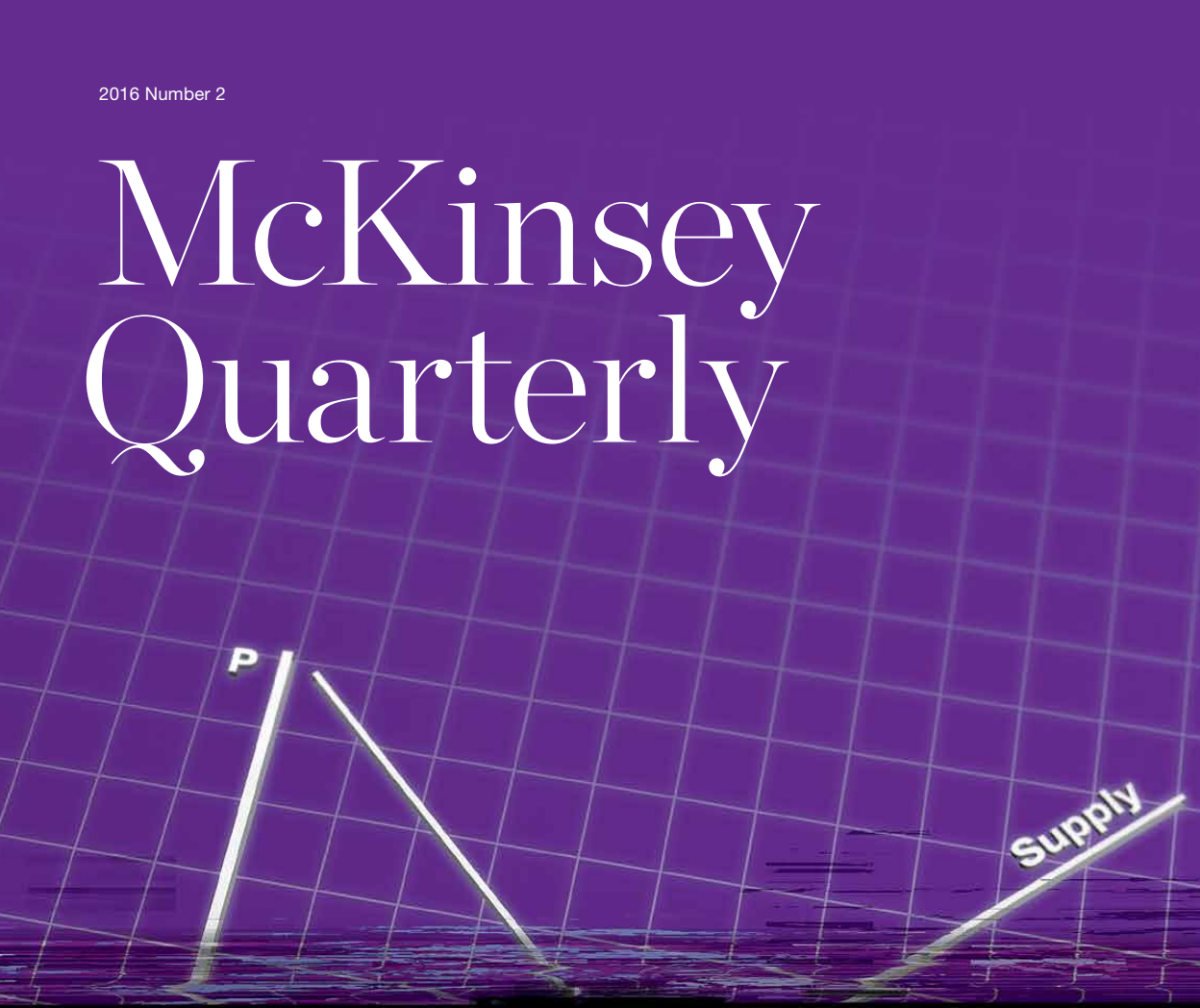
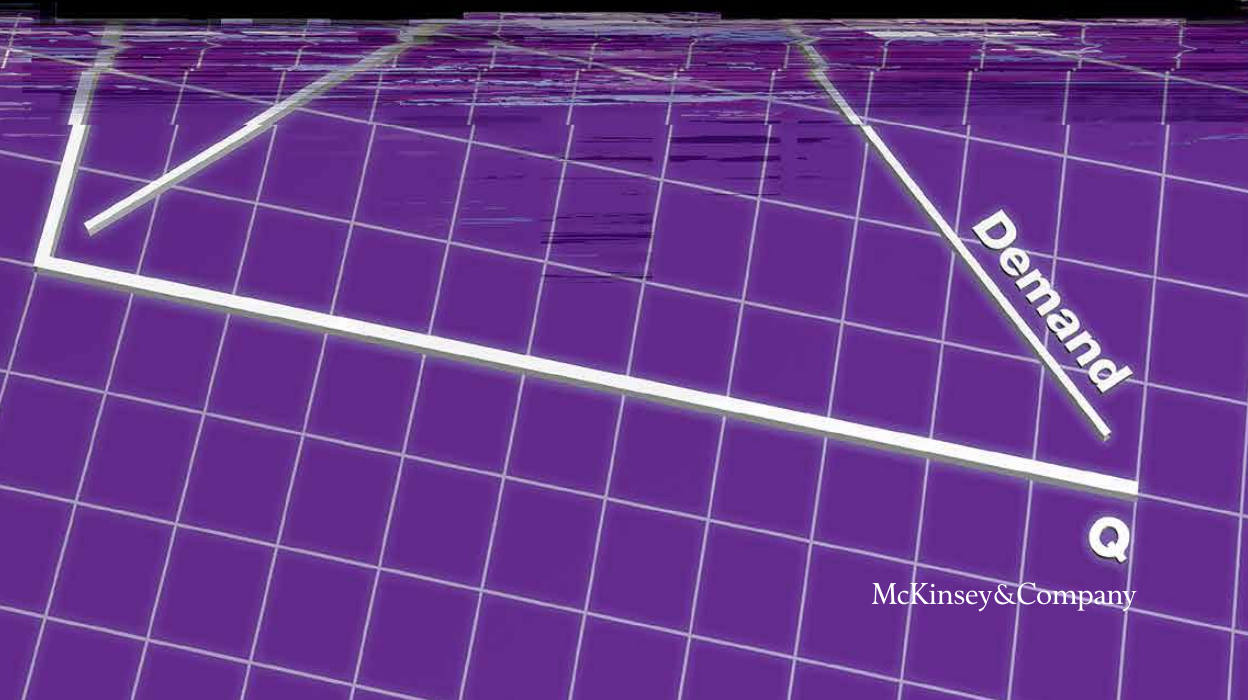
2016 Number 2

McKinsey Quarterly



DIGITAL STRATEGY
THE ECONOMICS OF DISRUPTION



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Published since 1964
by McKinsey & Company,
55 East 52nd Street,
New York, New York 10022.

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Printed in the United States
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THIS QUARTER

Digital disruption is hitting every industry at varying speeds and intensity. Executives know this, and they also recognize that time is of the essence for incumbents seeking to transform digital from a threat into an opportunity. That urgency, though, sometimes gives rise to haphazard responses, such as the one described by McKinsey director Angus Dawson in a recent McKinsey Podcast:

I was having a conversation with a client a couple of weeks ago. They went through what they were describing as their digital strategy. Having explored it a bit with them, we ended up coming to an agreement that what they had wasn't a digital strategy, it was a list of priorities for digitization. Explicitly, it was how are we going to reduce the cycle time in our end-to-end processes, how are we going to improve the customer experience and build new apps, and so forth. It was about how they digitize. It was not actually the choices they were making about a big disruptive economic force . . . The word "strategy" is used too loosely with digital to mean our priorities for digitization, not the choices we're going to make in terms of where and how we compete . . . .

Listen to the podcast with Angus and Martin Hirt, the global knowledge development leader for McKinsey's Strategy Practice, on iTunes or McKinsey.com. And read about how to make those strategic choices in this issue's cover story, where Angus, Martin, and their colleague Jay Scanlan lay out "The economic essentials of digital strategy." To get strategic about digital, they say, we need to ground it in economics, starting with the fundamentals of supply

and demand. The importance of those fundamentals is reinforced by new research from the McKinsey Global Institute, which shows that the economic impact of digital information flows is rapidly overtaking that of traditional trade in goods and services, and suggests several priorities for senior leaders seeking to exploit the resulting opportunities.

A powerful digital strategy, of course, is a necessary but not sufficient condition for success in the digital age. Truly being digital also requires transforming corporate operating models in a number of critical areas. For example, this issue of the *Quarterly* offers perspectives from McKinsey's chief learning officer Nick van Dam and two colleagues on the shift underway toward a "blended" learning model that integrates digital platforms with personal engagement. You'll find an article by three McKinsey HR experts on the role digital tools can play in upending our outdated, inefficient, and often frustrating systems for evaluating people and giving feedback on their performance. Digital communications platforms also have a powerful role to play in galvanizing support for change, say McKinsey's Tessa Basford and Bill Schaninger in, "Winning hearts and minds in the 21st century."

