applying to "men's" jobs, even when they believed they had the requisite skills.

Other studies have shown that unclear job descriptions also discourage qualified women from applying, whereas clear ones encourage them—without discouraging men. Additionally, when postings are over the top in describing the perfect candidate, women are less likely to put themselves forward. An easy fix is to strip postings of superlatives—instead of *excellent coding skills,* for example, go with *coding skills.* And if qualifications are only "nice to have" and not core to the role, strip them out too.

HIRING EMPLOYEES

Once you start considering applicants, gender bias can creep into the selection process in numerous ways, beginning with your review of résumés. Studies have shown, for example, that applicants whose résumés suggest that they are from historically disadvantaged groups are less likely to be called for interviews. Acknowledging such patterns is a critical first step in helping interviewers assess candidates impartially.

Exactly why might the résumés of equally or better-qualified women be set aside in favor of men's? This kind of discrimination, which is often not deliberate, can have different drivers. For one thing, managers may not use the same standards to evaluate male and female candidates. For example, when asked to compare two applicants for the position of police chief—a role traditionally dominated by men—study participants gravitated toward the male candidate and then actually *redefined* the job criteria to benefit him. Managers may also hold women to higher standards: In one study, women economists received less credit for coauthored papers than did their male peers, resulting in lower promotion rates.

Additionally, when managers believe that women as a whole are less skilled than men in certain areas, they tend to bypass female applicants, no matter how well qualified their résumés suggest they are. Managers may also be biased against women who identify themselves as parents or of child-bearing age; mothers are less likely to receive a callback from potential employers, even when their résumés are identical to those of male applicants or childless women.

One way to help with these problems is to ensure gender diversity among the people reviewing résumés and conducting interviews. One woman of color we spoke to explained that her identity spurs her to bring a heightened awareness to evaluating candidates. "When I'm looking at a selection where we get a list of names for jobs," she told us, "I look at it very differently than someone else does." Interviewer diversity also sends a message to prospective employees, as one health care executive noted when describing his global company's efforts to boost gender equity. "Women were attracted," he said, "because they saw more women interviewing them; you build a reputation of being a good and fair employer."

It's also important to create a formal process that focuses reviewers' attention specifically on job criteria. The less clarity interviewers have about how to assess candidates, the more likely they are to view potential employees through the lens of gender (and other) stereotypes.

Removing information about candidate gender through blind auditions and anonymized résumés has been shown to increase the proportion of women who advance in an application process. Of course, as candidates proceed to meet with hiring managers, at a certain point it becomes impossible for evaluators to remove gender from the equation. Nonetheless, they can minimize its impact by relying on formal procedures. After the head of a large IT organization implemented an interview rubric that equally weighted technical skills, leadership skills, and alignment with the organization's values, the organization hired more women.

INTEGRATING NEWCOMERS

You've progressed through finding, vetting, and hiring a candidate, so you now have a brand-new employee. But is she going to succeed?

If she's positioned as an outlier or a token, probably not. Women who are poorly integrated into the workplace may fail to build and benefit from relationships with their colleagues. As one of our interview subjects pointed out, "When boards or senior leadership bring high-performing women of color into companies, they often don't give them the right level of subtlety and counsel in terms of integrating and onboarding. I think it's a real high-wire act."

The investment banking industry provides a good example. Research has revealed that star women stock analysts

Improving Gender Equity in Your Organization

To foster the success of your female employees and your company as a whole, you must recognize problems in your management activities and then take steps to fix them.

TALENT MANAGEMENT PROCESS	PROBLEM	QUESTION TO ASK	WHAT TO DO
Attracting candidates	You lack women candidates relative to your expectations or industry norms.	Are aspects of your recruitment turning away qualified women?	• Seek candidates outside managers' individual networks, which may be homogeneous. • Assess the language used to describe jobs and your company.
Hiring employees	Women candidates do not make it to the offer stage at the same rate that men do.	Are aspects of your hiring process eliminating women whose qualifications and potential meet or exceed those of male candidates?	• Educate managers about gender bias and how it might influence hiring decisions. • Anonymize résumés. • Diversify interview panels. • Select finalists and evaluate them against defined criteria, rather than hiring on a rolling basis.
Integrating employees	Women seem to be marginalized by their teams and departments.	Are new hires forming the relationships that enable them to contribute optimally and thrive professionally?	• Create opportunities for employees to work toward shared goals with people who are different from them. • Discourage exclusionary social activities, and make sure women are not treated as outliers or extraneous team members.
Developing employees	Women are not building their skills and experience as fast as male peers are.	Do employees have access to training, coaching, stretch assignments, and other components of development, irrespective of gender?	• Assess how developmental opportunities are awarded, and implement objective criteria for allocating them. • Increase women's access to mentors and sponsors.
Assessing performance	Women's performance ratings are lower than those of male peers or lower than expected given hiring assumptions.	Does gender bias affect your evaluation processes and decisions?	• Educate managers about gender bias and how it might influence the feedback and performance ratings they give employees. • Assess the criteria used to rate performance, and eliminate ambiguous, vague, and malleable standards.
Managing compensation and promotion	Women receive lower compensation than male peers or are promoted at lower rates.	Does gender bias influence your processes for determining compensation and making promotion decisions?	• Establish clear, transparent parameters for salary offers and increases. • Regularly review the outcomes of promotion and compensation processes by gender.
Retaining good performers	Women are leaving your company at higher rates than men or sooner than expected.	Do women believe they can advance at your company, and are they rewarded for strong performance?	• Combat the stigma attached to flexible work arrangements by focusing on measurable aspects of performance. • Don't turn a blind eye to harassers. • Regularly track attrition and retention by gender.

When women and men don't have equal opportunities to shine and grow, work itself becomes gendered, with lower-status roles seen as the province of female employees.

face barriers in forming the kinds of relationships that are critical for success, because their male colleagues are simply not that willing to spend time with them. It's a vicious cycle: In situations like this, women's outlier status is then taken as evidence that they are not cut out for the team or the company.

Deals and decisions are frequently primed, if not made, outside the office, often in environments traditionally considered to be masculine, such as sports arenas. Interactions with colleagues in these environments combine work with leisure, fostering deeper feelings of connection that can lead to greater trust, cooperation, and mutual support in the professional realm. Women board members and executives have told us about being instructed to take up golf, lest they find themselves left out of the real power structure. Recently there have also been reports of a #MeToo backlash, with men withdrawing from interactions with female colleagues out of anxiety or anger at the movement's impact on the workplace.

There's good news, though: Research shows that when companies implement collaborative work approaches—creating cross-training programs, for instance, or assembling self-directed teams with members based in different functions—the percentage of women in management rises. (The effect is stronger, though, for white women than for women of color.) Meanwhile, research on cross-race relationships has found that white executives who mentor Black employees can play a crucial role in countering biased views about their protégés—a critical need for Black women, who contend with multiple barriers. Creating the conditions, and the expectation, for employees to build positive working relationships can help ensure that women are truly part of the team.

DEVELOPING EMPLOYEES

Career growth requires taking on stretch assignments, but those are often most accessible to white men. In academia, women are less likely than men to be invited to give talks—important résumé boosters. In a study conducted at a pharmaceutical company, researchers found that senior managers funneled challenging projects to men more than women, even when controlling for workers' age, education, job tenure, performance, and perceived ambition. Another study across multiple industries likewise found that challenging assignments went disproportionately to men, even though women expressed equal desire for them. This discrepancy was driven by managers who believed that women needed to be protected from difficult experiences.

When women and men don't have equal opportunities to shine and grow, work itself becomes gendered, with lower-status projects and roles seen as the province of female employees. Even within jobs, "task segregation" occurs, with women expected to handle less-rewarding work. Women are also more likely to be asked to volunteer for duties that do not advance their standing or development—"office housework" that adds little to their résumés. Moreover, when they decline to perform such tasks, they are viewed negatively.

The women who move up into senior management tend to be those who have had mentors and sponsors earlier in their careers. They had allies in leadership positions who played a defining role, steering key assignments to them, including them in high-level meetings, and keeping their names in the mix for promotions. "The most important decisions made about your career usually happen in a room that you're not in," noted one executive we spoke to. Even women identified as high-potential by their companies are, on average, less likely than their male peers to receive such sponsorship, and women of color are at the greatest disadvantage. It's imperative for managers to actively support the careers of their female employees, and for men to ensure that they aren't mentoring only people who look like them.

ASSESSING PERFORMANCE

Regular performance assessments shape the paths of most professionals. Although this process typically involves some level of formality (evaluation rubrics, calibration meetings, review periods), managers ultimately use their judgment to determine how assessment tools are applied. As a result, what they believe about how women should act—or do act—exerts enormous influence on the outcome. In addition, assessment processes are informed by shared assumptions about what success looks like. Such assumptions are not necessarily grounded in what serves the company's overall health but may instead be based on standards that reward exaggerated displays of masculinity, such as dominance, aggression, and hypercompetitiveness. When such displays are endorsed, top performance becomes conflated with competition for power and status—behavior that is often counterproductive in team-based and collaborative work.

More broadly, women suffer the infamous “double bind.” Archetypal leadership characteristics such as authoritativeness, decisiveness, and directness are typically coded as masculine, which means that women who demonstrate them appear to be violating gender expectations and are often characterized as difficult to work with or temperamental. But when they act in accordance with traditional gender norms, exhibiting warmth and a communal orientation, they’re often seen as less capable and effective. Many of the executives we surveyed said that colleagues’ perceptions can make or break women’s careers. As one put it, “I did not understand how much likability was going to be this big, unquantified thing that matters so much more than performance in some cases.... For women it kills you if you’re not likable.”

Additionally, women’s performance on tasks is often held to a more stringent standard than men’s, with women having to accomplish more to earn the same rating. A study conducted at a law firm documented this phenomenon: Although men and women lawyers received equally positive comments in their performance evaluations, the men received higher numerical scores. Double standards are common in critiques of employees’ work styles, too—if a woman takes time to ponder a problem, she may be seen as having “analysis paralysis,” whereas a male peer who behaves the same way may be deemed thoughtful and thorough. Even if bias isn’t present when managers evaluate their direct reports, prior discrimination may have already artificially depressed women’s performance relative to their ability. A study of stockbrokers across two large firms, for example, revealed that women’s lower sales were the result of their systematically receiving lower-quality accounts.

Companies can “de-bias” the performance evaluation process by training attention on objectively measurable qualities. Recent research has found that women tend to promote their accomplishments to a lesser extent than men who perform at the same level, which means that relying on employees’ self-assessments to inform performance ratings will favor men. Another problem: Researchers looking at technology and professional services firms found that the performance feedback given to women, compared with that given to men, was less tied to specific business outcomes, regardless of whether the feedback was praise or constructive criticism. That lack of specificity meant that women had less clarity about the factors contributing to strong performance and less insight into what they needed to do to advance. The feedback women receive may not even be as truthful: One study found that evaluators were less candid with women about how well they were doing their jobs.

MANAGING COMPENSATION AND PROMOTION

Gender-based compensation disparities often start before an employee is actually hired. When the terms and parameters of a salary negotiation are vague, women consistently end up with lower starting pay than men, even when controlling for other relevant factors. By contrast, when women learn that an offer is negotiable, they negotiate as often as men do.

Companies can level the playing field by providing clear information. An online recruiting platform for engineers completely eliminated the gender salary gap for new hires simply by listing the median salary for every position. Prior to this change, women asked for lower annual salaries than men did—more than $4,000 lower, on average. When candidates were presented with the median data, the asks equalized.

Promotion practices are another area of concern. Many companies encourage or require employees to nominate themselves for internal openings, but gendered social norms can disadvantage women in these situations. That’s because women, unlike men, often generate a backlash if they appear ambitious, so they may be reluctant to put themselves forward. More importantly for managers, self-nomination processes assume that the most vocal employees are the best candidates—an assumption that can prevent managers from accurately gauging those employees’ qualifications or considering the potential of others. One leader we interviewed pointed out that when managers default to favoring people who toot their own horns, all they’re really doing is learning what those employees think of themselves. What managers should do instead, she told us, is gather “data and objective facts about whether or not [a] person is performing well in their job.”

Colleagues' perceptions can make or break women's careers. As one executive put it, "For women it kills you if you're not likable."

RETAINING GOOD PERFORMERS

"We don't have trouble attracting women," the head of the women's initiative at a large professional services firm said some years ago. "What is hard is retaining them."

