

Think:Act

Leading thoughts, shaping vision



07 | 2020 ROBUSTNESS PRICE \$19.95

Think:Act #31

Is your organization fit for the future?

Take our corporate
health test to find out



Organizations reinvented
Frederic Laloux on why we
need to rip up the rulebook

Is the gig up?
A look at the problems facing
the sharing economy

Roland
Berger 

"Traditional organizations cling to their plans for too long, forcing them to make a sudden, drastic change ... If you sense and adapt all the time, you are naturally resilient."

FREDERIC LALOUX
Radical management
innovator and author of
Reinventing Organizations

→ **PAGE 24**





"Many people are still pretty firmly convinced that economic growth and population growth cannot be decoupled from exploiting the environment."

ANDREW MCAFEE

Co-director of MIT's Initiative on the Digital Economy and author of *More from Less*

→ PAGE 76



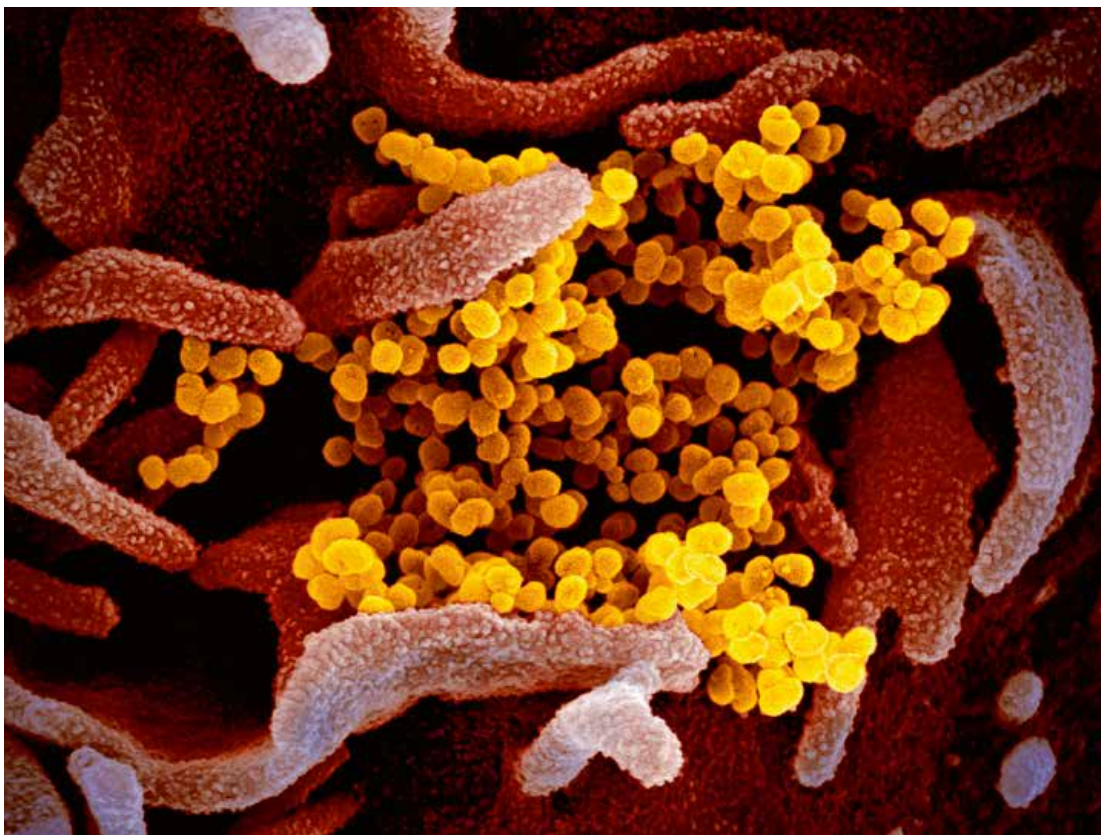
"If you know the facts, if you understand how the system you're trying to change works, then it's harder to be dismissed."

JENNIFER MORGAN
Executive director of Greenpeace
International and climate activist

→ PAGE 72

robustness

It's only a few nanometers in size, but Covid-19 has managed to arrest supply chains, bring down airlines, close universities and change social habits, perhaps for good.



→ It wasn't on the radar before, but the **coronavirus outbreak** has ruthlessly exposed governments, health care, society and business – and now we are all paying attention. So *Think:Act* is putting the health and strength of your company under the microscope. It is important to build a defence mechanism that is threat-resistant in advance. In this issue we look at how new tools and learning, rethinking the structure of your organization and assessing how you can do things differently could make you robust enough to survive whatever is around the corner.

Think:Act 31

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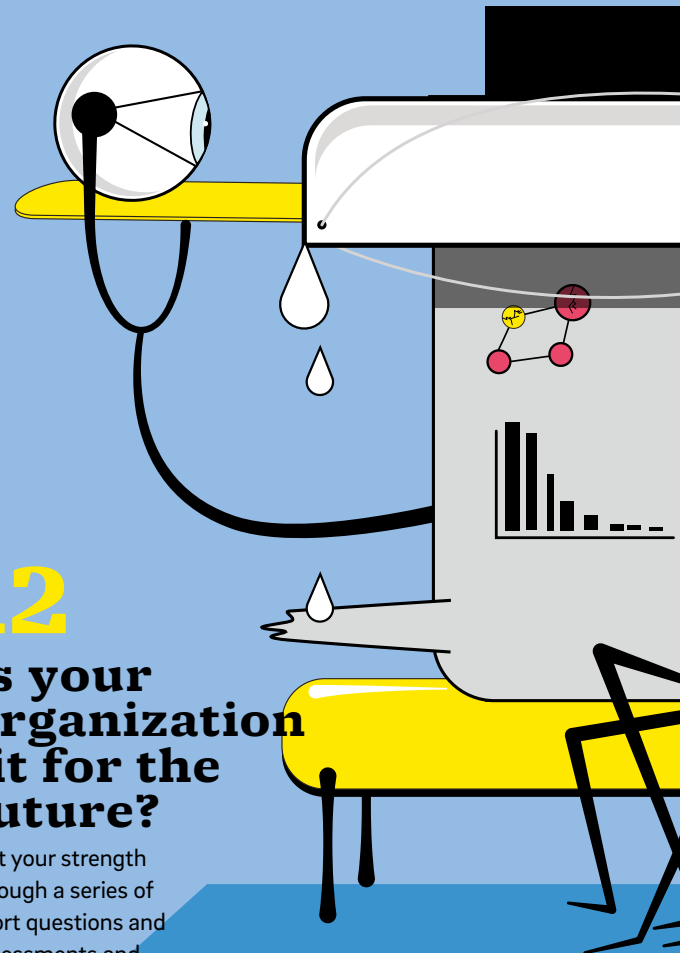
"Traditional models will not deliver the results required to succeed."



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Is your organization fit for the future?

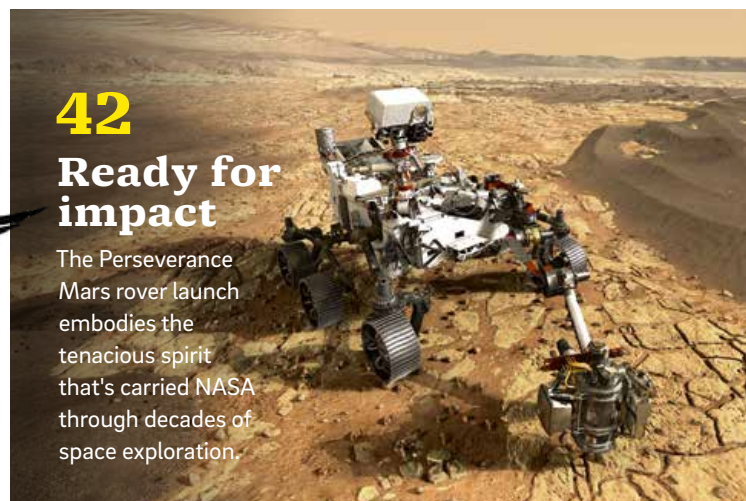
Test your strength through a series of short questions and assessments and see if you have what it takes to come through the 2020s.

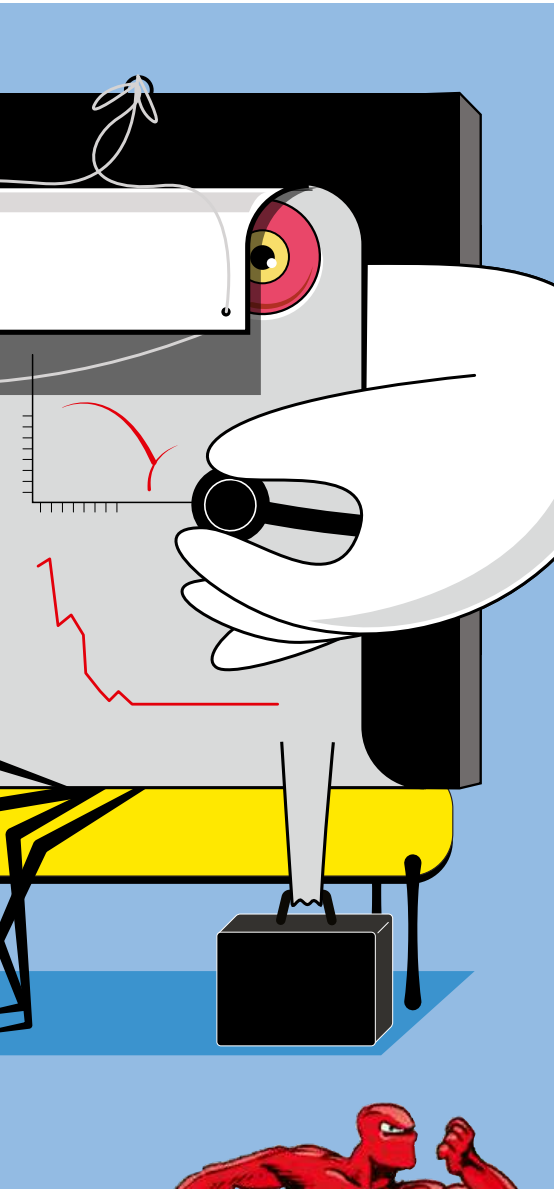


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COVER + BACK COVER ARTWORK: MATTHIAS SEIFARTH | PHOTOS: INSEAD/ROBERT LOXHAM, ALMA HASER, NASA/JPL-CALTECH | ILLUSTRATIONEN: MATTHIAS SEIFARTH, SASAN SAIDI (2), NIKLAS HUGES & ANGELA WITTCHEH

Wide angle

Think, act and stay informed



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Think:Act Ideas for Action

Sign up online to download this issue's Ideas for Action with insights on how adaptive companies can implement change in effective ways.

rolandberger.com/adaptive



robustness

COVID-19

ways the pandemic stopped us in our tracks

Before January, few of us knew much about the coronavirus. A few months on, here are 19 things we know so far about how the bug changed the world.

-6.8%

The contraction China reported in its GDP for Q1 2020 over Q1 2019.

-3%

The contraction of the global economy over 2020 predicted by the International Monetary Fund in April, down from the +3.3% it predicted in January.

12.3%

The rise in Amazon's stock price in the four weeks following March 11, the day the World Health Organization declared a pandemic.



The NYMEX closing price of a barrel of crude oil on April 20 went to -\$36.63, when prices dropped below zero for the first time in history amid demand and storage disruptions.



The passenger numbers across Europe's airports in March declined by 106 million compared with the same month in 2019.

27%

The increase in Facebook's website traffic between January 15 and March 24.

\$40

BILLION

The cost to the German economy for each week of the shutdown that began in March.



Toilet paper sales in Spain increased by 186.5% during the week of March 15 over the week of March 8.

1

MILLION

How many tons of potatoes from the 2019-20 crop harvested by Dutch farmers were unsold, driven in part by restaurant closures, approximately one quarter of the annual harvest.

-23%

The decrease in searches with the term "real estate" from March 6 to March 13, according to Google Trends data.

-18%

The decrease in the MSCI World Index during the Wuhan lockdown between January 23 and April 23.

\$46.2

BILLION

The drop in US retail sales in March alone, almost equal to the 16-month peak-to-trough decline of \$49.1 billion during the Great Recession.

20x

The growth in the number of daily Zoom users between December 2019 and the end of March.

200,000

The number of passengers flown by US airline United in the first two weeks of April, just 3% of the passenger volume during the same period in 2019.



The number of new subscribers to Netflix during the first quarter of 2020 was 15.8 million as people looked for distracting entertainment.

Thin

AT A GLANCE

3rd

The ranking of the March 16 Dow Jones drop in largest single-day percentage losses of all time, behind October 19, 1987 and October 28, 1929.



Sales of aerosol disinfectants in the US increased by 385.3% in the first week of March.

30

MILLION

The number of US workers who filed for unemployment in just six weeks following nationwide stay-at-home orders issued on March 14.

14

MILLION

The estimated number of liters of milk dumped by US farmers each day during the first month after the WHO declared a pandemic.

PHOTOS: GETTY IMAGES / MOMENT RF



"See things in the present, even if they are in the future."

— Larry Ellison
Co-founder of Oracle



Get to grips with new industry lingo in a flash with our stripped-down explanations of the latest jargon.



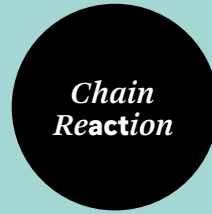
"Innovation stack"

Blinded by innovation hubs, clusters, labs and incubators? Then what you need is a way to organize your innovative priorities. Step forward the innovation stack. The 'stack' was conceptualized as a way to understand the hierarchy of innovation efforts that emerge in large organizations. It splits into four levels of innovation: individual, tools, teams and operational. Get stacked and get innovating.

k:Act



The redacted read



Chain Reaction

A persuasive case to change minds

Too busy to read the hot new books? We've got it covered for you. Here is Wharton School professor Jonah Berger's latest offer cut down to its essentials.

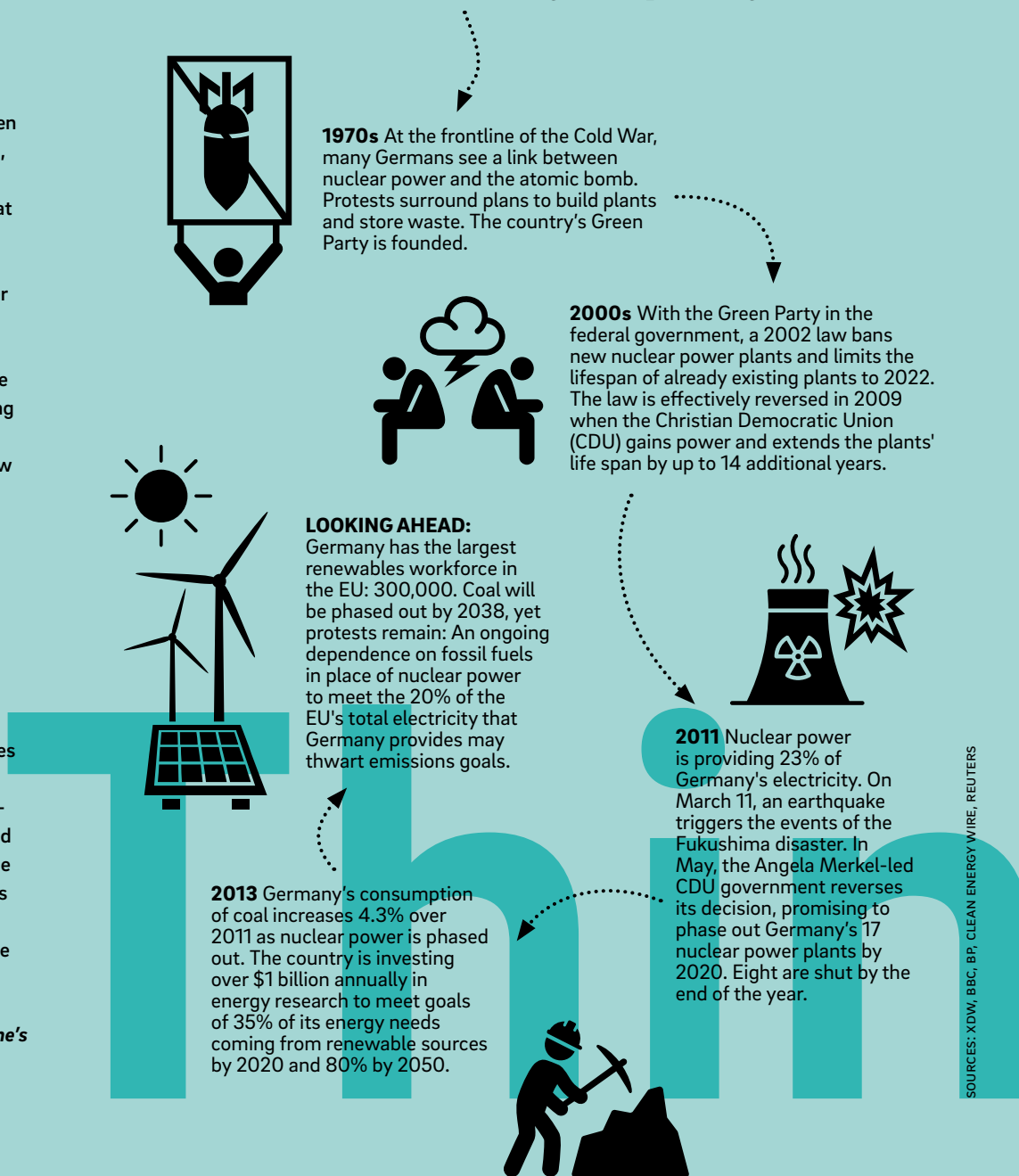
WHEN WE WANT TO change minds, we usually start by pushing. But pushing hardly ever does the trick. Unlike marbles, people don't roll easily. Pressed hard enough, they often push back. To get out of this dilemma, argues Wharton professor Jonah Berger, remove the hidden factors that are preventing them from changing. Finding ways to catalyze a change is much easier when you enable it rather than force it. Find the root causes of resistance and remove them.

The key points to remember include that telling people not to do something often has the opposite effect. People have a need for control: Let them draw the conclusion themselves and then give them ways to act on it. People also tend to be biased towards the status quo. To get them to change, show them that the costs of inaction are higher than they think.

But begin with areas of agreement and build from there, while remembering to make a decision reversible. Free trials and money-back guarantees reduce the risk of experimentation. And it never hurts to offer corroborating evidence. People can be persuaded when multiple sources share the same opinion, particularly when the sources are a mix of people who are like and unlike them – and the testimonials are concentrated in time.

→ *The Catalyst: How to Change Anyone's Mind* by Jonah Berger. 288 pages. Simon & Schuster. \$26.99.

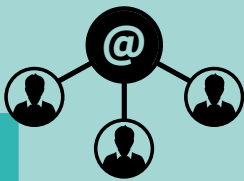
A SHIFT IN POWER: Once touted as a clean way to keep industry humming, the 20th century's euphoria for nuclear power waned in the wake of Three Mile Island and Chernobyl. Perhaps nowhere more so than in Germany, where anti-nuclear sentiment was already strong. Here's how the most recent disaster, Fukushima, became the final impetus behind the country's move to be a global leader in renewable alternatives – and revealed the challenges of rapid change.





How to ... set up the perfect email introduction

EMAILS CAN CATCH YOU OUT. Something meant for one person gets caught up in an email chain and read by someone who should never have seen it. And those mega CCs irritate everyone. But email can be the perfect intro tool if used right: What you need is a purpose-built "forwardable" email. Ask your connectee (Alex) to send an email to you, although the final destination will be your contact (Sam). Alex follows these rules: A clear subject line with their company name and they write as if to Sam directly, straight after acknowledging you, and they explain why they want to be in touch with Sam. You can then easily forward that email to Sam with your own words about the connectee. Sam is left in no doubt by the subject or that you vouch for Alex and so can easily accept or decline via you, the connector. It's an efficient process that greases the wheels.



**Economic
impact**

Message in a bottle

EARTHY, FRUITY, BOLD OR CRISP; wine is a direct expression of its grapes' sensitivity to the weather. But in what ecologists liken to 'the canary in the coal mine,' winegrowers are feeling the effects of climate change: While South Africa's vineyards shrank by 15% in 2018 due to drought and harvests in Burgundy now take place an average of 13 days earlier than they did prior to 1988 due to heat, Belgium's wine production has quadrupled since 2006 and other cooler countries like England and Sweden are now home to burgeoning wine industries. In Spain, some are harvesting at night or moving operations to higher – and colder – elevations. But Torres, one of Spain's largest winemakers, has partnered with California's Jackson Family Wines to form International Wineries for Climate Action to reduce the carbon footprint of the wine industry itself. Even if they meet their goals, lovers of sensitive grapes such as pinot noir take note: Robust mourvèdre and grenache varietals are likely to see a rise in popularity as growers turn to wines that can take the heat.



PHOTOS: GETTY IMAGES / BLOOMBERG, GETTY IMAGES / AFP

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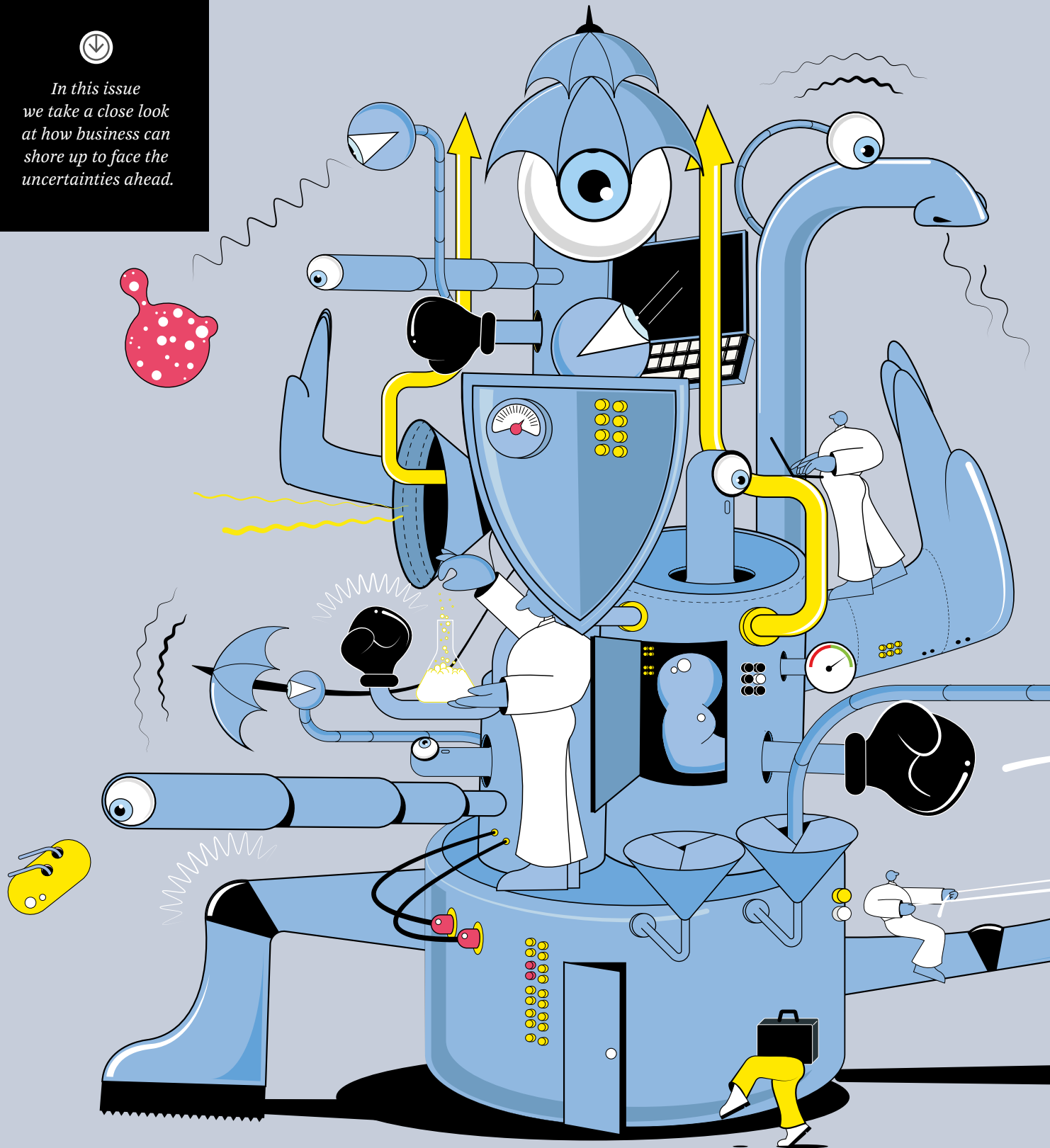
Act

AT A GLANCE

In focus



In this issue we take a close look at how business can shore up to face the uncertainties ahead.



TEST YOURSELF

Follow the yellow boxes for questions to test how fit you are for the future.

The answers are provided for you right alongside.



Is your company robust enough to survive?

Unpredictable events can upend your business at any moment. But you can protect yourself from the changes ahead by assessing your company's ability to fight off threats – whatever form they take. We have constructed a series of short assessments and questions for you to see whether you have what you need to come through the 2020s. Test your strength ...