Integrating an effective digital strategy with a rational set of digital initiatives is a leadership challenge of the first order. "Leading in the digital age" offers wisdom on how to navigate from two seasoned business leaders and two academics. And who better than Ed Catmull, who cofounded and still leads Pixar, the company that created the world's first computer-animated feature film, to inspire the digital leaders of tomorrow? Interviewing Catmull was a treat. His management approach, which emphasizes embracing messiness, sending subtle signals, and counteracting fear, is a valuable reminder that even in the most digital organizations, people make all the difference. Q

Allen P. Webb
Editor in chief, Seattle office
McKinsey & Company

On the cover

DIGITAL STRATEGY: THE ECONOMICS OF DISRUPTION

Spotlight on disruption in banking

Features

UNLOCKING THE POWER OF PEOPLE

Features

LEADERS ON LEADERSHIP

MAKING COMPANIES HUM

Leading Edge

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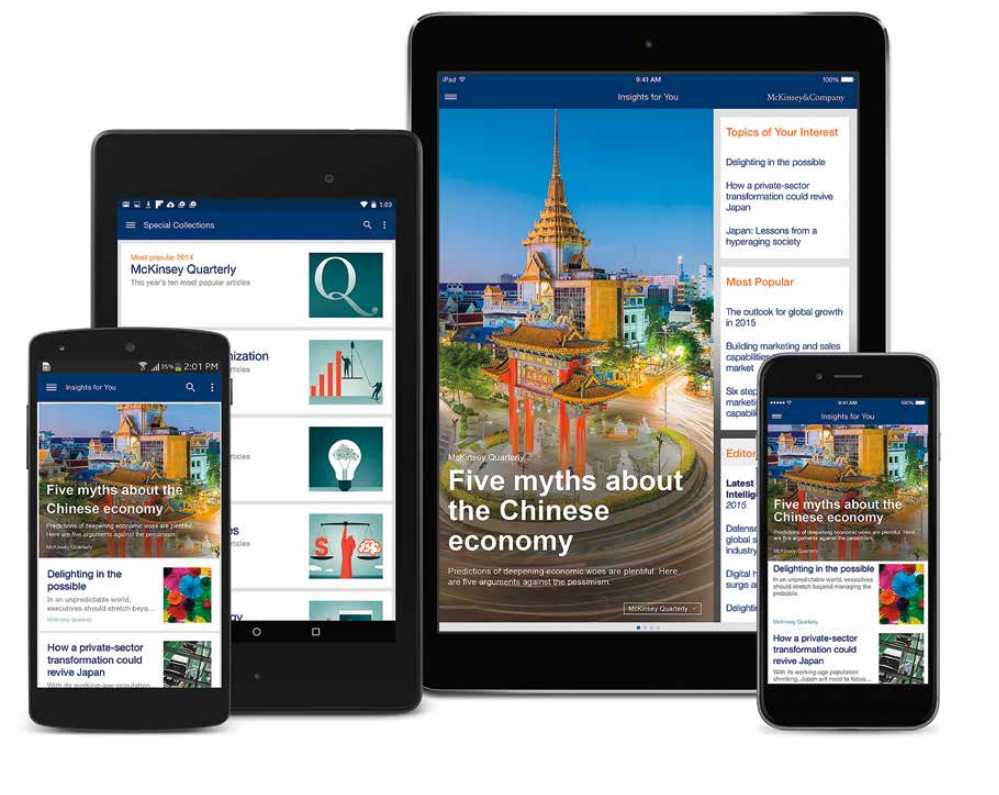

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Leading Edge

Research, trends, and emerging thinking

BREAKING DOWN THE GENDER CHALLENGE

To make meaningful progress on gender diversity, companies must move beyond the averages and focus on the biggest pain points.

by Alexis Krivkovich, Eric Kutcher, and Lareina Yee

Corporate ambitions to achieve gender parity often produce scattershot initiatives. It's easy to see why: gender parity is a huge undertaking, with many dimensions—a challenge akin to urban planning—in which executives must reimagine their "city" and culture, put multiyear building plans in place, add infrastructure, and improve services. Our latest research suggests that leaders can cut through the complexity of the task by first establishing priorities linked with their organizations' most pervasive talent-pipeline problems.

More specifically, data we collected during 2015 (in collaboration with LeanIn.org), from 30,000 employees at 118 North American companies across nine industries, show that many organizations are afflicted by one of three common pipeline pain points: women unable to enter, stuck at the middle, or locked out of the top (exhibit). Our hope is that if companies can recognize themselves in one of these patterns, they will be better able to target their gender initiatives. (For more on the overall research effort, see "Women in the workplace," on McKinsey.com, which revealed that women are less likely to advance than men, hold fewer roles leading to top management positions, and are a century away from gender parity in the C-suite if progress continues at the pace that prevailed between 2012 and 2015.)

Unable to enter

A number of sectors—especially automotive and industrial manufacturing,

energy and basic materials, and technology—are unable to attract women for entry-level positions, so women are poorly represented throughout the talent pipeline. This problem usually arises from recruiting challenges or pre-pipeline problems, particularly the low graduation rates of women in industry feeder programs such as engineering, where they receive about 20 percent, 24 percent, and 23 percent of bachelor's, master's, and doctor's degrees, respectively.[1]

The technology sector typifies these challenges. Women hold 37 percent of entry-level roles, versus 45 percent for our overall sample, and underrepresentation continues at each stage of the pipeline. Not surprisingly, 38 percent of women in technology feel that their gender will make it difficult for them to advance in the future. Sixty percent of women in technology also cite stress and pressure as their primary reason for not wanting to be a top executive. These figures are among the highest across all sectors surveyed.

Companies confronting entry-level hiring challenges can improve the health of their pipelines by making an up-front investment in the ecosystem of qualified female candidates and by focusing their efforts on achieving greater diversity in their recruitment processes. To expose the root causes of gender disparity at the pipeline's start and to suggest solutions, companies should start by asking themselves questions such as these:

- What would it take to improve pre-pipeline gender diversity, and how might we play a constructive role in that effort?
- What quantitative targets could we track to improve the gender diversity of our recruiting pipeline in a meaningful way?
- How can we maintain objective recruitment criteria while empowering hiring managers to spot and interrupt unconscious bias? As we do so, how do we make sure our lateral- and experienced-hiring programs are also gender balanced?

Leading companies today are partnering with universities to cultivate talent early. Organizations such as Girls Who Code[2] or initiatives such as TechPrep[3] (launched by Facebook) nurture talent in early education, often at points where girls abandon paths leading to STEM[4] degrees. One technology company struggling with diversity in recruiting used advanced analytics in its résumé-screening process to identify and remove gender bias. This resulted not only in a more diverse pool of talent but also in higher-quality candidates overall. Another company focused on bias training for all managers involved in recruiting, and as a result a larger proportion of women received offers.

Stuck at the middle

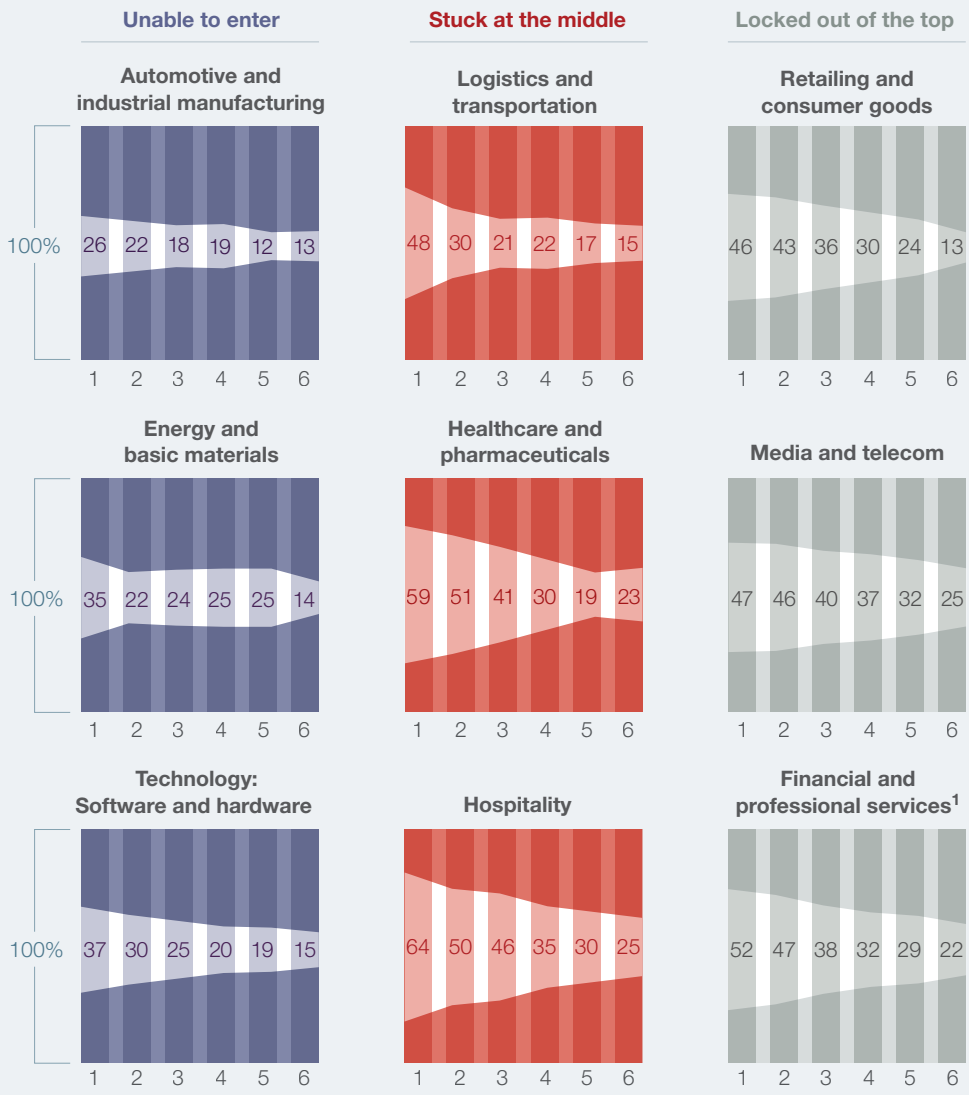
Failing to advance women into middle-management roles is a common problem. Many organizations focus considerable time and energy on achieving greater diversity in the recruiting process, perhaps starting at or close to parity for men and women in entry-level positions. Such gains, however, are often quickly eroded within the first few promotion cycles. The sectors experiencing these challenges

The challenge of advancing women into leadership roles varies considerably across industries, but three archetypes emerge.

% of women by role

Roles:

1 = Entry level
2 = Manager
3 = Senior manager/director
4 = Vice president
5 = Senior vice president
6 = C-suite



[1] Includes banking, consumer finance, and insurance.

Source: 2015 joint research by LeanIn.org and McKinsey; data collected from 30,000 employees at 118 North American companies across nine industries

most frequently include logistics and transportation, healthcare and pharmaceuticals, and hospitality.

Consider healthcare and pharmaceutical companies, for example. They start out with more women in their pipelines than companies in many other sectors do—59 percent versus 45 percent for the average in entry-level jobs—but look quite similar at the vice-presidential level. This drop-off reflects below-average middle-management promotion rates. In our sample as a whole, women were 85 percent as likely as their male counterparts to make the jump from senior manager or director to vice president, while in healthcare and pharmaceuticals the odds were just 64 percent. Of note, just 37 percent of women in healthcare and pharmaceutical companies feel they have fewer opportunities than their male coworkers do, versus 49 percent for other industries. Clearly, the middle-management cliff cannot be explained by simple causes—for instance, biased promotion practices. Questions such as the following can help companies struggling with middle-management promotions to understand why their pipeline abruptly narrows and how to unclog it:

- Which of our gender programs, if any, specifically focus on support for early-tenure women? What is the utilization rate for these programs?