So what drives turnover among women? When women aren't treated fairly in the processes we've described, they're not likely to stick around. Their chief concern is lack of advancement or the perception that they won't be able to keep growing at their current employer. One study found that women in both public- and private-sector jobs were significantly less satisfied with their promotion opportunities than men were, which prompted them to leave at a higher rate. Studies of "up-or-out" professions such as consulting and law, however, have shown that junior women are less likely to leave if other women hold senior positions; their presence in the upper ranks demonstrates that career progression is possible.

When more women are in positions of power, sexual harassment—another drain on the retention of women—also declines. Organizational cultures in which harassment flourishes tend to be ones that excuse or ignore bad behavior from highfliers and star performers, sending the message that women's well-being is less important than keeping rainmakers happy. That's a message received not only by those actually victimized but also by bystanders who read the writing on the wall when it comes to their own value.

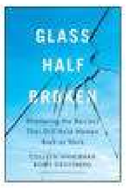
Many women also leave their jobs after realizing that they're paying the "motherhood penalty"—they get fewer opportunities and lower wages than childless women or men (even those who are fathers) because they are presumed to be less committed to work. One woman we spoke to recounted how this penalty had hurt her career. "The moment I said I was pregnant," she told us, "my team was restructured, and two of the three people that I had reporting to me were put at my same level. And I was taken from a team of 30 people to a team of six people. It was a demotion."

The stigma surrounding flexibility and other family accommodation policies can also derail women's careers even if they manage to hang on to their jobs. In organizational cultures where extreme dedication to work is prized and superstars are those who respond to email at all hours and overdeliver to clients, taking advantage of policies that promote work/life balance carries a professional cost. Women working flexible schedules tend to be seen as less committed and less motivated than those working standard hours, even when their actual performance is identical. The widespread adoption of remote work in the Covid-19 era could help to mitigate the stigma attached to telecommuting and flextime, but only if companies are proactive about changing their cultures. Otherwise, we may wind up with a two-tiered system in which workers who stay remote in the post-pandemic world have second-class status.

NARROWING THE GENDER GAP should be a deliberate, ongoing process. Measurement of outcomes such as turnover, hiring rates, compensation, and promotions is essential, and all managers must engage in continual learning and reflection. Change is effected by people, not policy. Implementing the right tools and frameworks is critical, but without managers who are invested in monitoring the results and being accountable for them, the best practices will fall short of their potential for fostering equality.

Fortunately, you don't have to be a CEO to make a difference. If you take appropriate measures to identify and address bias within your sphere of influence, you can be a change agent for your team, however big or small. (See the exhibit "Improving Gender Equity in Your Organization.") All of us—men and women, C-suite leaders and frontline supervisors—have a stake in fostering equality in the workplace. As a manager, you can enable women to deliver the results they are truly capable of, which will facilitate not only their success but yours as well. For too long companies have relied on women to break through the glass ceiling one by one, leaving the ranks of leadership still gender-skewed. With a systematic approach, you can finally shatter the barriers that keep women, and your company, from thriving.

HBR Reprint R2103J



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SUSTAINABILITY

Overselling

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PHOTOGRAPHER
ISAMU SAWA

We're confusing output with impact.

Sustainability Reporting

IDEA IN BRIEF

THE HOPE
Over the past two decades, many people bought into the idea that if corporations committed to measuring and reporting on their sustainability performance, the payoffs would be profound. Companies would do less harm to the planet and more good for society. Investors and consumers would reward strong performers. Rigorous metrics would become the norm. Over time, the result would be a more sustainable form of capitalism.

THE REALITY
It hasn't worked. Reporting is riddled with problems, and sustainable investing is overhyped. Meanwhile, environmental threats continue to mount, and inequality continues to grow.

A BETTER APPROACH
Metrics can and should be improved, and stakeholder pressure will incrementally advance sustainability. However, we also need stronger civic engagement, sharper regulation, different incentives for investment, and a rethinking of what makes a company or society successful.

Featured images from the *Without Water* exhibition series

Over the past 20 years many forward-thinking academics, consultants, executives, and NGO leaders have promoted a theory outlining how businesses can prosper while pursuing a greener and more socially responsible agenda. These people, whom I refer to collectively as "Sustainability Inc.," believed that if companies committed to measuring and reporting publicly on their sustainability performance, four things would happen:

Reporting is not a proxy for progress. Measurement is often nonstandard, incomplete, imprecise, and misleading.

SUSTAINABILITY

1. Individual companies' social, environmental, and governance (ESG) performance would improve (because what gets measured gets managed).

2. A link tying companies with better sustainability records to better equity returns would emerge.

3. Investors and consumers would reward companies with strong sustainability performance—and put pressure on those that lagged.

4. Ways to measure social and environmental impact would become more rigorous, accurate, and widely accepted.

Over time, this virtuous cycle would result in a more sustainable form of capitalism.

A casual observer might think that this approach is working. In 2011 the authors of an HBR article titled "The Sustainable Economy" expressed confidence that sustainability would soon "simply be how business is done." To some extent, they've been proven right: The number of companies filing corporate social responsibility (CSR) reports that use the GRI (Global Reporting Initiative) standards—the most comprehensive ones available—has increased a hundredfold in the past two decades. Meanwhile, according to the Global Sustainable Investment Alliance, socially responsible investment has grown to more than $30 trillion—one-third of all professionally managed assets.

However, a closer look at the evidence suggests that the impact of the measurement and reporting movement has been oversold. During this same 20-year period of increased reporting and sustainable investing, carbon emissions have continued to rise, and environmental damage has accelerated. (See the exhibit "Growing CO_2 Levels Despite Heightened Attention.") Social inequity, too, is increasing. For example, in the United States the gap between median CEO compensation and median worker pay has widened, even though public companies are now required to disclose that ratio.

It turns out that reporting is not a proxy for progress. Measurement is often nonstandard, incomplete, imprecise, and misleading. And headlines touting new milestones in disclosure and socially responsible investment are often just fanciful "greenwishing" (in the coinage of Duncan Austin, a former ESG investment manager). Worse yet, the focus on reporting may actually be an obstacle to progress—consuming bandwidth, exaggerating gains, and distracting from the very real need for changes in mindsets, regulation, and corporate behavior.

NOT MEASURING UP

I contributed to this failure as an enthusiastic member of Sustainability Inc. From 1992 to 2007 I worked at Timberland, a footwear and apparel company committed to marrying commerce with a philosophy of justice. Throughout my tenure (which concluded with seven years as the chief operating officer), Timberland's approach to justice was built on three pillars: respect for human rights, environmental stewardship, and community service.

We took those commitments seriously. Timberland began offering employees 40 hours of paid community-service time in 1995; it was among the first publicly traded companies to use renewable energy to power its factories; and by printing "Green Index" scores on its shoeboxes, it pioneered package labeling that informed consumers about products' environmental and social impact. In addition, Timberland issued a corporate social responsibility report as early as 2001, and in 2008 it started issuing such documents quarterly alongside its financial reports. We believed that measurement and transparency would increase competition within the industry to find sustainable solutions while engendering healthy pressure from investors and consumers.

Timberland's attention to commerce and justice delivered strong financial results and built a powerful culture. We even won a presidential award for corporate citizenship. However, we learned that it's extremely difficult to change the rules of competition in an industry—doing *that* requires much more than individual action. Moreover, reporting does not ensure environmental and social improvement—though people often conflate the two. And although it's true that some researchers have found a relationship between ESG performance and financial returns, thus far they've merely established correlation. We don't actually know if strong ESG performance *causes* better returns, or if both are a function of good management.

A decade after publishing "The Sustainable Economy," the lead author, Yvon Chouinard—Patagonia's founder and an authentic environmental pioneer—is no longer especially optimistic. He recently lamented, "It's all growth, growth, growth—and that's what's destroying the planet." Other prominent sustainability leaders have also soured on the promise of measurement and reporting. According to Auden Schendler, the senior vice president of sustainability for Aspen Skiing Company and author of the book *Getting Green Done,* "Measurement and reporting have become ends to themselves, instead of a means to improve environmental or social outcomes. It's as if a person committed to a diet and fanatically started counting calories, but continued to eat the same number of Twinkies and cheeseburgers."

The limitations of sustainability reporting became apparent at Timberland too. Despite the leadership team's good intentions, as revenues grew during my tenure, so did the company's environmental footprint. And sometime after my departure, and after the company was sold to VF in 2011, Timberland stopped labeling shoeboxes with Green Index scores because of the challenges in calculating them. Additionally, VF stopped reporting discretely on Timberland's carbon emissions, though it does a very credible job of disclosing the conglomerate's overall footprint.

THE PROBLEMS WITH REPORTING

There's no doubt that attention to material ESG issues can deliver better social, environmental, and financial outcomes for individual companies. They are very likely rewarded with lower costs of capital (as a result of being better managers of risk), and their focus on sustainability can improve margins and enhance brand value. That said, corporate sustainability efforts have not, *in the aggregate,* made much difference for society or the planet. In addition, the reporting itself suffers from some very real problems.

Lack of mandates and auditing. Most companies have complete discretion over what standard-setting body to follow and what information to include in their sustainability reports. In addition, although 90% of the world's largest companies now produce CSR reports, a minority of them are validated by third parties. As a result, a lot of the input data is misleading and incomplete. By contrast, financial reporting follows agreed-upon standards, and compliance is ensured by a referee (in the United States, the Securities and Exchange Commission).

Specious targets. According to a 2016 study that examined more than 40,000 CSR reports, less than 5% of reporting companies made any mention of the ecological limits constraining economic growth. Even fewer—less than 1%—stated that when developing their products, they integrated environmental goals that align with experts' understanding of planetary boundaries. Instead, most companies set goals based on their capabilities or aspirations. Science-based targets, along with corporate emissions allocations in keeping with the same, have become more common since that study was done, but at this stage they remain aspirational.

Opaque supply chains. Decisions made to chase low-cost labor have led to highly distributed supply chains where the producers of goods are often located nowhere near the end users. In the industry I know best, footwear and apparel, supply chains have disappeared from view. When I started working at Timberland, the overwhelming majority of our boots and shoes were produced in Timberland-owned factories, almost all located in the United States. Our factory workers were among our customers; social and environmental decisions had local impact. No more. Today at least 85% of the brand's production is overseas, primarily in Asia. In addition, across the industry, supply chains have become multitiered and contractors have increasingly outsourced to subcontractors; that's made traceability problematic. And audits have failed to stem social and environmental abuses.

Opacity plagues many other industries, too, including food, cars, and construction. Andy Ruben, who was the first chief sustainability officer at Walmart, notes that "even companies with Walmart's influence find it challenging to really understand what is going on in an increasingly global and interconnected supply chain."

Complexity. Advances in technology (artificial intelligence, satellites, sensors, blockchain, and so forth) have given companies new tools for measuring and monitoring their environmental impact. Yet reporting on vital sustainability metrics still has gaping holes.

Consider the arcane yet essential world of carbon measurement. To get a complete picture of its carbon footprint, a company needs to measure three types of emissions: those produced by its own facilities and vehicles and thus under its direct control (classified as scope 1); those associated with its purchased electricity (scope 2); and all

The Challenge of Tracking Scope 3 Emissions

Assessing a firm's scope 3 greenhouse gas emissions—those outside its direct control and unrelated to its purchased electricity—is a monumental task. For Timberland it would mean, in part, detailing the emissions generated by each supplier during the production and transport of some 30,000 product components annually.

Note: This diagram oversimplifies the challenge. Fully assessing scope 3 emissions also requires data on the consumer-care and end-of-life phases of products (for example, the emissions generated when a garment is tumble dried or when a discarded pair of shoes is burned at an incineration site).

its other upstream and downstream emissions, including those generated by suppliers and distributors, by employees' business travel, and by the usage of products sold (scope 3). According to CDP, the world's leading aggregator of corporate carbon emissions data, fewer than half of the companies that disclose such data actually track and report on scope 3 emissions.

This is no minor matter. For many companies, scope 3 emissions represent the bulk of their greenhouse gas impact. Timberland, for example, estimated in 2009 that more than 95% of its carbon emissions fell into scope 3—and could not be tracked. Complexity, an absence of tools, and a lack of measurement by upstream suppliers and downstream users make it nearly impossible to access the data needed to complete a comprehensive emissions profile. (See the exhibit "The Challenge of Tracking Scope 3 Emissions.")