BY **Detlef Gürtler**

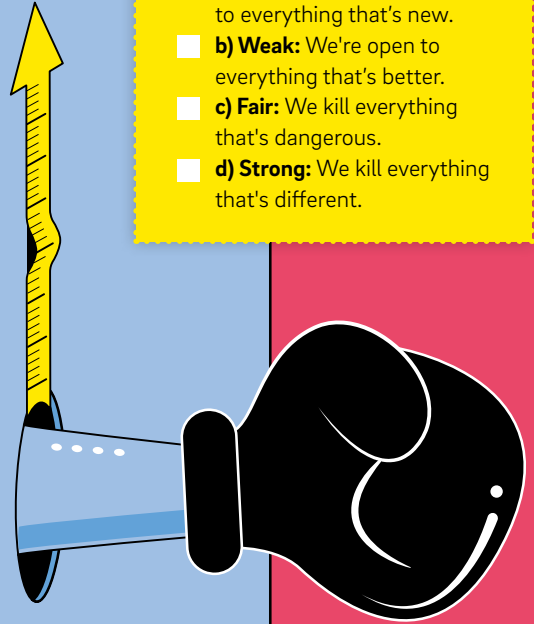
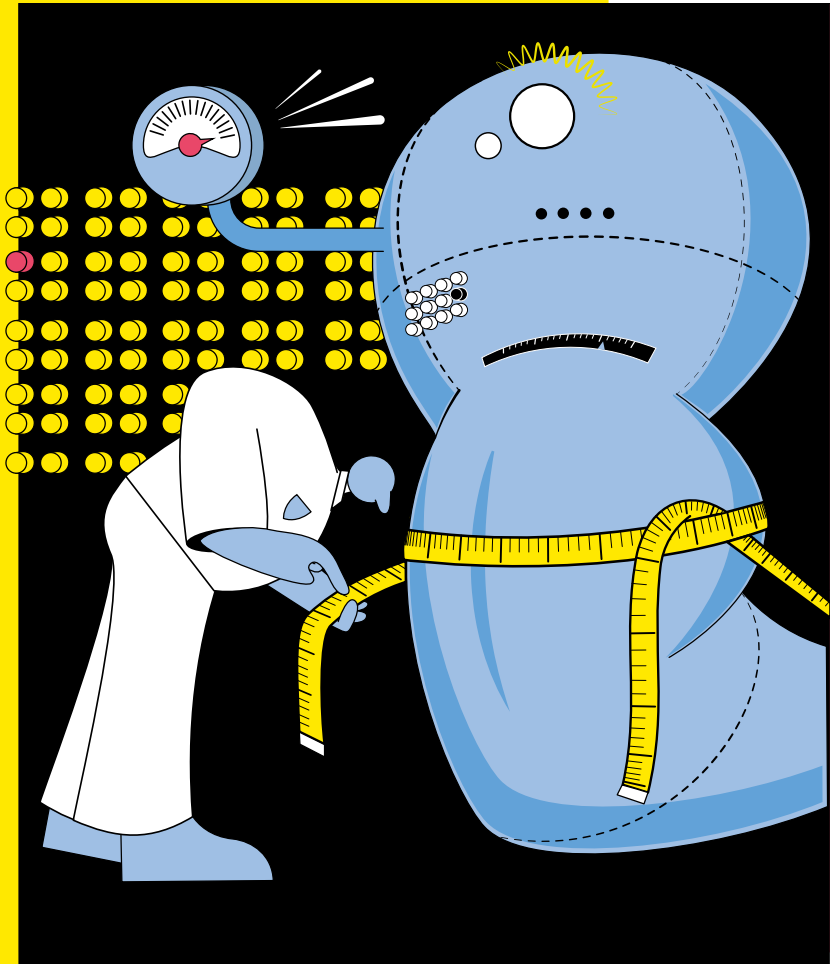
ILLUSTRATIONS BY **Matthias Seifarth**

1

TEST

How strong is your company's immune system?

- a) **Nonexistent:** We're open to everything that's new.
- b) **Weak:** We're open to everything that's better.
- c) **Fair:** We kill everything that's dangerous.
- d) **Strong:** We kill everything that's different.



robustness

Fighting fit means ensuring you are **threat-resistant ...**

3,000

The number of employees at DaimlerChrysler's Stuttgart HQ when CEO Jürgen Schrempp called it "Bullshit Castle" two decades ago, half as many as worked there in 2019.

No matter what box you checked, it's highly probable that your company's situation would be best described by D. Otherwise you wouldn't be answering this question in the first place. A strong immune system response against anything that might be harmful has been seen as a vital ingredient for survival by every institution.

OH, AND IT'S NOT JUST ONE INGREDIENT. It's more like a handful of them, all of which join forces to keep everything out that might be harmful, dangerous – or just plain strange – for the institution. Take the immune forces of the human body as an example: There are leukocytes and phagocytes,

granulocytes, antibodies, antimicrobial peptides and enzymes, B-cells, T-cells, killer cells, to name just a few of the players in the immune system.

AND WHAT ABOUT YOUR COMPANY? Are there guards and firewalls, and then keys and codes, closed-shop mentalities and the notorious not-invented-here syndrome? And those are just the tip of the iceberg. If you're in a good mood, you could call it your corporate culture or "our DNA." If you're less well-disposed, you might call it your "bullshit castle" – which is the nickname that the former DaimlerChrysler CEO and charismatic leader Jürgen Schrempp gave to his corporate headquarters in Stuttgart before he broke the bureaucracy apart to let new ideas flourish. But no matter what you call it, this immune system is here to stay – simply because that's how human beings and corporations survive. So, congratulations: Your company is able to do business. Well, business as usual, that is.

... but then you might just need to make yourself **vulnerable** too.

Yes. Yes, it's true: We just said that the corporate immune system is here to stay, because otherwise your company – just like a human being – might not survive. But, once again – as with a human being – there are situations where your survival depends on the suppression of your immune system. This happens when something new, something really different is desperately needed. Think, for example, of an organ transplant. In most of the cases, the immune system would bluntly reject the transplanted organ: "Hey, you're strange, you're different, get out of here!" In medicine, immunosuppressive drugs are used for this purpose. Success is not guaranteed, but without those drugs, failure is inevitable.

THIS KIND OF EXCEPTIONAL SITUATION also occurs in business. One of these business-as-unusual cases are mergers, where the two different corporate cultures should not collide and crash, but should merge as well. Another, more frequent case is that

EXPERT IDEA

Exploit, but also explore

The Invincible Company author Alex Osterwalder recommends heading off risk by facing innovation and disruption head-on.



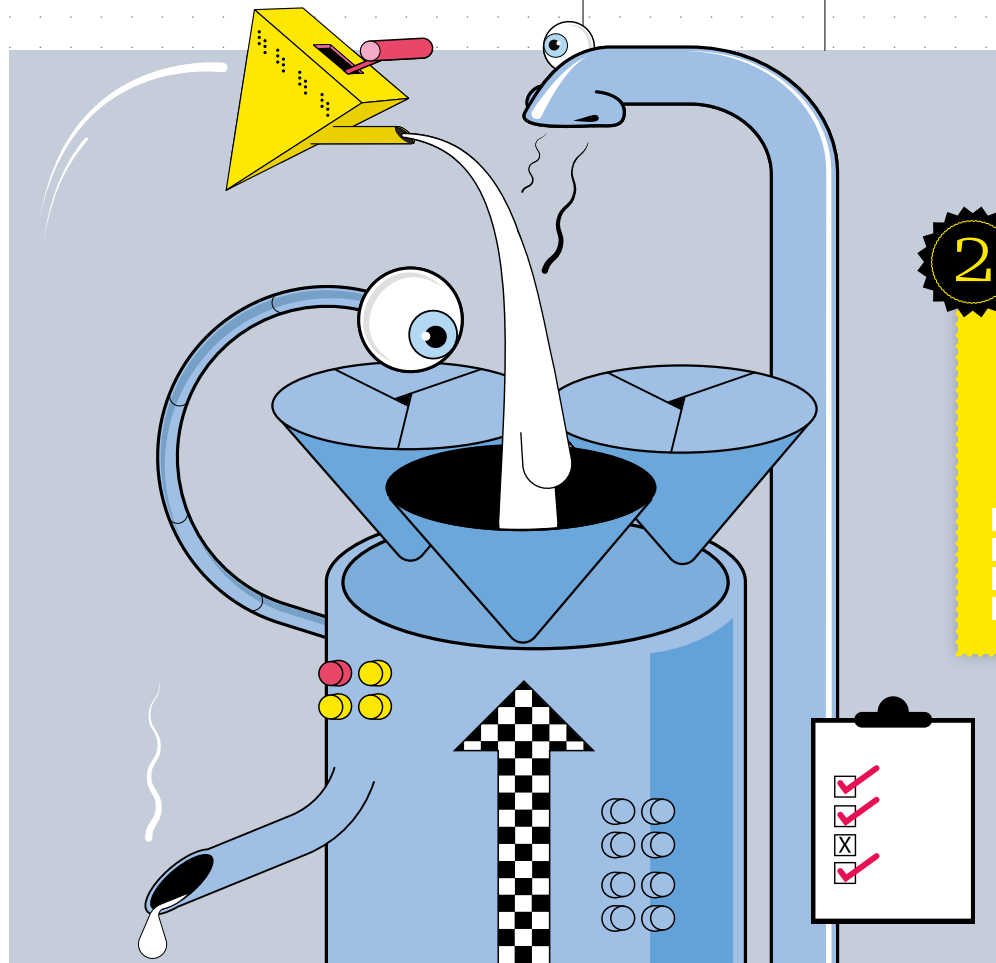
Read the interview online: rolandberger.com/osterwalder

of innovations that could be steamrolled by the dominant forces inside the company. Sure, this rejection may endanger the long-term survival of the whole company, but, let's face it, that's how an immune system works. So it's your job to find and use the right immunosuppressive tools.

One of those tools has already become quite famous: the speedboat solution. Keep your most disruptive innovations out of the tanker-like corporate structure and place it on a speedboat instead. Once it has gained traction and size, it can join forces with the tanker, without the risk of being destroyed in the process. That's how Nestlé nurtured its Nespresso brand – far away from its mainstream coffee business.

WE ESPECIALLY LIKE ANOTHER TOOL recommended by the Swiss business theorist and innovation expert Alex Osterwalder. He proposes a "chief internal ambassador" to build bridges between corporates and innovators. This ambassador should be experienced enough to know your company's immune system. And he or she should be open enough to understand what the innovators are doing and how this might change the company's product range and/or business model.

robustness



2

TEST

Can you suppress your company's immune system?



- a) Why should I?
- b) How could I?
- c) Why me? That's R&D's job!
- d) I always do.

Think you're in **good health?** Maybe it's time to think again.

5.3 million

The total number of *New York Times* subscriptions at the end of 2019, of which just 850,000 are for the print edition.



For most managers, the industry that they're in is their main concern: volume (and growth rate), margins, competitors and the business environment. So the health question should be easy to answer. And that's part of the problem. Because the better its shape, the more attractive it is for disruptors. Take for example one industry that until 2020 had grown tremendously for decades: tourism. One of its global market leaders, Thomas Cook, went bankrupt in 2019. Not because the industry was weak, quite the contrary: A bunch of new competitors like Airbnb or Booking.com had conquered huge chunks of the

market – and they did it by offering products and services that the incumbent giant had neglected to provide.

ON THE OTHER HAND, if the industry you're in is in bad health, that needn't be true for your company as well. In fact, it could just as well be an incentive to revisit your business model and outpace the others. One day this story may be told about one of today's tourism brands, but, well, right now there's too much disruption work in progress to see who will make it.

So let's dive into history instead; let's have a look at a really extreme example of an industry that was already doomed over a century ago: saddlery and harnesses. No one needed horses and carriages anymore; first the train and then the car took over the horse's function in passenger and cargo transport. What could you gain in outpacing the competitors in the dying saddlery industry? The answer can be found in Paris at 24 Rue du Faubourg Saint-Honoré, the headquarters of one of those saddleries – Hermès – for more than 100 years. The Hermès family had seen that their core strength was not the production of saddles and harnesses, but serving the fashion needs of the global elite.

SIMILAR STORIES ARE NOW being written in more contemporary doomed industries. For example, *The New York Times* is proving to be quite successful in expanding their quality journalism brand beyond the struggling newspaper business even though the rest of the industry is in doldrums. *The New York Times* management identified quite early that its core strength was not about spreading ink on paper, but about telling great stories in a great way – a business model that is at least as old as Homer. So, no matter what the state of your industry, it's your business model that should make the difference.

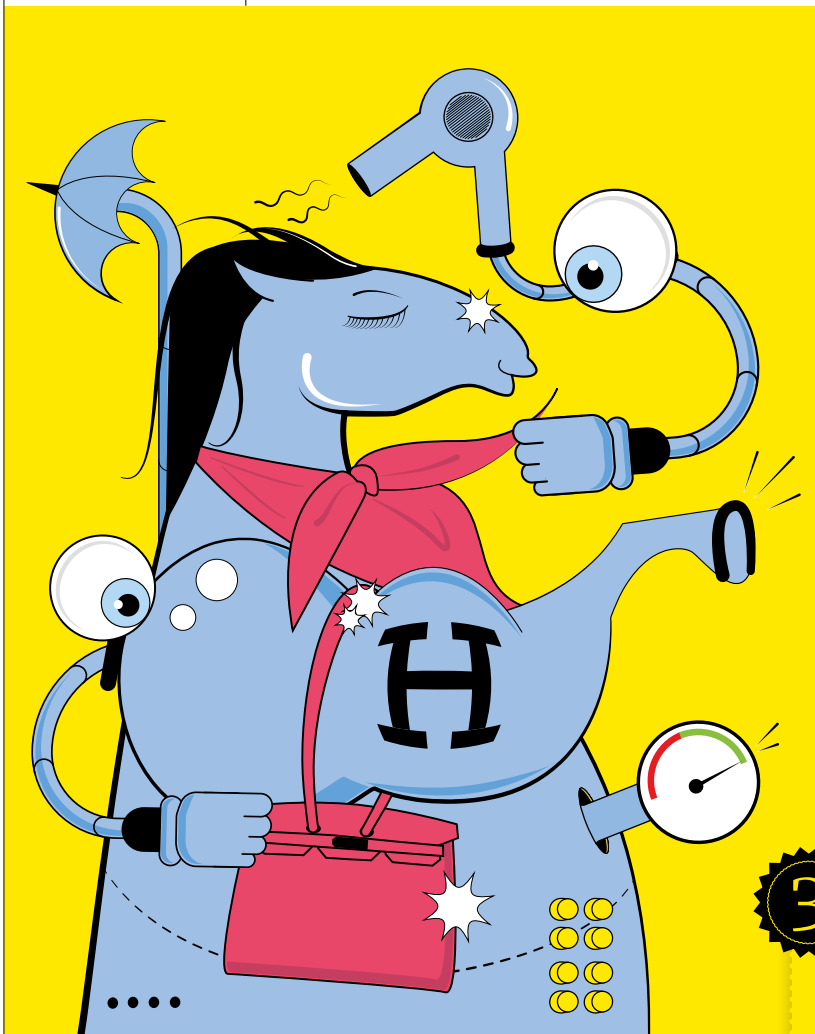
TEST

How is the health of your industry?

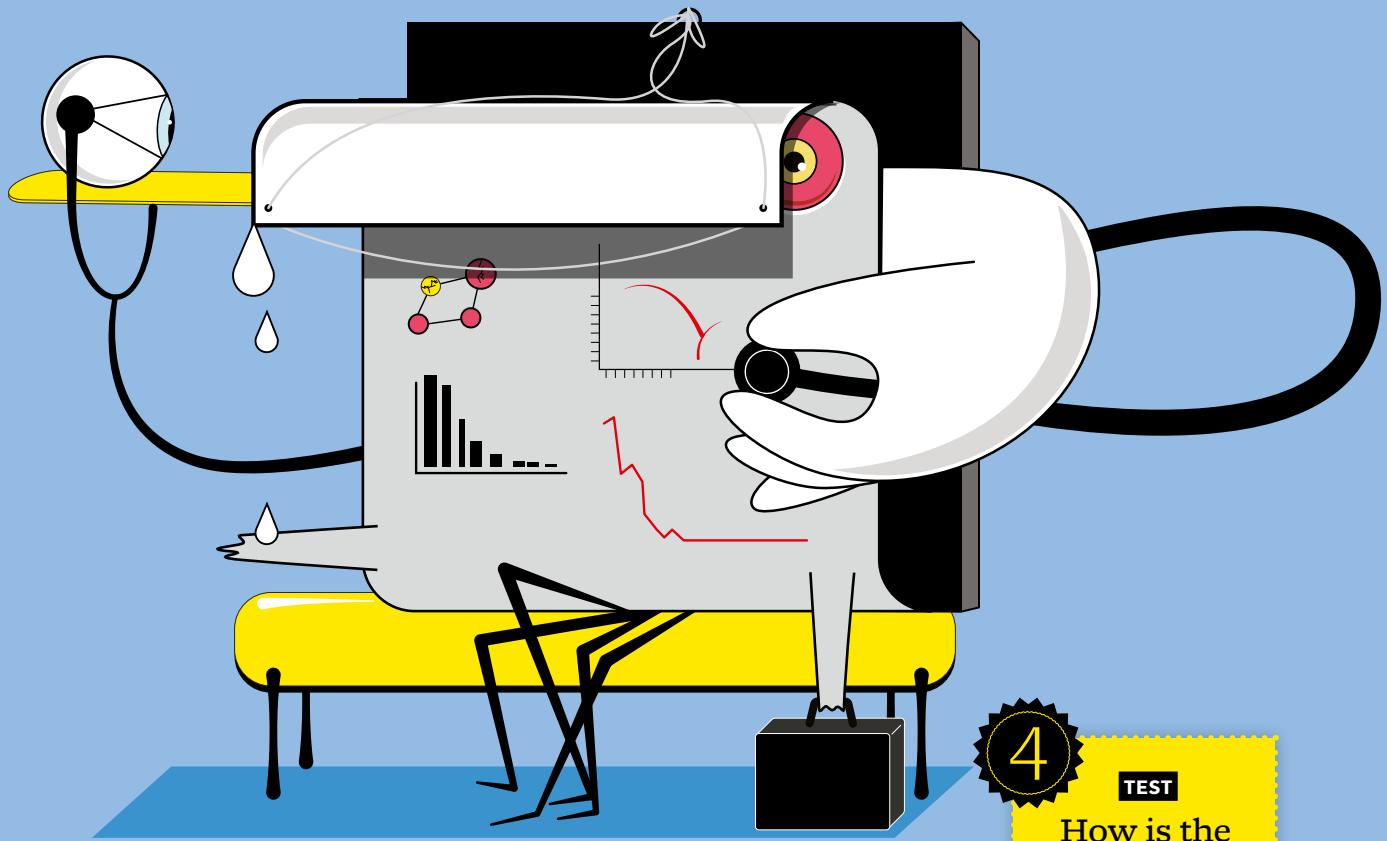


Very bad 1 2 3 4 5 6 7 8 9 10 Very good

robustness



3



If you're a model of fitness, it might be **time to adapt.**

What did you consider when you answered this question? Being the good manager that you are, you surely did not only think of revenues, profits and margins, but also of defensibility: How high is the wall, how deep is the moat that surrounds your business model castle? And hopefully you did not only consider your defense against today's competitors, but also against tomorrow's disruptors. Some of them may be high and mighty like Apple – the road to Apple's success is paved with the corpses of not just companies, but also entire industries. Some of them may be small and dirty like Napster – the completely illegal file-sharing service that changed the face of the global music industry.

15%

The percentage growth of Hermès' 2019 revenue when compared with the prior year.



4 **TEST**

How is the health of your business model?

○○○○○○

Very good

1
2
3
4
5
6
7
8
9
10

Very bad

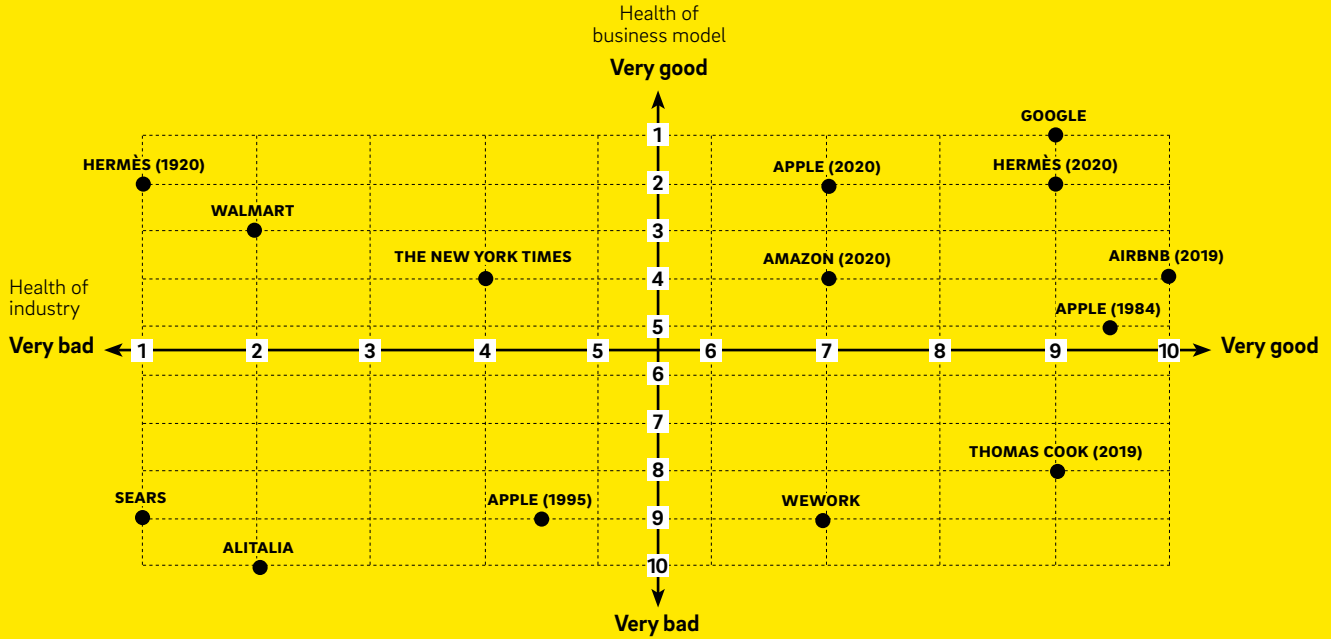
BUT THERE'S ONE MORE THING you might not have considered in your answer: expandability. If your business model is as good as you think it is – what about giving it a shot in another industry? Or even in many other industries? Hermès did it: They transferred their business model (highest quality for global elites) from saddles to handbags and from leather to silk. Apple did it: They transferred their business model (tech design for the rest of us) from computers to phones, accessories and services. So why shouldn't you do it, too?

robustness

5

TEST

Where would you place yourself on this business health matrix?



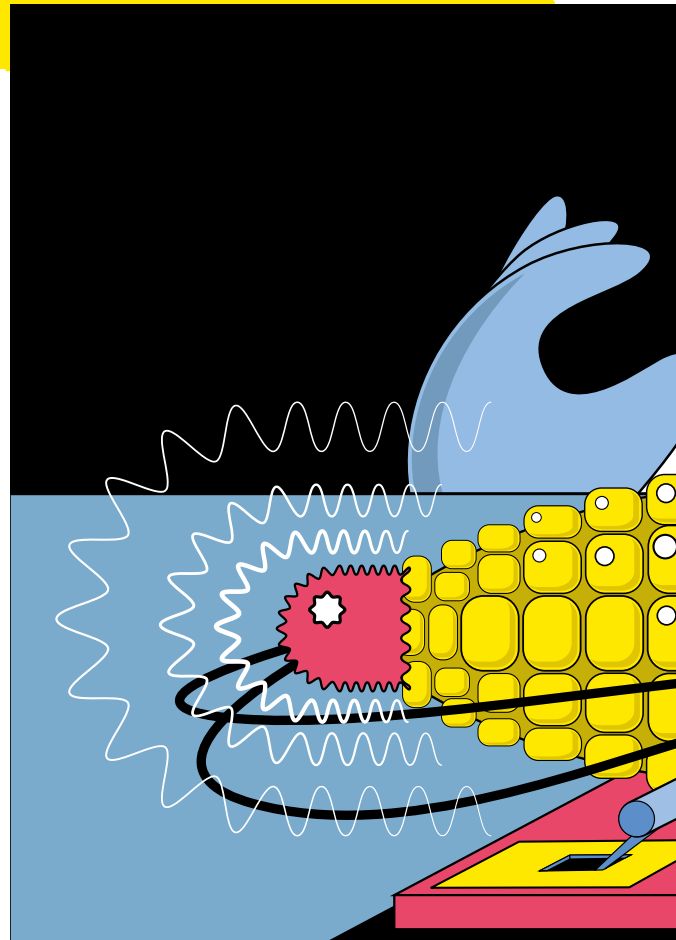
Gauge and test your **strength** against your competitors.

\$2.3 billion

The figure by which Apple exceeded its Q1 2020 projected revenue: \$89.5 billion.



With the two marks that you made for test three and test four you should be able to plot yourself and your organization in our handy business health matrix. So that you can look over your shoulder at how you are doing, we have placed a few other companies there too. So how are you doing when you compare yourself to Apple or Hermès? And does the health matrix inspire you to make sure that you are fighting fit, no matter what the world might throw at you?



robustness

Put the 'I'-word front and center: It could be key **to your success.**

If your answer is 10% or less, then your company is in great danger of going out of business. Of course you need – and surely have – people below the CEO that are focused 100% on innovation, but without a strong commitment from the CEO innovation will simply not get traction. Business theorist Alex Osterwalder even recommends that

EXPERT IDEA

Keep an eye on the 'I'-word

Strategyzer co-founder Alex Osterwalder says there is one decisive factor to innovation success: Leadership.



CEOs should spend 40% or more of their time on innovation matters.

WELL, ONE OF THE PRIVILEGES you usually have at the C-level is that you don't have to calculate what percent of your workload is spent on which matter. And you should not start doing those kinds of calculations just to prove that you are committed to innovation. This is not about checking a box for a shiny corporate innovation report. So you may choose another KPI (key performance indicator) for bringing innovation to power, as proposed by Osterwalder: Innovation should be discussed weekly at the CEO level. Otherwise, your claims of focus on innovation are just for show – or what you might call "innovation theater."