- How do we ensure that we are drawing on the organization's full range of talent when making promotion decisions at the middle-management level?

- How can we avoid incorporating biases into promotion decisions and thereby ensure a level playing field?

Innovative approaches are emerging to address middle-management pipeline stoppages. With the aim of ensuring greater gender balance in the slate of candidates put up for promotion, one company we know has reworked its job descriptions and advertising approaches. Another invited third-party experts into its reviews to observe how it made promotion decisions. By cataloging readily identifiable biases, these experts were able to work with HR and managers to make promotion processes more inclusive. Simple things can make an enormous difference—for instance, ensuring that women are considered for midlevel promotions, receive feedback if they don't get the jobs, and have sponsorship and action plans helping them to build the skills needed to grow into leaders.

Locked out of the top

Companies in the third group are adept at attracting women for entry-level roles and advancing them into middle management but struggle to promote them to top-level executive positions. Sectors that suffer from this challenge most seriously include retail and consumer goods, media and telecom, and financial and professional services.

The retail and consumer-goods sector, which has a higher percentage of women in all entry- and midlevel roles than our overall sample does, is an interesting

Only 23 percent of women in the retail and consumer-goods sector feel that gender is a priority for their CEOs, compared with 35 percent for the overall sample.

case in point. The proportion of women at the top falls sharply—to 13 percent, as compared with 18 percent for our overall sample. This drop-off reflects below-average top-level promotion rates. In our sample as a whole, women were 92 percent as likely as their male counterparts to make the jump from senior vice president to the C-suite, while in retail and consumer goods the odds were far lower, at 45 percent. Not surprisingly, only 23 percent of women in this sector feel that gender is a priority for their CEOs, compared with 35 percent for the overall sample. Questions for com panies struggling to land more women in top jobs include the following:

- How can we counteract trends causing women to move away disproportionately from line roles and P&L responsibility?
- How do senior, external, and lateral hires affect our pipeline? Are they diluting gender gains?
- Which executive men and women are using—and publicly supporting—work-flexibility programs? If none have done so, which leaders would be the most effective work-flexibility champions?
- Who is sponsoring and mentoring our senior high-potential women?

We've seen leaders grapple successfully with these questions. When the top team at one company took a hard look at the numbers, executives realized they were blocking their high-potential senior women from advancing into top roles, by importing a high percentage of lateral hires, almost always men, for leadership roles. A course correction—simply applying the company's core recruiting principles and targets to external hires—helped clear the way for talented senior women.

In another recent case, a business-unit head required his entire leadership team—men and women alike—to role-model flexible-work programs visibly, even if that meant working from home only periodically. He also helped women on his management team to craft flexible work arrangements, going so far as to lure back a senior woman who had quit as a result of family concerns.

And to encourage accountability, he carefully tracked and evaluated his team's progress against gender-balance goals. Within five years, the division had improved its performance in gender equality significantly more than the rest of the company had.

Targeting pipeline blockages isn't a panacea but can be a valuable means of jump-starting progress. We hope the patterns we've described here will help companies to focus their efforts, make meaningful changes, and build momentum to deal with less visible barriers. Tackling gender issues should not be a firefighting exercise—jumping, every year, to the next thing. It takes a strategic eye to find the root causes of gender inequality and build a new kind of organization.

[1] Digest of Education Statistics, National Center for Education Statistics, March 14, 2016, nces.ed.gov.

[2] See girlswhocode.com.

[3] McKinsey was the knowledge partner for the launch of TechPrep, supporting the curation of programs and primary research on the attitudes of girls, parents, and guardians about STEM fields and computer science. See techprep.fb.com.

[4] Science, technology, engineering, and mathematics.

Alexis Krivkovich and **Lareina Yee** are principals in McKinsey's San Francisco office, and **Eric Kutcher** is a director in the Silicon Valley office.

The authors would like to thank Parul Batra, Vikram Iyer, Marie-Claude Nadeau, and Jessica Zestar-Postrk, and Katie Tripp for their valuable contributions to this article.

USING BUZZ ANALYTICS TO GAIN A PRODUCT AND MARKETING EDGE

By capturing and analyzing social-media conversations, companies can improve their offerings and margins.

by Dave Fedewa, Guillermo Lopez Velarde, and Brian O'Neill

Gaining even a slight edge in today's tightly contested, rapidly shifting product markets can help companies reap sizable gains in share and margins. In this game of inches, the required capabilities are zeroing in on what consumers really want and will pay for, unearthing chatter about product deficiencies that undercut sales, and knowing where product designs should be tweaked to shave costs. Yet doing all this at scale—over tens (if not hundreds) of product categories and hundreds (even thousands) of SKUs—confounds most consumer and retailing businesses. Quantitative and survey-laden tools, such as conjoint analysis, can help companies focus on whether their customers value specific features and on possible trade-offs among them. But companies rarely apply these time-consuming, costly exercises to a broad cross-section of products. They must often rely on best guesses.

There is, however, another avenue to gain the necessary insights: buzz analytics, which reads burgeoning signals from social media and can help companies in many industries to identify and prioritize actions across broad product lines. Buzz analytics captures consumer insights by mining the abundant and free information from online conversations, such as comments about product features on company websites and external platforms like Facebook and Twitter. It then assesses these positive and negative sentiments and converts them into meaningful metrics at the product-feature level. Companies can also run such analyses on their competitors' offerings to benchmark their strengths and weaknesses. While not rigorously scientific, this is a rapid, cost-effective way of gathering data and testing hypotheses that can guide product-design tactics and strategy.

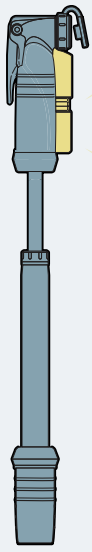
Buzz analytics has many uses. Companies can deploy it to develop insights on product features that could add value and increase market share through better pricing or better marketing and merchandizing options. It can also help them determine which features are less important to consumers and thus suitable for elimination or modification to optimize costs. In our experience, companies have successfully used buzz analytics, over a year, across a broad range of product categories and SKU variations. That's helped these companies to nudge products to leadership positions within their categories, to correct quality issues, to raise margins, and to target marketing

Adding buzz analytics to more traditional quantitative and survey-based tools can help guide product tactics and strategy.

A feature benchmark revealed that, among top competitors, Brand A's bike pump was the only one with a pressure gauge.

Analysis of buzz highlighted features that warranted more attention.

% of total buzz	
Ease of use to inflate	18
Shape or size	15
Durability	14
Weight	9
Bike attachment	9
Valve attachment	9
Price	6
Pressure gauge	5
Other	15



"Noticed gauge wasn't working . . . looks a bit delicate."

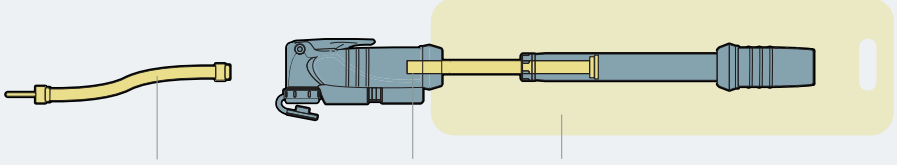
A review of comments reflected a lack of enthusiasm for the pressure gauge and overall design.

"The gauge doesn't really do anything, but I just tell people it does."

Statistical analysis of the nature and intensity of comments identified three distinct weaknesses vs competitors:

- durability
- ease of inflating tire
- unnecessary costs in the gauge

Teardowns of similar products found that competitors . . .



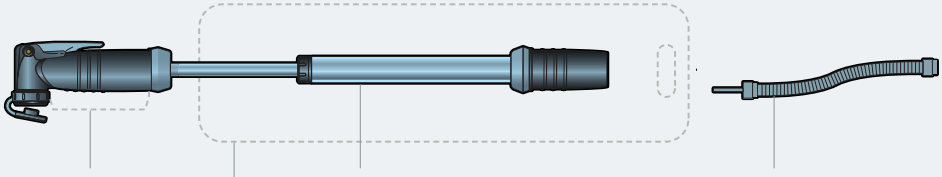
. . . had a much easier to use—though more expensive—hose-attachment feature.

. . . used steel instead of plastic for some of the moving parts.

. . . used less bulky packaging.

However, buzz analytics found no mention of packaging in comments.

These factors led to the following proposed actions.



Remove tire-pressure gauge and reduce packaging.

Use cost savings to replace plastic parts with metal parts, thereby increasing durability.

Use cost savings to make flex hose easier to use.

expenditures more effectively. The exhibit provides a visual case study on how buzz analytics suggested changes to the design and features of a bicycle pump.

Dave Fedewa is an expert principal in McKinsey's Atlanta office, where **Guillermo Lopez Velarde** is a senior expert and **Brian O'Neill** is an associate principal.

WHY FRONTLINE WORKERS ARE DISENGAGED

Executives generally overestimate their effectiveness as motivators and leaders.

by Michael Bazigos and Emily Caruso

Only three out of ten American workers feel engaged by their job, according to a Gallup Poll published in 2015.[1] Data from McKinsey's Organizational Health Index, encompassing a decade of survey results from 3 million employees at almost 1,300 organizations, offer insights into why this may be true.

Part of the problem, it seems, is that senior people have a rose-tinted view of realities on the ground. For example, a 2013 study of our OHI database showed that top managers in organizations are more positive than frontline workers about the ability of their organizations to perform over the long term. The biggest discrepancies (exhibit) concern perceptions of whether organizations have the ability to motivate their employees—to engender the enthusiasm that propels extraordinary effort and delivers great results—and assessments of whether their leaders can inspire action by others. Not surprisingly, top managers also overestimate their visibility: for example, separate McKinsey research shows that during transformations, 86 percent of senior executives believe that they are actively demonstrating the change they want employees to make, but only 53 percent of employees do.[2]

According to the Gallup research, actively disengaged employees cost the US economy between $450 billion and $550 billion in lost productivity every year. Yet McKinsey data[3] show that when employees are intrinsically motivated, they are 32 percent more committed to (and 46 percent more satisfied with) their jobs, suffer significantly less burnout than other employees do, and perform 16 percent better. Q

[1] Randall Beck and Jim Harter, "Companies are missing opportunities for growth and revenue," Gallup, April 28, 2015, gallup.com.