Confusing information. Even for consumers who care about sustainability issues and are dogged in their pursuit of sustainability information, CSR reports are often bewildering. How, for example, is a consumer to interpret Patagonia's statement that making one of its fleece jackets generates 20 pounds of CO_2, or Levi's disclosure that production and subsequent care (laundering) of a pair of 501 jeans will add 48.9 grams of phosphorous to freshwater or marine environments? Unlike with temperature or calories, consumers have no intuitive reference point that helps them understand many measures of environmental impact. Even metrics that seem easy to grasp may cause confusion. Consider the amount of water it takes to produce a one-liter bottle of Coke: The Coca-Cola Company's own estimates have varied from less than two liters of water to 70 liters, depending on the methodology used.

Inattention to developing countries. In its push for reporting, Sustainability Inc. has focused primarily on publicly traded U.S. and European companies. However, the greatest increases in consumption, emissions, and social impacts in the coming decades will occur in China, India, and Africa. Already, manufacturers in developing countries are turning more to their own domestic markets for growth. If there's a hope of preserving key global resources, companies in those markets will need to become far more efficient managers of resources, with stronger governance structures.

THE PROBLEMS WITH SUSTAINABLE INVESTING

Even if CSR reporting is seriously flawed, demand for investing sustainably is growing fast and leading to positive social and environmental impact. Right?

If only that were the case.

While serving as Timberland's COO from 2000 to 2007, I sat alongside the CEO and the chief financial officer 28 times as they delivered our quarterly results to Wall Street. Each time, the CEO devoted one-third of his scripted remarks to Timberland's justice (or ESG) agenda. Never once did he receive a question about that part of the script. A recent conversation with the CFO of a publicly traded company with a market capitalization in excess of $30 billion leads me to believe that not much has changed on that score. According to the CFO, across his last 1,200 investor presentations he has gotten exactly three questions focused on ESG matters. Even if we assume that most investors care deeply about these issues, it is not clear that their pressure can deliver real social and environmental progress. Here's a partial list of the reasons why:

Unhelpful definitions of "sustainable." According to the Global Sustainable Investment Alliance, nearly two out of every three dollars classified as socially responsible

investment are in "negative screen" funds. Those are funds that qualify as sustainable because they exclude one or more categories of investments (say, tobacco or firearms). Such investing may appeal to individual investors, but it does next to nothing to track, promote, or reward ESG impact. Even more concerning is the fact that funds explicitly marketed as sustainable do not always live up to their billing. A 2020 study by Barclay's looked at two decades of ESG investing and found no difference between the holdings of sustainable and traditional funds, and an investigation by the *Wall Street Journal* revealed that eight of the 10 biggest ESG funds in 2019 were invested in oil and gas companies.

Unreliable ratings. John Elkington, a founding father of the sustainability movement, proposed the "triple bottom line" framework for reporting in 1994. That opened the floodgates: Dozens of other frameworks have been advanced since then, and standard setters and rating firms have proliferated. But the growth in the number of ESG raters has not improved reliability. As noted earlier, there are structural measurement and reporting problems because the data is voluntarily shared, largely unaudited, and incomplete. Researchers at MIT's Sloan School of Management recently conducted a study of six top ESG ratings firms and concluded that "ratings from different providers disagree substantially....The correlations between the ratings are on average 0.54, and range from 0.38 to 0.71. This means that the information that decision-makers receive from ESG rating agencies is relatively noisy." In addition, raters often seem unaware of what's actually happening inside companies. For example, both Volkswagen and boohoo, the U.K. fast-fashion retailer, got high marks from ESG ratings firms before their respective scandals came to light (VW's deception regarding diesel car emissions and boohoo's exploitation of factory workers).

It is nearly impossible to compare companies on the basis of ESG performance. Individual firms in the oil and gas industry, for instance, report on sustainability in varied ways.

The profusion of standard setters, raters, and data has had the opposite of its intended effect. PwC reported in 2016 that while 100% of the corporations it surveyed had confidence in the information they were providing, fewer than one-third of investors shared their confidence. The philosopher Onora O'Neill has done research that helps explain why. She notes that "increasing transparency can produce a flood of unsorted information and misinformation that provides little but confusion unless it can be sorted and assessed. It may add to uncertainty rather than to trust."

Lack of comparability. It is nearly impossible to compare companies on the basis of ESG performance. Individual firms in the oil and gas industry, for instance, report on sustainability in varied ways: Out of 51 relevant GRI indicators, only four appear in more than three-quarters of the companies' GRI reports, according to researchers at the University of Perugia. It is sometimes difficult even to compare the performance of a single company from year to year because of changes in methodology or decisions to use different metrics or standards to measure the same thing.

Challenges in assessing the success of socially responsible investing. While measuring equity returns is relatively straightforward (even though attributing returns to specific factors is challenging), measuring ESG impact is far more complicated. To date, almost all the academic research has focused on the question of how ESG initiatives affect financial performance, with very little inquiry into how ESG investing affects workers or natural resources. Put differently, if one of the goals of socially responsible investing is to deliver positive social and environmental outcomes, how do we know if that investing is working? A recent study found little evidence that it is. According to the authors, the vast majority of ESG investment is allocated to mutual funds that either stay away from specific

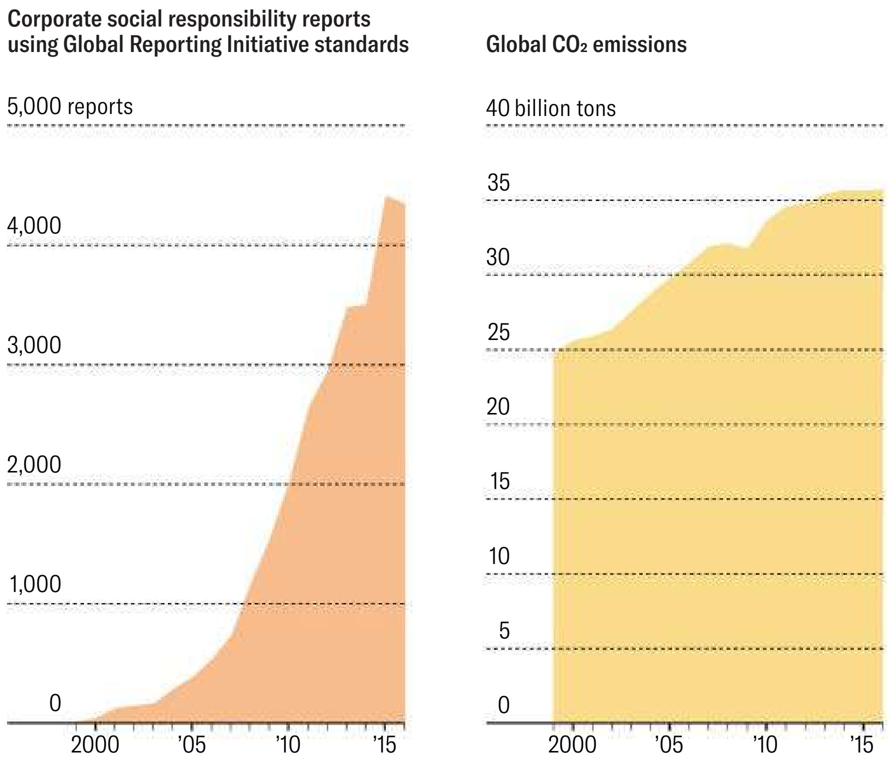
SUSTAINABILITY

industries (mainly tobacco and weapons) or factor ESG data into their decisions about which stocks to buy (mostly to optimize financial performance). However, neither investment strategy was found to yield meaningful social or environmental outcomes.

Difficulty of scaling up truly effective impact investing. A small but fast-growing subsection of socially responsible investment—impact investing—is specifically focused on addressing societal challenges. Some impact investors are explicit about their willingness to make financial trade-offs; others promise to address social and environmental issues without negatively affecting market returns. Here, too, there are issues. Even if you accept the premise that some of these investments will deliver social or environmental progress, not nearly enough capital is allocated to the impact investing category to address the huge challenges we face. That will probably be true as long as corporations are allowed to ignore externalities—the spillover effects that their operations have on society.

Growing CO_2 Levels Despite Heightened Attention

The dramatic increase in corporate reporting on social and environmental performance hasn't curbed carbon emissions.



Source: Global Reporting Initiative; Worldometer

WHERE TO FOCUS

Most of the sustainability effort at Timberland went into measuring and improving areas where the company had some control. For example, it put solar arrays on some of its buildings, installed LED light bulbs in its offices and retail stores, and limited workers' hours in contractor factories. Other companies that have made sincere attempts to improve their social and environmental performance have generally behaved similarly: They've focused on what systems thinkers call *parameters*—dials that can be turned up and down to change performance without altering the structure of the larger system.

However, researchers have found that those parameters are rarely sources of real impact. The late Donella Meadows, the primary author of *The Limits to Growth* and a distinguished professor of system dynamics at Dartmouth, analyzed 12 types of intervention that would affect system performance and concluded that parameters are the least powerful. Probably 99% of efforts go to parameters, she wrote, "but there is not a lot of leverage in them."

High-leverage interventions that *would* move the needle are largely outside the control of individual corporations. Such interventions wouldn't be popular in the corporate world because they require changes in the rules governing companies' behavior, a repricing of resources to address market failures, and a reorientation of how public assets are allocated and how power is distributed.

Unfortunately, Sustainability Inc.'s focus on measurement and reporting—and the underlying premise that market-based change would be sufficient—has likely helped to *delay* these much-needed structural transformations. So has misplaced faith in overhyped approaches such as "creating shared value" and "the circular economy"; these are touted as win-win, pain-free solutions, but supporters invoke case studies, not empirical research, as evidence. In her speech at COP25, in 2019, the climate-change activist Greta Thunberg astutely noted, "The biggest danger is not inaction. The real danger is when politicians and CEOs are making it look like real action is happening when in fact almost nothing is being done, apart from clever accounting and creative PR."

This is not to say that investors and companies can't make a difference. Corporate commitments to science-based goals are one promising path to improvement. It is good news that companies such as Apple and Microsoft are committing to net-zero trajectories, including for their scope 3 emissions, on a timeline that's consistent with the planetary boundaries framework. Just recently BMW announced that its suppliers'

> "The real danger is when politicians and CEOs are making it look like real action is happening when in fact almost nothing is being done."

carbon footprints will be a key factor in procurement decisions going forward, and Climate TRACE, a coalition funded partly by Google, is developing a satellite-based tool to measure all emissions, including scope 3, in real time. These are welcome advances.

But if we are to bend the global emissions curve downward and address growing environmental and social challenges effectively, a more aggressive approach is needed. The following suggestions are places to begin.

Measure less, better. The current plethora of authorities and frameworks for ESG measurement is unwieldy, confusing, and burdensome for companies. It's encouraging that five of the leading standard setters and measurement bodies—including GRI and the Sustainability Accounting Standards Board—are collaborating to streamline and harmonize standards for reporting. The European Commission and the International Financial Reporting Standards Foundation are undertaking other efforts to improve reporting practices. My hope is that what emerges will include a commitment to a transparent application of rigorous science-based targets in line with nature's limits. No matter what standard ultimately prevails, sustainability reports must be mandated and audited by an empowered referee.

Mobilize. Vested interests and system inertia have been formidable obstacles to progress. Attempts to self-regulate have delivered incremental gains that have been subsumed by business as usual and the unyielding pressure to grow. However, with mounting evidence that climate change is harmful and accelerating, grassroots global movements for action—such as the Sunrise Movement and 350.org—are making what the civil rights hero John Lewis called "good trouble."

Spend government funds on the right things. According to the IMF, global subsidies for fossil fuels topped $5 trillion in 2017. In the United States, tens of billions of dollars have gone to subsidies for biofuels, including ethanol. This makes no sense. We are using taxpayer money to subsidize energy sources that accelerate future environmental damage. Imagine if governments instead invested those resources in R&D for carbon capture, incentives for retrofitting buildings, or infrastructure to spur faster growth in renewable energy.

Change the system. Executives and investors operate in keeping with the rules and incentives of the system. If their behavior is to change, the rules that governments set and enforce also need to change. More specifically, as a partial list, corporations should be prevented from co-opting the regulatory apparatus; carbon emissions should be capped or taxed to account for their social costs; the agriculture industry should be incentivized to transition from spewing carbon to sequestering it; and lawmakers should ban the building of new thermal coal plants as a source of primary energy.