6

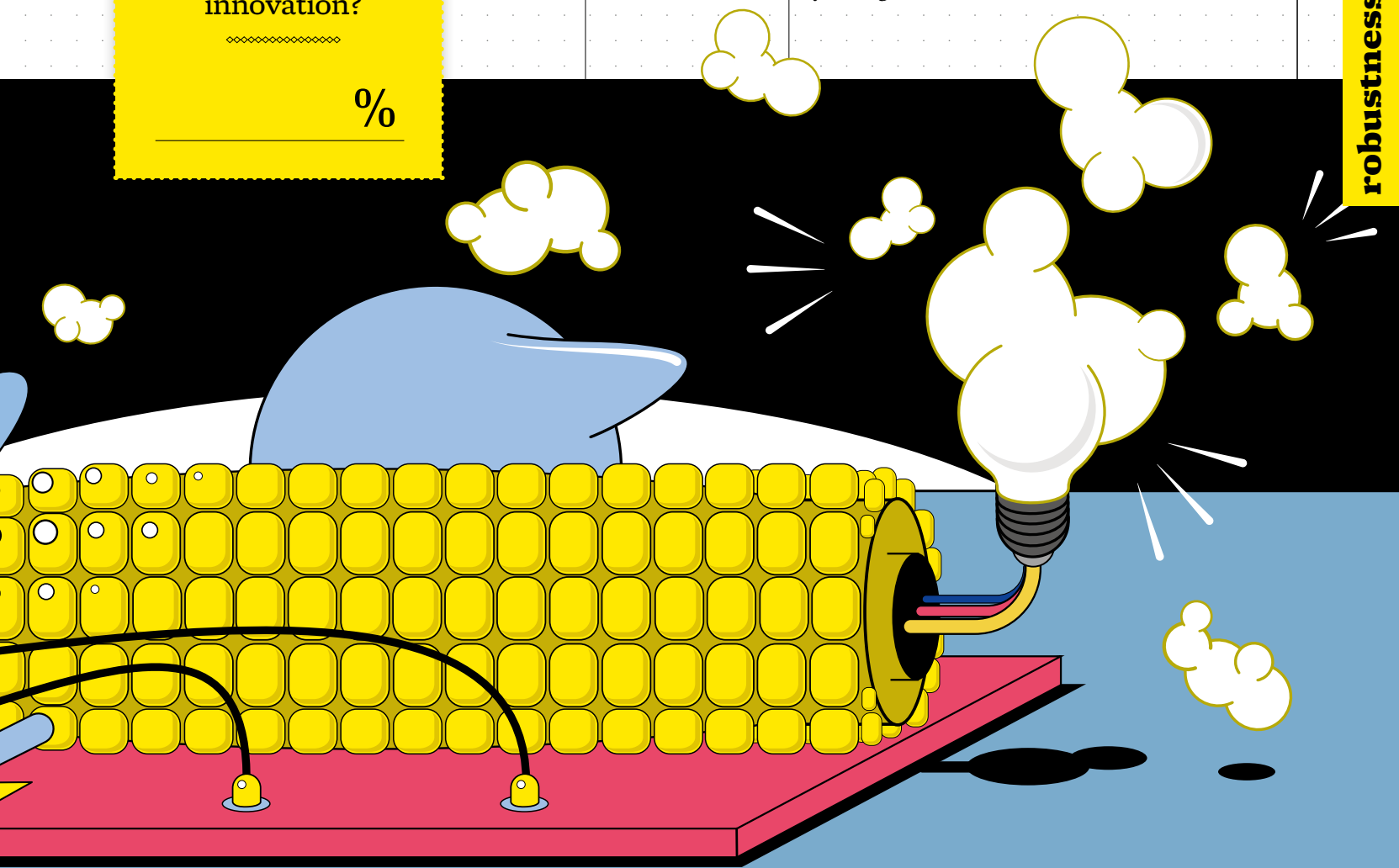
TEST

How much time does your CEO spend on innovation?



_____ %

robustness





7

TEST

What is the soul of your company?

xxxxxxxxxxxxxxxx



The purpose of your business could be **your purpose.**

\$6 million

Starbucks' loss in revenue due to its one-afternoon training shut-down in 2008.

xxxxxx

Sure, you have a vision, and a mission, and objectives, and directives. They keep you afloat. But a soul keeps you alive. The best example we can think of is the Starbucks revival. Back in 2007, seven years after he had stepped back as Starbucks' CEO, Howard Schultz noticed that the company was not only losing steam and profitability, but was about to lose its soul. He noticed that when he entered a Starbucks café and ordered a coffee, he couldn't see how his coffee was made. Due to the expansion of the business, the Starbucks management had introduced new, more productive coffee machines. But these machines were so big that the customers could no longer

see the baristas doing their job. For Schultz, the sensual link between coffee and customer was indispensable. It was the reason why he had joined Starbucks: On a trip to Italy he was fascinated by the elegance and efficiency of a barista, and he wanted his customers to experience the same fascination. After his return as CEO in 2008, Schultz closed all the Starbucks cafés in the US for one afternoon, to teach all employees how to make coffee. Its soul was revived and Starbucks got back on track.

robustness

Take a lesson: **Learn from your failures** and revel in experiment.

Hopefully you didn't check just one of the boxes in the test below ... That's because each of these paths should be taken to make your company fit for the future. But unfortunately, only A and B have a good C-Suite standing. Though most people in general acknowledge that the best lessons in life are learned by failures, only a few business leaders really embrace that learning method.

JEFF BEZOS IS ONE OF THEM: In his 2015 letter to Amazon shareholders he wrote: "I believe we are the best place in the world to fail (we have plenty of practice!), and failure and invention are inseparable twins. To invent you have to experiment, and if you know in advance that it's going to work, it's not an experiment." Usually, we think of experiments as something lean and mean. More like a lab exercise than like real business.

Bezos doesn't see it this way. "As a company grows, everything needs to scale, including the size of your failed experiments," he wrote in his shareholder letter three years later. "If the size of your failures isn't growing, you're not going to be inventing at a size that can actually move the needle. Amazon will be experimenting at the right

EXPERT IDEA

Aim to be an apex innovator

Pretotyping Labs founder Alberto Savoia says failing in order to find the right solution is the way to build an unshakable base for success.

◇◇◇◇◇◇

scale for a company of our size if we occasionally have multibillion-dollar failures."

Phew! But if you prefer to experiment on a slightly lower budget, look at the other giant that is embracing failure and experiment: Google. Google Earth, Google Maps, Google Mail, they all started as experiments. Gmail even set a record for time in beta mode. After its April 2004 launch, it took more than five years before the beta label was removed. The number of failed experiments at Google is legion. Or, to be precise: 166, according to the "Google Cemetery" website.

GOOGLE EVEN DEVELOPED ITS OWN tool to fast-test innovative ideas: pretotyping. It follows on from rapid prototyping, a Silicon Valley methodology where you fail fast but learn fast too. Alberto Savoia, Google's first engineering director and now a lecturer at Stanford University explains it as being "the best way to make sure that the idea you want to build is 'The Right It' before you invest what it takes to build *it* right." He advocates the 3-digit-case: A few hundred bucks and a few hours of time should be sufficient to bring it to the first test level. Of course you get to a lot of fast failures that way, but, according to Savoia, also get to more successes and fewer missed opportunities.

So why not think about combining C and D. The more experiments you start, and the sooner you cut off the ones that don't succeed, the more you learn – and the better the ecosystem where the successful experiments can thrive. ■

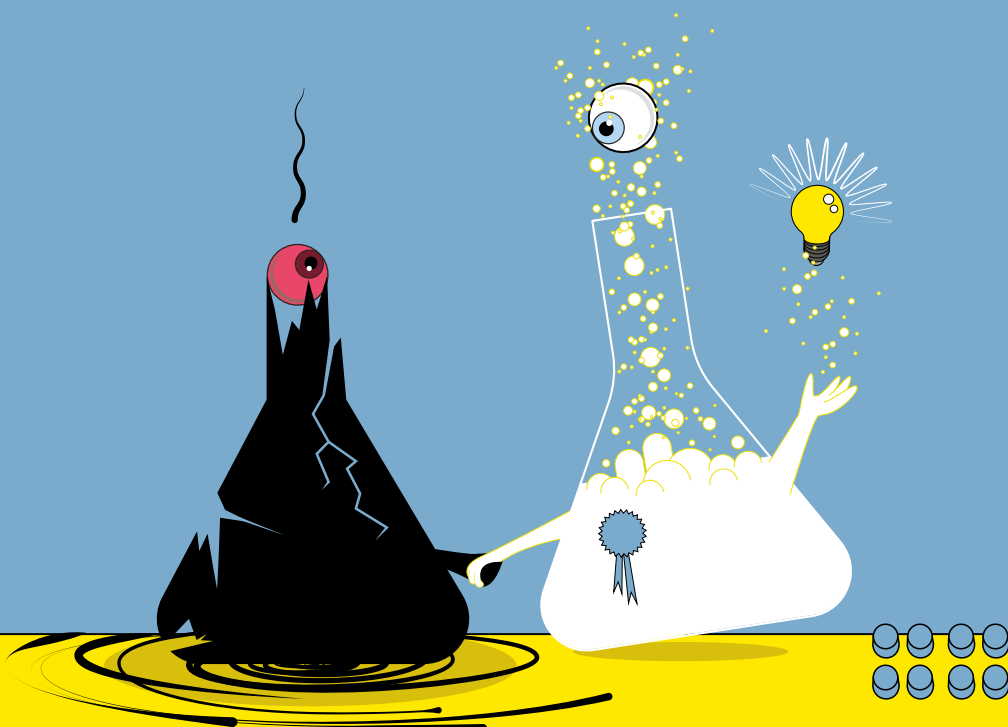
8

TEST

How does your company learn?

◇◇◇◇◇◇◇◇◇◇

- a) By doing.
- b) By winning.
- c) By failing.
- d) By experimenting.



Staving off a long slump

The US economy is reeling in the wake of the coronavirus outbreak and all lockdown exit strategies have implications. Business and government are faced with some stark choices.

Milton Friedman famously likened recessions to strings on a musical instrument. The harder you pluck a string, the faster it snaps back. Adapted to the economy, Friedman's plucking model says that sharp recessions lead to rapid recoveries – a "V-shaped" path in the parlance of forecasting. Fast in and fast out. Many recessions fit Friedman's view; some do not. The financial crisis of 2007-08 brought a deep recession trailed by a long, slow recovery. We fear the same, or worse, could happen in response to the coronavirus crisis. If you pull too hard on a guitar string, it warps, frays or breaks. You get a feeble snapback or none at all. Likewise, a severe shock to the economy can produce an "L-shaped" slump rather than a short recession and quick recovery.

WHY ARE WE SO CONCERNED? Large parts of the economy are in full or partial shutdown. The one-third of us who can work from home are often sharing space with kids and spouses, coping with inferior equipment and using slow internet connections. The makeshift conditions undercut productivity.

Looking at the longer term, we fear a steep drop in innovation and a rupture in human capital investment. Universities, government labs and commercial facilities have shuttered non-COVID-19 research projects. Schools have sent students home and universities are making do with remote classes. Most job training programs have stalled. Immigration and trade – two facilitators of innovation – have shriveled.



BY **Nick Bloom**



AND **Steven J. Davis**

Then, on the fiscal side, huge deficits will push government debt-to-GDP ratios to their highest levels in 75 years or more. There will be confidence crises in some countries, and incentive-sapping tax hikes in almost all countries.

How can policymakers lessen the near-term pain and stave off a long-term slump? One course of action is to provide unemployment benefits to cushion income drops for those who lose jobs. Here, design details matter. Letting gig workers and the self-employed into the unemployment insurance system makes sense – as does relaxing job search requirements while the pandemic persists. The CARES Act does both for the US.

Unfortunately, the Act also raises benefit levels above what most workers earn on the job. For taxi and Uber drivers with no passengers, the CARES Act says: Don't deliver groceries and meals to elderly folks who are highly vulnerable to COVID-19. Don't take one of the hundreds of thousands of new jobs at Amazon, Walmart and other growing businesses. Instead, stay home and collect a bigger paycheck, courtesy of the government. To the restaurant owner who contemplates a shift from dine-in to take-out meals, the Act says: Don't try to save your employees' jobs. Instead,

lay them off, so they can collect a bigger check from the government. To those who stay on the job in hospitals, nursing homes, grocery stores and other essential activities – often risking their own health and that of family members – it is terribly unfair that others get paid well for not working.

THE GOVERNMENT SHOULD also backstop low-interest loans to businesses so they can survive the cash flow crunch and ramp up operations as the pandemic recedes. Loans are better than grants and bailouts because they are less costly for taxpayers. Well-designed loans encourage viable businesses to sign up for assistance. In contrast, even businesses with dismal prospects want grants and bailouts. Some want to condition support for businesses on the preservation of jobs. The goal is a quick return to the pre-pandemic economy and the restoration of nearly all lost jobs. That's a pipe dream – and a costly one at that, if we chase it.

Consumer spending on airlines, hotels, rental cars and movie theaters is down 75%-90% in the wake of the pandemic. Nothing short of a safe, effective, widely deployed vaccine or a safe, simple cure for COVID-19 will restore a semblance of normalcy in these and dozens of other sectors. Yet even with a vaccine in hand, consumer and business spending won't fully revert to pre-pandemic patterns. Concerns about infectious disease will certainly linger. Millions of households are learning how to purchase almost anything they need online and many will stick with it. Businesspeople are learning how to travel less. Much of the shift in business practices and spending patterns will persist. The sooner that we recognize many lost jobs are gone forever, the sooner we can get to creating new jobs. Policy should aid that process, not stand in its way.

A KEY FIRST STEP IS to restore unemployment benefits to sensible levels. Put the right incentives in place and markets will respond. Supermarket chain Kroger has already created an exchange with Sysco and Marriott Hotels to hire workers laid off from food service and hospitality companies. CVS Health is seeking to recruit 50,000 new staff by partnering with the Hilton hotel chain, clothing retailer Gap and Delta Airlines. Uber now lists job openings at 7-Eleven, Amazon and McDonald's for its unemployed drivers.

The next step is to be generous with funding to spur development of coronavirus tests, treatments and vaccines. Accelerate regulatory approvals. Pay companies well to produce and deploy tests, treatments and vaccines as they become available. Nothing

will more quickly resuscitate the economy than an effective, widely deployed vaccine.

The third step is to selectively relax the lockdown. Many jobs in construction, manufacturing, warehousing, landscaping, gardening, auto repair and more can be readily adapted to safe social distancing practices and routine health checks. Starbucks coffee

The sooner that we recognize many lost jobs are gone forever, the sooner we can get to **creating new jobs.**

shops in the US adopted practices first developed and deployed by Starbucks in China: aggressive cleaning, paying workers to quarantine and an emphasis on take-out offerings.

Fourth, governments must promulgate best practices in sanitation, hygiene, virus detection, and contagion control. Multinational firms like Starbucks have the resources and knowledge to identify and adopt best practices. Smaller businesses do not. National and local authorities have a vital role to play in telling businesses, employees, and customers what it takes to operate safely in the new world, so we can all get back to work – in old jobs or new. ■



Nicholas Bloom

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Steven J. Davis

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robustness

Sensing the future

NATURE'S PATH
*Frederic Laloux
looks at an
organization
less like a
machine and
more like an
ecosystem.*

Frederic Laloux's *Reinventing Organizations* rips up the rulebook and reimagines how a company should be run. In a wide-ranging conversation, he shares ideas about what lies ahead for business – a vision that is already emerging.

BY **Frederick Schulenburg**

He doesn't often give interviews, and when he does, he likes to do them virtually – so as not to "put more carbon in the air." Speaking on a Zoom chat from his eco-community in New York State in February, just weeks before the coronavirus outbreak went global, Frederic Laloux's ideas about how companies need to change seem strikingly prescient.

Is the "reinvented organization" the way to create robust and resilient entities at a time when everything seems to be changing?

Traditional management, with its fixed job titles and reporting lines, its silos and bureaucracy is predicated on stability. It's inherently fragile when there is disruption, it's ill-equipped even for gradual change. By contrast, this emerging organizational model I've researched and shared – organic and networked – is all at once extraordinarily resilient, productive and soulful. Sadly, while it's in so many ways superior, it is still out of reach for most organizations because most leaders today still inhabit a mechanistic worldview [...]

The mechanistic perspective sees the world as a complicated clockwork that a few clever minds can fully grasp and comprehend. In every organization, a handful of brilliant people must peer into the future and then map out a plan – two, five, ten years ahead – with all the initiatives and milestones needed to get there. Once the strategy is determined, you need to make sure the vast machinery of the organization – the thousands of people in their respective boxes of the org chart – execute this plan faithfully. If you see the world as a machine to be optimized, that's what you do.

But what if the world is not a complicated mechanic? What if we see it as it really is – a hugely complex, interconnected, nonlinear living

system in constant flux? That makes a mockery of any plans that constrain it to a preset course? Let's face it, by the time you make a brilliant plan, the world might have changed already. In this world, you need everyone – not just a few people at the top – to sense into what is changing and make the necessary decisions. In such a world, the whole system is constantly adapting and morphing towards its purpose.

Which makes organizations more resilient ...

Indeed! Here is another way to understand this: Imagine an ecosystem like a forest. Forests are hugely complex systems. For some reason, this year, winter comes much earlier than expected. Imagine the five biggest trees saying, "Okay, everybody, freeze! We have an emergency. Don't do anything until we have thought [it] through. Once we have a brilliant plan, we'll let you know what to do." Yet, by the time they come up with their plan, spring has already arrived and it is too late. In reality, in a forest, the whole system – trees, moss, fungi, insects – immediately adapts as one and responds to deal with the situation.

So, we need to learn more from nature – not something we often do in corporate life. You say this mechanistic worldview feeds a process of maximization. Can you expand on that?

This mechanistic way to see the world has just one aim: You want the maximum output with the minimum input. Right? There is really nothing else to a machine. This simplistic worldview has unfortunately permeated everything, including our personal lives. If you are offered a job that makes more money, you would be stupid not to take it, even though you might actually know, deep down, that this job will make you miserable. If you can have a bigger house, a bigger car, a nicer- →



BOOK TIP

A new mindset

An evolutionary overview and practical handbook in one, *Reinventing Organizations* is a primer for new modes of organizational thought.

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sounding job, you should take it. Yet, slowly but increasingly, some people are tired of this imperative to maximize their lives. I noticed this when my book became this sudden bestseller all around the world. A lot of readers asked me questions not about the book, but about my life choices.

At first, that surprised me. They naturally assumed that with a bestseller in my hand, I would give a talk every evening to rake in speaking fees, build a consulting firm around the book. That's the assumption of maximization we all carry to some degree in our heads. But they heard that I continued to live a simple life, saying no to almost all requests to keep spending lots of time with my children rather than in hotel rooms. That's what they wanted to talk about – because they too were tired of the game of maximization, and that topic was almost as interesting to them as what I wrote about in my book.

What does stepping back from maximization really mean? Accepting a lower profit margin or lower return rather than running the "machine" like crazy to the point where everyone's unhappy?

I don't remember who said this, but there's another analogy from nature: If you cut a tree and you see the tree rings, you see that there's very healthy years where the rings grew large. And then there's other years where the rings are tiny because the conditions were such. It would make no sense in nature to say: "Every year, let's try to strive for 12%." This year the conditions might allow for a 12% year. Next year might be a 2% year. The big shift here is to start taking your purpose as the guiding star and do everything we can to serve that purpose. One year it's going to result in something like 12% and in another 2%.

So, organizations need to put purpose, not targets, at the heart of everything, and accept that there will be years where you have fantastic results, and years where results are perhaps less stellar.

I don't underestimate how big a leap that is for our current financial systems. It's like a square peg for a round hole.

But those companies that offer a greater control through self-management, that allow the whole person to show up, that pursue a purpose rather than targets, will be the most resilient, the ones that will fare best?

Everything I've seen seems to confirm that. Their extraordinary results during downturns. The

dedication of people who work there. The hundreds of applications they receive from people who simply want to work there because they just hear such amazing things about them.

What makes them more robust?

You can answer that question in 20 different ways. One way to put it is that these organizations are structured in ways that simply respond to the needs of reality rather than some neat but overly simplistic template like a pyramid.

Take Morning Star, a Californian tomato ketchup maker and one of those self-organizing companies. They have no fixed hierarchy, no fixed organization chart. One day, they made a diagram where every colleague is a dot and they drew lines connecting those people who work together most closely. The result was their real org chart. That's what the natural org chart of any organization looks like – it's simply people who cluster to get work done. But on top of that we unfortunately – forcefully – add another layer: the traditional organizational pyramid. It's a complete abstraction and doesn't represent how people actually do work. It just organizes them into neat groups and silos that gives our mind a sense of control. We've created a redundant structure that gets in the way of work and makes the whole system much slower and more fragile.

What makes these 'new' organizations fare better in hard times?

One of the reasons is that they never "grow fat." In a traditional organization, if I am a manager, the size of my staff determines how important I am. So I fight for more budgets. In good years, my budget will grow and I will hire more people. The

A PARADIGM SHIFT Laloux believes a company is most resilient when it is structured to do its work.

We go through these **ridiculous cycles** because a lot of the work we do is unproductive.



*INTENTIONAL COMMUNITY
Laloux made a considered move to leave city life for an eco-village in Ithaca, New York.*

surest sign that an organization has become "fat" is that we can waste time in meetings and infighting. But then suddenly we hit on hard times and the organization needs to go through this painful cycle where it sheds 10, 20, 30% of its workers.

It always makes me wonder: If you fire 30% of people, it either means you never really needed them in the first place. Or if they were needed, then you are now asking way too much from the people that remain. Yet we go through these ridiculous cycles because a lot of the work we do is un-

productive. Much of what we call "management" is shuffling information up and down the hierarchy and sitting in meeting after meeting. In a pyramid, all this is needed. But is it really work? Or is it just serving an outdated management system?

So, stay lean?

I don't like the word "lean." It still stems from mechanistic thinking – to maximize results, let's be lean and minimize costs. These new forms of organizations that are springing up everywhere simply try to structure themselves to do the work – not more, not less. It's not lean, it's not fat.

In difficult years they stay afloat and don't need to shed anybody because everyone is needed to do the work. Another reason these organizations are so resilient is that they never stray too far from reality. Traditional organizations cling to their plans for too long, forcing them to make a sudden, drastic change when reality catches on to them. If you sense and adapt all the time, you are naturally resilient.

Yet people still find it hard to make the leap to thinking that way.

Yes. It's a real leap for us to come to terms with the inherent complexity and interconnectedness of the world – that our organization is a living entity, not a machine that can be programmed. Even if we know our old recipes no longer work, we still cling to them because they give us a sense of control. I have a strategic plan! A neat org chart! Things are under control!

There are not that many leaders yet who have internalized this new paradigm and can adopt the coherent set of management practices it calls for. But even when you have such a leader, there often remains a risk one level up: the board of directors. It's happened with more than one of these new organizations that the board at some point pulled the plug: "This is all working really well, but this is all a mystery to us. Let's put in a CEO that will do that top-down thing we understand and trust." It doesn't take long, under such a new CEO, for the company to lose its mojo.

So, what does the future look like?

I wish I had a crystal ball! I have a sense it might take 10 or 20 years for us to reach a tipping point: As more and more examples of this new kind of management pop up, more people will get it. And perhaps, quite suddenly, the current system will feel hopelessly outdated. ■

robustness

robustness

INDIVIDUAL

TALOR-MAY



AT THE HEART
OF THE MATTER
Gianpiero
Petriglieri
believes real
change begins
by unlearning
what you know.

ONLINE

New lessons to learn

The call for lifelong learning is becoming more urgent as businesses and employees try to keep up with fast-paced change. Millions are flowing into training programs, but how do we define successful learning outcomes?

BY **Janet Anderson**

ILLUSTRATIONS BY **Hanka Lux**

These are unpredictable times and it's no longer just businesses that find themselves facing an ongoing struggle to remain relevant in the marketplace – but employees, as well. As industries are upturned by technological change, people find that the skills that once served them well are no longer the right ones.

The need to address this is urgent on all sides. And yet the model of corporate learning that has served businesses for generations is itself in turmoil. In the past, employees could expect their loyalty to be rewarded with a linear career progression within a top-down learning model in which junior staff were mentored by senior staff. Today, that rarely happens. The world of work has become altogether more fluid and mobile, with people moving not just between companies, but also across industries several times in the course of a lifetime's career.

Learning and training are therefore taking a more significant and markedly different role both for employers and employees today. The value of learning is rising and becoming more strategic. Businesses need to ensure →

94%

The percentage of respondents to a 2019 LinkedIn Learning survey who reported they would stay longer at a company if it invested in helping them learn.

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"As businesses, we need to **empower people** by enabling them to find out what their purpose is."

Tim Munden, Chief learning officer at Unilever

that their staff have the skills they need right now. Employees want to ensure they are equipped for future moves. Companies that can credibly promise relevant learning opportunities are more attractive than their competitors.

Learning and unlearning

FROM SENIOR EXECUTIVES to young professionals, learning at every level has to be planned. It is a prerequisite for survival in turbulent times. How do businesses deliver on this promise? Gianpiero Petriglieri, associate professor of organizational behavior at INSEAD, says that most organizations focus only on what he calls incremental learning – learning that aims to improve and practice clearly defined tasks. It tends to take place in something akin to a boot camp that replicates the working environment in a safe mode, where people can practice skills, get feedback and improve.

"There's a place for that kind of approach, but when the future is unclear, and the past is a hindrance to moving on, learning from traditional models will not deliver the results required to succeed," says Petriglieri. "Incremental learning enforces established norms and power structures." What companies should be doing instead is creating the culture and space needed to foster transformative learning. "Transformative learning takes people on a very different journey. One that often begins with unlearning what you know," he says. It is about asking the difficult questions; to do it requires slowing down, paying attention to what you are doing now, observing, reflecting and recognizing the part you play, then experimenting with alternatives to reach a better outcome.

"All the great movements of change start with someone saying, 'Pay attention, don't take the status quo for granted, ask questions and talk about it!'" says Petriglieri. "Any dictatorship tells us the opposite: 'Don't pay attention and don't

83%

The percentage of learning and development (L&D) professionals in a 2020 LinkedIn Learning survey who said their executives support employee learning.