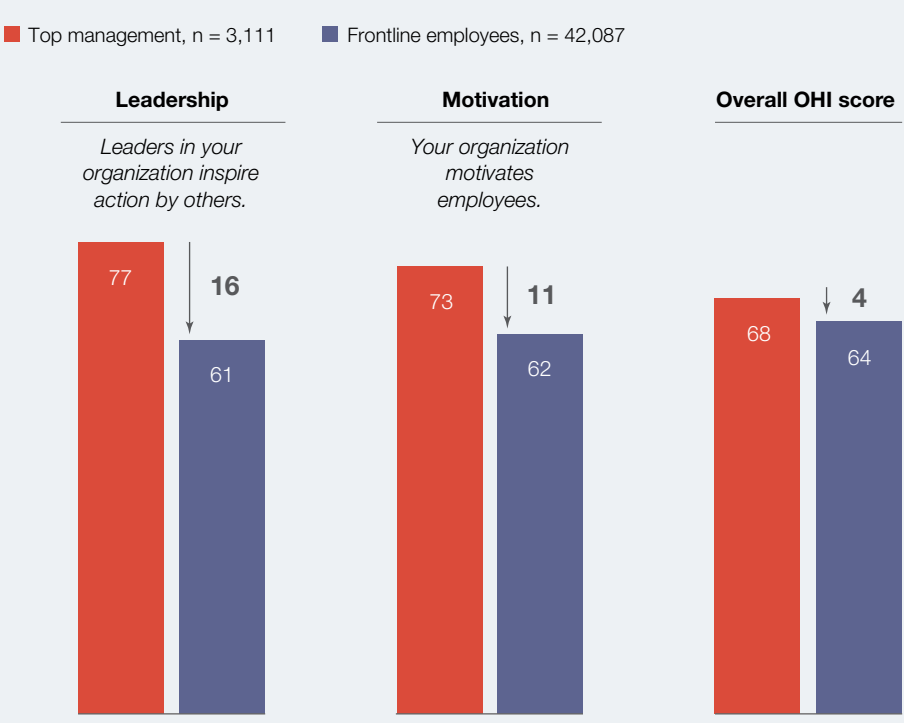
[2] McKinsey Transformational Change survey 2014, n=1,713 respondents.

[3] *The State of Human Capital 2012: False Summit: Why the Human Capital Function Still Has Far to Go*, a joint report from The Conference Board and McKinsey, October 2012.

Michael Bazigos, head of organizational science at McKinsey, is based in the firm's New York office, where **Emily Caruso** is a consultant.

Top managers rated their organizations more highly on leadership and motivation than did frontline employees.

Organizational Health Index (OHI) score[1] (based on % favorable ratings)



[1] Scores for 6,802 employees in middle management not shown.

Source: Organizational Health Index (a McKinsey Solution): 44 surveys of >52,000 managers and employees, October 2013

WHERE ACCOUNTABILITY REALLY MATTERS

Travel, transportation, and logistics companies are particularly vulnerable if they get it wrong.

by Michael Bazigos, Diana Ellsworth, and Drew Goldstein

Accountability—the ability of people to understand what is expected of them, exercise authority, and take responsibility for delivering results—is an important dimension of organizational health. Of course, some companies are better at fostering it than others.

One sector that's conspicuously weak in this respect is travel, transportation, and logistics, comprising everything from local and long-distance public-transport businesses to leisure-travel operators and logistics service providers. While each is unique, most depend on global physical networks and on large, distributed workforces.

An analysis of McKinsey's Organizational Health Index (OHI) shows that, on average, businesses in this sector score no better or worse, overall, than those in others. But they fall down in promoting accountability among their employees (exhibit).

This low score is important given the capital-intensive nature of businesses that move goods and people. Travel, transportation, and logistics companies are also often service providers. In the best, employees play important roles in reducing costs and increasing efficiency while creating a positive experience for customers and ensuring their safety. Without clear accountability, employees have difficulty rising to these challenges.

The problem is most acute in the way companies in the sector create and communicate performance goals and explicit definitions of what employees are expected to deliver. Managing performance contracts—one of four practices that contribute to accountability—is and will probably remain problematic because of the frontline-heavy and often unionized nature of travel, transportation, and logistics workforces.

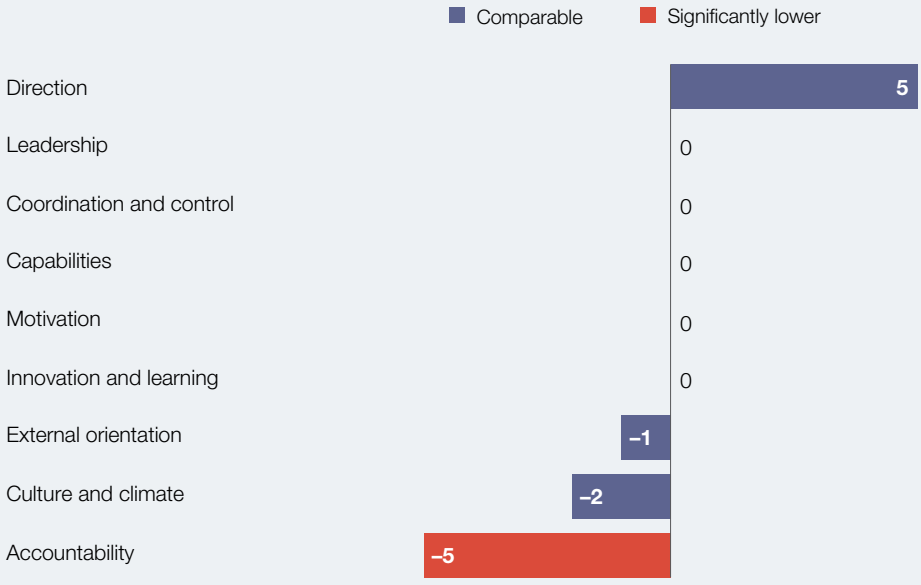
These companies (and others that share their characteristics) should therefore focus harder on the other three management practices that promote accountability: role clarity, personal ownership, and consequence management. McKinsey OHI data show that role clarity (clear organizational structures) and personal ownership (a culture of personal

Many travel, transportation, and logistics companies struggle to hold employees accountable.

Organizational Health Index (OHI) outcome

Travel, transportation, and logistics companies vs global benchmark,[1] difference in median score[2]

Thresholds for comparable or lower significance vary across outcomes.



[1] Data for travel, transportation, and logistics companies are derived from 31 surveys with 61,029 respondents; for global benchmark, 737 surveys with 1,259,322 respondents.
[2] Statistical significance is defined by differences (higher or lower) that fall outside of the 95% confidence interval for chance error.

Source: 2015 database, Organizational Health Index (a McKinsey Solution)

responsibility) are strongly correlated not only with improving accountability but also with organizational health overall.

Travel, transportation, and logistics companies that manage their assets and people in this way stand a better chance of surviving in an environment that's getting tougher. Q

Michael Bazigos, head of organizational science at McKinsey, is based in the firm's New York office, where **Drew Goldstein** is a consultant; **Diana Ellsworth** is an associate principal in the Atlanta office.

The authors wish to thank Emily Caruso for her contribution to this article.

IMPOSE CONSTRAINTS 'AND THEN LET PEOPLE LOOSE'

Leaders of India's second-largest drug maker discuss disruption, innovation, and leadership.

Dr. Reddy's Laboratories (DRL) is building an organization to match its ambition as an emerging global pharma player. In these edited extracts from longer interviews, CEO and cochairman G. V. Prasad and president and global head of human resources Dr. Chandrasekhar Sripada discuss some of their challenges.

Disruption and innovation
(G. V. Prasad)

You cannot expect people to focus on increasing market share, growth, and driving the business while also disrupting the world. So for the disrupt part, we are re-architecting our organization. We have a couple of initiatives going on—a new-ventures group, as well as someone in the US who looks at emerging technologies. We will invest in start-ups. All innovation that cannot be done internally, we have to do it externally or partner with someone or invest.

Today, innovation is either R&D or collaborative R&D outside our existing core businesses or by acquiring technology platforms. We are going to have another leg where we will focus on small companies, universities, and ideas and back people from outside and inside to build businesses.

Innovation does not mean just letting people loose. It is defining where you will be innovative and putting resources and great people there, especially in areas of original research, where you need people to apply their discretionary mind. They are not following any script—they are creating the script—so you need people who are motivated by their work.

The talent, the sandbox that you have defined, the capital, and the time you give them become the constraints under which the team innovates. Good leaders like constraints; they expect us to set these constraints and then let them loose.

Ten years from now, DRL's business model will have changed: a large part of it comes from generic drugs today, and in ten years much of it will come from innovative products. We are living in the time of great changes in digital health, genomics, and personalized medicine. The end game is making a difference in the world. For this, people need extraordinary patience.

People, leadership, and the long term
(Dr. Chandrasekhar Sripada)

In our appointment letter to every new hire, there is a line that says we understand and believe that you are not joining us just for money or the job title. We offer you a team that cares for you and professional freedom that will allow you to make an impact. We put this in to remind people that there is a higher purpose for all of us. We tell a 25-year-old that the company you are joining will do things beyond merely selling pills—we are promising good health. We are touching our people at an emotional level, and this builds a psychological contract with them.

Checking people's ability to be resilient and to avoid shortcuts is part of our process at DRL. Even in young people, we look for the ability to be emotionally intelligent and to stay the course. A lack of emotional intelligence or of tolerance for diverse opinions fosters "short-termism," which could look like achievement orientation but actually topples things.

We make a conscious effort to hire from what we call "values companies." These are not limited to the pharma business, because the companies we admire are across sectors. They inculcate habits and behavior and processes which define resilience.

Our leadership-development program is built on four pillars—leading one's self, leading others, leading the business, and leading change. In our culture, changing yourself is a license you must have before you try to change others. We do not want leaders who cannot be role models. We do not want leaders who say one thing and do something else. If you say humility is a value, then you have to look around DRL's senior leaders to believe that it truly is. It comes alive.