In addition, as Meadows pointed out when discussing leverage points for system intervention, our mindsets and assumptions about how the world works are potential sources of profound impact. A sustainable system will ultimately require a paradigm shift from the prevailing goal of wealth creation to one of well-being, and a shift in focus away from GDP and toward something akin to the OECD's Better Life Index. Commitments to concepts such as regenerative agriculture, reuse, and collective value represent first steps in the right direction.

AFTER TWO DECADES of trying, it should be clear that the market alone will not address worsening social and environmental challenges. The British economist Sir Paul Collier summed up the situation well when he said that capitalism "doesn't work on autopilot. Periodically throughout its 250-year history, capitalism has derailed. And when that happens, it's been up to public policy to get it back on the rails—public policy and the efforts of private citizens, of firms and families."

Ultimately, corporations exist within a broader system. The obsession with shareholder primacy has served executives and investors well, but it has left younger generations with a staggering bill. This past-due invoice includes environmental degradation, biodiversity loss, income inequality, and climate change. Going forward, stability and prosperity require that executive leaders advocate for structural changes that enable them to focus beyond the next quarter's numbers. After all, like the members of Sustainability Inc., they, too, want to pass on a better world than the one they inherited.

HBR Reprint R2103K

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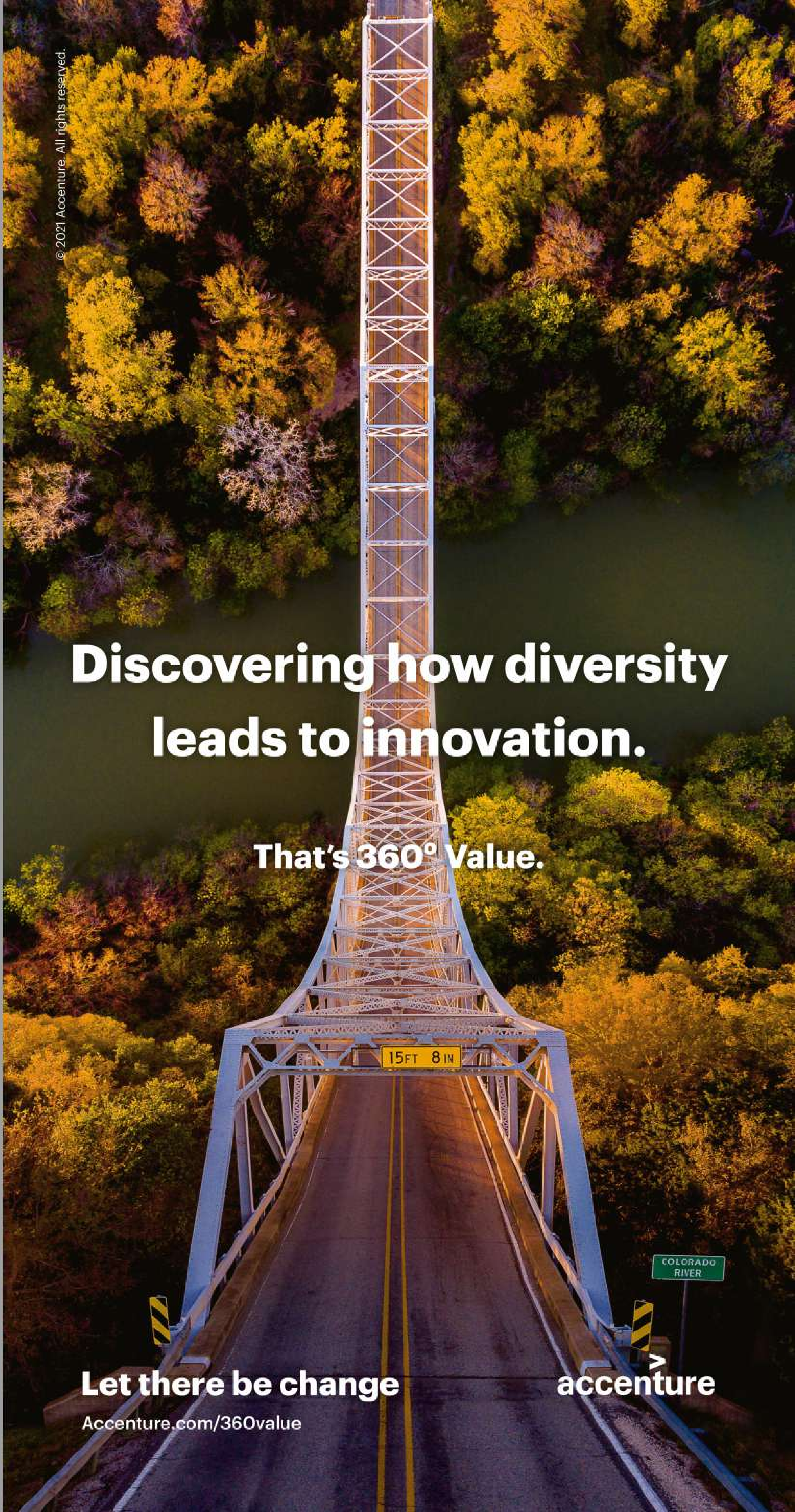
Harvard
Business
Review

“Self-deprecation and bragging seem to be two sides of the same coin. A little helps; too much can hurt.”

“Savvy Self-Promotion”

PAGE 145



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MANAGING YOURSELF

Savvy Self-Promotion

The delicate art, and science, of bragging

by Leslie K. John

WE KNOW that success at work depends on being—and *being seen as*—both competent and likable. You need people to notice your growth and accomplishments while also enjoying your company. But this puts you in a predicament. If you draw attention to the value you've created—to ensure that managers and peers recognize it—you risk coming across as a shameless self-promoter. Not to mention the "icky" feeling that many of us get when we self-promote (narcissists excepted).

No one likes a braggart—maybe because bragging makes others feel envy, annoyance, or even anger. Numerous studies have shown that a person who brags is seen as (and is often also being) egotistical, insecure, and inconsiderate. At the same time,

Illustrations by ROSE WONG

Humility is admirable. But if someone requests information or an answer that requires you to reveal positives about yourself, you should oblige.

research indicates, those who talk themselves up are not perceived as any more competent than their humbler counterparts. Self-promotion has actually been associated with worse performance reviews—particularly for women, who are penalized more heavily when they boast. And although certain cultures, including the United States, are more tolerant of self-promotion than others, the potential downsides to bragging seem to be universal.

Trying to hide the fact that you're boasting doesn't help. Consider the "humblebrag"—that is, a boast masked by a complaint ("I'm so tired of being the only person the boss trusts") or by humility ("I can't believe I got this award!"). In research led by Ovul Sezer of the University of North Carolina, participants rated people who made comments on social media such as "Huh. I seem to have written one of Amazon.com's top 10 books of the year (so far). Unexpected" as not only less likable but also less competent than people who were more straightforward ("I have written one of Amazon.com's top 10 books of the year").

So how can you realize the benefits of self-promotion without the backlash? Opportunities to brag without penalty at work are few and far between, so I generally advise people to focus on earning recognition through consistent performance. As my father always told my brothers and me when we were growing up, "The cream will rise to the top."

However, cream sometimes needs a little help to rise. And although bragging is by and large socially inappropriate, there are exceptions. My research and that of others points to a few ways to draw attention to your accomplishments without penalty, whether your goal is instrumental (say, to ensure that your contributions aren't overlooked come bonus time) or emotional (perhaps to get praise and feel valued).

Share when asked. Humility is admirable. But if someone requests information or an answer that requires you to reveal positives about yourself, you should oblige. Research indicates that when someone details an accomplishment in response to a direct question, others don't judge that person as any less agreeable. In fact, in research I conducted with Kate Barasz of ESADE and Michael Norton of HBS, we found that if you're given an opportunity to brag—for example, by being asked, "What are your greatest strengths?" or "How did you finish that so quickly?"—forgoing it can raise suspicion. We found that not answering or being coy about such questions may cause people to think you're neither trustworthy nor likable.

You might be tempted to induce others to give you such openings for self-promotion—what some call "boomerasking." But that's a risky strategy if a conversation partner senses that he or she is being gamed. New research led by Ryan Hauser of Harvard Business School indicates that posing a question not because you want an answer but because you want someone to ask the same of you makes a worse impression than outright bragging. Let questions arise organically, and when you see opportunities to highlight your successes, make the most of them.

Share when others are sharing. Have you noticed that when someone shares something personal with you, whether it be a point of pride or a shortcoming, you are often triggered to reciprocate? Indeed, a series of studies some colleagues and I conducted found that when people were told that others had revealed personal information, it prompted them to reciprocate in kind. Moreover, research led by Youngme Moon of HBS indicates that it held true even when people interacted with a computer that displayed "self-promotional" messages, such as that it "rarely gets used to its full potential" or "has a huge hard drive." The penalty for bragging seems to dissipate when others in the room are engaging in self-promotion.

Similarly, in contexts where people typically share their successes, such as job interviews, it can be beneficial to brag. In one study, researchers followed 106 job seekers, taping their interviews and measuring the extent to which they engaged in self-promotion. Those who took time to outline their strengths, experience, and achievements were more likely to be rated by their interviewers as suitable for the job and of greater interest to the organization than those who didn't brag as much. (That said, don't go so far that you forget to engage in other attractive behaviors, such as asking questions—a risk highlighted in research by Dan Cable of London Business School and Virginia Kay of the University of North Carolina.)

You can see this effect play out on LinkedIn, where self-promotion is rampant, or in offices where doctors, lawyers, and other professionals commonly display their degrees and credentials to show patients or clients that they are in qualified hands. In short, research indicates that in situations where others

share too, people can successfully convey their accomplishments without coming across as unlikable, egotistical, or inconsiderate.

Find a promoter. Athletes, musicians, and actors hire publicists and agents for good reason. Intermediaries are seen as less self-serving and thus provide an aura of objectivity. The same can be true in business settings. In a series of studies led by Stanford's Jeffrey Pfeffer, participants tasked with setting a salary for a new employee were given one of two job interview transcripts. In the first, the candidate volunteered statements such as "Anyone who has worked with me would say that I am a natural leader." In the second, a recruiter did the promoting: "Anyone who has worked with her would say that she is a natural leader." The candidate who bragged through an intermediary was better liked, seen as more competent, and awarded higher pay than the self-promotional one. Other research indicates that secondhand bragging is also less likely to elicit negative emotions such as envy and annoyance. The effect is so powerful that even blatant conflicts of interest—for example, if an executive search firm is being paid a percentage of a new hire's salary—don't seem to undermine intermediaries' credibility.

Of course, no one brings an agent to a performance review, and it's rare to have a cheerleading recruiter attend your job interviews. But you can find intermediaries, including peers, bosses, mentors, and sponsors, who will be happy to speak up on your behalf—as long as you are respectful in your solicitation. This is easier than you might think. Research led by Cornell University's Vanessa Bohns indicates that we tend to underestimate others' willingness to help by about 50%. Benefits also accrue to the helper. Research on "positive gossip" indicates that people are more highly regarded when they brag about others. That means, of course, that you, too, should praise the accomplishments of others; it's kind, good for morale, and may prompt reciprocation.

One last note: If someone unexpectedly compliments you publicly, resist the instinct to humbly downplay it; a smile or a simple "Thank you" will suffice.

Strike a balance. Even when you see a clear opening to highlight your accomplishments, you should be measured about it. Research indicates that when people present a balanced picture of themselves, rather than discussing only successes, they come across as more credible and affable. Those with high status, in particular, should acknowledge failures and foibles as well as achievements, not only because such candor is laudable, but also because it makes them less likely to come across as brash, unlikable, and worthy of envy. This even holds for brands. Research suggests that when marketers point out a minor drawback in an otherwise positive product description (for instance, noting that it "comes in only two colors"), consumer purchase interest actually increases.

This strategy works because humans are much more adept at making relative judgments than absolute ones: When negative information is sprinkled into a largely positive narrative, we compare the two, which allows accomplishments to stand out and be more readily accepted. For example, participants in a research study led by Alison Wood Brooks of HBS were highly envious of successful (fictional) entrepreneurs except for the one who, after pitching to a group of potential investors, said, "I wasn't always so successful. I had a lot of trouble getting to where I am now….When I started my company…

Experience

I failed to demonstrate why potential clients should believe in me and our mission. Many...turned me down." Taking this research to heart, one colleague went so far as to post a "CV of failures" alongside his accomplishments on his university biography page.