◇◇◇◇◇

27%

The percentage of L&D professionals in the same survey who said that their CEOs are active champions of learning.

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talk about it!' The reason why we may find transformative learning difficult is simply because we have an inner dictator who tells us if we get it wrong, we are at risk."

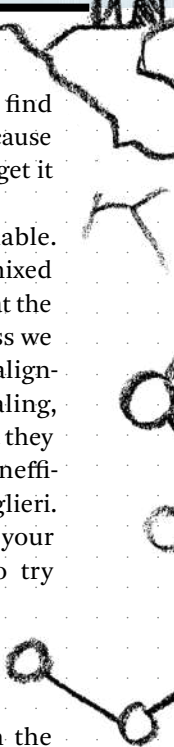
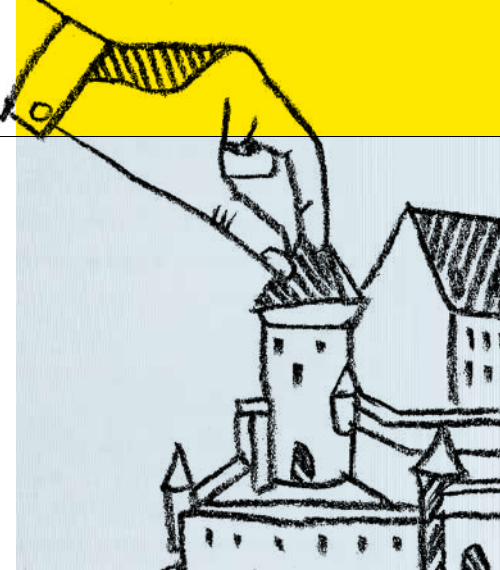
That people self-censor is understandable. Successful senior executives often receive mixed messages. They are told to be disruptive but at the same time not to rock the boat. "In business we usually worship two gods: efficiency and alignment. These are the prerequisites for scaling, generating less cost and avoiding errors. But they hinder transformative learning, which is inefficient and misaligned by nature," says Petriglieri. "The more people around you depend on your work, the more hesitant you become to try something new."

The power of purpose

IT IS ALSO HARD FOR A PERSON to question the system they have benefited from. However, you can't achieve transformative learning without the willingness to challenge the status quo. "There are two emotional enemies of learning: anxiety and pride. The worst case is a cocktail of both," says Petriglieri. The combination makes it impossible for the human brain to take a sober look at risks and prevents any recognition of opportunity.

Yet in today's fast-paced world openness and curiosity are exactly what is needed. "To survive in business, you need to be resilient. In the 20th century, that meant being tough and building companies like fortresses. Today, it means being able to adapt and change to new situations and to collaborate in fluent networks rather than standing firm in cemented hierarchies and rigid structures," says Tim Munden, chief learning officer at Unilever.

It's telling that a company almost a century old is putting an emphasis on learning, which almost underlines how an openness to new ideas





A PERFECT CIRCLE
Tim Munden looks first to purpose and then the skills that purpose requires.

can help big and established corporations stay relevant and successful. What, then, is the underlying driver that enables people and organizations to foster the right attitude and embrace change in a learning context? "Both individuals and organizations need to discover and clearly articulate their purpose. Once we have found what fulfills us, we can assess what skills we need to do that," says Munden. "As businesses we need to empower people by enabling them to find out what their purpose is in life. The heart of our learning culture is making it possible to think about this."

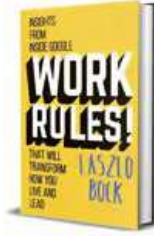
Learning is leadership

THE NUMBER OF UNILEVER EMPLOYEES that have embarked on such a journey has already reached 51,000. The company runs workshops in which small groups share their stories. They talk about experiences in their working lives – and even back to childhood – in order to understand what their own sense of purpose is. To scale this approach, Unilever trained their own people to conduct the workshops, empowering employees to learn from each other in a safe, supporting environment.

"This is the foundation that helps everyone to work out what they need. Once this is →

established, we can provide the tailored learning needed to achieve the required skills," says Munden. An online platform feeds the hunger for knowledge. Here people can define what they need, then learn and test their new skills, follow others and share content. It helps create groups, build communities and make clear what the company's priorities are so that personal and company purpose converge. By the end of 2019, some 26,000 of its employees were using the platform each month. To make such a system work for a large number of people, clever algorithms are deployed to identify needs, create and curate the right content and measure skills development. Munden points out that this is a never-ending task. "Curiosity is essential and needs to be nurtured. We have to make learning an everyday thing," he adds.

When it comes to leadership development, Unilever's approach isn't just about teaching new skills but also offering space for people to develop their inner game. "This is how we describe the purposeful, emotional and psychological core of leadership, such as personal mastery. It is



BOOK TIP

Build a better company

With teachable lessons, *Work Rules* lays out easily actionable principles that strike a balance between creativity and structure.



particularly vital now," says Munden. In one three-day-long experiential workshop, senior leaders reflect on their purpose, how they bring their best self and on feedback that they are struggling with to look at what's getting in the way. There isn't a single distracting PowerPoint slide.

Lasting change

IN THIS SENSE, corporate learning is both personal and transformative. It is a long way from the old model of classroom exercises. For Petriglieri, most corporate learning still fails to meet these new demands and is therefore little more than a protection racket. "People and businesses are told they are threatened by a critical situation and then told what to do to avert it. But in most cases, this merely postpones the actual threat," he says.

Transformative learning, in contrast, is less about threats than about imagination. "A good mentor is someone who helps us to imagine ourselves in ways we find hard to envisage because of the constraints posed by internal or external circumstances," he says. "A leader with the right

robustness

MICRO-CERTIFICATION



PERSONAL LEARNING CLOUD

The future of learning is already here

Tomorrow's world will require skill sets that are very different to those needed today. No CEO or employee can afford to ignore the impact of big data, machine learning and AI. At the same time, the technology driving these changes also offers new ways of learning, enabling us to keep pace. Das Narayandas, Edsel Bryant Ford professor of business administration and senior associate dean for Harvard Business School Publishing and External Relations, calls it the Personal Learning Cloud. The term refers to the growing number of social and interactive platforms, online courses and learning tools with features that fill several key

gaps in the traditional corporate education market. They provide personalized learning that adapts to individuals' learning style and work environment. Organizations can track progress and deploy modules to meet the evolving needs of employees.

Crucially, these services also provide contextualized learning, enabling engagement in the mode that is relevant to an individual's work environment, bridging the skills transfer gap and ensuring that what is learned is also applied. Several elements of the Personal Learning Cloud already exist. MOOCs (massive open online courses) and platforms such as Coursera, edX and 2U deliver interactive online content. Easily accessible training

and development ecosystems are provided by Harvard Business Publishing, LinkedIn Learning, Harvard Business School Online, Skillsoft, Degreed and Salesforce Trailhead. Talent management platforms like SmashFly, Yello and Phenom People connect learning needs and learning outcomes to recruitment retention and decisions concerning promotion within organizations.

The next stage of development, as Narayandas sees it, will be powered by blockchain technology, which will allow individuals and businesses to track learning outcomes and authenticate acquired skills, potentially

disrupting traditional professional degrees, replacing them with a system of microcertifications.

Will these new forms of learning render traditional learning models obsolete? Not according to Narayandas. "Despite its disruptive qualities, the personal learning cloud is an augmenting solution," he says. "What we will have in future is a blend of different learning practices. With traditional players rapidly adapting to the new challenges and opportunities, and startups entering this space with new ideas, innovative forms of learning are developing rapidly. What we see today are merely the ripples of a tectonic shift yet to come."



understanding acknowledges the difficulty and the challenges involved in change, but also links it to hope. Learning is leadership because they both rest on the same fundament: the cultivation of hope." When learning involves such profound changes, is it possible to measure its success? Laszlo Bock, CEO of Humu, former senior vice president of people operations at Google and the author of *Work Rules – Insights from Inside Google*, believes it is possible.

Like Petriglieri, he thinks that much of what passes for corporate learning today fails to deliver on its investment. "Although \$371 billion is spent a year on training by larger companies globally, in most cases there are no evaluation metrics in place to measure behavioral change or impact on business performance," he says. "Most companies could shut down 80% of their training and yet feel zero effect."

The human and the algorithm

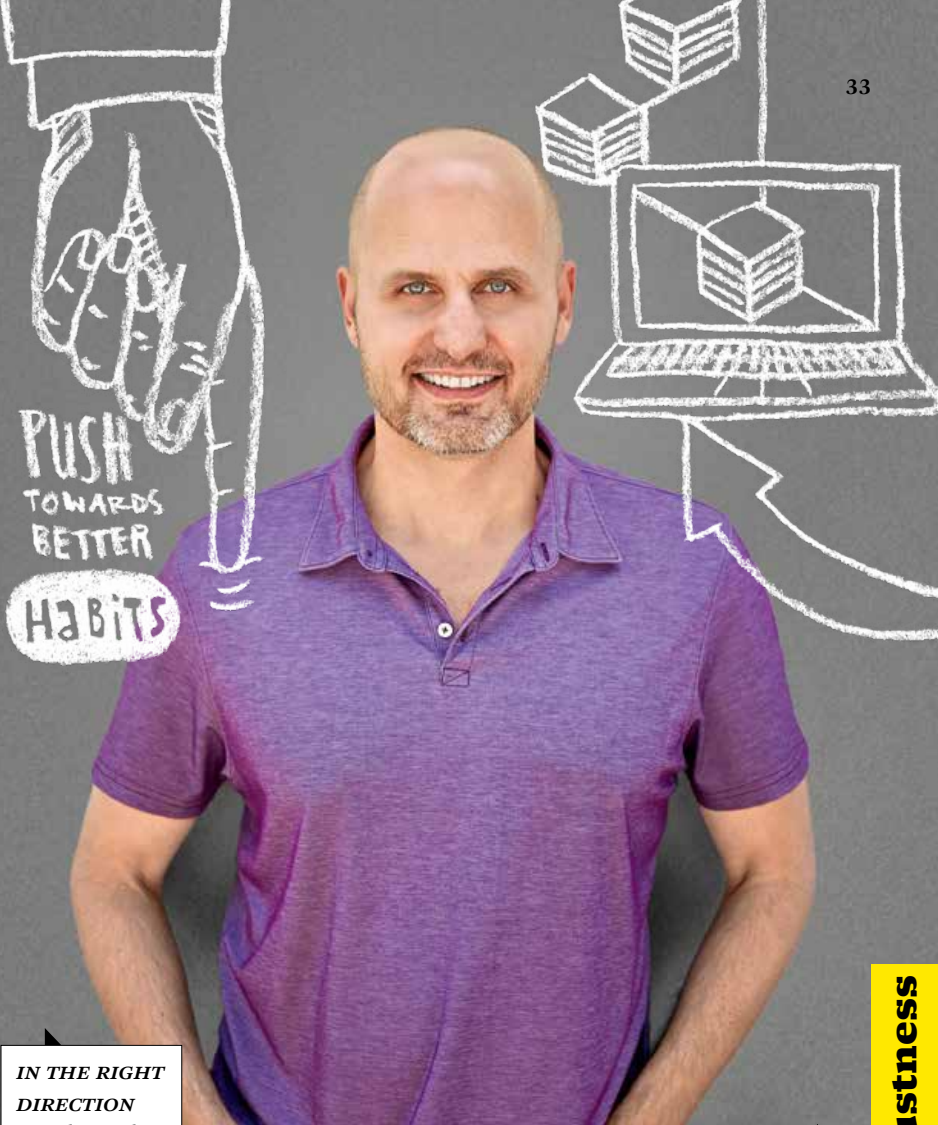
BUSINESSES NEED TO CHANGE their expectations and approach, believes Bock – they need to understand that learning at work is not about the number of hours put in, but about gently directing people in a way so that they feel more tolerant to change and less forced. In order to achieve this, companies need to know more not just about the efficacy of learning programs but about people analytics and computer science. "It is all about delivering the right content to the right people in the right context," he says.

Bock's company Humu nudges people towards better work habits, unlocking the potential of individuals, teams and organizations. Based on a machine learning system, its Nudge

*IN THE RIGHT DIRECTION
Laszlo Bock wants to help people learn to build better habits.*

"It is about delivering the right content to the right people **in the right context.**"

Laszlo Bock, CEO of Humu and former senior vice president of people operations at Google



Engine helps employees develop more productive behaviors by sending small, unintrusive, research-backed suggestions and reminders through email or other messaging platforms. The programs are customized to correspond to an individual's role and behavior. "Typically, we register an 8-12% productivity lift in the companies using our nudges," says Bock.

Where will corporate learning be five years from now? Munden believes digital technology will accelerate the need for change while providing the means for deeply personalized lifelong learning. The trend of giving people access to tailor-made learning – feeding the right content to the right people at the right time – will continue and will become increasingly and ever more deeply automated. But it will also be deeply human, he believes, because the more digital disruption shapes our working and social lives, the more human skills will matter. "In the future, those who bring a blend of technical and human skills will be most successful," he says. "As the world evolves, the deeply human capabilities of providing purpose, working collaboratively and acting with agility are more important than ever." ■



Uneasy Rider

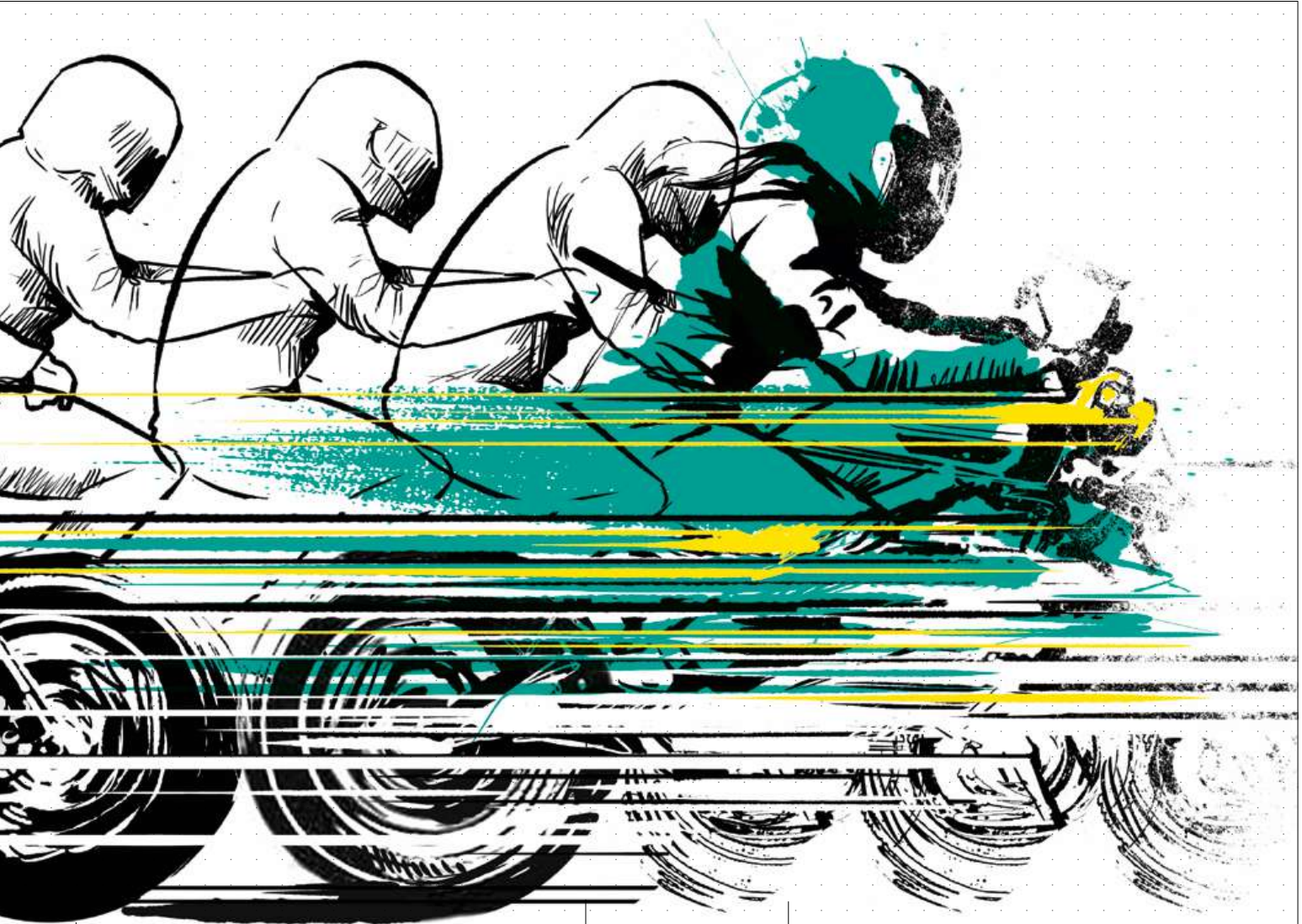
Harley-Davidson faces an uncertain future – an aging customer base, collateral damage from the Trump trade wars and the prospect of disruption by electric motorcycles have put the iconic bike manufacturer in a vulnerable position. To take on the future, it might need to change saddles and ride into a very different terrain.

BY **Bennett Voyles**

ILLUSTRATIONS BY **Sasan Saidi**

At first glance, the very notion that Harley-Davidson might be under pressure seems ridiculous – its owners are famously devoted to the bikes and constitute an elite club within motorcycle culture. Analysts regularly describe Harley owners as a cult who love their bikes with an obsessive fanaticism that marketers of other products can scarcely imagine.

That devotion from its customers has helped make the Milwaukee-based motorcycle manufacturer one of the world's most powerful brands. Interbrand, the global marketing agency, ranks Harley-Davidson as the 99th-best brand going right now, just behind LinkedIn and ahead of Prada – appropriately enough, given that two of the company's key strengths as a brand are the network of devoted owners and the popularity of its high-priced clothing and accessories. The Trump administration's fondness for Harley-Davidson – in 2016, vice presidential candidate Mike Pence



campaign in Indiana on a Harley – might also have seemed likely to pay dividends, given that Harley-Davidson's headquarters are in Wisconsin, one of the states Trump will need to carry to win re-election.

Under the chrome

AT THE MOMENT, HOWEVER, Harley-Davidson is having a hard time. "Hogs" – as the iconic bikes are sometimes called – may be as powerful as ever, but the same can't be said for the company. In 2009, Interbrand ranked Harley-Davidson the 73rd-best brand in the world, 16 slots ahead of what it is today. Sales aren't what they once were either: The company posted its fifth annual decline in US sales, extending a straight-line drop through 20 of the past 21 quarters. In 2019, Asia-Pacific was the only region in the world to show an increase. At the same time, the quality of the earnings the firm generates has declined: 40% of operating income

HOLDING THE INSIDE TRACK After decades of success, the Harley brand must now adapt to keep its position.

is now tied up in the company's financing arm, up from 15% ten years ago. Investors are not optimistic: Share prices have almost halved from around \$60 five years ago to just \$30-40 in the months leading up to the coronavirus market drop.

Yet perhaps the biggest problem is that the well-heeled baby boomer men who have long been the core customers for the product are getting older and some are nearing the end of their biking years. And unfortunately, the boomers' torch for the brand is not being passed to a new generation. "I think the younger group coming along are a little more savvy," says William E. Thompson, a professor of sociology and criminal justice at Texas A&M University, and author of *Hogs, Bogs, Leather and Lattes: The Sociology of Modern American Motorcycling*. "That bad boy image and rough, tough outlaw image doesn't appeal to them much – particularly at \$25,000 to \$30,000, when you can get a very good bike for half or two-thirds of that," Thompson says. →

To compensate, Harley-Davidson has tried to build up its export business, but despite its verbal support, the Trump administration has not actually done the company any favors. Instead, it's been caught in the crossfire of the Trump trade wars – hurt by tariff-driven steel price rises, retaliatory European Union tariffs on motorcycles and pressure by the administration to limit the overseas production Harley-Davidson needed to get around those tariffs. Overall, *Forbes* estimated in September 2019, the Trump tariffs have wiped \$1.4 billion off Harley-Davidson's market cap.

Finally, electric bikes are also threatening to disrupt the motorcycle market. In Asia, e-bikes are already an important part of the motorcycle market – there are over 3 million in China and 400,000 in India, according to *Nikkei Asian Review*, and analysts expect those numbers to grow everywhere. Jagdish Sheth, marketing professor at Emory University's Goizueta Business School and noted corporate strategist, explains, "The electric moment will happen sooner in the motorcycle and scooter business than in the automobile business," either mandated by countries or demanded by climate-concerned consumers.

So is this Harley's last ride?

THE COST SAVINGS that presumably drive many e-bike purchases – operating costs are only about one-tenth of a petrol-powered bike – might not constitute a prime interest of the typical white-collar Harley owner, but the company has tried to respond to their growth by introducing its own upscale e-bike, the LiveWire. Reviews have been good, but sales have not been brisk, and it's unclear whether the \$30,000 model will be popular with traditional Harley aficionados.

Harley marketers tout the LiveWire as "[a] bolt of lightning that electrifies the urban grid," but some are skeptical Harley-Davidson can make the transition. "Half of the allure of a Harley is its sound. No other bike comes close and it conveys a sense of raw testosterone. An engine that goes 'zip, zip' just won't cut it for men who compensate for their insecurities with a huge, loud motorcycle!" says one 65-year-old Harley owner, a New York-area school administrator with a PhD. "Companies grow up at a given time and place," says Rita Gunther McGrath, a professor at Columbia Business School, and author of *Seeing Around Corners: How to Spot Inflection Points in Business before They Happen*. "Certain things are possible

-10%

The decrease in Harley-Davidson's worldwide retail sales between 2017 and 2019.

◇◇◇◇◇

-19.2%

Harley-Davidson's percentage loss in market cap between the first half of 2018 and the first half of 2019.

◇◇◇◇◇

48

The average rider age reported by Harley-Davidson in 2008, the last year they openly published the figure.

◇◇◇◇◇

and certain things are not, and eventually, they discover a success formula. That success formula gets embedded in their metrics, their reward systems, the levers they use to try to drive success. When the world shifts around them, those things don't necessarily change in response."

Willemien Kets, an associate professor at the Department of Economics at the University of Oxford and Alvaro Sandroni, a political economy professor at the Kellogg School of Management, Northwestern University, have demonstrated using game theory that the kind of long-term success Harley-Davidson had enjoyed since the 1980s can encourage excessive conformity, which can quickly become a liability. As Kets noted when her research was first published in 2015, in situations marked by high stakes and constant upheaval, "excessive conformism hampers the ability of an organization to adapt."

Staying roadworthy

THERE ARE A NUMBER OF STEPS Harley-Davidson should consider to keep the 117-year-old company rolling. First is to find some rebels. On the face of it, this advice would seem to be unnecessary, but Harley-Davidson might need to encourage a little more rebellion. And ironically, it may be that a person we might think of as more rigid than the typical Harley rebel may be just what's needed to kick the company into a higher gear: Sandroni is now experimenting with introducing people who have the condition popularly known as Aspergers to problem-solving groups. His hypothesis is not that the syndrome makes them more creative, but that it makes them likelier to voice ideas other people probably had, but were afraid to raise.

"Half of the allure of a Harley is **its sound** ... it conveys a sense of raw testosterone."





Another way out is to build a new business apart from the traditional, declining business. "It's easier if you do it in two different organizations – and that's particularly true if the new company is not dependent on the assets of the old company," McGrath says.

It saved Netflix when the firm realized its new streaming business could not really coexist with its older DVD rental business. "I think it's easier because if you think about it, you're going to be dealing with different metrics, different success formulas. Probably you need different incentives for your people, different things as leaders that you're paying attention to," McGrath says.

She also thinks the company can dive deeper. "I think what's made Harley great in the past and what they need to be thinking about ... is what

Clayton Christensen very famously called 'the customer's job to be done.'"

People don't think about buying products so much as hiring them to get jobs done in their life, McGrath adds. So, what was Harley's "job"? It was never entirely about the bike, in McGrath's view. "The core job that Harley performed for customers for many decades was giving people a sense of freedom, rebellion, identity, a distinctness from all other people," she says.