Over the past year and a half, we have created a critical mass of about 100 leaders in the company who share this thought. We would like to do that for at least 300 more people. If you have 400 to 500 people at the top sharing a common leadership philosophy, imagine the deep impact on the future.

It helps that we are in a long-gestation industry. Drug development and approvals take time, and there can be no shortcuts. It is important to understand that what we are seeding today is for the future and what we harvest today is a consequence of what was seeded, say, three years ago. You cannot always be in a harvesting mode or a seeding mode. The ability to balance the two is what I see happening at DRL.

For more, see "Reshaping an emerging-market giant," on McKinsey.com.

CROSS-BORDER E-COMMERCE IS LURING CHINESE SHOPPERS

Rising demand for foreign products, new platforms, and a push by the government are propelling the trend.

by Chenan Xia

As incomes have risen in China, its consumers have stepped up their purchases of imported goods. But now, impatient for the latest products and better prices, they can buy directly from foreign retailers and suppliers at the click of a mouse or the swipe of a screen. Cross-border consumer e-commerce amounted to an estimated 259 billion renminbi ($40 billion) in 2015, more than 6 percent of China's total consumer e-commerce, and it's growing at upward of 50 percent annually. The country's major e-commerce site, Alibaba's Tmall, has moved into the market with a cross-border site (Tmall Global), as have smaller consumer rivals and start-ups, while US e-commerce leader Amazon is increasingly active in China.

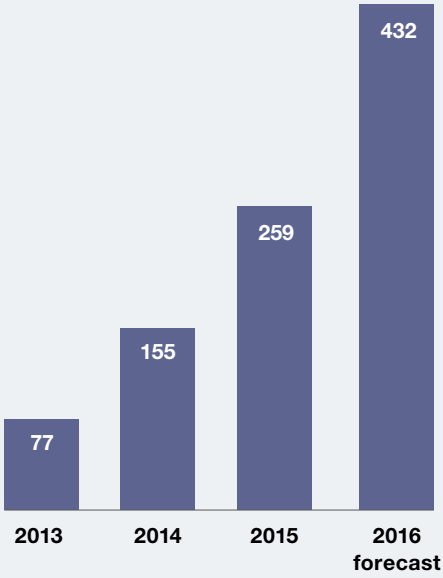
A number of factors are fueling the cross-border trend (exhibit). Chinese middle- and upper-middle-class consumers are looking to trade up to foreign clothing and gadgets not yet available in China, and they like the niche offerings that traditional "bricks or clicks" merchants rarely sell. Overseas imports purchased through such channels, moreover, are often expensive: for example, baby formula from overseas, popular with affluent Chinese parents, often costs up to twice as much as the same product in the United States or Europe. Shoppers on cross-border e-commerce sites also feel some degree of protection from fake or counterfeit goods that often pass for offshore brands, particularly in second-tier cities and rural areas.

Government action is responsible, too. In an effort to stem illegal gray-market imports, China has created a favorable postal duty of 10 to 50 percent for a large list of personal-use items—sometimes as little as half the normal one. (Duty taxes of less than 50 renminbi are typically waived.) Eight Chinese cities have established trade zones qualifying for this tax regime, with more likely to do so, and e-commerce players have moved to speed up the clearance of goods through customs. Established logistics operators are building new distribution channels to handle the expanding trade. Fengqu.com, a new e-commerce spin-off from SF Express, is one example.

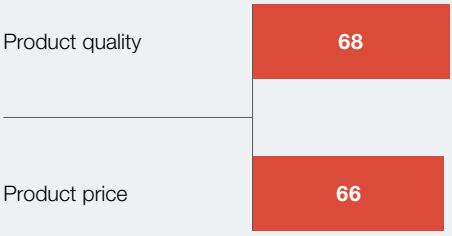
Fast growth and rising competition are spurring alliances and new strategies. Tmall Global has attracted major foreign retailers, such as US-based Costco and South Korea's Lotte Mart, to its cross-

Higher quality and lower prices are behind the rapid growth of B2C cross-border e-commerce in China.

Size of China's retail import market,
billion RMB[1]



Top two purchasing factors,
% of respondents[2]



[1] 6.475 RMB = $1.
[2] 2015 survey of online habits and consumption behavior by iResearch via iClick Community (n = 525).

Source: China e-Business Research Center; iResearch; McKinsey analysis

border site. Amazon not only recently opened its offshore shopping sites to Chinese consumers but also offers users of its Chinese site (Amazon.cn) a list of selected foreign products with Chinese-language descriptions and specifications.

Chenan Xia is a principal in McKinsey's Hong Kong office.

CHINA'S E-COMMERCE SOFT SPOT: LOGISTICS

Consumers are buying massive amounts online, but subpar operating discipline in distribution is keeping costs high.

by Alan Lau and Min Su

Thanks to China's e-commerce boom, the country's package-delivery business has been growing at 30 percent a year. On the most recent Single's Day—an online buying fest that takes place every November 11—consumers ordered 680 million packages, across all Chinese websites, that needed delivery.

That's good news with a nagging downside: growth is eroding margins for many e-commerce players as they struggle with the basics of moving so many goods. Alibaba, for example, has slated $16 billion for future logistics investments, both to increase its market reach and to improve the reliability and speed of delivery. (Alibaba owns T-mall, which sold $150 million in merchandise in just over a minute during Singles Day 2015 and ended it with more than $13 billion in total sales.)

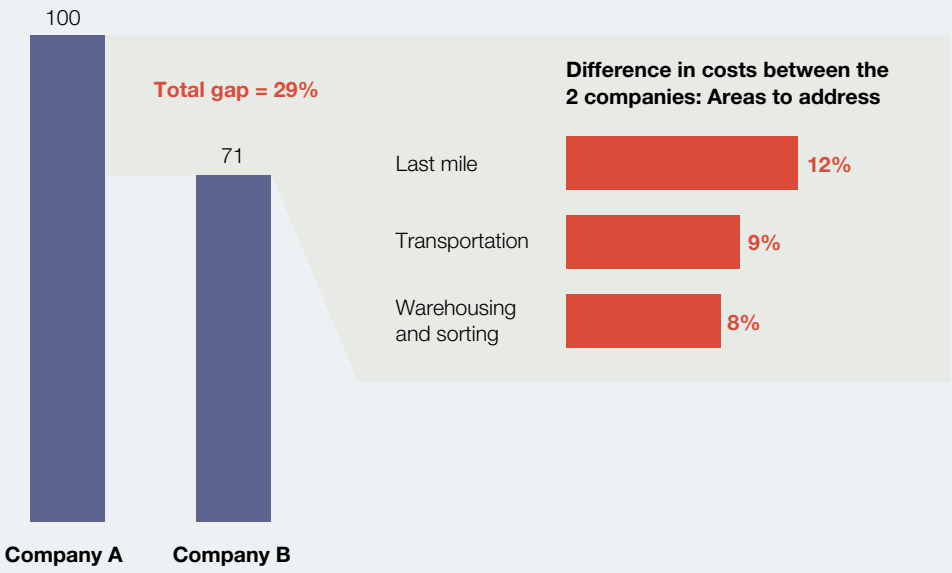
E-commerce companies are trying creative solutions, such as investing in online-to-offline business models and self-pick-up strategies, which shift more of the last-mile delivery costs to purchasers. They're also automating their warehouse operations. The results so far are mixed: McKinsey research shows wide variations in logistics costs among e-commerce players deploying similar technologies and logistics strategies (exhibit).

In our experience, companies should start with the basics: grinding out logistics gains by standardizing processes and applying lean practices all the way from the supply chain to the management of returns. Our research shows that certain improvements—such as more standardized packaging, better route planning, optimization across transportation modes, and tracking returned products—could lower logistics costs by 30 percent, without significant investments in new technology or business models. Q

Alan Lau is a director in McKinsey's Hong Kong office, and **Min Su** is a senior expert in the Shanghai office.

Logistics costs for Chinese e-commerce players vary significantly.

Logistics costs; index: total for company A = 100[1]



[1] Logistics costs for 2 players deploying similar technologies and logistics strategies; costs for administration and IT, compensation of seller, first mile, and reverse logistics were the same for each company.

Source: Expert interviews; McKinsey analysis

THE DIGITAL PRESSURES WEIGHING ON TELECOMS

Advances in communications devices and new business models are weakening the industry's hold on consumers, a survey of executives suggests.

by Jacques Bughin

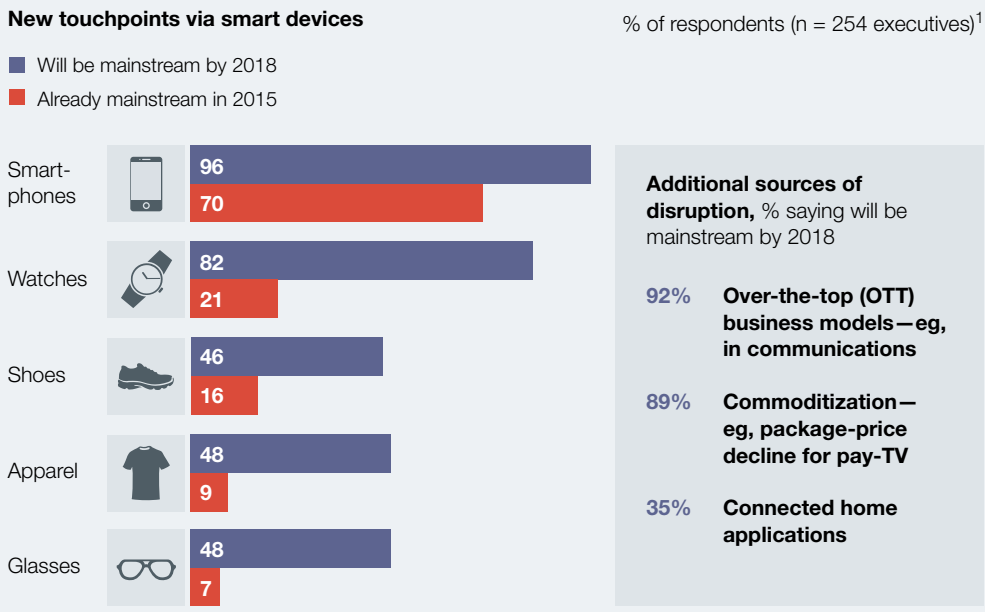
Digitization is profoundly changing the competitive boundaries of the telecom industry. Core voice and messaging businesses have continued to shrink, in part because of regulatory pressures, but also because social media has opened new communications channels beyond traditional voice service.