My colleagues and I have recently found that managers, in particular, benefit from revealing small weaknesses, because it causes their employees to view them as more authentic, which leads to greater trust and motivation. However, the positive effect accrued only when the weakness was relatively mild ("I am nervous about public speaking") rather than serious ("I'm so nervous about public speaking that I sometimes start to panic").

Humorous self-deprecation is another way to offset bragging—but again, use it with caution. Recent research suggests that observers take self-deprecating jokes (for example, "Every project I've done has been on time and under budget—if you double the estimates!") at face value. Self-deprecation and bragging seem to be two sides of the same coin. A little helps; too much can hurt.

Celebrate the right way. We all want our achievements to be recognized and applauded. It's a boost to morale and well-being. And there are ways to celebrate without coming across as boastful. One is to find a circle of close friends at work and outside it who will cheer your victories as if they were their own. Research shows that telling confidants about your successes can improve those relationships. The reverse is also true: According to Emma Levine of the University of Chicago and colleagues, withholding good news—say, qualifying for the Boston Marathon—from close others harms trust and intimacy: People feel left out.

Solo celebrations work too. Treat yourself to a nice meal, a new dress, or just a relaxing night in with your favorite TV show. In fact, I recommend making time to regularly reflect on your successes. Research suggests that when we accomplish something big—say, landing that promotion—our happiness levels initially increase but soon return to their baseline. Although one shouldn't rest on one's laurels, it can be beneficial to get more mileage out of achievements by reminiscing about them. In this spirit, I do two things: First, I keep a "warm, fuzzy" email folder; whenever someone sends me a note of praise, I save it to revisit as a pick-me-up at some future date. Second, every New Year's Eve my husband and I each write down our 10 best (and 10 worst) moments from the year and share them with each other. (I recommend that you do the bad ones first so as to get more joy from the contrast.)

SOME OF YOU may struggle to tout your own accomplishments. For others, bragging may come naturally. In either case, the research-backed tactics I've described should help you become more effective at promoting yourself at work while proving to be both likable and competent. Knowing how and when to boast—and when to refrain—is one important way to advance your career.

One last and crucial point: If you find yourself constantly fighting the urge to brag, ask yourself why you feel the need. Everybody loves praise, but are you overly dependent on it? Not intrinsically motivated enough? Feeling undervalued in your profession? If so, why? The answers to those questions may prompt deeper self-reflection, which could bring you far more personal benefit than self-promotion ever will.

HBR Reprint R2103L

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2020 HBR McKINSEY AWARDS

The HBR McKinsey Awards, judged by an independent panel of business and academic leaders, commend outstanding articles published each year in *Harvard Business Review*. The awards were established in 1959 to recognize practical and groundbreaking management thinking.

FIRST PLACE

Getting Serious About Diversity

NOVEMBER–DECEMBER 2020

This article, by Harvard Business School professor **Robin Ely** and Morehouse College president **David Thomas**, critiques popular rhetoric about diversity and argues that contrary to conventional wisdom, research provides no support for the notion that diversifying the workforce automatically improves a company's performance. To fully benefit from increased racial and gender diversity, organizations must adopt a learning orientation and be willing to change their corporate culture and power structure.

THE FINALISTS

Our Work-from-Anywhere Future

NOVEMBER–DECEMBER 2020

In this article HBS professor **Prithwiraj (Raj) Choudhury** describes the benefits and costs of remote working, drawing on extensive research he conducted on the U.S. Patent and Trademark Office, Tata Consultancy Services, and GitLab, among others. The best practices he found can help leaders decide whether remote work is right for their companies.

How to Promote Racial Equity in the Workplace

SEPTEMBER–OCTOBER 2020

Because companies are relatively autonomous entities that afford leaders a lot of control over norms and policies, they are ideal sites for promoting racial equity. In this article Harvard Kennedy School professor **Robert Livingston** outlines five steps they should take to do that.

THE JUDGES

TREVOR FETTER
Senior lecturer, Harvard Business School

HERMINIA IBARRA
Professor, London Business School

CLAUDIO FERNÁNDEZ-ARÁOZ
Former partner, Egon Zehnder

FRANCESCA GINO
Professor, Harvard Business School

Case Study

What Role Should a Company Play in a National Crisis?

by Christopher J. Malloy

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 "Chaudhary Group: Rebuilding Nepal" (case no. 218100-PDF-ENG), by Christopher J. Malloy, Lauren H. Cohen, and Inaskshi Sobti, which is available at ***HBR.org****.*

SAHAN KUMARA COULDN'T believe what he was seeing online. Two hours earlier, a tsunami had hit Indonesia, sending a wall of water gushing through resorts, sweeping away villages, flooding fields, and killing thousands. Now the waves had struck the coast of his own island nation, causing similar devastation.

Monitoring the reports from his office in the capital, miles away from the disaster zone, Sahan was safe. But he knew that a great many others were not—including employees and customers of the Kumara Group, his family's business.[1]

Kumara was one of the region's largest conglomerates. It had significant real estate and bank holdings, provided port services, and operated food and beverage companies as well as supermarkets. The firm was run by Sahan's father, Ravi, who had groomed both of his sons for leadership positions from an early age.

The eldest, Ruwan, had risen through the banking division and, at 46, was now the CFO of the holding group. Sahan, 36, had been leading the property division—overseeing hotels, resorts, and retail. But just months before, he had persuaded his father to

Illustrations by **ANUJ SHRESTHA**

let him focus on a passion project instead: launching the Dilipa Kumara Foundation, named for his late mother. It was a charitable arm of the for-profit company that would give back to local communities.

When Sahan's phone buzzed, he picked up immediately. The caller was Kevin de Silva, Kumara's COO, who had helped to build and run the organization for nearly four decades.

"Are you following the news?" Kevin asked.

"Yes, it's awful."

"Terrible. And we don't even know the full scope yet. We need to get a team as close as we can to find our employees and assess the damage and....There's just so much to be done. You know the affected areas better than I do. Can you come?"

"Absolutely. We can take the company plane."

"Yes, your father has already authorized it. We're waiting to find an airfield that will accept us. We'll have to drive from there."

Just after the men hung up, Sahan's phone buzzed again. "Dad," he said. "I'll go with Kevin."

"Good," replied Ravi. "I'm most concerned about our people; the real estate is secondary."

"Short term," he went on, "we'll need to implement our crisis response plan.[2] I'm afraid you'll have to put your property management hat back on for a while. Longer term, I'll want your advice about how we—the company and the foundation—can help with the recovery."

"Of course. I'll report back as soon as I'm able."

After saying goodbye, Sahan sat for a moment, reflecting soberly. The Kumara Group would need to show strong leadership. And he'd have to propose a plan.

WHAT NEXT?

Within a few weeks, Kumara had taken stock of its losses: 98 employees and 26 resort guests dead; hundreds more injured. Six hotels, 20 shops, four supermarkets, three banks, and facilities at two ports destroyed.[3] But the company was well capitalized, and its insurance claims were being processed quickly.

The Kumara brothers and their father had offered condolences and financial aid to the families of each victim. At the company's properties, debris was being cleared away and buildings were being repaired. However, beyond Kumara's businesses—in the broader community—chaos still reigned.

"We have to do more," insisted Zara Peiris, Sahan's deputy. She had just returned from the eastern coast and was reporting back to the executive team. Sahan understood the urgency in her voice. He'd seen the shocking pictures she'd taken of people living without proper shelter, food, or sanitation.

Ruwan responded matter-of-factly: "We've already contributed 100 million rupees to the government's relief program and another 20 million rupees to the United Nations' efforts.[4] We can add to that if need be. But what else would you have us do? We can't rebuild the entire coast ourselves."

Sahan could see Zara bristling at Ruwan's tone. But before either of them could speak, Kevin did. "I'm afraid money won't be enough," he said. "I've dealt with the government officials and agencies that will be in charge of recovery and reconstruction. They need our expertise—in planning, construction, logistics. We might indeed have to rebuild for them: homes, schools, roads, you name it."

Zara nodded vigorously. Ruwan looked incredulous. Ravi, as usual, sat stone-faced.

"What about forming a coalition of businesses," proposed

Case Study Classroom Notes

1. *About 80% of companies worldwide are family-owned or -controlled. They are the chief source of long-term jobs in most countries.*

2. *Crisis expert James Haggerty advises that firms prepare for disasters by appointing a rapid-response team, providing some scenario training, and creating a crisis playbook detailing initial action steps.*

3. *The 2004 Indian Ocean tsunami claimed nearly 230,000 lives and caused $10 billion in damage.*

4. *What factors should a company consider when donating to disaster relief? How should it evaluate the impact of its giving?*

5. *Transparency International, in its 2020 Global Corruption Barometer survey for Asia, found that 74% of respondents viewed government corruption as a big problem in their country, and one out of five who had used public services in the previous 12 months reported paying a bribe.*

6. *Does Kumara have a responsibility to do more than get its own businesses up and running again?*

Sahan, "so that it's not all on our shoulders?"

"We're bigger than everyone else, so we'll get stuck bearing most of the cost," Ruwan countered. "And remember, the NGOs have the real expertise in disaster relief, and the government will have oversight of all this anyway."

"But they're moving so slowly," Zara said, "and I wouldn't put it past them to skim."[5]

"We could speed things up, make sure the money goes where it should," Kevin suggested.

Ruwan shook his head. "So we swoop in, spend hundreds of millions more, magically cut through all the red tape, avoid paying bribes, and become the superheroes of this story?"

Kevin smiled in his wise-uncle way. "Something like that."

"I'm all for stepping up in our country's time of need," said Ruwan, "but doing what you suggest would mean shelving our growth plans for this year. And I'm pretty sure the government is counting on the jobs and taxes that our expansion would generate." Ruwan turned to his father, expecting the kind of support he almost always got.

But when Ravi spoke, it was to his younger son. "Sahan, as the head of our foundation, what do you think?"

"Well," responded Sahan, "the foundation is young, so not in a position to underwrite the large-scale efforts that Kevin suggests. But the company has enough resources to do so. And we have a stake in these communities. Perhaps we *should* step in.[6] Let me do some more digging."

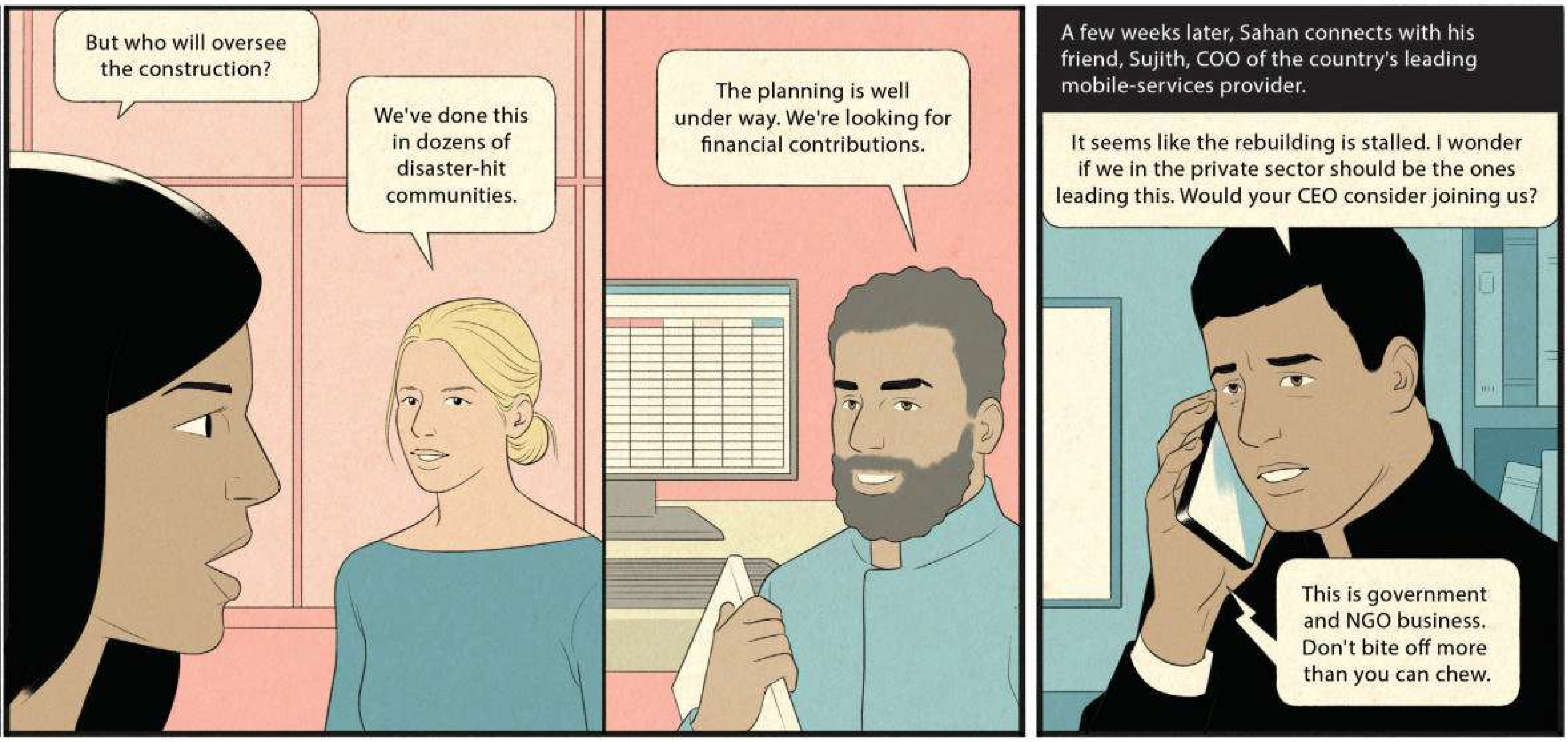
Ravi, Kevin, and Zara all nodded. Ruwan's head dipped, too, but Sahan detected a roll of the eyes as well. As the firstborn son and the keeper of the P&L, Ruwan was accustomed to having more sway than Sahan over decisions at Kumara. Had this disaster changed that dynamic?[7]