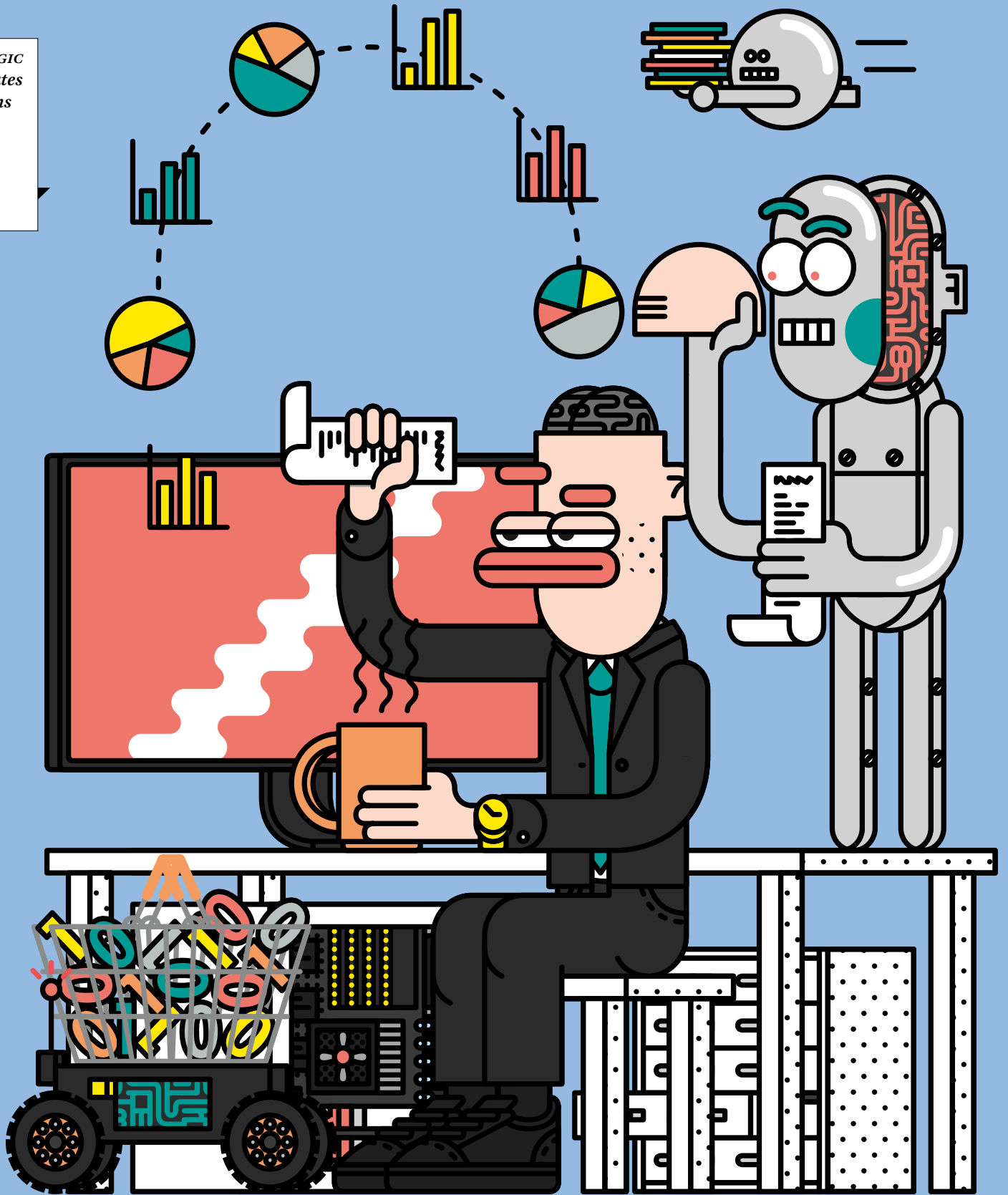
A new brand of rebellion

THE COMPANY ORGANIZED Harley Owners Groups (HOGs) to help sell the motorcycles. "Because they realized that if you just own a motorcycle by yourself and you don't have an occasion to go and use it, it sits in the garage and eventually you get bored with it and you move on. But if you have a community, if you've got a weekly or a monthly gathering ... that really creates something valuable in your life."

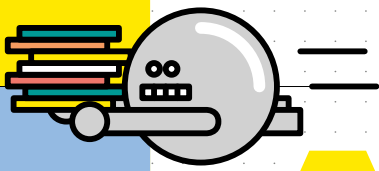
If the motorcycle and the HOGs are no longer working quite the way they were, she says, the key question to pose is: How does the next generation want to express freedom and rebellion? Electric bikes may be on their way, but people still like biker attitudes and biker styles. One way, Sheth says, is for Harley-Davidson to focus on building itself up as a designer brand. "The Harley-Davidson brand needs to be liberated from the motorcycle. The brand has an enormous value," he says. ■

IN THE CLUB
The Harley image is built on rebellion, but also being part of a community of riders.

*IT'S JUST LOGIC
If AI automates
how decisions
are made,
humans can
design and
oversee the
process.*



robustness



Artful intelligence

Harvard professor Karim Lakhani has one piece of advice for firms and their leaders: Roll out today's AI tools now and use them to reinvent your business if you want to survive.

BY **Steffan Heuer**

ILLUSTRATIONS BY **Tim Easley**

Reading just a few weeks' worth of headlines and corporate announcements involving artificial intelligence (AI) can induce something like a mild form of whiplash. Fast food giant McDonald's is planning to test kiosks at some of its US locations where customers can order by talking to a digital assistant. This experiment comes on the heels of the company's acquisition of a Silicon Valley natural language startup. Meanwhile, the convenience store brand 7-Eleven has opened its first cashier-less store in Dallas, Texas, letting customers roam the aisles and simply walk out with their wares. It's the same intelligent tech on the back end – mainly machine vision – that already powers a growing number of Amazon Go stores. Not to be outdone, Starbucks says it will have 4,000 AI-enabled robo-baristas in stores by the end of 2020 in order to automate and optimize what it's brewing and frothing.

And that's just the consumer-facing part of AI coming to a business near you. Behind the scenes at thousands of companies, big platforms such as Amazon, Google and Microsoft are providing the cloud-based computer power combined with analytics and decision-support capabilities to run digital businesses. After mastering this discipline in-house to attract and engage their customers, these platforms rent access to AI-powered systems



EXPERT

Karim Lakhani

is a leading technology management and innovation expert and a professor of business administration at Harvard Business School.

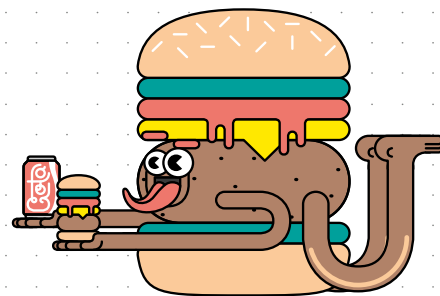
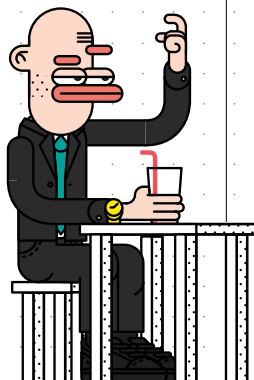
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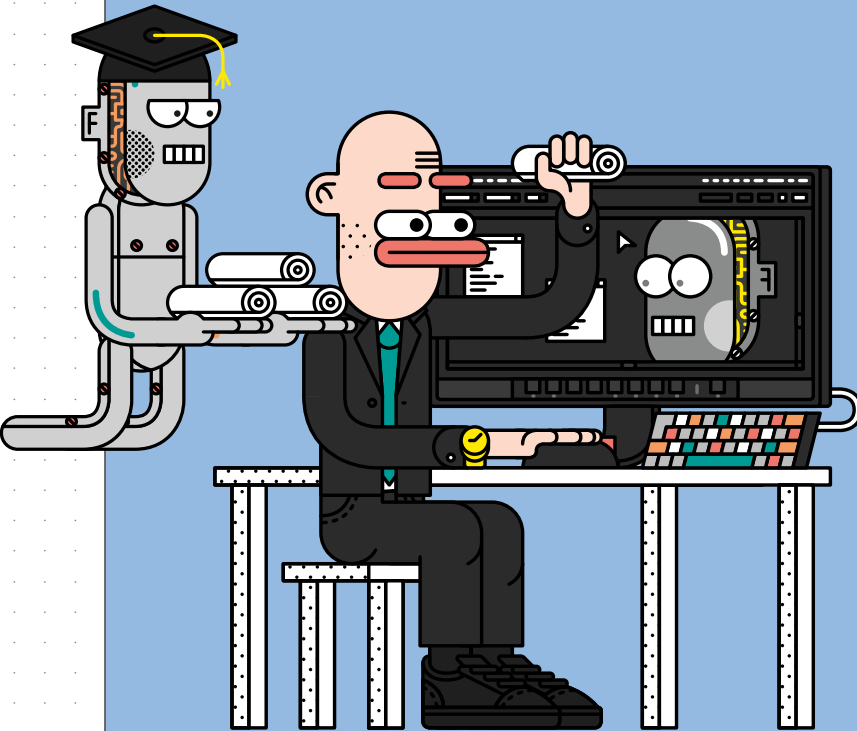
to any organization to gather and analyze large amounts of data across their entire operations.

AI, in other words, is quickly and inevitably becoming the new engine of growth, according to Harvard Business School professors Marco Iansiti and Karim Lakhani. They lay out their case in their new book, *Competing in the Age of AI*, that businesses shouldn't engage in wishful thinking that powerful AI is years off into the future or relegated to dystopian sci-fi stories. Far from it, the two academics argue.

A scalable decision factory

CHANGE IS HAPPENING HERE AND NOW, driven by tools that are already available – and it will eat the incumbents' lunch. If leaders don't ready their organization for a sweeping transformation, that is. "AI is becoming the universal engine of →





"Algorithms and data are **now at the center** of the company."

Karim Lakhani, Professor at Harvard Business School

robustness

FINE-TUNING
The more data we feed into algorithms, the better they will get over time.

execution," not only displacing human activity but "changing the very concept of the firm, how companies operate and compete," they write. Executives who embrace this momentous evolution into a "new economic age" can not only survive, but also unlock new areas of growth. And the end point, as Lakhani explains in a wide-ranging interview, is to become an "AI factory," where the core of the firm functions as a scalable decision factory fed by vast amounts of data.

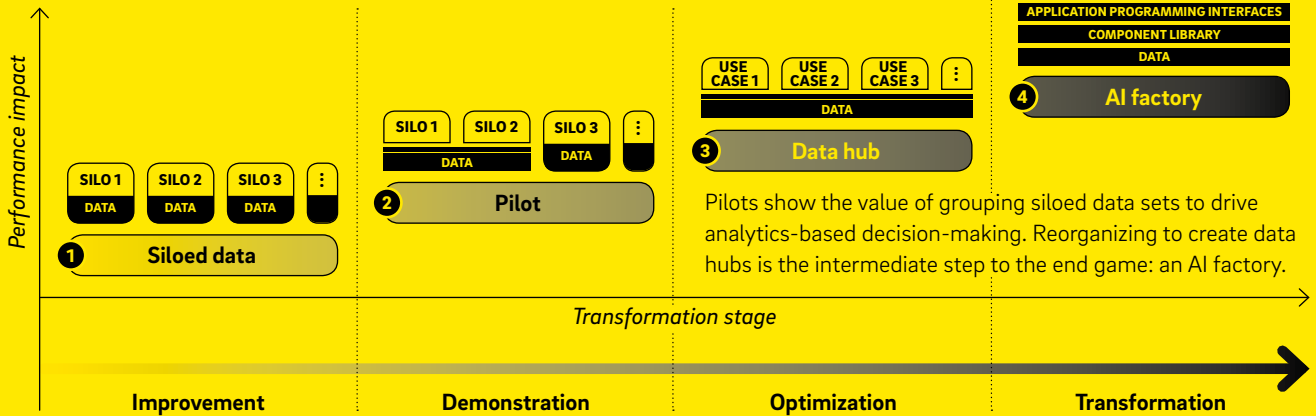
He likes to think of this as the next logical step in industrialization, this time streamlining

the gathering and analysis of data and automating the decision-making processes. "Software, data and AI power a new breed of organization. It's the first time in more than a century that a new kind of firm emerges," he says. "The employees don't deliver the product or services. They work at the edges to design and oversee a software-automated, algorithm-driven digital organization that actually delivers the goods."

There are plenty of current examples where companies have taken humans out of the loop and are betting big on merging data pipelines and letting machine learning make sense of things. "Algorithms and data are now at the center of the company instead of human processors who used to make decisions," Lakhani explains. "If you think about it that way, this newly emerging economy starts to make sense across many different industries, from advertising to ride-sharing and mobility to accommodations and entertainment. All of them have the same features built into them that let them scale in a way we haven't seen before. Those companies can easily expand their scope and have this very powerful learning

BUILD A NEW LEGACY

Four stages of digital operating model transformation



engine or experimentation platform at their core." Taking this step does not require waiting for a technological breakthrough in AI. "Weak or narrow AI that's on the market today works just fine," the Harvard professor argues. "Each one of these algorithms is very narrowly constrained and defined. They do one thing and do it really well."

A firm may have a collection of algorithms that appear to give it some superpowers. "Task-specific algorithms become better over time as they get more and more data and as we fine-tune the parameters. But it's not as if a robot will come in and take over." He thinks the attention on general AI is overblown – and a distraction. "Managers will not be replaced by software or AI, but managers who don't augment themselves with AI will be replaced by managers who do."

Becoming an AI factory is a process that every company in every industry can pull off, Lakhani says. "No matter if you make burgers or cars, the AI factory is the same at all companies. It's a generic capability that all organizations will need to have if they want to take advantage of what's happening." Companies that rethink their business model *and* their entire operating model around digitization will come out ahead.

Start with the basics

TO ARRIVE AT THEIR CONCLUSIONS, the two Harvard professors analyzed the status quo at 350 firms and a total of 40 different business processes. They ended up focusing on organizations in the manufacturing and service sectors with a median size of 6,000 employees and \$3.4 billion in revenues. Those that embraced data and analytics across engineering, manufacturing and operations instead of just running isolated pilots were able to realize substantial benefits.

Rethinking one's business model for this new world is not about products or services per se, the academic adds. "You have to think of your company in the sense of an abstraction: What is it that we're serving? Why do customers come to us? And what did we learn from those customers?" The whole thought experiment revolves around capturing, cleaning and using those data streams, which feed a virtuous cycle consisting of more data, better algorithms, better service, more usage and, eventually, even more data.

Apart from new software tools, competing in the age of AI also means acquiring and honing new skills as an executive. So far, Lakhani laments,

FIVE STEPS

How to develop an AI strategy

1 Develop one strategy with the goal to bring unity to the company while changing it.

2 Clearly define the technical goals of the transformation so everyone understands what the future operating architecture looks like, focusing on centralization and consistency.

3 Develop a product-focused mentality which aims to take traditional processes and embed them in software and algorithms.

4 Grow a deep foundation in software, data sciences and advanced analytics. Hire different kinds of people and offer them an appropriate career path and incentive system.

5 Establish clear digital governance with collaboration across disparate disciplines, engaging with customers, partners and communities.

leadership skills and thinking lag behind the technical capabilities. "We need new ethics and leadership wisdom. You can't defer this to the next generation of leaders. As a board and as managers, you have to take this on now."

It starts with learning the basics. Leaders should familiarize themselves with new tech skills like they used to do with accounting and finance, says the academic. "Learning about statistics, programming and machine learning will be equally important for executives. Not that you will become a Ph.D. data scientist. But you need to understand what these capabilities enable you to do and what their limitations are." Lakhani sees this new skill set as a precondition to master the art of managing a firm's networks and data flows.

With risks come rewards

MENTAL RETOOLING NEEDS TO HAPPEN throughout the ranks. Royal Dutch Shell, for example, recently announced it is expanding an online program to teach AI skills. So far 2,000 of its 82,000 employees have expressed interest or have been approached to participate. The online courses are offered by learning platform Udacity, which has rolled out an "AI leadership program" targeted at executives who want to learn how to better communicate with their data scientists and understand potential use cases and problems. The latter is important since these novel digital operating models come with risks and responsibilities that go beyond managing change at one company. The ongoing debates around amplifying false or misleading information, algorithmic bias and cybersecurity are reminders of what is at stake.

As the dominant platforms Amazon, Google and Microsoft evolve into "digital superpowers," Lakhani says, they create and control the connections in key networks that other firms are forced to use. Alphabet subsidiary YouTube, for instance, already makes more money from ads – a total of \$15 billion in 2019 – than the traditional networks ABC, NBC and Fox combined. "These guys are already becoming utilities in the modern economy," Lakhani says. "And when utilities emerge, there's regulation. So I wouldn't be surprised if these companies aren't regulated to some degree in Europe and the US." He is not concerned that a recession may throw a wrench in this big transformation. "If anything," he demurs, "there'll be more pressure to adopt AI because the efficiency gains are so much higher." ■

robustness

A person wearing a full white protective suit, including a hood and mask, is operating a rover in a cleanroom environment. The person is holding a long, thin rod or tool. The rover is a complex piece of machinery with a large, ribbed wheel and various sensors and instruments. The background is a dark, industrial-looking space with various cables and equipment.

Ready for **impact**

NASA is preparing for the launch of its fifth Mars rover in July 2020. The vehicle's name, Perseverance, stands for the quality of spirit that's carried humanity through the millennia and the US space agency through the ebbs and flows of public interest in space exploration.

PHOTOS BY **NASA**

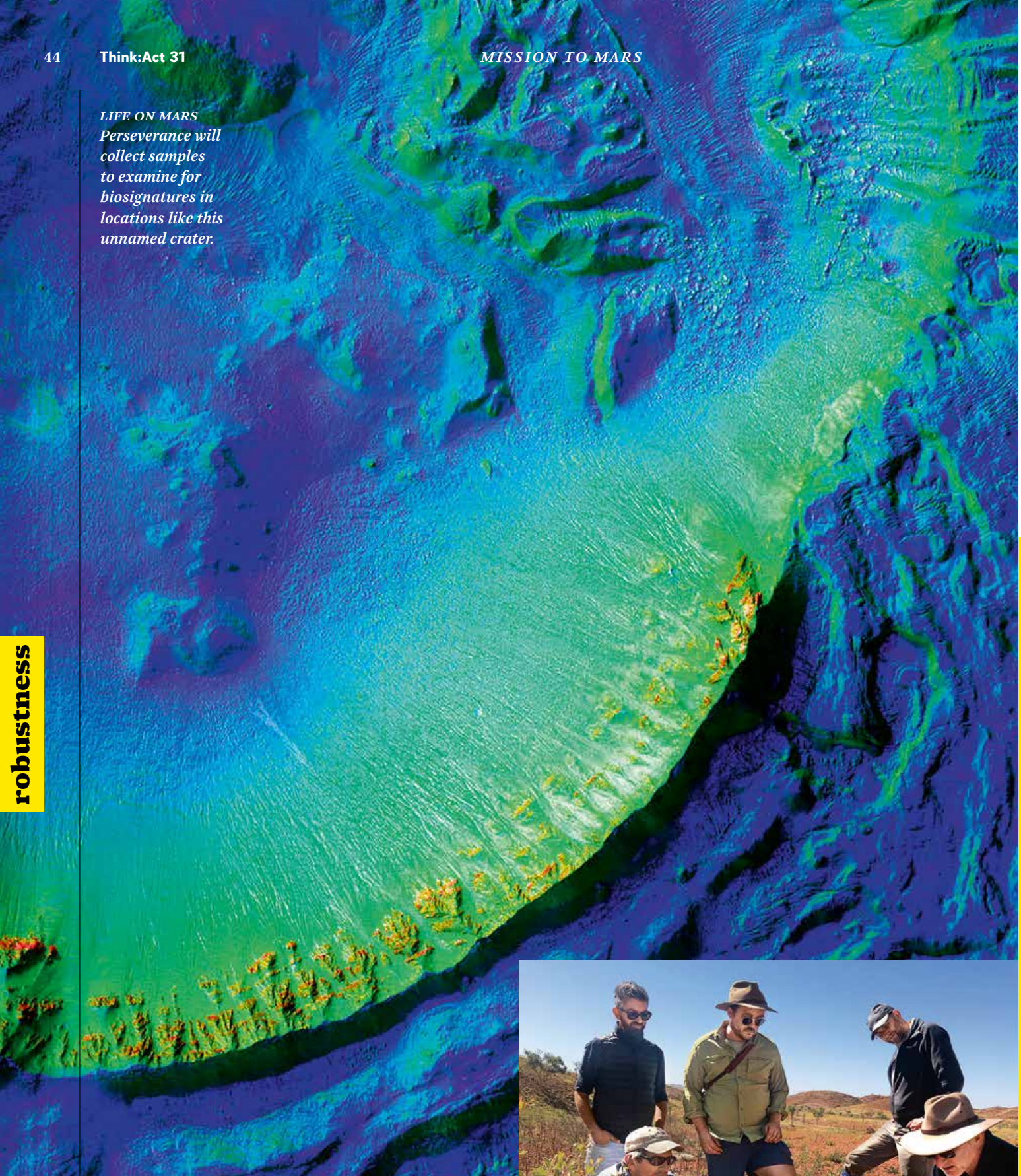
robustness

PHOTO: NASA/JPL-CALTECH

A BRIGHT START An engineer uses a solar intensity probe to test how the sun's rays will interact with the rover while on Mars.

*LIFE ON MARS
Perseverance will
collect samples
to examine for
biosignatures in
locations like this
unnamed crater.*

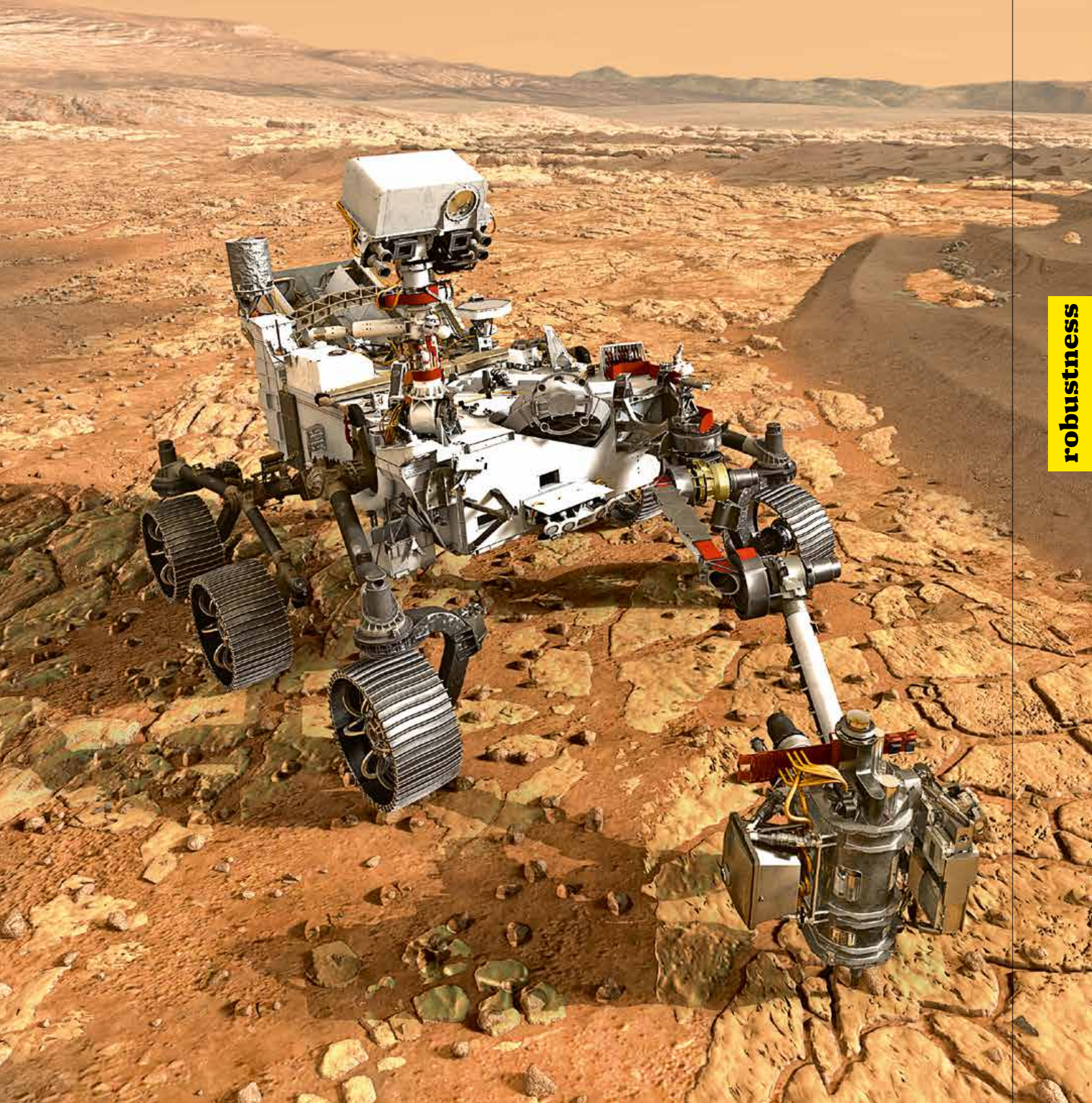
robustness



*BACK ON EARTH
Scientists traveled
to the Australian
Outback to hone
research techniques
for the 2020 launch.*

GOING DEEP

The 2020 rover will introduce a drill to collect core samples from the Martian surface with the hope of returning these samples to Earth.

**robustness**



robustness

OUT OF THIN AIR The Mars Oxygen In-Situ Resource Utilization Experiment (MOXIE) unit will demonstrate if future explorers can produce oxygen from the Martian atmosphere.



PHOTOS: ASA/JPL-CALTECH



ON THE DOT The forward-facing cameras were calibrated using target boards, a machine vision "eye" exam.



BUILDING ON THE PAST The cameras and other technologies on board the rover draw from lessons learned on past missions.

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UNDER WRAPS A 4.5-meter aeroshell will protect the rover during its descent through the intense heat of the Martian atmosphere.



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PHOTOS: LMS, NASA/JPL-CALTECH, NASA/ KIM SHIFLETT



CLEAN RESULTS Assembly of the rover and its components takes place in a clean room to ensure any samples that may return to Earth are not contaminated.




ALMOST READY FOR LIFTOFF The rover's aeroshell has been tested to ensure the safe delivery of its payload.

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OUT WITH THE OLD Planning your next move in advance is the first step to prevent your skill set from going out with the trash.

robustness

A man in a blue suit and tie is sitting on a yellow trash bin. He is looking to the left with a concerned expression. The trash bin is on a red base. In the background, there is a blue wall and a metal railing. The text 'Are you reaching your expiry date?' is overlaid on the bottom right of the image.

Are you
reaching
your
expiry
date?

These are testing times and CEOs are increasingly under pressure to stay relevant and avoid their own obsolescence. What can you do to ready yourself for the next phase of your career? Turn your transformation into your best advantage.

BY **Dan Matthews**
PHOTOS BY **Norman Konrad**

In his book *The Second Curve*, philosopher Charles Handy argues for a radical rethink on how society runs itself. He says traditional systems can't keep up with the pace of change – and that means leaders in the economy, politics and business must take revolutionary steps to keep up.

To illustrate his argument, Handy employs a 'sigmoid curve,' which looks like an 'S' that has fallen forward. This, he explains, is "the line of all things human," meaning it can be used to describe just about every project imaginable, from a life to an economy. These lines tend to start with struggle, learning and hard work, reflected in the downward angle of the lopsided S. Then, as people advance and apply their learning, comes a period of growth and improvement. But, inevitably, this slows and eventually turns downward as the principles driving progress become tired and outmoded.