Today, companies face another wave of change, from new digital devices and more robust models for delivering telecom services—a point confirmed by a recent survey of 254 executives from companies representing more than a third of global revenues in telecom, media, and technology.[1] We asked the respondents about three areas of industry disruption: new consumer touchpoints created by devices based on Internet of Things technologies, over-the-top (OTT) business models that disintermediate existing communications platforms and services, and the potential of these changes to commoditize the incumbents' brand positions (exhibit).

Over the near term, respondents note a pair of challenges that will affect these companies' ability to control consumer touchpoints. A range of technologies, including those embedded in watches, apparel, and glasses, are vying to occupy the interface with telecom customers. Fortified with communications capabilities, these devices create new forms of engagement with consumers—beyond the forces unleashed by smartphones—offering location-based innovations from health monitoring to new ways of targeting ads and promotions.[2] Executives also foresee rising adoption levels for smart home technologies that measure energy usage, food consumption, the physical condition of appliances, and more, establishing new platforms for a range of services mediated by machines. Both sets of technologies open the door to new digital competitors that may take over the telecom players' direct relationships with their customers.

In parallel, survey respondents noted the continued growth of OTT business models. Sitting "atop" broadband and mobile platforms, OTT applications and software divert customers to new brands at the expense of the telecom operators. These OTT brands, such as Netflix, already garner twice the loyalty of their typical telecom counterparts (as measured by net promoter scores). Significantly, OTT could undercut the incumbents' profitable economics of bundling: single or multiple OTT apps bypass pay-TV packages and give consumers access to much longer tails of supply. (For more on the removal of

Leading executives in the telecom, media, and technology industries foresee disruption in consumer touchpoints—and beyond.



[1] From companies representing more than a third of global revenues in telecom, media, and technology.

Source: 2015 McKinsey survey at telecom conferences in London and São Paulo

supply distortions, see "The economic essentials of digital strategy," on page 32.)

For established companies, these developments suggest a potential for more commodified business models, with lower margins and rising customer churn. Ultimately, the borders of the core business space could shrink as digital competitors mass at the edges. That's creating a new urgency for novel strategic directions. One possibility: entering the fray for digital offerings, beyond telecom, to capture fresh revenue streams from advertising, financial services, or providing networks to enable the Internet of Things.

A lot is up for grabs as the boundaries between telecom and information technology continue to blur. Our survey suggests that industry leaders are well attuned to the far-reaching implications of these shifts. How to counter—or, better yet, surpass—the attackers is a bigger challenge.

[1] Executives were surveyed in 2015 at telecom conferences in London and São Paulo.

[2] Also looming are nearly limitless virtual touchpoints, where digital headsets provide screenlike and 3-D interfaces mediated by hand and eye movements. See "TED 2016: Meta augmented reality headset demoed at TED," February 2016, bbc.com.

Jacques Bughin is a director in McKinsey's Brussels office and a director of the McKinsey Global Institute.

WHY CONSTRUCTION'S PRODUCTIVITY HAS FLATLINED

The industry fails on many of the basics of good project management, but top performers show how to improve.

by Sriram Changali, Azam Mohammad, and Mark van Nieuwland

Much has been written about the improvement in worldwide manufacturing productivity, which has nearly doubled from 1995 to 2011. Less well understood is why the productivity of construction has flatlined over the same period (exhibit). In our analysis of more than $1 trillion in projects over the past five years, we found many faults, including poor risk management, a lack of communication, organizational gaps, and limited accountability. Any one of these would be a problem; combined, they create a system that's almost designed to fail. No wonder 98 percent of all megaprojects (those with a price tag of more than a billion dollars) have cost overruns of 30 percent or more; more than three quarters (77 percent) are at least 40 percent late.

Still, some companies do manage to succeed. We identified 15 practices that can help others do better. Of these, the most likely to improve onsite performance is a focus on basic project-management skills. The design-to-value or minimal-technical-solution approaches can reduce capital investments: a life-cycle perspective, for example, should contain project costs and deploy people and equipment more efficiently by linking incentives to performance. Standardizing and modularizing components can cut costs as well. Stringent management of preconstruction schedules prevents delays. And designers need to get out of the office to take into account site-specific considerations, such as terrain and climate—however obvious this might seem. To help identify potential problems, it's also important to involve the construction and procurement teams in the design phase.

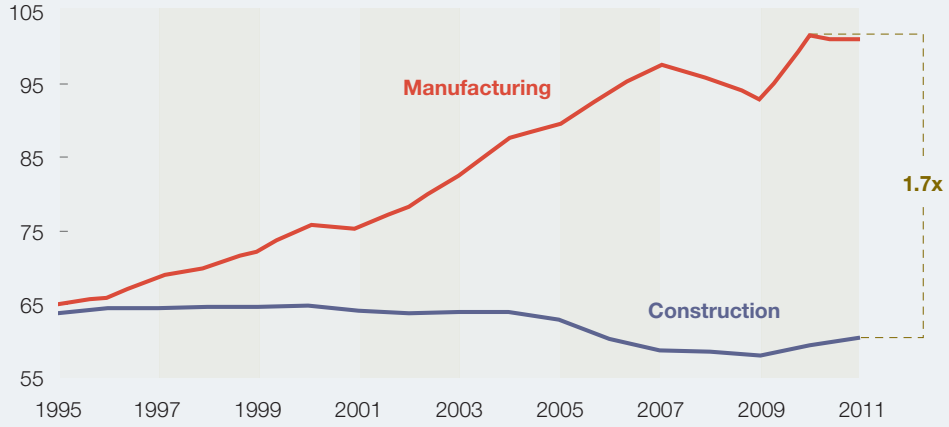
Even if construction can't reach manufacturing's productivity standards, it can improve its own, which would help more projects to move ahead and ease budgetary stress. Other sectors struggling with productivity improvements—such as education, healthcare, and public services—might find similar opportunities by examining the practices of their most productive counterparts. Q

Sriram Changali is an associate principal in McKinsey's Singapore office, where **Azam Mohammad** is a principal; **Mark van Nieuwland** is an alumnus of the Bangkok office.

The authors wish to thank Anna Joke Breimer, Jonathan Kho, Joseph Leong, Jonathan Ng, and Mrinalini Reddy for their contributions to this article and the research underlying it.

Productivity has nearly doubled in manufacturing but has remained flat in construction.

Productivity improvement over time, $ thousand per worker[1]

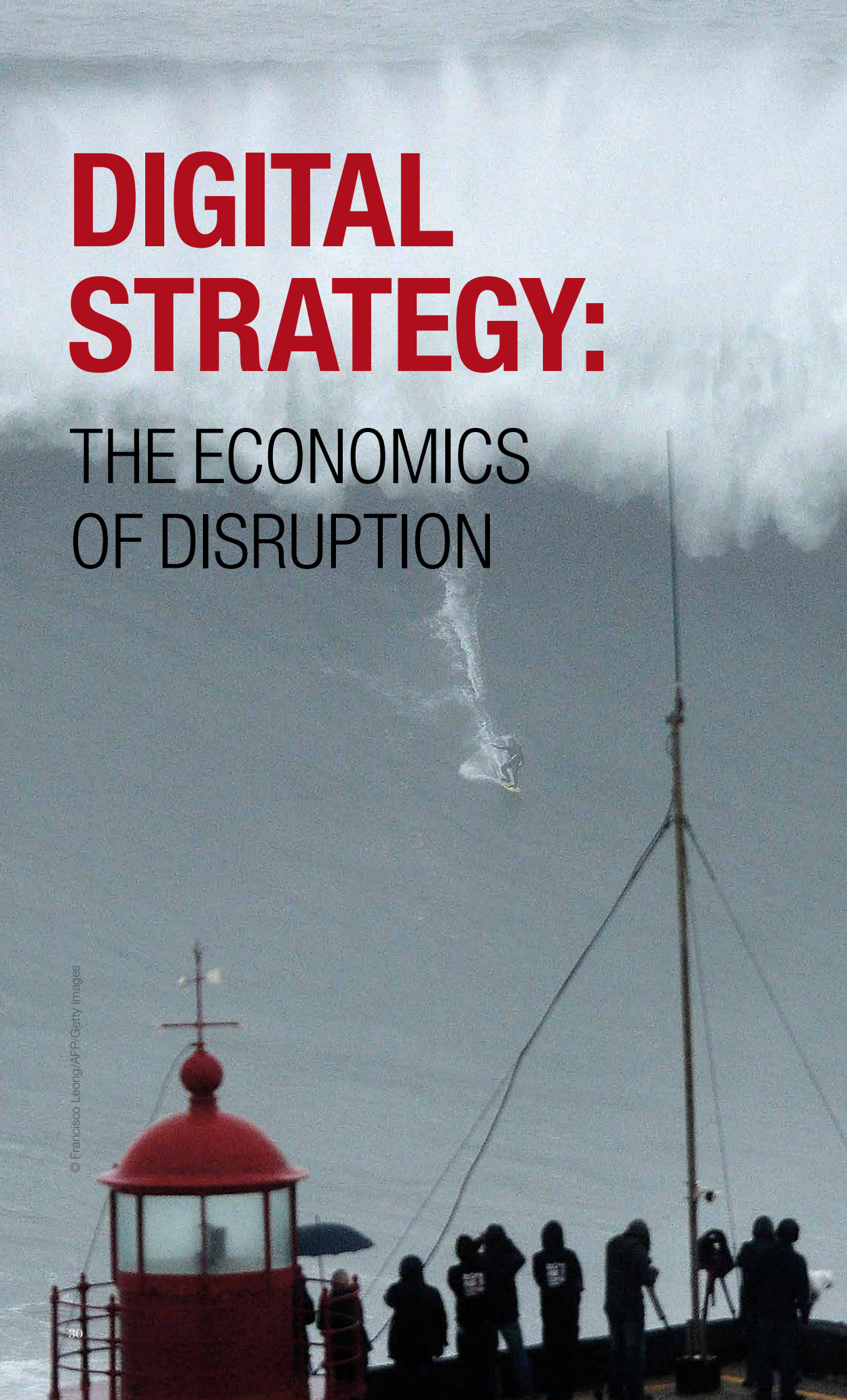


[1] Productivity = value added per worker, measured in real 2005 dollars.