A MEETING WITH OFFICIALS

"Welcome, welcome." Chamal Lanza, the government's minister of development, ushered Sahan and Zara into his office. "Thank you for coming. May I introduce Alice Fields, who is spearheading the United Nations' relief effort."

After everyone was seated, the minister spoke first: "We sincerely appreciate the support that Kumara has so generously provided already. Unfortunately, as you know, international aid has been flowing toward Indonesia much more than to us.[8] They were harder hit, of course. But we are in desperate need too—still struggling to care for the injured, shelter the displaced, and provide steady supplies of food and water."

"And that's just the short-term crisis management," Alice noted.



"So what is the long-term plan?" Sahan asked.

"We want to give every family a modest sum to build a new home and give each town a cash grant for a school," Alice explained.[9]

Zara piped up. "But who will teach them how to rebuild? How will they get the supplies? Who will oversee the construction?"

"Let me assure you," Alice replied, "we've done this in dozens of disaster-hit communities around the world."

"But aren't the NGOs and the government still bogged down with emergency relief?" Zara pressed.

"We're ready to tackle reconstruction too," the minister said confidently. He handed Sahan a thick stack of maps and spreadsheets. "The planning is well under way."

"So you're looking for more financial contributions?" Sahan asked.

"Yes, and any resources you and other companies are able to offer. Food and water are the most critical things now; timber and hardware supplies may be helpful later. We're also approaching more NGOs and other foreign donors. It will be a group effort directed by this ministry."

Sahan gathered the papers and promised to review them.

The moment they were out the door, Zara grabbed Sahan's arm. "You know there are already protests in the streets over the inept response to this crisis," she said. "Even with the help of NGOs, I just don't think these bureaucrats have the skills or, frankly, the ethics to handle this kind of operation. We do."

SAHAN'S QUANDARY

Several weeks later, Sahan was on a call with Sujith Fernando, a boyhood friend and the number two at AR Telecom, the country's leading provider of mobile phone services.

"How are things, businesswise?" Sahan asked. The telecom had moved quickly to restore its coastal operations.

"All good," Sujith said. "What's the status of your repairs?"

"We're making fine progress on our properties, but it seems like the community rebuilding is completely stalled. For weeks I've been looking at the government's plans, talking to various ministers and the woman who's coordinating the NGO efforts, and waiting to see some action. But they're still stuck in crisis response mode, and the public is fed up."[10]

"Yes, the protests are all over the news. I hope the authorities get their act together."

"That's just it," Sahan said. "I'm wondering if we in the private sector should be the ones leading this—not just donating

7. *Sibling rivalries are not uncommon in family businesses.*

8. *Total disaster aid for the region—from governments, individuals, and businesses—was estimated at $13.5 billion.*

9. *Are cash transfers the right form of humanitarian aid?*

10. *What is a realistic timetable for moving from relief to recovery?*

money but managing the whole reconstruction program. Do you think your CEO would consider joining Kumara in that?"

"Well," Sujith replied, "as you know, we've made a big cash contribution. There may be room in the budget to supplement that. But participate in a more hands-on way? I don't think so. This is government and NGO business. I don't think any companies would—or should—get involved."

"But..."

"Look, I know you started the foundation to honor your mom's legacy and do good in the world. I know Kumara is a juggernaut and can probably afford anything. But the rebuilding will be complicated, with all sorts of risks. Don't bite off more than you can chew."

Sahan thanked his friend for the advice but still felt torn. Later that night he would be meeting his father for dinner. He knew that Ravi would expect a recommendation on what steps the foundation and Kumara should take next to continue assisting with the tsunami recovery.

Sahan wished his mother were still alive to consult. "What would you do, Mom?" he said to the air. "Is money enough? Or do we need to get much more involved?"

CHRISTOPHER J. MALLOY *is the Sylvan C. Coleman Chaired Professor of Financial Management at Harvard Business School and a research associate at the National Bureau of Economic Research.*

Should Sahan back the government efforts or push for Kumara to lead the recovery? The experts respond.

NIRVANA CHAUDHARY *is the managing director of the Chaudhary Group and the vice chair of the Chaudhary Foundation.*

Kumara is well positioned to spearhead the recovery.

I would advise Sahan to start leveraging the organization's infrastructure and networks immediately.

This case is loosely based on the scenario we at the Chaudhary Group faced after the 2015 earthquake that devastated Nepal. As one of the country's largest companies, with a foundation dedicated to building a better, healthier society, we leapt into action right away.

Our rural telecommunications division set up temporary cell towers and created a toll-free number for emergency calls. Our hospitality group opened its properties to shelter and feed stranded tourists and citizens whose homes had been destroyed. Our logistics teams converted schools into relief camps and coordinated the transport of supplies and materials to the hardest-hit areas. And our real estate unit partnered with experienced NGOs like Seeds and the PwC Charitable Foundation to jump-start reconstruction by building nearly 3,000 prefabricated transitional shelters. Within a year we had erected 55 schools, 22 digital classrooms, and 20 water treatment plants and rebuilt and improved two villages. In the process, we trained close to 6,500 people in various skills. By contrast, the government response—which we also supported financially—was very slow, despite the help of NGOs.

When crises strike our region, the United Nations and other multilateral agencies frequently request our assistance. We can often handle in hours what would take outsiders weeks and weeks, and we're happy to help. In most countries—whether developing or developed—the private sector can move with more speed, efficiency, and efficacy than the public one. Kevin and Zara are right to recognize that, and Sahan should too.

Ruwan is understandably worried about paying for the entire recovery. But Kumara's business seems strong enough to foot a large share of the bill, and Sahan can seek contributions from other companies and foundations. At Chaudhary we require each business unit to contribute a portion of annual profits to our foundation. That enables it to help with all kinds of local needs, which is a source of pride for our employees.

Of course, Sahan should not bypass other stakeholders. The Chaudhary Foundation works closely with Nepal's national and provincial governments and with various nonprofits. Although they're sometimes hobbled by bureaucracy, a lot of people there are doing good work. We solicit their input on initiatives, oversee to take advantage of everyone's strengths, and liaise with UN clusters to mobilize quickly after disasters.

I believe that Kumara has a responsibility to give back to the society that has made it a successful business. Sahan mustn't wait for the government to handle the tsunami recovery. His company and foundation can and should lead those efforts.

MARGARET SCHULER *is the senior vice president of international programs at World Vision.*

A complex, large-scale disaster requires a comprehensive response.

Public, private, and nonprofit organizations have to work together on a coordinated relief effort. It's not an either-or situation; it's all hands on deck.

So although I applaud Sahan's impulse to have Kumara step in and lead the national tsunami recovery, I would urge him to continue to collaborate with the government and NGOs. Local officials need to be involved and truly "own" the response to ensure success and sustainability. United Nations agencies and international NGOs bring useful experience in marshaling foreign aid and managing a large-scale disaster response.

However, that doesn't mean Kumara should simply write another check. With the company's local expertise, relationships, and resources, Sahan and his colleagues should have seats at the planning table alongside ministers like Chamal Lanza and program coordinators like Alice Fields. In fact, Kumara executives can be involved in UN-coordinated technical groups that define and oversee efforts to address water issues, health and nutrition, shelter, education, and infrastructure.

It may seem as if the government and NGOs aren't working fast or efficiently enough. But I suspect that they are simply taking time to hear directly from the affected communities to better assess and understand their needs and interests—now and into the future. That's critical for an effective response. A disaster of this magnitude requires a multiyear plan that focuses not just on quick relief but also on long-term solutions to sustainably rebuild.

And don't underestimate the ability of nonprofits to move with speed. At World Vision, for example, we had a global Covid-19 response plan, supported by private and public donors, ready just days after the World Health Organization declared the outbreak a pandemic. We acted much more quickly than many governments did. With 40,000 staff in 70 countries around the world, we drew on our experience fighting Ebola, Zika, HIV, and AIDS to again work with proven partners—including more than 200,000 local community health workers and faith leaders—to deliver stop-the-spread training and basic health services to millions of vulnerable people.

Even if Zara and Sahan's suspicions about government corruption are justified, the involvement of the United Nations and other reputable NGOs is a good sign. Because those organizations are accountable to their own donors and supporters as well as to the people they serve, they know how to hold their partners to the same standards.

From here on out, all stakeholders, including Kumara, should agree on a plan with key milestones and tracking to ensure that all parties deliver on their commitments in the time frame they've promised. As a large donor of money and in-kind materials and support, the company can require regular reports on how those resources are being used and, eventually, seek evidence of positive impact. Are Kumara's contributions both reaching people and helping them to thrive?

A full, coordinated public-private effort, with that kind of accountability, will deliver the best results for the people Sahan and his colleagues so desperately want to help.

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Reprint Commentary only R2103Z

SYNTHESIS

Anxiety When There's a Lot to Be Anxious About

Reflections on what does (and doesn't) help

by Gretchen Gavett

I AM A world-class catastrophizer. Everything, according to my brain, is about to go wrong. The other shoe is ready to drop. Get ready for the worst!

Usually I'm wrong. Most planes and cars do not crash. I have yet to be targeted by a serial killer. I was not having a heart attack at age 12. (It was chronic heartburn due to stress-eating barbecue potato chips, a story for another time.) But this past year was different. A lot of really bad things happened (and continue to happen) on a global scale. My worldview, shaped by my lifelong anxiety disorder, felt confirmed in the most horrible of ways. "See!" I'd say to anyone who'd listen (usually my husband). "I told you something bad was about to happen. Just look at this!" I'd continue, gesturing madly at reports of wildfires, melting polar ice caps, the global pandemic, massive job losses, and attacks on democracy. I didn't revel in my anxious clairvoyance. Far from it. But my hoarding of toilet paper in early March 2020 did feel prescient. "Aha!" my brain observed. "You were right! Keep indulging in such behavior!"

So, what happens to your anxiety when big, bad stuff is occurring—and getting worse? Which coping tactics can you turn to when your usual ones (list making, journaling, meditation, medication) no longer seem to work? And how can you do that in a world where *everyone* seems more anxious? According to a February American Psychological Association survey, almost half of Americans reported feeling anxiety over the prior two weeks.

Several recently released books offer some guidance. Only some of them discuss the pandemic; nevertheless, they present an opportunity to rethink the problem of anxiety and test new strategies for damping it down or, even better, putting it to more-productive use.