The antidote to "ageing out"

TO REVERSE THIS TREND, we need to create a second upward curve, which must start before the rot sets in. Handy quotes Lampedusa's novel *The Leopard* to emphasize his point: "For things to remain the same, things will have to change." CEOs should take note. By the age of 50, most business leaders will be roughly 30 years into their career, equating to a rich tapestry of experience and wisdom, yet revealing an important question: How much of that is relevant today?

Leaders in this bracket – even those who are comfortably at the helm of a growing business – risk obsolescence if they do not take decisive action to reboot their careers. As Handy observes: "Those who have been in charge of that first curve have to begin to think very differently about the

KINETIC THINKING

Adapt or fail: can you move with the times?

In a period of uncertainty, being able to shift your mindset to encompass new ideas and approaches is an essential asset. Joseph Pistrui, professor at IE Business School, and colleague Dimo Dimov of Bath University have devised a system to help leaders move between different ways of thinking. According to the kinetic thinking model, the following approaches will help managers acclimatize to marketplace dynamics, increase perception and expand the range of actions available to them.



Focused thinking: In the kinetic thinking model, focused thinkers consider options based on defined goals. Each action is based on careful assessment of its merit and prospects. Focused thinkers agree on goals and develop benchmarks to assess progress.



Incremental thinking: Incremental thinkers identify gaps in the market and are driven by a sense of what is possible. They act only after assessing future outcomes. Their strengths are spotting weak links and devising the next steps.



Playful thinking: Like focused thinkers, playful thinkers are motivated by their goals and a sense of purpose, but they are also stimulated by the potential to discover something new or interesting. They are experimenters and enjoy seeing where investigations take them.



Breakaway thinking: According to Pistrui and Dimov, this group is driven by a sense of 'what is missing' – similar to incremental thinkers. But they are also motivated by the chance to discover and they seek new frontiers, painting a vision and bringing clarity to the situation.

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Which thinking type are you?
rolandberger.com/stayrelevant

future. That is something that doesn't come easily. Why change when all is well, we ask ourselves."

In practical terms, CEOs can't afford to coast. They must evolve, welcome new ideas, seek out fulfilling experiences and incorporate the things they learn into their organization. According to Greg Orme, author of *The Human Edge*, staying curious is the only way leaders in their 50s can stave off redundancy. "Curiosity is a vital capability for anyone in our tech-disrupted world. It liberates you to rapidly learn and to question how the world is changing around you. It's important for everyone, but especially crucial for those who presume to lead others." He cites the example of Bill Gates, who began taking 'think week' breaks to read and reflect on the future of technology. It's a practice that has been followed by successful contemporaries including Warren Buffett, Jack Ma, Steve Jobs and Jeff Bezos.

Time outside the office, says Orme, provides the scope to unwind problems, learn new concepts and come up with better strategies. Steve Butler, CEO of fintech Punter Southall Aspire, did it by consulting staff and going back to school. During this process he acquired four businesses, added five regional offices and doubled his workforce, all while embarking on his own professional transformation. He says: "For my personal development I went back to university to do a Ph.D. I felt at the time of change I needed more academic input into my thinking to be able to steer the business. I also took a month's sabbatical and went trekking in the Himalayas. The sabbatical gave me new perspective and I came back refreshed and focused."

Don't drift. Shift.

BUT LEARNING ON THE JOB is just as important. Businesses are engine rooms of ideas delivering insights in real time. To benefit, you must become a better listener. Orme recommends bosses learn "audacious humility," shed anxiety-based notions of power and worry less about losing face if they ask simple questions. These might sound like easy steps, but in a top-down organization with the usual power bases and rivalries, they're anything but.

Butler introduced major companywide changes to shake up traditional power centers: "I introduced many changes from restructuring the management team to radically changing how meetings operate, introducing reverse mentoring

as well as diversity and inclusion training for senior managers. As CEO it has been important for me to do the listening in order to create trust and conviction that employees have been heard and to be visible. To this end I have traveled around the country to run discussion groups with smaller groups of employees, which has been of huge benefit during this process."

A mindset shift from being a dominant boss to an organizational role model should trigger a culture shift towards new innovations and more sharing of good ideas, says Simon Hayward, CEO of Cirrus, author of *The Agile Leader* and honorary professor at Alliance Manchester Business School. "If a CEO welcomes challenge and encourages experimentation, then the organization is more likely to have an agile, innovative culture. A culture like this will never take hold in a command-and-control type of organization. It requires leaders to let go, to trust others and to let people fail without fear."

Antony Thompson is a former Royal Marine who now advises on leadership and management using skills picked up in the military. He regularly encounters "leadership drift" and says bosses lose momentum because they can't step back or make an honest assessment of what must change. He says: "Most of the issues we see come from a lack of discipline and a lack of reflection, so this is where we start when it comes to mindset training. Things slip very slowly each day, so the initial impact is small. But small things add up and many CEOs find themselves looking back after 10 or 20 years and wondering what happened."

The problems that arise don't manifest in sudden crises, but as a gradual waning, which nevertheless can have serious implications, like a ship pointing one degree off its planned route and, at the end of its journey, finding itself in the wrong country. To get back on course, Thompson



The problems that arise don't manifest in **sudden crises**, but as a gradual warning.



PHOTO LOCATION: HOTEL ZOO BERLIN

**DON'T GET
LOCKED OUT**
*The key to
a thriving
career is keep-
ing your eye
on trends and
innovations.*

recommends creating an entirely new business plan, consulting your team from the grassroots up, investing in your own skill set and taking time to increase your knowledge of "trends, innovation, science and philosophy."

Leading by learning

FEELING THE PACE OF CHANGE was something that began for Helen Jamieson, founder and CEO of Jaluch HR & Training, in her early 40s. Over the decade since, she has built up a long list of new experiences that have helped win back her edge. She joined a series of networking groups and traveled on five trade missions to different parts of the world. In 2015 she went on a week-long business conference in South Africa to focus on her business' values and vision. In the same year she completed a mini-MBA at the Tuck School of Business. Jamieson says: "My business is really focused and I have stopped trying to be all things to all people. My way forward is becoming clearer with every passing year. Being able to get involved with a group of businesspeople doing humanitarian work in Nepal was fascinating and I can see what effect just a week of my skills can have on a community. That's so exciting and empowering."

Hayward also espouses removing yourself from day-to-day machinations, in particular by reducing time spent in meetings and devoting those reclaimed hours to learning. His company provides this service for leadership teams. "We may take a group of corporate leaders from a big bank or a high street retailer and give them a challenge to solve working inside a charity or a digital startup. This forces them to step outside their comfort zone." He also advises mentoring swaps: "I have seen some mutually beneficial mentoring partnerships where senior leaders share experience and wisdom with younger employees. In return, younger employees, often digital natives who have grown up with the internet, can help established leaders to stay current."

Age may just be a number, but in a fast-paced corporate environment it can also signpost an important career crossroads. Leaders in their 50s should assess their skills, consider their contribution and fill in the gaps with up-to-date knowledge and experiences. In doing so, you could instigate Handy's second curve and postpone decline, providing impetus to an energized organization instead of becoming a millstone around its neck. ■

EPISODE VII
THE FALL AND
RISE OF MARVEL
ENTERTAINMENT



the Adventures of Lukhaoundman

HE FIXES STUFF!

TEXT: BENNETT VOYLES
COMIC: NIKLAS HUGHES &
ANGELA WITTCHEN

JUNE 1999. MARVEL ENTERTAINMENT IS JUST EMERGING FROM BANKRUPTCY, BUT IS STILL EXTREMELY FRAGILE, WITH 250 EMPLOYEES AND JUST \$3 MILLION IN THE BANK.

OUR STOCK SOLD AT 96 CENTS TODAY!

THAT MUCH?!

HAS IKE FOUND A CEO YET?

WHO WOULD TAKE IT?

IT LOOKS LIKE A JOB FOR PETER CUNEO!

THE NEW CHAIRMAN, FINANCIER ISAAC PERLMUTTER, TURNS TO THE CEO WHO LED HIS LAST SUCCESSFUL TURNAROUND: REMINGTON PRODUCTS, THE ELECTRIC SHAVER COMPANY.



robustness



robustness



I LEARNED TO QUESTION EVERYTHING WHEN I WAS IN THE NAVY, DURING THE VIETNAM WAR. MY FIRST SIX MONTHS ON SHIPBOARD AFTER OFFICER TRAINING SCHOOL, ALL I WAS ALLOWED TO DO WAS WATCH AND ASK QUESTIONS.

I DIDN'T MAKE A SINGLE IMPORTANT DECISION.



MARVEL



"BESIDES QUESTIONING EVERYTHING, THE CFO QUIT SOON AFTER I STARTED, SO I TOOK HIS JOB TOO. THIS HELPED: I'VE ALWAYS VIEWED THE NUMBERS AS THE EQUIVALENT OF HOW BLOOD FLOWS THROUGH THE BODY. JUST LOOK AT THE NUMBERS AND YOU CAN TELL WHERE THE BUSINESS IS HEALTHY."

robustness

"AFTER SIX MONTHS, I SUDDENLY HAD THIS VISION OF THE BUSINESS - IT WAS LIKE A WAGON WHEEL. THE CENTER WAS WHERE THE MARVEL CHARACTERS WERE AND THE SPOKES WERE HOW WE MONETIZED THEM. IN THE BEGINNING, WE HAD ONLY TWO SPOKES. BY THE END, WE HAD 20."

MANY OF MARVEL'S ARTISTS AND WRITERS HAD FELT BADLY BURNED BY THE COMPANY IN THE BANKRUPTCY YEARS. IT TOOK PETER AND MARVEL'S EDITORS YEARS TO WIN BACK THEIR TRUST.

IN 2003, PETER BECOMES VICE CHAIRMAN OF MARVEL. BY 2004, REVENUES TOP \$500 MILLION.

"THE ONE THING I KNEW WAS THAT THE WHOLE BUSINESS DEPENDED ON HAPPY CREATIVE PEOPLE."

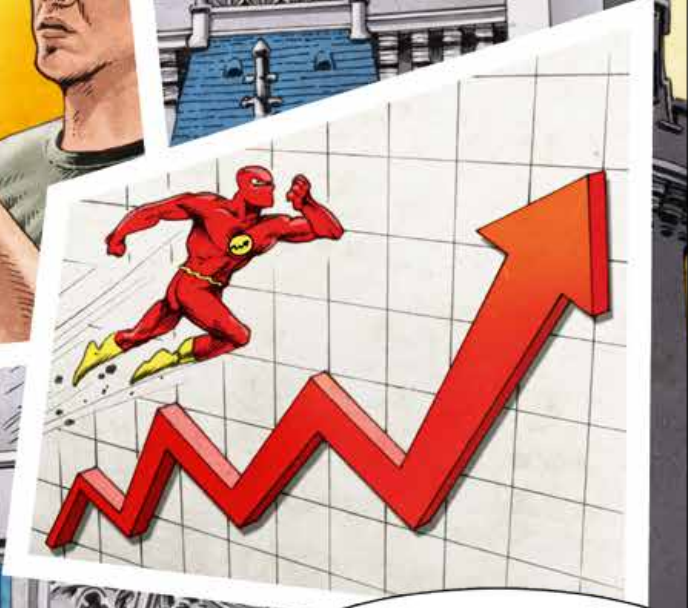
robustness



IN 2005, FOLLOWING THE SUCCESS OF THE FIRST TWO SPIDERMAN MOVIES AND TWO X-MEN FILMS, MARVEL LAUNCHES ITS OWN MOVIE STUDIO, USING THE COMIC CHARACTERS AS COLLATERAL, PETER BORROWS \$525 MILLION TO PRODUCE TEN FILMS.



PETER SERVED AS VICE CHAIRMAN UNTIL 2009, WHEN DISNEY BOUGHT MARVEL FOR ABOUT \$4.25 BILLION, ROUGHLY \$54 PER SHARE.



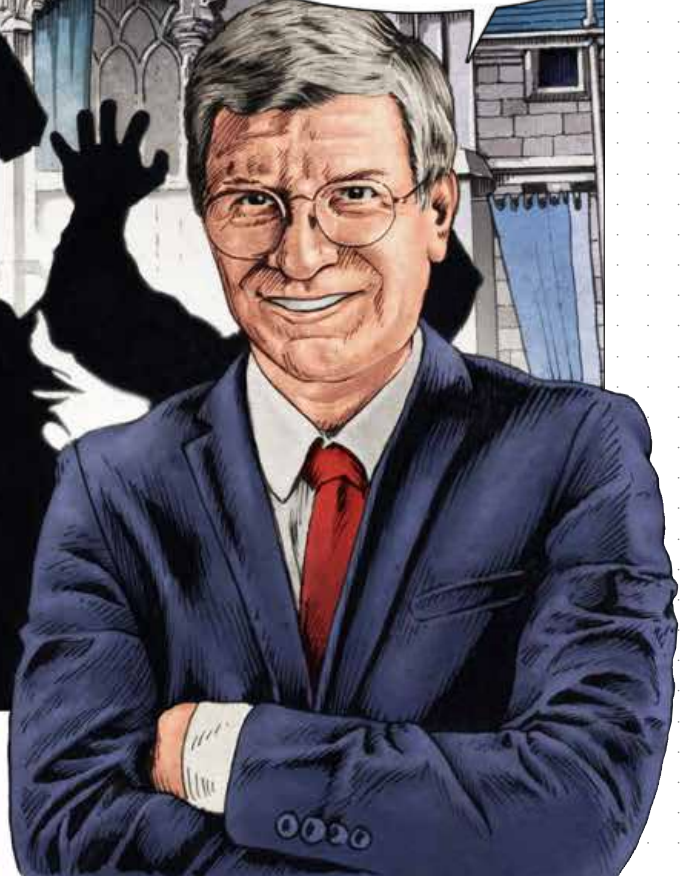
robustness

THANK YOU, PETER!

DON'T THANK ME. THANK ALL THE GREAT PEOPLE WHO WORKED FOR AND WITH MARVEL FOR THE PAST TEN YEARS!



SO ENDED THE SEVENTH ADVENTURE OF TURNAROUNDMAN, THE SECRET OF HIS POWERS STILL SHROUDED IN MYSTERY, FOLLOWING HIS SUCCESSES WITH COMPANIES SUCH AS CLAIROL AND BLACK & DECKER. MILD-MANNERED SON OF A NEW YORK CITY FIREFIGHTER AND AN EMERGENCY MEDICAL TECHNICIAN, PETER HAD STUDIED CERAMIC ENGINEERING AT ALFRED UNIVERSITY, SERVED FOUR YEARS IN THE NAVY, EARNED HIS MBA AT HARVARD BUSINESS SCHOOL AND WORKED IN BUSINESS FOR NEARLY A DECADE BEFORE HE DISCOVERED THAT HE HAD A SPECIAL GIFT FOR BRINGING COMPANIES BACK FROM THE DEAD ... BUT WHILE NO ONE KNEW WHERE HIS POWERS HAD COME FROM, PEOPLE KNEW THAT SOONER OR LATER THEY WOULD LEAD HIM TO ANOTHER BROKEN COMPANY WHERE AN INVESTOR WOULD LOOK UP FROM A RED-STAINED SPREADSHEET AND SAY, THIS LOOKS LIKE A JOB FOR TURNAROUNDMAN.



CLOSING THOUGHTS ON ...

robustness

**"What if we see
the world as it really is -
a hugely
complex,
interconnected, nonlinear
living system in
constant flux?"**

**Let's face it,
by the time you make a
brilliant plan,
the world might have
changed already."**

FREDERIC LALOUX

Author of [Reinventing Organizations](#)

→ read the full story on page 24

Wide angle



Read on for diverse insights into the wider world of business and ideas.



NO BEATING AROUND THE BUSH From coworking spaces to industry-disrupting apps, sharing is big business.

How to make "we" work

Rumors of the death of the sharing economy are proving to be much exaggerated. In reality, those in the business of "crowd-based capitalism" aren't disappearing – they're learning how to tap the market even more effectively.

BY **Geoff Poulton**

THE SPECTACULAR FALLS from grace, the disappointing IPOs, the financial struggles and the unexpected challenge of a global pandemic – after a period of meteoric growth, things have become turbulent for some of the so-called sharing economy companies. Nowhere is this more true than at WeWork. In what seemed like no time at all, the office-sharing company went from ambitious start-up to a \$50 billion global real estate giant ahead of a planned IPO in 2019. But in a matter of weeks that IPO was canceled and billions wiped off its value as a host of badly kept secrets became public knowledge: The company was hemorrhaging money and its direction was utterly at the whim of eccentric CEO Adam Neumann. The WeWork founder, whose goals included becoming the world's first trillionaire and taking WeWork to Mars, according to *The Wall Street Journal*, was leasing some of his own real estate to the company and even paying himself millions to use his "We" trademark. Hardly the spirit of sharing.

And that's an accusation that has been leveled time and again at the modern sharing economy: How much do the likes of WeWork, Uber, Airbnb or TaskRabbit really have to do with sharing? Is it sharing when a driver leases a car to provide rides



The drop in WeWork's value in Q3 2019 following its failed IPO.



How much of its global staff WeWork laid off at the end of 2019.

to paying customers? Is it sharing when real estate investors buy up private housing and turn it into holiday apartments? So, why is it called the sharing economy? The exact origin of the term is unclear, but through a combination of the media and companies themselves latching on to its positive connotations, it has persisted. "You could say it's a bit like social media – it's become the default term, even though it describes something that's quite different from the reality. That can be distracting," says Arun Sundararajan, professor at New York University's Stern School of Business and author of *The Sharing Economy*.

HUMANS HAVE ORGANIZED and shared resources such as food, tools or even money for millennia. But digital technology has enabled the concept to expand and evolve beyond face-to-face trades. In the mid-1990s, Craigslist and eBay took the donation, sale and renting of everything from furniture to entire homes online. The non-profit Couchsurfing, launched in 2004, enabled everyone to turn their living room into a hostel. Early digital sharing was eclectic, sometimes idealistic and, for the most part, niche. You would hardly have called it an economy. But that changed in the late 2000s when the global recession left many people →

seeking alternative sources of income and brought consumption and sustainability under the microscope. Widespread internet access and growing smartphone ownership enabled startups like Airbnb, Uber and Zipcar to create platforms to market underused or "shared" assets and services. With minimal overheads, they expanded rapidly.

Suddenly, owning your own car, music, films or even home – a concept so integral to the baby boomer generation – didn't seem quite so important. The alternative was leaner and greener. Giana Eckhardt, professor of marketing at Royal Holloway, University of London and co-editor of *Handbook of the Sharing Economy*, points out that this makes it more of an access than a sharing economy, although it seems too late to dispute semantics. "Consumers are paying to access someone else's goods or services for a particular period. It's an economic exchange and consumers are after utilitarian, rather than social value," she says.

ANYONE WHO'S CAUGHT A LATE-NIGHT UBER or stayed in an affordable, city-center Airbnb apartment can certainly attest to the utilitarian value the sharing economy delivers. Elsewhere, though, there are issues. In any new business sector, there are early financial winners and losers, but generating sustainable economic value seems to be a challenge some sharing economy businesses are struggling to meet – even before the coronavirus outbreak. After its problems in late 2019, WeWork laid off

"It's an economic exchange and consumers are after utilitarian, rather than social value."

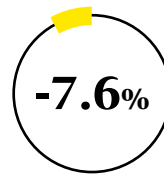
Giana Eckhardt, Professor of marketing at Royal Holloway, University of London



2,400 employees, almost 20% of its global workforce. A number of shared mobility providers have pulled bikes, cars and scooters from the roads, citing high maintenance costs and low adoption rates, while even Uber and Lyft suffered significant share price drops following their IPOs in 2019.

Has the sharing economy been getting too big for its boots? Arun Sundararajan, who favors the term "crowd-based capitalism" – "it's less catchy but more accurate" – isn't convinced. "I don't think you can blame the model per se. The ultrafast growth and overinflation that we've seen over the last couple of years is a confluence of factors: low interest rates, sovereign wealth funds seeking investment outlets and, in some cases, a desire to raise their price through breakneck expansion before going public." The fact that Uber created a \$50 billion company in just 10 years is still pretty remarkable, he says. "And while WeWork has had its problems, I think office-sharing is a legitimate business case. There's going to be a lot more contract and freelance work in the future."

Regulating that work could be tricky. It's an issue that has dogged the sharing economy, its



The drop in Uber's share price on its first day of trading on the NYSE.



The drop in Lyft's share price on its second day of trading on the NYSE, 4% below its initial offering price.

workers and policymakers in recent years. That's partly because the sharing economy is often conflated with the gig economy – where workers are only paid for the "gigs" they do, such as a car journey or food delivery, and don't receive employee benefits, such as a minimum wage, paid holiday or sick pay. The two undoubtedly overlap: Some sharing economy companies serve as platforms for gig workers like drivers or handymen. On the other hand, Airbnb, for example, offers a totally different type of service. "The main difference is that the sharing economy is a business model and the gig economy is a labor practice," says Olivia Knight, chair of Sharing Economy UK, a trade body. "It's an important distinction."

Depending on who it is you ask, this type of employment may be called flexible and empowering or a form of exploitation with almost no workplace protection. According to Sangeet Paul Choudary, founder of Platform Thinking Labs, entrepreneur-in-residence at the INSEAD Business School and author of *Platform Scale* and *Platform Revolution*, the reality is more nuanced. The question, he says, is whether a platform enables commoditized work, like Uber, or more professional, branded work, like Upwork. "The more commoditized you are, the more likely you are to be exploited. Not necessarily because the platform wants to, but in commoditized supply, you need to centralize aspects like pricing, service and delivery. There's very little room for differentiation."

THIS IS A SERIOUS ISSUE that requires the attention of governments around the world. They now face the challenging task of regulating new activities without stifling potentially beneficial innovation. "Unfortunately, there's a tendency for all tech-related businesses to be lumped together. Regulators have to understand the nuances," says Knight. And Choudary agrees. "There's still a lack of understanding about how these new business models really work," he says. The recent coronavirus pandemic has merely highlighted the problem, with many workers forced to either work while →

DEMANDS FOR ACCOUNTABILITY
Graffiti in Paris brings attention to reports of assault from users of Uber's platform.



"We have to move away from this obsession with consumption and individual ownership."

Olivia Knight, Chair of Sharing Economy UK

sick or stay at home with little to no access to compensation. One potential solution being considered in certain countries is to allow third parties to form unions on behalf of workers like Uber drivers and negotiate on their behalf.

As a middleman for property rather than work, Airbnb has escaped these issues, but the company faces its own challenges. Since its globalization, numerous governments have passed regulations that limit short-term rentals to keep housing free for long-term renters, rather than the more lucrative tourist market. A 2020 study by British newspaper *The Guardian* found that some parts of the UK now have one Airbnb listing for every four properties, prompting concern that the platform is depriving communities of much-needed homes.

TRUST IS A FUNDAMENTAL PART of the sharing economy. The vast majority of the transactions it facilitates take place between people who have never met. By creating a market-mediated model that includes reviews, insurance and customer service, the sharing economy is enabling more people to interact than ever before. Indeed, a 2019 report from UK market researcher Ipsos Mori says that while trust in central authority declined recently, "we still trust other people, especially online."

Interestingly, people are somewhat skeptical of perfection, however: 4.4 out of 5 is the consumer review score most likely to result in purchase; anything higher sees a slight decline in the likelihood to purchase. It's for this reason that Giana Eckhardt thinks the sharing economy needs to evolve beyond ratings as its main proxy for trust. "There's too much room for bias or incentivization to give higher scores," she says. Blockchain technology may offer a solution in future. For all the criticism that digital technology has reduced face-to-face



The percentage of US adults who used Airbnb in 2017.



The percentage of the world's total population that actively used Uber on a monthly basis in 2018.

interaction, there are sharing economy businesses helping to promote it.

Food-sharing app Olio, for example, connects neighbors and local businesses so surplus food can be shared. It currently has 1.4 million users in nearly 50 countries. "Humans have always shared things, but I think that notion became a bit lost in recent decades," says Olio co-founder Saasha Celestial-One. She believes people want to share more but aren't sure how. "We've always received incredibly positive feedback on the concept of Olio, but actually getting people to use it is challenging. Sharing with strangers can be awkward."

EARLIER THIS YEAR, sharing of any kind became near impossible. The physical distancing measures put in place by many governments to combat the coronavirus were a hammer blow to the sharing economy, almost eliminating the travel and interaction on which it thrived. A number of its protagonists really felt the sting of the crisis.