Source: Expert interviews; IHS Global Insight (Belgium, France, Germany, Italy, Spain, United Kingdom, United States); World Input-Output Database

DIGITAL STRATEGY:

THE ECONOMICS OF DISRUPTION



Business leaders are in a state of heightened alert, fearful of attackers but eager to ride their own wave of digital opportunity. A smart response is to study the deeper forces of disruption, notably how digitization is changing the nature of supply and demand. Only with that understanding will winning strategies emerge.

The economic essentials of digital strategy

A supply and demand guide to digital disruption.

by Angus Dawson, Martin Hirt, and Jay Scanlan

In July 2015, during the championship round of the World Surf League's J-Bay Open, in South Africa, a great white shark attacked Australian surfing star Mick Fanning. Right before the attack, Fanning said later, he had the eerie feeling that "something was behind me".[1] Then he turned and saw the fin.

Thankfully, Fanning was unharmed. But the incident reverberated in the surfing world, whose denizens face not only the danger of loss of limb or life from sharks—surfers account for nearly half of all shark victims—but also the uncomfortable, even terrifying feeling that can accompany unseen perils.

Just two years earlier, off the coast of Nazaré, Portugal,

[1] "Full story: Mick Fanning shark attack," *Surfing Magazine*, July 19, 2015, surfingmagazine.com.

Brazilian surfer Carlos Burle rode what, unofficially, at least, ranks as the largest wave in history. He is a member of a small group of people who, backed by board shapers and other support personnel, tackle the planet's biggest, most fearsome, and most impressive waves. Working in small teams, they are totally committed to riding them, testing the limits of human performance that extreme conditions offer. Instead of a threat of peril, they turn stormy seas into an opportunity for amazing human accomplishment.

These days, something of a mix of the fear of sharks and the thrill of big-wave surfing pervades the executive suites we visit, when the conversation turns to the threats and opportunities arising from digitization. The digitization of processes and interfaces is itself a source of worry. But the feeling of not knowing when, or from which direction, an effective attack on a business might come creates a whole different level of concern. News-making digital attackers now successfully disrupt existing business models—often far beyond the attackers' national boundaries:

- Simple (later bought by BBVA) took on big-cap banks without opening a single branch.
- A DIY investment tool from Acorns shook up the financial-advisory business.
- Snapchat got a jump on mainstream media by distributing content on a platform-as-a-service infrastructure.
- Web and mobile-based map applications broke GPS companies' hold on the personal navigation market.

No wonder many business leaders live in a heightened state of alert. Thanks to outsourced cloud infrastructure, mix-and-match technology components, and a steady flood of venture money, start-ups and established attackers can bite before their victims even see the fin. At the same time, the opportunities presented by digital disruption excite and allure. Forward-leaning companies are immersing themselves deeply in the world of the attackers, seeking to harness new technologies, and rethinking their business models—the better to catch and ride a disruptive wave of their own. But they are increasingly concerned that dealing with the shark they can see is not enough—others may lurk below the surface.

DEEPER FORCES

Consider an insurance company in which the CEO and her top team have reconvened following a recent trip to Silicon Valley, where they went to observe the forces reshaping, and potentially upending, their business. The team has seen how technology companies are exploiting data, virtualizing infrastructure, reimagining customer experiences, and seemingly injecting social features into everything. Now it is buzzing with new insights, new possibilities, and new threats.

The team's members take stock of what they've seen and who might disrupt their business. They make a list including not only many insurance start-ups but also, ominously, tech giants such as Google and Uber—companies whose driverless cars, command of data, and reimagined transportation alternatives could change the fundamentals of insurance. Soon the team has charted who needs to be monitored, what partnerships need to be pursued, and which digital initiatives need to be launched.

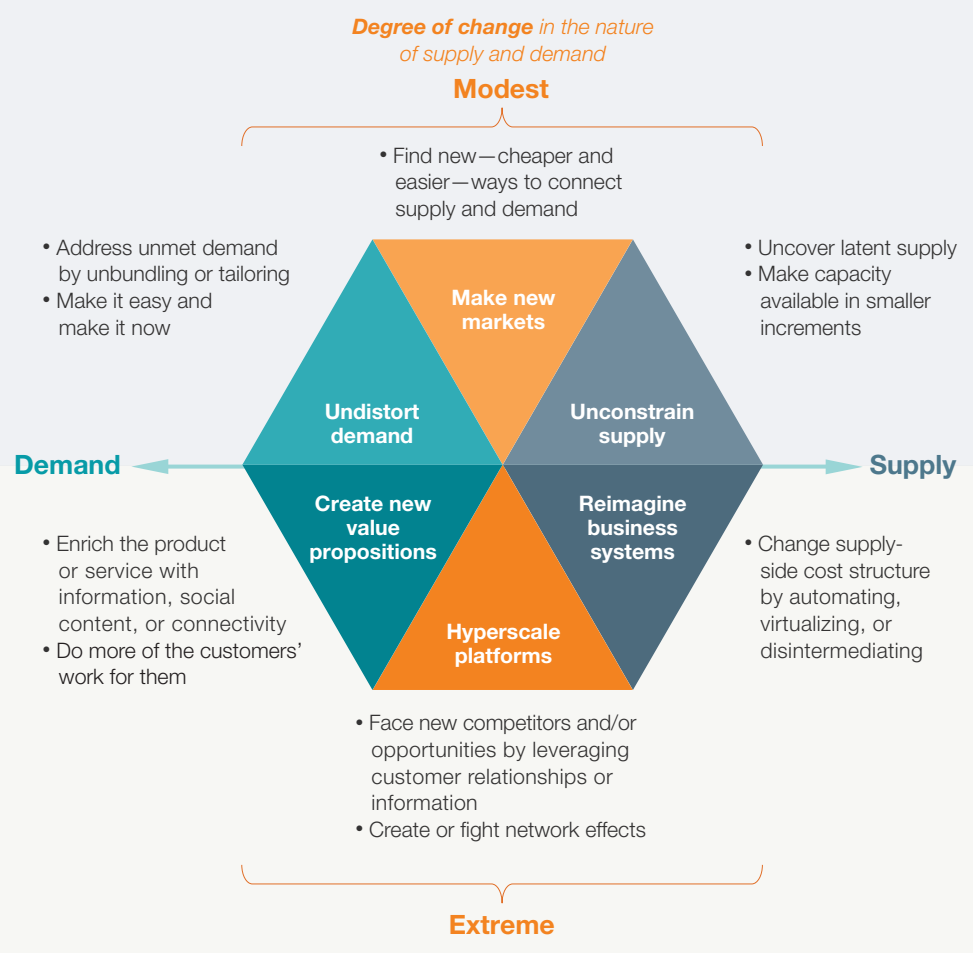
Just as the team's members begin to feel satisfied with their efforts, the CEO brings the proceedings to a halt. "Hang on," she says. "Are we sure we really understand the nature of the disruption we face? What about the next 50 start-ups and the next wave of innovations? How can we monitor them all? Don't we need to focus more on the nature of the disruption we expect to occur in our industry rather than on who the disruptors are today? I'm pretty sure most of those on our list won't be around in a decade, yet by then we will have been fundamentally disrupted. And how do we get ahead of these trends so we can be the disruptors, too?"

This discussion resembles many we hear from management teams thoughtful about digital disruption, which is pushing them to develop a view of the deeper forces behind it. An understanding of those forces, combined with solid analysis, can help explain not so much *which companies* will disrupt a business as *why*—the nature of the transformation and disruption they face rather than just the specific parties that might initiate them.

In helping executives to answer this question, we have—paradoxically, perhaps, since digital "makes everything new"—returned to the fundamentals of supply, demand, and market dynamics to clarify the sources of digital disruption and the conditions in which it occurs. We explore supply and demand across a continuum: the extent to which their underlying elements change. This approach helps reveal the two primary sources of digital transformation and disruption. The first is the making of new markets, where supply and demand change less. But in the second, the dynamics of hyperscaling plat-

Exhibit

Digitization can disrupt industries when it changes the nature of supply, demand, or both.



forms, the shifts are more profound (exhibit). Of course, these opportunities and threats aren't mutually exclusive; new entrants, disruptive attackers, and aggressive incumbents typically exploit digital dislocations in combination.

We have been working with executives to sort through their companies' situations in the digital space, separating realities from fads and identifying the threats and opportunities and the biggest digital priorities. Think of our approach as a barometer to provide an early measure of your exposure to a threat or to a window of opportunity—a way of revealing the mechanisms of digital disruption at their most fundamental. It's designed to enable leaders to structure and focus their discussions by peeling back hard-to-understand

effects into a series of discrete drivers or indicators they can track and to help indicate the level of urgency they should feel about the opportunities and threats.

We've written this article from the perspective of large, established companies worried about being attacked. But those same companies can use this framework to spot opportunities to disrupt competitors—or themselves. Strategy in the digital age is often asymmetrical, but it isn't just newcomers that can tilt the playing field to their advantage.

REALIGNING MARKETS

We usually start the discussion at the top of the framework. In the zone to the upper right, digital technology makes accessible, or "exposes," sources of supply that were previously impossible (or at least uneconomic) to provide. In the zone to the upper left, digitization removes distortions in demand, giving customers more complete information and unbundling (or, in some cases, rebundling) aspects of products and services formerly combined (or kept separate) by necessity or convenience or to increase profits.

The newly exposed supply, combined with newly undistorted demand, gives new market makers an opportunity to connect consumers and customers by lowering transaction costs while reducing information asymmetry. Airbnb has not constructed new buildings; it has brought people's spare bedrooms into the market. In the process, it uncovered consumer demand—which, as it turns out, always existed—for more variety in accommodation choices, prices, and lengths of stay. Uber, similarly, hasn't placed orders for new cars; it has brought onto the roads (and repurposed) cars that were underutilized previously, while increasing the ease of getting a ride. In both cases, though little has changed in the underlying supply and demand forces, equity-market value has shifted massively: At the time of their 2015 financing rounds, Airbnb was reported to be worth about $25 billion and Uber more than $60 billion.

Airbnb and Uber may be headline-making examples, but established organizations are also unlocking markets by reducing transaction costs and connecting supply with demand. Major League Baseball has deployed the dynamic pricing of tickets to better reflect (and connect) supply and demand in the primary market for tickets to individual games. StubHub and SeatGeek do the same thing in the secondary market for tickets to baseball games and other events.