First, the reframing. In ***Trust Yourself: Stop Overthinking and Channel Your Emotions for Success at Work,*** the executive coach

Illustration by AMRITA MARINO

Melody Wilding describes “Sensitive Strivers” as “high achievers who are also more attuned to their emotions, the world, and the behavior of those around them,” which struck a chord with me (by which I mean that I ticked nearly every box on a diagnostic quiz). If your anxiety, like mine, stems from acutely experiencing and sensing emotions, causing you to seek approval from others and put their needs first, remember that those traits have some positive aspects, too. (The HBR network podcast host Morra Aarons-Mele uses a different term—*anxious achiever*—for the same idea.) That’s an important mindset shift, Wilding writes, but it must be accompanied by work that protects our mental health. She suggests a series of exercises to help us understand and process our emotions, build boundaries, and create better worlds for ourselves. For example, experiment with various grounding techniques—focusing on the physical (sight, sound, smell, taste, touch) rather than the psychological—to see what works for you. Or try tracking your negative thoughts to learn when and why they occur and how to recast them in a more positive light.

Ethan Kross, the psychologist, neuroscientist, and professor who runs the University of Michigan’s Emotion & Self Control Lab, offers an equally instructive guide to both normalizing anxiety and distancing ourselves from it in his new book, ***Chatter: The Voice in Our Head, Why It Matters, and How to Harness It.*** He writes that everyone faces “grief, relationship turbulence, professional setbacks, [or] parenting struggles” at one point or another. But he urges us to avoid “co-rumination” with others—spinning tales of bad-things-about-to-happen with like-minded people. Instead, he says, we need to get perspective from people who *aren’t* going through such things, who approach our anxious moments with intellect and active listening, not emotion, and who help us move toward behavioral change and solutions rather than spiraling.

Even in the absence of these Spock-like characters, he says, we can create a mental separation on our own with distanced self-talk—that is, referring to ourselves in the third person. “Here we go, Gretchen. You can do this” is a pep talk I use for mundane situations (such as forcing myself to stop doomscrolling on Twitter and instead open up the long-form article I need to edit) as well as high-anxiety ones (say, prepping for an executive committee presentation). Kross notes that finding small moments of awe in nature can also help. (I agree: One of my best days of 2020—albeit a low bar—was when a hawk landed on a tree outside my kitchen window.)

The you’re-not-broken-but-need-better-strategies theme also carries through in ***Anxiety at Work: 8 Strategies to Help Teams Build Resilience, Handle Uncertainty, and Get Stuff Done,*** by the consultants Adrian Gostick and Chester Elton (with Anthony Gostick). From the get-go the authors acknowledge the huge range of anxieties that many of us routinely (and rightly) experience: from concern about fitting into our organizations to panic over the (true) fact that “our world is subject to destabilizing, long-lasting threats, which may arise seemingly out of nowhere and disrupt not only companies but the whole economy.” They insist, however, that we can’t succumb to paralysis. Any action is better than none, so even if you’re not 100% certain about a move, make it anyway, celebrate the small wins, and learn from the losses. I’m reminded of Rebecca Solnit’s 2016 essay on hope in dark times: “Hope locates itself in the premises that we don’t know what will happen and that in the spaciousness of uncertainty is room to act.”

Alice Boyes, a psychologist and the author of the terrific 2015 book ***The Anxiety Toolkit: Strategies for Fine-Tuning Your Mind and Moving Past Your Stuck Points,*** hammers on this idea. “Successfully navigating anxiety involves learning how to accept, like, and work with [it],” she writes. That means recognizing “that a possible negative outcome isn’t necessarily a reason not to do something” and adopting a bias toward action, even when it feels difficult. Here we can come back to Kross. He says that when we know what’s required and have—or can marshal—the resources to cope with it, scary things become challenges rather than threats.

After all, we need action—at the individual and the collective level—now more than ever. The pandemic *is* killing people. Millions *are* without jobs. Extreme weather *is* more likely. Democracy *is* eroding around the world. Really bad stuff is happening and will continue. But co-ruminating won’t get us where we need to be. Anxiety, channeled smartly, can help. As Gostick and Elton write, “We find society functions because of the worrywarts in it, not despite them.”

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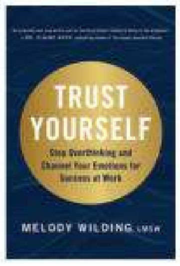
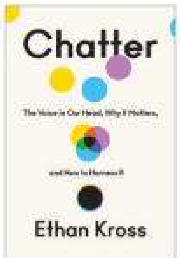
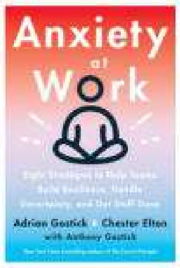


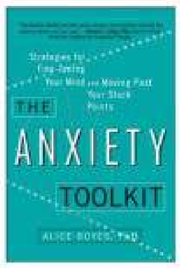
Trust Yourself
Melody Wilding
Chronicle Prism, 2021



Chatter
Ethan Kross
Crown, 2021



Anxiety at Work
Adrian Gostick and Chester Elton
Harper Business, 2021



The Anxiety Toolkit
Alice Boyes
TarcherPerigee, 2015

GRETCHEN GAVETT *is a senior editor at* Harvard Business Review.

SPOTLIGHT

Understanding China

Businesspeople and politicians in the West hold outdated beliefs about the second-largest economy in the world. This package reveals much that may surprise them. | **page 41**

What the West Gets Wrong About China

Rana Mitter and Elsbeth Johnson | page 42

Many people have wrongly assumed that political freedom would follow new economic freedoms in China and that its economic growth would have to be built on the same foundations as in the West. The authors suggest that those assumptions are rooted in three essentially false beliefs about modern China: (1) Economics and democracy are two sides of the same coin; (2) authoritarian political systems can't be legitimate; and (3) the Chinese live, work, and invest like Westerners. But at every point since 1949 the Chinese Communist Party—central to the institutions, society, and daily experiences that shape all Chinese people—has stressed the importance of Chinese history and of Marxist-Leninist doctrine. Until Western companies and politicians understand this and revise their views, they will continue to get China wrong.

The Strategic Challenges of Decoupling

J. Stewart Black and Allen J. Morrison | page 49

Most business executives who have put time, effort, and investment into developing a presence in China resist the notion of decoupling. With the Biden administration likely to take a less confrontational approach to China than Donald Trump did, CEOs might be tempted to hope that the issue will blow over. But as the authors point out, China has been following a long-term strategy of reducing its dependence on foreign technology and capabilities for more than 15 years and has projected that strategy forward another 15 years. Decoupling is here to stay. In this article they explain four strategies for foreign companies in China, depending on whether they are *below-the-radar* players, *upstream* players, *market* players, or *dual* players.

China's New Innovation Advantage

Zak Dychtwald | page 55

Eight of the 10 fastest companies ever to reach a $1 billion valuation are Chinese, and six of them were founded in 2014 alone. Whatever has propelled Chinese companies to the top, the metrics we use to evaluate innovation have missed it. The author argues that China today has a resource that no other country has: hundreds of millions of people who have lived through unprecedented amounts of change—and who, consequently, can adopt and adapt to innovations at a speed and scale unmatched anywhere else on earth. Those hyper-adaptive and hyper-adoptive consumers are what make China so globally competitive today. But competition with the Chinese should not be considered a zero-sum game. Foreign companies would do well to seek to learn from China's newly powerful example.

"Americans Don't Know How Capitalist China Is"

Adi Ignatius | page 61

Weijian Shan was born in China and had his life upended by the Cultural Revolution. Educated in the United States, he worked for the World Bank and J.P. Morgan and taught at the Wharton School. Today he is the CEO of PAG, a $40 billion private equity firm based in Hong Kong. In this interview he talks about the accessibility of the Chinese market, America's demonization of China, what the Chinese don't understand about the U.S., and more.

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HOW WE DID IT

The CEO of Pfizer on Developing a Vaccine in Record Time

Albert Bourla | page 34

On March 19, 2020, as Covid-19 swept across the world, Bourla challenged everyone at Pfizer and its partner BioNTech—a German company focused on cancer immunotherapies—to "make the impossible possible": develop a vaccine more quickly than anyone ever had before, ideally within six months and certainly before the end of the year.

Less than eight months later, on Sunday, November 8, they discovered that they had succeeded: Their combined phase two and three trials showed a 95% efficacy rate. In the spring, thanks to their work and that of the other companies whose vaccines have been authorized, 300 million doses should be available around the world.

It took a moon-shot challenge, out-of-the-box thinking, intercompany cooperation, liberation from bureaucracy, and most of all, hard work from everyone at Pfizer and BioNTech to accomplish what they did in 2020. Organizations of any size or in any industry can learn from these strategies to solve their own problems and to produce important work that benefits a broad swath of society.

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MANAGING YOURSELF

Savvy Self-Promotion

Leslie K. John | page 145

Everyone knows that success at work depends on being—and being seen as—both competent and likable. You need people to notice your growth and accomplishments while also enjoying your company. But if you draw attention to the value you've created, to ensure that managers and peers recognize it, you risk coming across as a shameless self-promoter. No one likes a braggart. In this article the author explains how to highlight your accomplishments at work without having it backfire. Drawing from a fascinating strain of laboratory research, she advises against several popular tactics such as "humblebragging" and "boomerasking" (asking a question in the hope it will be reciprocated so that you can bring up your own accomplishments). Instead, she advises, recognize situations where self-promotion is socially acceptable (such as job interviews) and consider using a mentor or other agent to boast on your behalf.

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Features

MANAGING PEOPLE

How to Do Hybrid Right

Lynda Gratton | page 66

Since the pandemic, companies have adopted the technologies of virtual work remarkably quickly—and employees are seeing the advantages of more flexibility in where and when they work. As leaders recognize what is possible, they are embracing a once-in-a-lifetime opportunity to reset work using a hybrid model.

To make this transition successfully, they'll need to design hybrid work arrangements with individual human concerns in mind, not just institutional ones. That requires companies to approach the problem from four different perspectives: (1) jobs and tasks; (2) employee preferences; (3) projects and workflows; and (4) inclusion and fairness.

Leaders also need to conceptualize new work arrangements along two axes: place and time. Millions of workers around the world this year have made a sudden shift from being place-constrained (working in the office) to being place-unconstrained (working anywhere). Employees have also experienced a shift along the time axis, from working synchronously with others 9 to 5 to working asynchronously whenever they choose.

If leaders and managers can successfully make the transition to an anywhere, anytime model, the result will be work lives that are more purposeful and productive.

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ENTREPRENEURSHIP

Why Start-ups Fail

Tom Eisenmann | page 76

If you're launching a business, the odds are against you: Two-thirds of start-ups never show a positive return. Unnerved by that statistic, a professor of entrepreneurship at Harvard Business School set out to discover why.

Based on interviews and surveys with hundreds of founders and investors and scores of accounts of entrepreneurial setbacks, his findings buck the conventional wisdom that the cause of start-up failure is either the founding team or the business idea. The author found six patterns that doomed ventures. Two were especially common:

Bad bedfellows. Other parties besides the founders—like employees, strategic partners, and investors—can play a major role in a firm's demise. Quincy Apparel, for instance, was undone by weak support from its investors and factory partners and inflexible employees.

False starts. Many overlook a crucial step in the lean start-up process: researching customer needs before testing products. Like Triangulate, an online dating start-up, they keep rushing to launch fully functional offerings that don't fit any market needs.

The good news is, firms can avoid that pitfall by rigorously defining the problem they want to solve, getting one-on-one feedback from potential customers, and validating concepts with real customers in real-world settings.

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STRATEGY

Eliminate Strategic Overload

Felix Oberholzer-Gee | page 88

As companies respond to intensifying competitive pressures and challenges, they ask more and more of their employees. But organizations often have very little to show for the efforts of their talented and engaged workers.

By selecting fewer initiatives with greater impact, companies can make their strategies more powerful. A strategic initiative is worthwhile only if it does one or more of the following:

- It creates value for customers by raising their willingness to pay. As your company finds ways to innovate or to improve existing products, the maximum price people will be willing to pay for the offering rises.
- It creates value for employees by making work more attractive. Offering better jobs lowers the minimum compensation that you have to offer to attract talent to your business.
- It creates value for suppliers by reducing their operating cost. As suppliers' costs go down, the lowest price they would be willing to accept for their goods falls.

As companies expand the total amount of value created for their customers, employees, and suppliers, they position themselves for enduring financial success.