Despite this setback, the sharing economy isn't going away anytime soon. Even if it isn't all about



*THE POWER OF CONNECTION
TaskRabbit built its business on connecting neighbors, but also by seeing its San Francisco headquarters staff as a family.*



*ON THE OTHER SIDE OF THE COIN
Airbnb supporters in New York protest for the right to continue listing short-term rentals over the platform.*

sharing, the sharing economy has an important role to play in creating a sustainable global economic model. "Our whole future depends on it. If we are to reduce harmful emissions, then we have to move away from this obsession with consumption and individual ownership," says Olivia Knight. There remains plenty to resolve in the regulatory sphere, but, at its best, the sharing economy can work for people, the planet and businesses. After all, sharing needn't mean giving things away for free, Knight says. "Providing more people with access to the assets we produce will ultimately enable us to generate greater profit and value from them." ■



What NYU Stern School Professor Arun Sundararajan sees ahead for the sharing economy

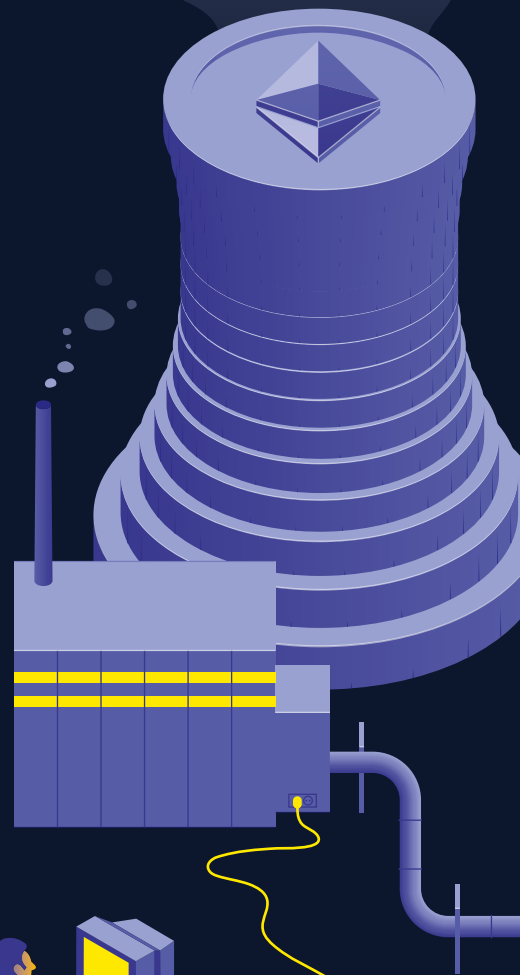
- 1** We will see a greater shift away from full-time employment. Many people will run tiny businesses on sharing economy platforms across a variety of sectors, not just driving or accommodation.
- 2** Traditional companies will also increasingly adopt platform-based work models. As this increases, it will highlight the inadequacies of the current social safety net in many countries. Governments have a role to play, but the innovation has to come from businesses.
- 3** Crowd-based models of local energy production and distribution will become more popular, particularly in Africa and Southeast Asia.
- 4** Health care will integrate sharing economy practices to deliver more independent care provision, either in person or remotely.
- 5** As more and more shopping takes place online, commercial real estate could repurpose unused space for pop-up events or coworking spaces.

CRYPTIC DAMAGE

BY **Janet Anderson**

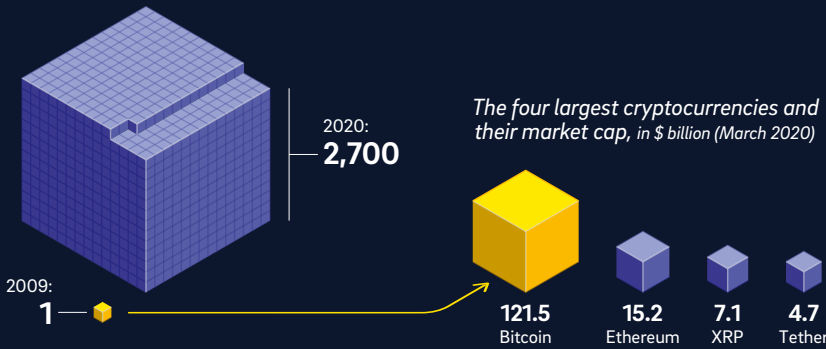
INFOGRAPHIC BY **Maximilian Nertinger**

CRYPTOCURRENCY IS UNDOUBTEDLY A TRANSFORMATIONAL TECHNOLOGY. The promise of frictionless, anonymized transactions that cut out the middleman has wide appeal. But mining – the process required to create each new block of the currency – has costs beyond those incurred by the miner. Researchers have calculated that the environmental and health damage caused to society by the vast amount of electricity miners' computers use could be as much as half the value of each coin generated. Cryptomining needs to be decarbonized – or the costs may well outweigh the benefits.



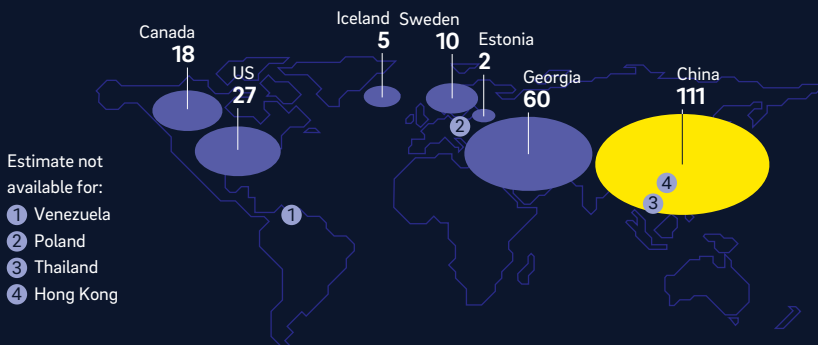
The number of cryptocurrencies is growing ...

Number of cryptocurrencies worldwide ²



... and so too is the number of miners

Largest mining sites by estimated mining power, in megawatts ³



The key factors that attract miners to a particular area include ⁴

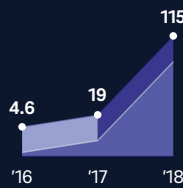
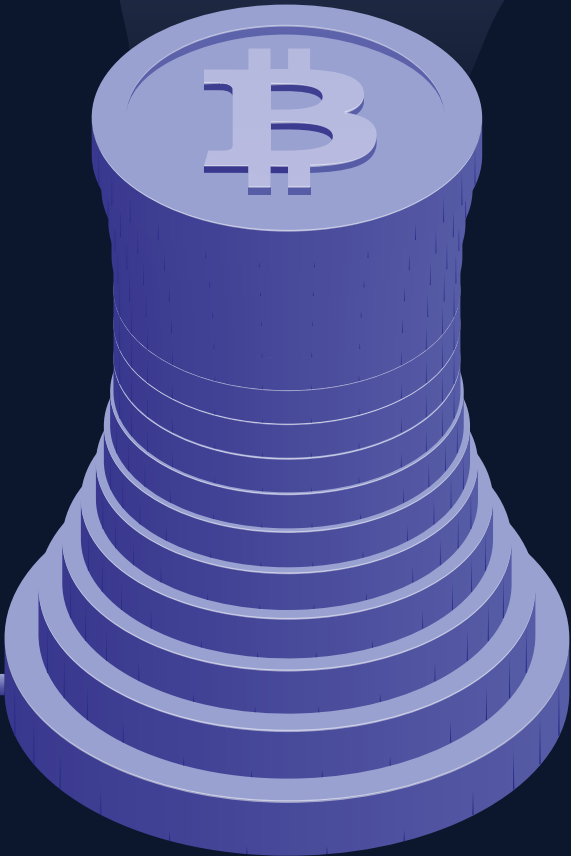
- Access to ample and low-cost electricity supply
- Friendly regulatory environment
- Stable political situation
- Good internet connectivity
- Cold climate

Calculating the health and climate damage from cryptomining: The US and China compared



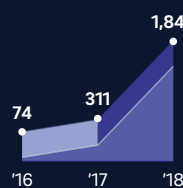
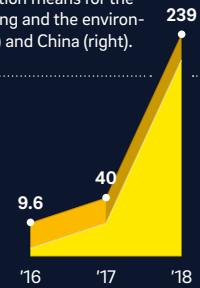
Calculating the cost ¹

Researchers devised a way to work out what cryptocurrency production means for the climate and health. This figure shows the cost of damage to well-being and the environment expressed as a share of Bitcoin's US dollar value in the US (left) and China (right).



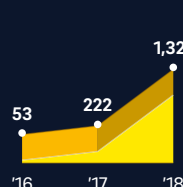
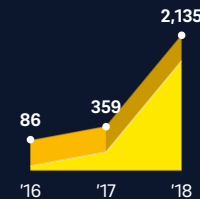
Mortality, cases per million coins

The figures show the number of premature deaths due to increased air pollution per million coins. China has more coal-fired plants and therefore higher pollution emission rates per kWh of electricity generated.



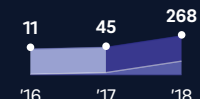
Climate damages, in \$ per coin

Climate damage in \$ per coin is calculated using the US Federal Government's social cost of carbon for 2020. The researchers took the pollution emission rates for the two countries and combined these with the kWh of electricity used per coin.



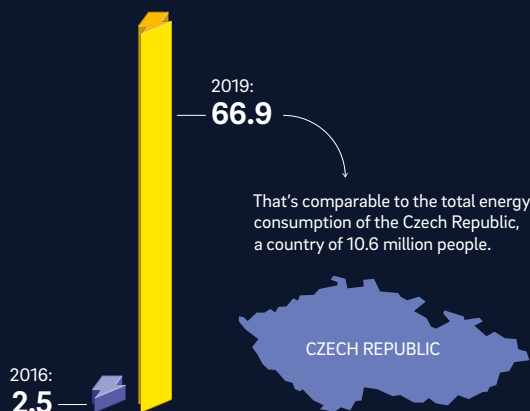
Health damages, in \$ per coin

To put a monetary figure on health damages, the researchers used the Value of Statistical Life (VSL) in each country to work out the cost in \$ of each coin in terms of premature deaths from pollution. In the US, VSL is \$11.53 million, in China it is \$1.12 million.



The energy consumed by cryptominers is increasing rapidly ...

Energy consumption for Bitcoin mining, in billion kWh ⁵



... and the reason why lies in the basic concept behind cryptocurrency



BLOCKCHAIN TECHNOLOGY

Cryptocurrencies are based on blockchain technology. Blocks of digital information record batches of transactions in a peer-to-peer network of computers.



PROOF OF WORK

The probability of being successful increases with the amount of computing work expended and, therefore, electricity used.



HASH IDENTIFIER

Each block has a hash identifier – a unique string of numbers and letters of a fixed size. Miners compete to be the first to generate a new hash identifier for each new block of information. Successful miners are rewarded with a unit of the currency.



MINING FARMS

It is getting harder and harder to mine a new coin, which is why much of the mining today takes place in large-scale mining farms with specialized hardware.

Sources: ¹ Cryptodamages: Monetary value estimates of the air pollution and human health impacts of cryptocurrency mining, Energy Research & Social Science 59 (2020)
² investing.com/crypto/currencies
³ bitcoinexchangeguide.com
⁴ 2nd Global Cryptoasset Benchmarking Study, University of Cambridge
⁵ vox.com – Bitcoin is an energy hog. Where is all that electricity coming from?

NOT SO CLEAR CUT
Increased connectivity
may be widening the gap
between what you see
and what's really there.



Reality check

We all think we work with possibilities and deal in realities. But what if the status quo and those solid norms we take for granted could be altered? Thinkers around the world are looking seriously at how huge networks and connectivity can conspire to change how it is that we perceive reality.

BY **Steven Poole**

PHOTOS BY **Alma Haser**

SCIENCE FACT OR SCIENCE FICTION: If you're familiar with either, then changing reality won't be an alien concept. You could imagine a miniature black hole that swallowed the Earth, or you could worry that exactly the same thing might have happened when the Large Hadron Collider was first switched on. Or you could say that the robots will take over and reduce human civilization to rubble, as they did in *The Matrix*. And as automation gathers pace, that doesn't seem so far-fetched. But regardless of how fertile your imagination, or how rooted in the science it might be, both those events would still leave the rest of the solar system intact. Reality is big. But here is a big question for you: Can reality be destroyed altogether?

In the superbly provocative short essay *A Quick Guide to Destroying Reality*, MIT Media Lab and Max Planck Institute for Human Development scholars José Balsa-Barreiro and Manuel Cebrián take us through one way to do this. Thinking a little more psychologically, they suggest there might be a way to destroy reality by simply destroying people's trust that there is a reality to be destroyed in the first place. You would start with a hierarchical society that contained knowledge-disseminating institutions, such as the medieval church or the

early modern scientific community. Then, over time, you would radically democratize that society in order to get rid of gatekeepers; you would encourage innovation in what would be labeled a "marketplace of ideas" and you would reward successful knowledge entrepreneurs with money and fame, not for the truth or accuracy of their content, but simply for the scale of its consumption by others. At the same time, you would discourage the re-creation of old knowledge-testing institutions, but keep claims and counter-claims moving at the speed of light around the world.

EVENTUALLY, TECHNOLOGY would enable you to transform the world "into a limitless, shapeless network of connectivity that links society: Everyone can connect (and disconnect) with everyone without anybody's permission, and as such, no collective understanding of the world is needed." Old sites of authority – and the physical infrastructure that supported them – will fall into disuse and eventually a general state of "panic" will arise in which economic uncertainty is joined by existential uncertainty: We no longer know who we are or what we believe. "Trust in reality vanishes over time," the essay concludes, "and the only models of the future are dystopian ideations, losing →



1982's *Blade Runner* tells of a dystopian future in which 'replicant' robots call into question what it means to be human.



The first robot given legal personhood, Sophia has 60 facial expressions and was activated on Feb. 14, 2016, the same day as the replicant 'Pris' in *Blade Runner's* fictional tale.

all hope." The black comedy of this how-to guide is, of course, that all this has already happened.

In the age of social media, disinformation and supermediated "content" replaces careful reading and analysis of texts. We love *The Hunger Games* but have a harder time believing in utopias. Or even drawing mildly positive visions of the future. "*Elysium*, *The Matrix*, *The Road*, *Mad Max*, *Children of Men*, *The Handmaid's Tale*, *Blade Runner* – we are absolutely unable to imagine a future that is not dystopian," Cebrián says now. "And that is with the best minds at it. We think the reason is that the trend towards diminishing anchoring in reality is unstoppable, and the best that we can do is imagine different ways in which things will go badly."

LET US, THEN, CONTINUE TO IMAGINE how things that are already going badly might go even worse. Another very specific way of destroying reality, for example – at least in humans' minds – is to destroy any rational association between words and the things they supposedly stand for. This has been known for a long time to be a particular danger of political rhetoric. Confucius was once asked what he would do if he became ruler: He responded that he would rectify the names for things, because when words don't match their objects, social cohesion breaks down. "The thing about the gentleman," he said, "is that he is anything but casual where speech is concerned." In a totalitarian direction, this is the story of George Orwell's *1984*, in which the party slogans are "war is peace," "freedom is slavery," and "ignorance is strength."

There is hardly any shortage of examples of realities being blurred or obscured by the deliberate choice of language. Notoriously, an aide to the Bush-Cheney government of the 2000s told a reporter that, while journalists lived in "the reality-based community," his government had moved beyond such pettifogging concerns and could simply change reality as it saw fit. A more systematic tactic in this war on reality is Donald Trump's habit of referring to almost the entire media as "the fake news": For if all the news is fake, who is to say what is real? Only the authoritarian leader himself, the Big Brother figure whose mantra is that black is white and vice versa.

According to *Radical Technologies* author Adam Greenfield, "all that is necessary to 'destroy reality' is to attack its epistemic foundations – to erode the sense that we do, in fact, all inhabit roughly the same underlying physical frame of reference, a manifold in which we are all equally compelled to

ground any argument we wish to be validated by others." To illustrate anti-reality conspiriologial thinking, he tells the story of a supposedly serious magazine in his local market that promised "to teach its readers how to 'protect [themselves] from 5G and Wi-Fi' and insinuating darkly that China's emerging dominance in 5G technology may be causally linked to the outbreak of coronavirus."

Karen Douglas, professor of social psychology at the University of Kent, observes that "belief in conspiracy theories tends to be associated with generalized mistrust. Mistrust in governments and authorities, and mistrust in experts like scientists." There is also some evidence, she adds, that "boredom is also associated with belief in conspiracy theories." So if we are tired of reality as it is, we might choose not to believe in it all by ourselves.

Meanwhile, as research continues into the making of "deepfakes," video will lose the status of the ultimate determinant of truth as to whether someone really said a particular thing. Choosing which reality to believe in will become a matter of aesthetic choice rather than moral responsibility, as though we can simply opt for whatever VR (virtual reality) entertainment we fancy when getting out of bed. At the same time, corporate encouragement of "mindfulness," an attitude of acceptance and observation shorn of its too exotic Buddhist roots, can be a helpful tactic in creating a docile population that doesn't care overmuch where reality went or what is happening in it.

THE CONTINUANCE OF SOCIAL REALITY as we know it depends completely on trust: The global financial system is based on mutual confidence of the kind that broke down during the 2008 crash. Analyst Dan Davies, author of *Lying for Money*, explains that after the crisis it was decided that all interbank lending should be secured by US Treasury bonds and the job of keeping track of these bonds is the responsibility of specialized companies known as "central counterparties" or clearing houses. "So, if you want to destroy reality," he says, "you now only need to knock out half a dozen clearing houses."

This could be done either by forcing them into bankruptcy (which is tricky) or taking down their information infrastructure through cyberattack – which, Davies says, "is meant to be impossible, but I always wonder if it's really more difficult than shutting down an Iranian nuclear power plant." Or you could target the notion that US Treasury bonds themselves are as safe as, well, houses. "The whole system is based on the assumption that 'a default



In 2004, US President George W. Bush called himself a "gut player," the same year his aide said that reporters lived in a "reality-based community."



George Orwell's *1984* has become synonymous with our darkest fears about the weaponization of language to delegitimize fact.



Donald Trump is known for attacking the press, leading to a 2020 statement by the Committee to Protect Journalists that he had "dangerously undermined truth."

on US Treasuries' is literally impossible, like a kosher pig or a married bachelor," Davies says. "If you really wanted to destroy financial reality, you'd find some way of bringing into question the own-currency creditworthiness of the US."

WHAT ARE THOSE OF US WHO STILL WISH to live in the reality-based community to do? We might not personally be able to prevent a financial meltdown or continentwide cyberterror blackout – let alone a gamma ray burst from the nearby formation of a black hole. But we can perform the daily act of resistance of continuing to believe in an objective reality and attempting to sort truth from lies.

Being able to do so depends on a set of skills sometimes loosely called "critical thinking," being able to evaluate the trustworthiness of sources, weighing arguments and evidence, and so forth. "I don't think there is evidence to suggest that younger people today are worse critical thinkers," Karen Douglas argues, "but with information exchange now being much more complex, there is much more information out there for younger people to evaluate. Some psychologists believe that

Choosing which reality to believe in will become a matter of aesthetic choice rather than moral responsibility.

teaching critical thinking in schools is key to arming future generations against conspiracy theories and other forms of misinformation."

Manuel Cebrián and José Balsa-Barreiro, for their part, have created an art collective to brainstorm how to "culturally jam the current trend toward destroying reality." It is called the Spam Church and its first rule is: "If you don't see spam around you, that means that everything around you is spam." To set out to find the signal in the noise: That is one small way, at least, to preserve reality for our descendants. ■

*SLEIGHT OF HAND
Always ask who's
behind the signal
– or if it's perhaps
just noise.*



"This is the decisive decade"

She is the executive director of the best-known pressure group in the world at perhaps the most challenging point in its history. Jennifer Morgan takes some time out to talk about leadership, pressure and responsibility from her post at the helm of Greenpeace.

BY **Geoff Poulton**



JENNIFER MORGAN IS WORRIED. As we enter what some are calling the "decisive decade" for climate change, the executive director of Greenpeace International is concerned about a lack of government leadership. To make matters worse, she says, many companies are yet to fully understand the business risks it poses. After serving as the joint head of Greenpeace International for three years, Morgan is now the sole leader of the world's most renowned environmental NGO, which comprises 4,000 employees and 15,000 volunteers around the globe. In this interview, conducted shortly after she attended the January 2020 World Economic Forum in Davos, she discusses how Greenpeace combines expert knowledge and activism to make its mark, the danger of stranded assets and why we should remain optimistic about the future.

Let's start with leadership: You were in the unusual position of co-executive director until 2019. What were the advantages of sharing this position?

I found that co-leadership can make an organization smarter. Having another person on the same

1.5°C

The degree of atmospheric warming above pre-industrial levels we will see by 2040 if greenhouse emissions continue at the current rate, according to a 2018 UN/IPCC study.

\$54 trillion

The estimated mean net present value of the costs from warming in 2100, based on the UN/IPCC figures.

level to discuss decisions with can make those decisions stronger. You've thought things through together. Especially when you have two different skill sets, as Bunny [McDiarmid] and I did. It also sets a good example: If the executives are sharing leadership and sharing power, it sends a signal about the value of shared leadership across the entire organization. We're always trying to enable decisions to be made throughout the organization, as close to the ground as possible. I think shared leadership can help you do that.

It can't all have been plain sailing, though. What sort of challenges did it bring?

One of the key lessons I learned was really recognizing the difference between leadership and management. I think a lot of leadership comes from instinct, from your own personal experiences. When you have someone else sitting next to you, in the same position, it makes it more challenging. I certainly learned a lot about the difference between management and leadership. And you really have to check your ego at the door. It has to be about the mission of the organization and not about who has more visibility here or there. I think that's a key lesson that we learned over time.

You've just come back from the Davos summit. How many times have you been now?

This was my fourth time.

Has much changed there in terms of climate change and sustainability during this period?

People are certainly paying more attention to it. There's more airtime for environmental issues. But a lot of it's just talk. I don't see much real action coming out of it. And words alone aren't going to get us there.

How do the attendees – governments, big business – perceive Greenpeace?

I think there is a fair amount of respect. We are a serious organization that works with millions of people around the world. And we have activists that are out there peacefully demonstrating, so I think we're not that easy to just flick off. We released a report during Davos called *It's the Finance Sector, Stupid*, which looks at the links between finance and the fossil fuel industry. From the conversations I had with some of the CEOs, they were a bit annoyed with Greenpeace, that we were putting our finger on something. But I think that's just fine. We must have struck a nerve. →

A ROCK-SOLID STANCE Morgan raising awareness of the impact of Arctic oil drilling at a glacier in Svalbard shortly after joining Greenpeace International in 2016.



Is there anything you do to make sure Greenpeace isn't dismissed as "just" a bunch of activists?

Greenpeace is many things, including incredible in-house experts across a range of sectors. If you know the facts, if you understand how the system you're trying to change works, then it's harder to be dismissed. Because we understand exactly how things work, we understand what needs to change. I think that combination of knowledge and activism is pretty formidable when it comes together.

Is Greenpeace being taken more seriously as the issue of climate change is more widely known?

Yes. People are realizing we were right. [We] put out energy revolution scenarios years ago and we were told it was crazy how much renewable energy we said needed to come into the system. But actually, even we underestimated it slightly.

How much of a role can Greenpeace play in shaping policy or regulations?

There have been instances where Greenpeace has run campaigns on fisheries or deforestation, and companies have then sat down, negotiated with us and changed their practices. In most places, though, our role is less about negotiating the details of legislation and more about creating the political and social conditions for laws to be as ambitious as possible.

In terms of global risks, what is the main focus for Greenpeace right now?

The climate emergency is a fundamental focus because of the time frame. Science has clearly said: "This is the decisive decade." I think it's essential that everyone in and outside the financial sector understands that it is funding the extraction of fossil fuels around the world. A key priority is to have banks phase out their funding of fossil fuels and shift their investments into things like renewable energies and sustainable agricultural practices. The risk of stranded assets [equipment or resources reduced in value due to an external change, such as technology or social habits] is quite real. So, we're very focused on making it clear that the fossil fuel industry really is incredibly toxic for our health, for our climate, for our political systems.

Do you think that companies are taking this seriously enough as a business risk?

No, I don't. We've seen the effects of flooding and fires recently, what that can do to supply chains, but I don't really see companies changing what

THE NATURE OF THE JOB Morgan regularly speaks at environmental rallies, including a 2018 anti-coal demonstration in Berlin, Germany.



Jennifer Morgan

Formerly the global director of the climate program at the World Resources Institute, global climate change director at Third Generation Environmentalism and leader of the Global Climate Change Program at the WWF, Jennifer Morgan became co-executive director of Greenpeace International in 2016 and has led the NGO on her own since 2019.



they're doing. If you're an insurance company, or a bank, or you're in the fossil fuel industry, you need to really understand that it can't keep going the way that it's going. You need to start to have a managed transition of your company – from making internal combustion engine cars to electric vehicles and being more of a mobility company, for example, or being more of an energy company than an oil company. I see very few businesses showing that they've clearly understood those risks.

You don't seem very optimistic!

You can see bits of progress here and there, but on the large corporate side, no, I'm not that optimistic. I'm much more optimistic about small and medium-sized companies around the world who see the opportunity that is there. I think Europe's Green Deal, which aims to shift the EU to zero net carbon emissions by 2050, is going to be interesting. The incentives to contribute positively, rather than just paying the penalties of continuing on a business-as-usual track, will encourage innovation.

Do you think governments are shifting too much responsibility onto businesses to try and solve these issues?

I don't see very much government leadership at all right now. The Green Deal in Europe is not as bold and ambitious as we would like. As developed countries with resources to go further and faster, we think the EU should be aiming for a 65% reduction rather than a 55% reduction by 2030. We need these countries to take the lead, to give more space for developing countries to take a bit longer.



"When people understand what's at stake, they will be willing to change because they see what's on the line."

be pretty upset. You've got massive deforestation in Brazil, coal companies involved in corruption in Indonesia. I think it would make a difference.

Do you think it's going to take a generational shift in terms of the people in power, the people running these companies?

I think so. I mean, who out of the next generation will even want to work for a fossil fuel company? How socially acceptable is it to act like that? We're just on the cusp of getting younger people into leadership positions now, people from a generation that doesn't just understand it, but is actually quite scared of what their future looks like. But I really hope we don't have to wait for a whole generational change of leadership, because we just don't have time. I hope that the current leadership can hear the voices of youth.

With that in mind – how optimistic should we be about the future?

Oh! I think we should be ... No, I think we have to be optimistic. But I think how optimistic we are will depend on how much we engage in the next couple of years. I'm optimistic because I believe in the integrity of the human spirit. When people understand what's at stake, they will be willing to change because they see what's on the line, if not for themselves and their neighbors, then at least for their children. Watching what's happened in the last year, that makes me optimistic, but if people don't start engaging, if governments and corporations don't start taking that responsibility, then my optimism wanes. ■

But I think the scope of it, and the transition that's included, is a step in the right direction and that's very important. In general, though, governments are shortsighted. It's not like governments are really pushing it to corporates. In fact, big business has a huge influence on laws and regulations ... and companies are mostly interested in short-term profit. We live in a system that has very strong vested interests, so it really requires governments to step above that, to look across the whole series of risks that are there and put smart policies in place.

If you could change one thing to generate more action against climate change, what would it be?

I'd get fossil fuel money out of politics.

How easy do you think that would be?

[Laughs] Well, it's different in different countries but if people really understood how much influence these companies have in policies, they would

90%

The amount by which the use of coal as an electricity source would have to drop by 2050 to limit warming to 1.5°C by 2100.

\$372 billion

The annual amount spent around the world on government subsidies for fossil fuels according to a 2019 IISD report, more than three times what is spent on renewable projects.



Andrew McAfee

Andrew McAfee is one of only two people to be named to both the Thinkers50 and the Politico 50 lists, an honor held alongside his frequent collaborator Erik Brynjolfsson. Co-director of MIT's Initiative on the Digital Economy, he has contributed to several books as well as publications including *Harvard Business Review*, *The Economist* and *The Wall Street Journal*.



Betting on optimism

Leading digital thinker and influential author **ANDREW MCAFEE** dives into some key ideas from his latest book *More from Less* and shares how bigger business doesn't have to mean exhausting resources.

BY **Bennett Voyles**

ILLUSTRATIONS BY **Sören Kunz**

THE INSPIRATION for Andrew McAfee's new ideas came from an essay by American environmental scientist Jesse Ausubel. It points out that the US was using fewer natural resources even as the economy and population continued to grow. The idea seemed so surprising to him, that he had to dig deeper. When he got under the skin of the subject, he says, he was astounded by how right Ausubel was and what this realization could mean. It resulted in his latest book, *More from Less*, which is a provocative read. Unsurprisingly, McAfee, a thought leader who is ranked joint number eight in the Thinkers50 2019 list with his usual collaborator and co-author Eric Brynjolfsson, has already contributed to a number of important

books including *The Second Machine Age* and *Machine, Platform, Crowd*. In *More from Less*, he has taken his own unique approach in assessing Ausubel's ideas giving them further treatment, however counter-intuitive it might seem.

In the introduction to your new book *More from Less*, you said you expected almost all your readers to find something that they disagreed with. Has the response been what you anticipated?

It's been essentially what I expected. When I talk about the need to add regulation to deal with pollution, people who have an extreme free market point of view don't love that. On the left, it's been a little bit surprising to me how much this half-century old set of ideas about the evils of growth persists. —>

Many people are still pretty firmly convinced that economic growth and population growth cannot be decoupled from exploiting the environment.

Assuming they're wrong and we don't have to stop growing, how should we deal with greenhouse gases?

We have a pretty well-developed playbook for dealing with air pollution: Change the polluting behavior by making it expensive. I don't pretend that it'll be politically easy to do that, but it's not conceptually difficult. I'm not trying to trivialize the problem of global warming at all, but I am trying to categorize it. When I think about it as caused by atmospheric pollution – greenhouse gases – conceptually finding a solution becomes pretty straightforward. We're just not doing a good job of following that playbook.

Has that playbook worked for us before?

We cleaned up the hole in the ozone layer. We also greatly reduced sulfur dioxide pollution and other kinds of particulate pollution not by forbidding people from generating electricity and driving cars but by using the price mechanism via cap-and-trade programs to make that pollution go down. That's been extremely successful at accomplishing the goals – and it was less expensive than most people originally thought.

You say this trend toward using fewer commodities has been driven by what you call "the four horsemen of the optimist": tech progress, capitalism, public awareness and responsive government. Of those four, which do you see as the wobbliest jockey right now?

Tech progress and capitalism are rolling ahead – and by capitalism I don't mean crony capitalism, I don't mean corporatism, I don't mean financialization; I'm not talking about these perversions of

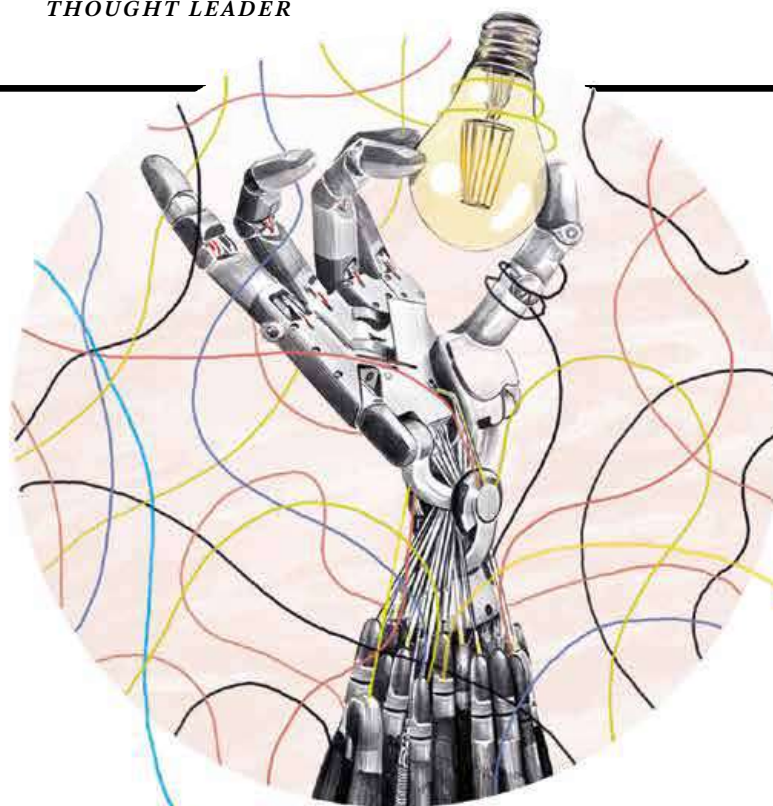
capitalism – I mean honestly authentic, intense competition among companies that causes them to fanatically try to reduce their costs. I think the bigger challenges are around the combination of an aware public and a responsive government, because it is not the case that rationality or the evidence or good science always wins. We see this with vaccines in some places. We see this with resistance to GMOs. We see this with resistance to nuclear power. We see this with the lack of a broad-based carbon tax or carbon price or carbon dividend. I think the latter two horsemen are where we need to focus our attention.

Why do you think humanity collectively knows more than ever, but we keep electing more and more maliciously ignorant, anti-science politicians?

In general these periods happen when we have deep uncertainty brought on by

tech progress – I'm thinking of the years after the Industrial Revolution, the early decades of the 20th century and this period that we're in right now. There are plenty of people who'd be justified feeling that way and they tend to correspond to the lower middle class and the middle class in the rich world – people who have not seen their incomes go up as much as other people's and who have seen some of their traditional industries and jobs go away, in many cases because of the tectonic forces of globalization and tech progress.

So there are grounds among these households and communities for discontent and resentment and a lot of uncertainty. I think it's absolutely bad for the people involved and we see that in the rise of deaths of despair. But it's also bad for society as a whole because we start electing authoritarians and populists and demagogues.



"The notion that we're going to run out of work for humans is faintly silly."

In a recent interview, you said that you thought companies are really underestimating the scale of the disruption that's on the way. What kinds of things do you see changing?

Artificial intelligence (AI) keeps demonstrating these pretty amazing capabilities in areas where we thought we human beings held the advantage and were going to keep holding the advantage. So we see that AI is really good at detecting patterns, at learning very clever strategies even in very complicated situations, at making sense of huge, huge amounts of data – and it keeps surprising us.

Did anything impress you recently?

I was surprised when a completely self-taught machine learning system sat down at a poker table with six top players playing essentially the most difficult version of [the game], no-limit Texas Hold 'em, and was the best player at the table. We really weren't expecting that. When I can apply that kind of learning power to everything from discovering new drugs to discovering new material compounds, to understanding how proteins fold to messing with or making smart tweaks to the genome, we have a lot of opportunity ahead of us. We have been chipping away at these unbelievably, staggeringly complex domains with this institution we call science and making progress on them, but I think that progress is about to be accelerated because we now have a colleague who doesn't just do the same things we do a little bit faster, it does things fundamentally differently than we do.

So chess is over, Go is over, and now poker is over – what do you think people will be best at in the long run if we have this silicon partner who's really, really good at everything?

Well, no, not everything. Computers are lousy at understanding the human

Adding up 'more from less'

1

While prosperity and populations have grown steadily since 1970, resource consumption is actually declining.

2

Profit depends on cost reduction and resources cost money. Advances in technology driven by capitalism save money by making more efficient use of the world's resources.

3

If public awareness and responsive government act to temper pollution from high economic activity, we can continue to grow while still treading lightly.



Keep an eye on the thermostat

The Earth is getting hotter, but humans are getting colder. Our priorities ahead: reducing greenhouse gas emissions and the decline of social capital driven, in part, by the concentration of economic output.

condition, at knowing how the world actually works. There's a difference between being an amazing pattern detector or an entity that can learn the rules of a given very complicated situation and understand how the entire world works, both the natural world and the human-constructed world. Computers are still terrible at that and even with exponential progress, I don't anticipate that that's going to radically change.

So there will still be good jobs, or will everything be automated?

I don't think being an entrepreneur is a job that is going to be automated. I don't think being a coach or manager is a job that's going to be automated. I don't think being a healer – as opposed to diagnostician – is a job that's going to be automated. I don't think that kindergarten teachers are going to be automated anytime soon or soccer coaches or people who provide late-in-life care. There's just tons of work to be done. We have very, very good robots now but they can't repair a bridge or fix a boiler in a school or install a solar panel in sites – they just can't do these things. The notion that we're going to run out of work for humans to do anytime soon is faintly silly to me.

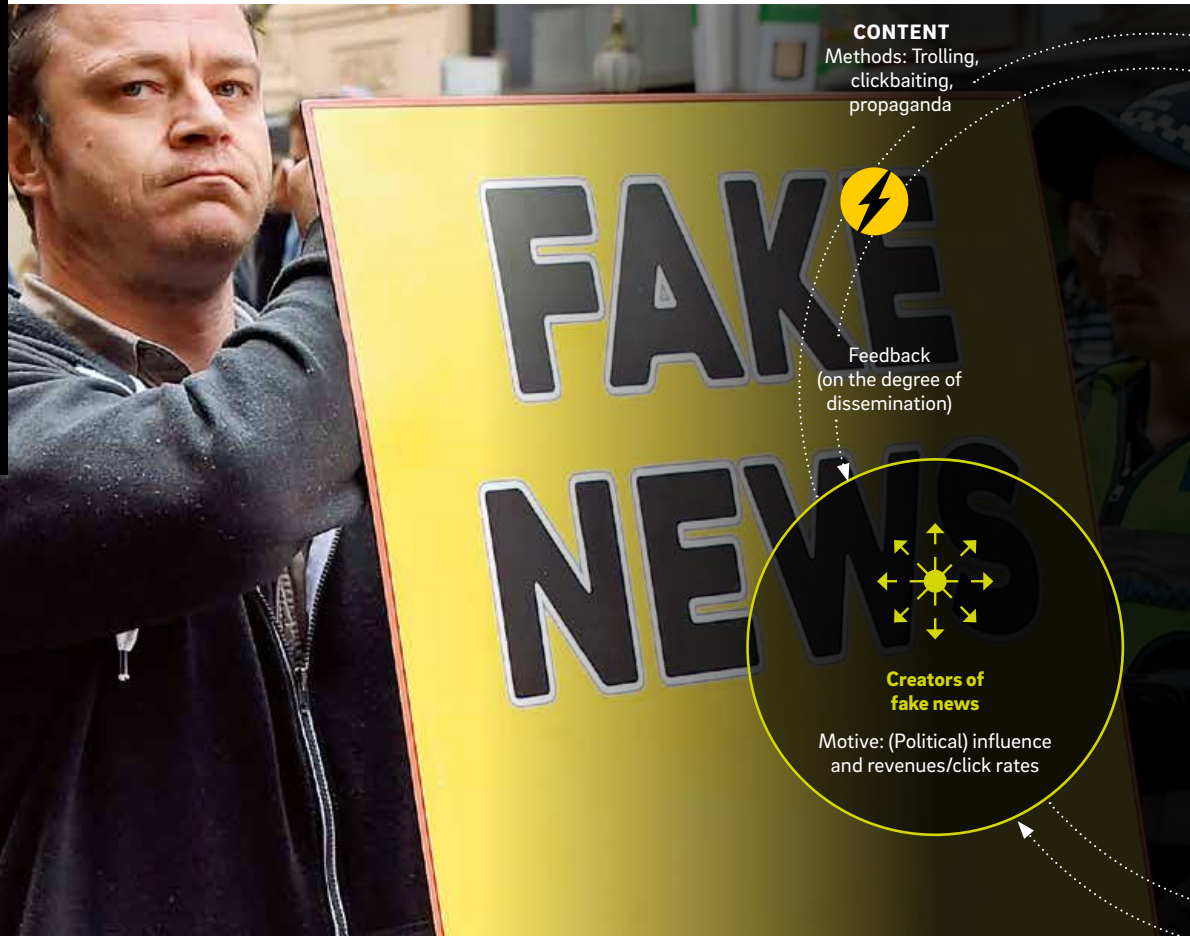
How about companies? How do you think they will stay competitive in a world where everybody has access to unlimited brainpower?

The people that know how to make the best use of that power will have an edge, in the same way that we all have essentially unlimited communication ability these days but that hasn't eroded communicating as a source of competitive advantage. It's how you use the tools. You can put 20 different carpenters in exactly the same woodshop. Even if it's an amazingly modern woodshop, it'll be very clear who the best carpenters are. ■

Deep dives



Take a deep dive and find out more in related articles and studies.



FAKE NEWS

Breaking fake news

POLITICAL DISINFORMATION seems to have found the perfect channel for reaching its target in the platform media companies, but tackling it is a tricky balancing act. Cries for rules and regulation to bring it in line find an opposite voice protecting innovation, openness and freedom of speech.

The news landscape has been riven by the massive earthquake of social media platforms. The watershed year now seems to be 2016 with the US Presidential election and the UK's Brexit vote, where public opinion seems to have been influenced by dissemination of misinformation and propaganda via the big tech platforms, Facebook, YouTube and Twitter. A toxic cycle of fake

news (see graphic) shows how information can feed profit and influence opinion. There are no easy answers about how to address the potential abuse of global mass communication through the digital platform technology, without threatening ideals of free speech as well as free expression. As Roland Berger's Global Managing Partner Stefan Schaible succinctly puts it, "Stricter rules protect users from political disinformation but can restrict freedom of expression."

Calls for regulation are nevertheless meeting with positive reactions from both the public and from politicians. But the question still remains: How could such regulation be successfully

implemented? Five guiding principles could help set the course for providing clarity in the digital sphere.

First of all, there needs to be consistent criteria and legal frameworks about how to deal with fake news and how to hold platforms accountable for its dissemination. Second, there needs to be a concerted effort to raise awareness of how online manipulation takes place. This could be done through school education programs and government information campaigns. Third, clear guidelines and regulation for political advertising that work for the digital world are vital. A fourth element is giving users more choice over what news



"Stricter rules protect users from political disinformation but can restrict freedom of expression."

STEFAN SCHAIBLE,
Global Managing
Partner

and information they receive. So much content is filtered by algorithms that make choices for the user, the balance should be redressed. Lastly, user anonymity should be carefully considered. Regardless of the calls for transparency, there are real benefits for users to be able to contribute with anonymity, not least for the inclusion of a larger diversity of voices that can speak with freedom and without fear of reprisal.

There is a balance to be struck between entrepreneurship, freedom of speech, innovation and openness – while protecting the values that allow free societies to thrive. There is everything to play for in the coming years to get that balance right.

→ **GET STRAIGHT TO THE TRUTH**

Understand the factors at play in the fight against political disinformation:
<https://rb.digital/3cmSIG3>

HYDROGEN

Cleaner than carbon?

Airlines are keen to get away from carbon – for obvious reasons – and there's an exciting fuel contender that could provide the solution: hydrogen. With water as its byproduct rather than pesky CO₂, hydrogen is hugely preferable to any fossil fuel as the greener alternative. Engineers are already eyeing hydrogen for a clean pathway for the middle of the market sector, but to launch it as a viable fuel it is going to require the allocation of resources to explore its potential. The key issue is how to produce it cleanly and in a sustainable fashion. Most hydrogen production involves CO₂-emitting processes, but it is possible to produce the gas through electrolysis, which leads to cleaner "green" hydrogen. Only a small amount of hydrogen currently produced is green, but that could change.

→ **REDUCE YOUR FOOTPRINT**

Learn more about the advancements and challenges on the path to greener aviation: <http://rb.digital/2yKKFPh>



ARTIFICIAL INTELLIGENCE

Integrating AI in the EU

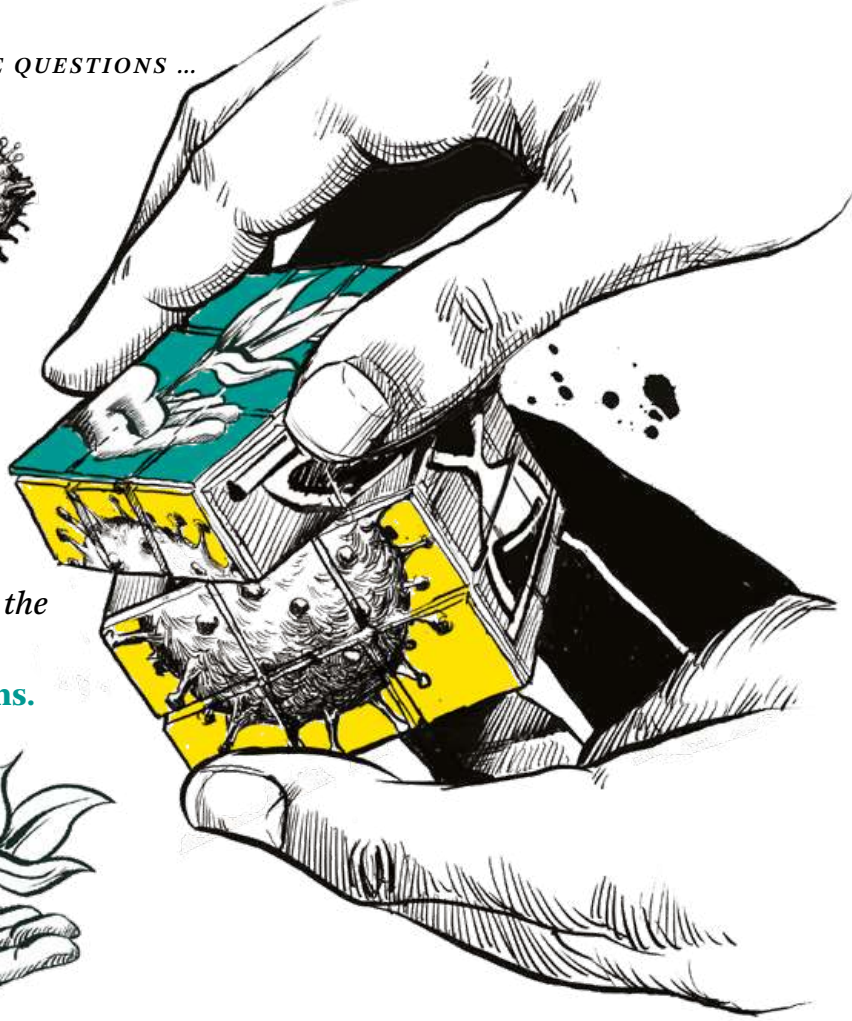
It is an EU growth industry, but the ecosystem supporting AI is at risk of being fragmented. Better integration would help it thrive, but the UK leaving the EU is a potential frustration for close cooperation. Despite this, the EU is competing in the global field and there is a wider international research vision with some collaboration with the US and China to produce papers for international journals. The number of patents also sheds light on the pace of innovation and where AI strength lies in the EU: The UK, Germany and France are jointly responsible for 51% of patents granted in the region, showing which EU countries have the axis of AI power.

→ **UNIFY YOUR APPROACH**

Read about the latest developments shaping the EU's future as a global leader in AI: <http://rb.digital/2YOIMvD>

Seeing the puzzle for the pieces

Bestselling author and upstream thinking proponent **DAN HEATH** is dedicated to boosting the performance of the metrics that matter. Here he answers three questions on **preventing problems**.



robustness



1 The whole world has been struck by a pandemic, which to some minds was preventable. Given that, what more would you add right now about the challenge of seemingly distant problems?

Upstream problem-solving: Nothing about the coronavirus crisis was unforeseeable. It was foreseen, by countless public health experts who warned us about exactly this scenario for years. So it wasn't a failure of foresight: We blew the preparations. Julie Pavlin, an expert on infectious diseases, told me that disaster response follows a cycle of "crisis and neglect." We react frantically to a crisis, and then when it's out of the news, our attention lapses. We can't afford to fall into that trap again. We need to shift some of our resources from solving today's problems to tomorrow's problems.

Dan Heath is the author *Upstream* and co-author with his brother Chip of bestselling books *Switch* and *The Power of Moments*.

2 Is it better first to surround a problem, or to immerse yourself in it to get ahead of it and solve it quickly?

You've got to do both. Rockford, the first US city to end veteran homelessness, got closer to the problem by compiling a census, a "by-name list." They stopped asking, "What should we do?" and started asking, "How can we help Michael?" That's seeing it in more depth. But they also assembled a working group of everyone who owned part of the solution. That's surrounding the problem.

3 After the coronavirus crisis, what do you think is the most pressing area or urgent need to bring upstream thinking to?

It's climate change. We're stuck in the same dynamic: We don't lack foresight, we lack urgency. The paradox of upstream action is that we must make non-urgent problems (at least in the sense of lacking a true "deadline") feel urgent. And by the way, if anyone is feeling defeatist, don't forget that we solved the ozone hole crisis just a few decades ago. We're capable of succeeding. ■

A few of our contributors



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is a Wiesbaden-based graphic designer and illustrator. Working with an international client base of publishers, magazines and companies, he combines fine art illustration with rough lines.

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STEVEN POOLE

is the author of several books including *Rethink* and *Unspeak*. He is an essayist and critic for *The Guardian*, *The Wall Street Journal* and other publications. He lives in Limehouse, London, and is quite fond of some parts of reality.

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NIKLAS HUGHES AND ANGELA WITTCHEN

founded the Hamburg-based illustration and graphic design studio ILLU FRONT in 2017. Their guiding principle is: "Hell, we just like to draw things!"

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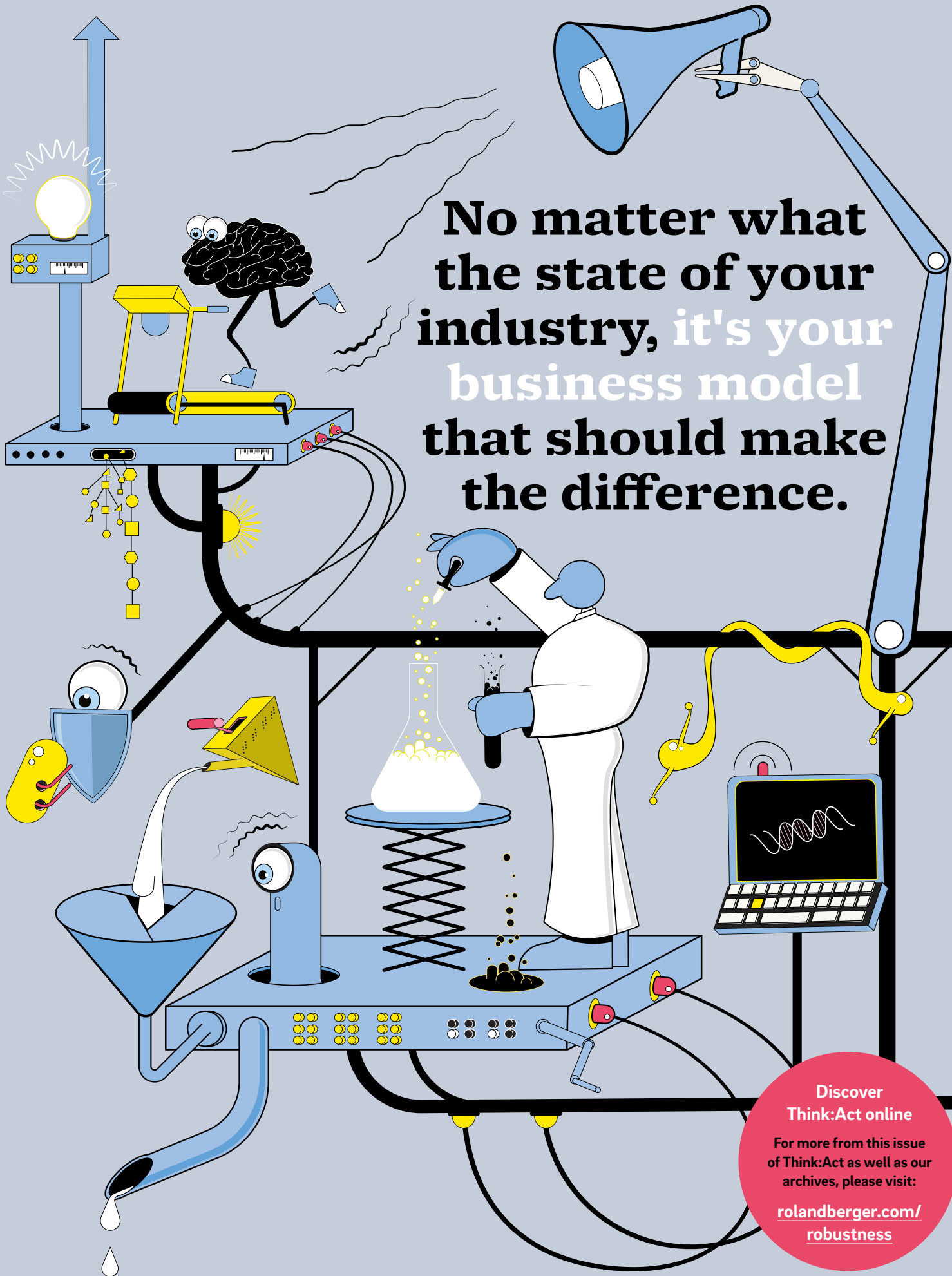
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