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LEADERSHIP DEVELOPMENT

The High Cost of Poor Succession Planning

Claudio Fernández-Aráoz, Gregory Nagel, and Carrie Green | page 98

Many large companies fail to pay enough attention to their leadership pipelines and succession practices. That leads to excessive turnover at the top and destroys a significant amount of value—close to $1 trillion a year among the S&P 1500 alone, say the authors of this article. The biggest costs are underperformance at companies that hire ill-suited external CEOs, the loss of intellectual capital in the C-suites of organizations that executives leave behind, and for companies promoting from within, the lower performance of ill-prepared successors.

Companies and their boards can (and must) do better. The solution isn't that complicated: Firms need to start succession planning well before they think they need to; make sure they identify and develop rising stars; appoint the most-promising executives to the board to help prepare them to take on the top job; and look at both internal and external candidates. In addition, when working with search consultants, firms should avoid perverse incentives like contingency and percentage fees.

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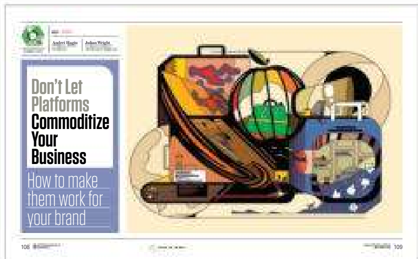
Features

COMPETITION



Don't Let Platforms Commoditize Your Business

Andrei Hagiu and Julian Wright
page 108

Large digital multisided platforms (MSPs) such as Amazon, Alibaba, and Apple's App Store have made it much easier for sellers to reach new customers, but as thousands of companies large and small have discovered, conducting business on them carries significant risks and costs. MSPs sometimes exploit sellers' dependency on them in various subtle and not-so-subtle ways. They raise fees. They change their recommendation algorithms to put more emphasis on price. They require sellers to advertise to maintain visibility in search results. They compete against sellers by imitating their products. They impose restrictions on the prices sellers can set outside of the MSP. And they change their rules and design in ways that weaken sellers' relationships with their customers.

But all is not lost, say the authors. Sellers can employ four strategies to build viable businesses on platforms. They can develop and invest in direct channels, use platforms mainly as showrooms, go deep with highly specialized offerings or go broad with many different offerings, and wage public relations and lobbying campaigns to curb platforms' power.

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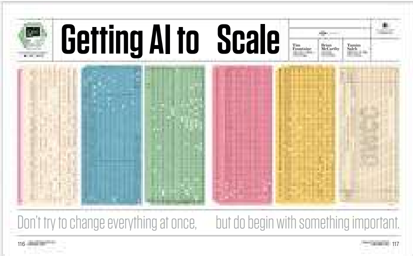
TECHNOLOGY



Getting AI to Scale

Tim Fountaine, Brian McCarthy, and Tamim Saleh
page 116

Most companies are struggling to realize artificial intelligence's potential to completely transform the way they do business. The problem is, they typically apply AI in a long list of discrete uses, an approach that doesn't produce consequential change. Yet trying to overhaul the whole organization with AI all at once is simply too complicated to be practical.

What's the solution? Using AI to reimagine one entire core business process, journey, or function end to end, say three McKinsey consultants. That allows each AI effort to build off the previous one by, say, reusing data or enhancing capabilities for a common set of stakeholders. An airline, for example, focused on its cargo function, and a telecom provider on its process for managing customer value.

Scaling up AI involves four steps: (1) Identify an area where AI will make a big difference reasonably quickly and there are multiple interconnected activities and opportunities to share technology. (2) Staff the team with the right people and remove the obstacles to their success. (3) Reimagine business as usual, working back from a key goal and then exploring in detail how to achieve it. (4) Support new AI-based processes with organizational changes, such as interdisciplinary collaboration and agile mindsets.

HBR Reprint R2103H

DIVERSITY

How to Close the Gender Gap

Colleen Ammerman and Boris Groysberg | page 124

Most companies say they're committed to advancing women into leadership roles. What they may fail to recognize, though, is that systemic barriers are holding women back. As a result, women remain disadvantaged at every stage of their employment and underrepresented in positions of power.

Drawing on their own research and the scholarship of others, the authors describe common forms of gender discrimination in seven key areas of talent management: attracting candidates, hiring employees, integrating newcomers into the organization, developing employees, assessing performance, managing compensation and promotion, and retaining employees.

Companies can level the playing field by identifying patterns of gender bias in the way they treat people and then systematically making appropriate changes. They can, for example, avoid loaded language in job postings, anonymize the résumés of applicants, cultivate an inclusive culture, increase women's access to mentors, set clear criteria for salary offers and raises, and destigmatize flexible work arrangements. Research has shown the value of all these practices in fully leveraging women's talents.

HBR Reprint R2103J

SUSTAINABILITY

Overselling Sustainability Reporting

Kenneth P. Pucker | page 134

For two decades progressive thinkers have argued that a more sustainable form of capitalism would arise if companies regularly measured and reported on their environmental, social, and governance (ESG) performance. But although such reporting has become widespread, and some firms are deriving benefits from it, environmental damage and social inequality are still growing.

This article, by Timberland's former COO, outlines the problems with both sustainability reporting and sustainable investing. The author discusses nonstandard metrics, insufficient auditing, unreliable ESG ratings, and more. But real progress, he says, requires not just better measurement and reporting practices but also changes in regulations, investment incentives, and mindsets.

HBR Reprint R2103K

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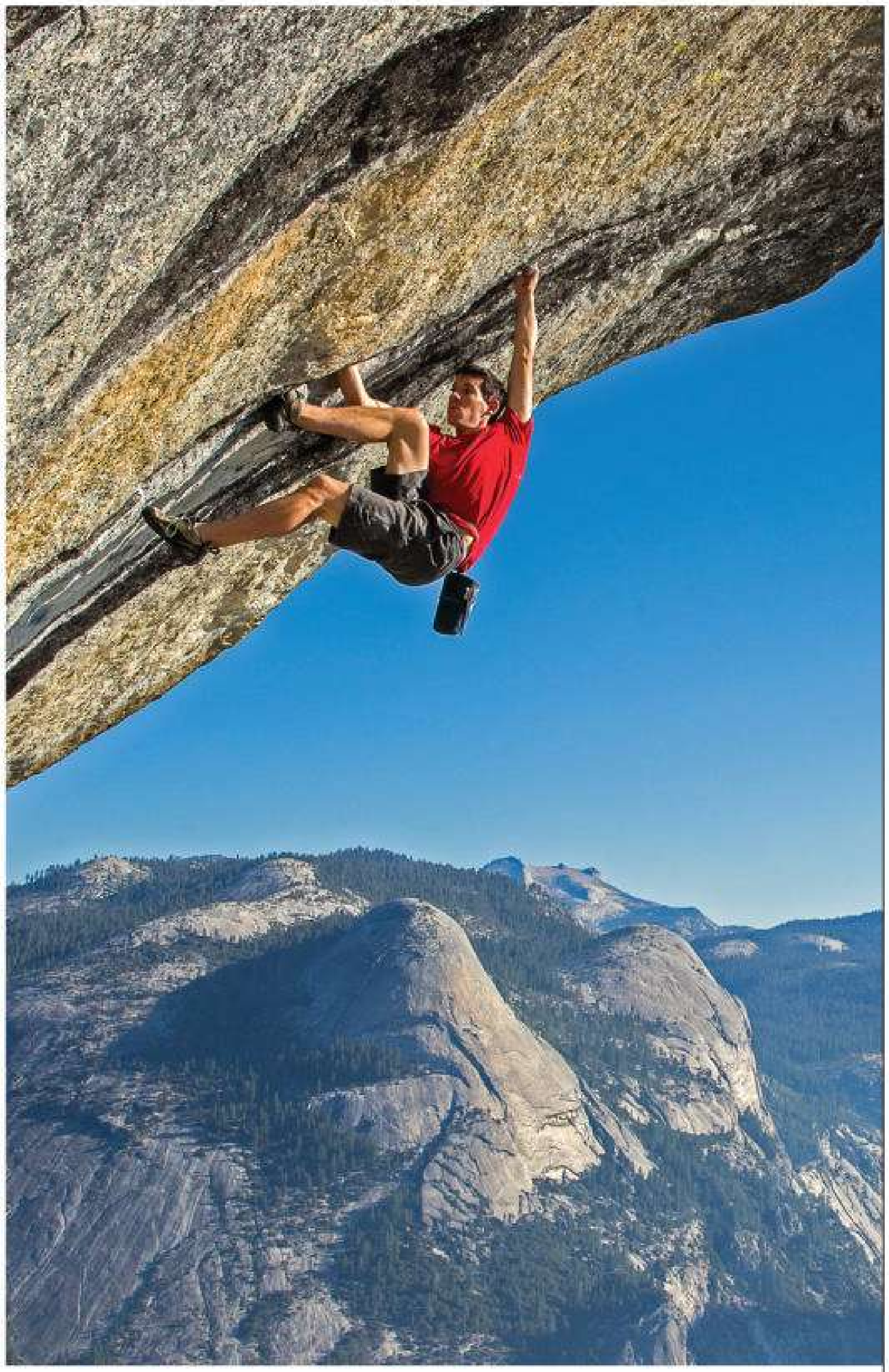
Send domestic address changes, orders, and inquiries to: *Harvard Business Review*, Subscription Service, P.O. Box 37457, Boone, IA 50037. GST Registration No. 1247384345. Periodical postage paid at Boston, MA, and additional mailing offices.

Printed in the U.S.A. *Harvard Business Review* (ISSN 0017-8012; USPS 0236-520), published every other month for professional managers, is an education program of Harvard Business School, Harvard University; Srikant Datar, dean.

Published by Harvard Business School Publishing Corporation, 60 Harvard Way, Boston, MA 02163.

Life's Work

"I lived in a van for 10 years, and I was probably happier than most people, because I was doing exactly what I loved."



Alex Honnold

As a pioneer of "free solo" rock climbing—a controversial discipline in which cliff faces are scaled without safety ropes and failure results in death—Honnold, 35, knows how to perform under pressure. His free-solo ascent of the 3,000-foot El Capitan, in Yosemite National Park, was captured in a 2018 Oscar-winning documentary. "Preparation," he says, "is what stops the fear." **Interviewed by Eben Harrell**

HBR: How have you developed the focus required to free solo?
HONNOLD: That's actually the one aspect of it I don't need to practice. It's not that I'm gifted. Free soloing just forces me to focus naturally. It's a by-product of being on a wall without ropes: You have to perform, so you flip that switch. For me, the preparation lies more in physical training and route planning.

What has led to the biggest breakthroughs in your climbs?
When I'm free soloing, I don't want to be improvising. So most of my creative processing comes on rest days when I'm lying around somewhere safe, just thinking about climbing. That's when I'll envision "enchainments"—combinations of climbs that people have never done before.

How do you decide which risks are worth taking?
A casual observer might think free soloing is reckless. But you can't have a long career without spending a tremendous amount of time thinking about risk and minimizing it to ensure your safety. There's a scene in *Free Solo* where an fMRI shows that my amygdala responds differently than a "normal" person's to fear stimuli, and most viewers come away saying, "There's something unique about his brain." I find that slightly irritating, because I've spent 25 years conditioning myself to work in extreme conditions, so of course my brain is different—just as the brain of a monk who has spent years meditating or a taxi driver who has memorized all the streets of a city would be different.

Do all your climbs help prepare you for your free solos?
A lot of it—with a rope, with partners, or just on easy terrain—is for pleasure and relatively relaxed. But there's value in all the time and mileage on rock: feeling comfortable. It's hard to sustain the intensity you need for free soloing, so there's something to be said for making that effort only when I need to.

Since the El Cap ascent, how have you been thinking about your career?
Now that I've achieved that life dream, nothing is calling to me as much as it did. That's what I'm struggling with. When you know that nothing you do in the future will ever matter as much as what you've already done, it does take a little steam out of you. Even if I do something more cutting-edge or physically impressive, there won't be an award-winning film about it. To know that it's all downhill from here is sad. So I'm at a crossroads. But I have a few ideas.

Could you apply some of the life skills you've learned as a climber to the next stage?
Climbing does teach you perseverance. It reminds you that to get better at anything, you've got to keep beating your head against the wall to figure it out. So I guess my advice to myself would be "Keep moving." I started the Honnold Foundation, which gives grants to advance solar energy, so I'm funneling a significant portion of my income to causes that matter. For me, that's been a big positive.

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Jimmy Chin

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