Let's take a closer look at how this occurs.

Unmet demand and escalating expectations

Today's consumers are widely celebrated for their newly empowered behaviors. By embracing technology and connectivity, they use apps and information to find exactly what they want, as well as where and when they want it—often for the lowest price available. As they do, they start to fulfill their own previously unmet needs and wants. Music lovers might always have preferred to buy individual songs, but until the digital age they had to buy whole albums because that was the most valuable and cost-effective way for providers to distribute music. Now, of course, listeners pay Spotify a single subscription fee to listen to individual tracks to their hearts' content.

Similarly, with photos and images, consumers no longer have to get them developed and can instead process, print, and share their images instantly. They can book trips instantaneously online, thereby avoiding travel agents, and binge-watch television shows on Netflix or Amazon rather than wait a week for the next installment. In category after category, consumers are using digital technology to have their own way.

In each of these examples, technology alters not only the products and services themselves but also the way customers prefer to use them. A "purification" of demand occurs as customers address their previously unmet needs and desires—and companies uncover underserved consumers. Customers don't have to buy the whole thing for the one bit they want or to cross-subsidize other customers who are less profitable to companies.

Skyrocketing customer expectations amplify the effect. Consumers have grown to expect best-in-class user experiences from all their online and mobile interactions, as well as many offline ones. Consumer experiences with any product or service—anywhere—now shape demand in the digital world. Customers no longer compare your offerings only with those of your direct rivals; their experiences with Apple or Amazon or ESPN are the new standard. These escalating expectations, which spill over from one product or service category to another, get paired with a related mind-set: amid a growing abundance of free offerings, customers are increasingly unwilling to pay, particularly for information-intensive propositions. (This dynamic is as visible in business-to-business markets as it is in consumer ones.) In short, people are growing accustomed to having their needs fulfilled at places of their own choosing, on their own schedules, and often gratis. Can't match that? There's a good chance another company will figure out how.

What, then, are the indicators of potential disruption in this upper-left zone, as demand becomes less distorted? Your business model may be vulnerable if any of these things are true:

- Your customers have to cross-subsidize other customers.
- Your customers have to buy the whole thing for the one bit they want.
- Your customers can't get what they want where and when they want it.
- Your customers get a user experience that doesn't match global best practice.

When these indicators are present, so are opportunities for digital transformation and disruption. The mechanisms include improved search and filter tools, streamlined and user-friendly order processes, smart recommendation engines, the custom bundling of products, digitally enhanced product offerings, and new business models that transfer economic value to consumers in exchange for a bigger piece of the remaining pie. (An example of the latter is TransferWise, a London-based unicorn using peer-to-peer technology to undercut the fees banks charge to exchange money from one currency into another.)

Exposing new supply

On the supply side, digitization allows new sources to enter product and labor markets in ways that were previously harder to make available. As "software eats the world"—even in industrial markets—companies can liberate supply anywhere underutilized assets exist. Airbnb unlocked the supply of lodging. P&G uses crowdsourcing to connect with formerly unreachable sources of innovation. Amazon Web Services provides on-the-fly scalable infrastructure that reduces the need for peak capacity resources. Number26, a digital bank, replaces human labor with digital processes. In these examples and others like them, new supply becomes accessible and gets utilized closer to its maximum rate.

What are the indicators of potential disruption in this upper-right zone as companies expose previously inaccessible sources of supply? You may be vulnerable if any of the following things are true:

- Customers use the product only partially.
- Production is inelastic to price.

- Supply is utilized in a variable or unpredictable way.

- Fixed or step costs are high.

These indicators let attackers disrupt by pooling redundant capacity virtually, by digitizing physical resources or labor, and by tapping into the sharing economy.

Making a market between them

Any time previously unused supply can be connected with latent demand, market makers have an opportunity to come in and make a match, cutting into the market share of incumbents—or taking them entirely out of the equation. In fact, without the market makers, unused supply and latent demand will stay outside of the market. Wikipedia famously unleashed latent supply that was willing and elastic, even if unorganized, and unbundled the product so that you no longer had to buy 24 volumes of an encyclopedia when all you were interested in was, say, the entry on poodles. Google's AdWords lowers search costs for customers and companies by providing free search for information seekers and keyword targeting for paying advertisers. And iFixit makes providers' costs more transparent by showing teardowns of popular electronics items.

To assess the vulnerability of a given market to new kinds of market makers, you must (among other things) analyze how difficult transactions are for customers. You may be vulnerable if you have any of these:

- high information asymmetries between customers and suppliers

- high search costs

- fees and layers from intermediaries

- long lead times to complete transactions

Attackers can address these indicators through the real-time and transparent exchange of information, disintermediation, and automated transaction processing, as well as new transparency through search and comparison tools, among other approaches.

EXTREME SHIFTS

The top half of our matrix portrays the market realignment that occurs as matchmakers connect sources of new supply with newly purified demand.

The lower half of the matrix explains more extreme shifts—sometimes through new or significantly enhanced value propositions for customers, sometimes through reimagined business systems, and sometimes through hyperscale platforms at the center of entirely new value chains and ecosystems. Attacks may emerge from adjacent markets or from companies with business objectives completely different from your own, so that you become "collateral damage." The result can be not only the destruction of sizable profit pools but also the emergence of new control points for value.

Established companies relying on existing barriers to entry—such as high physical-infrastructure costs or regulatory protection—will find themselves vulnerable. User demand will change regulations, companies will find collaborative uses for expensive infrastructure, or other mechanisms of disruption will come into play.

Companies must understand a number of radical underlying shifts in the forces of supply and demand specific to each industry or ecosystem. The power of branding, for example, is being eroded by the social validation of a new entrant or by consumer scorn for an incumbent. Physical assets can be virtualized, driving the marginal cost of production toward zero. And information is being embedded in products and services, so that they themselves can be redefined.

Taken as a whole, these forces blur the boundaries and definitions of industries and make more extreme outcomes a part of the strategic calculus.

New and enhanced value propositions

As we saw in the top half of our framework, purifying supply and demand means giving customers what they always wanted but in new, more efficient ways. This isn't where the disruptive sequence ends, however. First, as markets evolve, the customers' expectations escalate. Second, companies meet those heightened expectations with new value propositions that give people what they didn't realize they wanted, and do so in ways that defy conventional wisdom about how industries make money.

Few people, for example, could have explicitly wished to have the Internet in their pockets—until advanced smartphones presented that possibility. In similar ways, many digital companies have gone beyond improving existing offerings to provide unprecedented functionality and experiences that customers soon wanted to have. Giving consumers the ability to choose their own songs and bundle their own music had the effect of undistorting demand; enabling people to share that music with everyone via social media was an

enhanced proposition consumers never asked for but quickly grew to love once they had it.

Many of these new propositions, linking the digital and physical worlds, exploit ubiquitous connectivity and the abundance of data. In fact, many advances in B2B business models rely on things like remote monitoring and machine-to-machine communication to create new ways of delivering value. Philips gives consumers apps as a digital enrichment of its physical-world lighting solutions. Google's Nest improves home thermostats. FedEx gives real-time insights on the progress of deliveries. In this lower-left zone, customers get entirely new value propositions that augment the ones they already had.

What are the indicators of potential disruption in this position on the matrix, as companies offer enhanced value propositions to deepen and advance their customers' expectations? You may be vulnerable if any of the following is true:

- Information or social media could greatly enrich your product or service.
- You offer a physical product, such as thermostats, that's not yet "connected."
- There's significant lag time between the point when customers purchase your product or service and when they receive it.
- The customer has to go and get the product—for instance, rental cars and groceries.

These factors indicate opportunities for improving the connectivity of physical devices, layering social media on top of products and services, and extending those products and services through digital features, digital or automated distribution approaches, and new delivery and distribution models.

Reimagined business systems

Delivering these new value propositions in turn requires rethinking, or reimagining, the business systems underlying them. Incumbents that have long focused on perfecting their industry value chains are often stunned to find new entrants introducing completely different ways to make money. Over the decades, for example, hard-drive makers have labored to develop ever more efficient ways to build and sell storage. Then Amazon (among others) came along and transformed storage from a product into a service, Dropbox upped the ante by offering free online storage, and suddenly an entire industry is on shaky ground, with its value structure in upheaval.

The forces present in this zone of the framework change how value chains work, enable step-change reductions in both fixed and variable costs, and help turn products into services. These approaches often transform the scalability of cost structures—driving marginal costs toward zero and, in economic terms, flattening the supply curve and shifting it downward.

Some incumbents have kept pace effectively. Liberty Mutual developed a self-service mobile app that speeds transactions for customers while lowering its own service and support costs. The *New York Times* virtualized newspapers to monetize the demand curve for consumers, provide a compelling new user experience, and reduce distribution and production costs. And Walmart and Zara have digitally integrated supply chains that create cheaper but more effective operations.

Indicators of disruption in this zone include these:

- redundant value-chain activities, such as a high number of handovers or repetitive manual work
- well-entrenched physical distribution or retail networks
- overall industry margins that are higher than those of other industries

High margins invite entry by new participants, while value-chain redundancies set the stage for removing intermediaries and going direct to customers. Digital channels and virtualized services can substitute for or reshape physical and retail networks.

Hyperscaling platforms

Apple, Tencent, and Google are blurring traditional industry definitions by spanning product categories and customer segments. Owners of such hyperscale platforms enjoy massive operating leverage from process automation, algorithms, and network effects created by the interactions of hundreds of millions, billions, or more users, customers, and devices.[2] In specific product or service markets, platform owners often have goals that are distinct from those of traditional industry players.

Moreover, their operating leverage provides an opportunity to upsell and cross-sell products and services without human intervention, and that in

[2] Michael Chui and James Manyika, "Competition at the digital edge: 'Hyperscale' businesses," *McKinsey Quarterly*, March 2015, McKinsey.com.

turn provides considerable financial advantages. Amazon's objective in introducing the Kindle was primarily to sell books and Amazon Prime subscriptions, making it much more flexible in pricing than a rival like Sony, whose focus was e-reader revenues. When incumbents fail to plan for potential moves by players outside their own ecosystems, they open themselves up to the fate of camera makers, which became collateral damage in the smartphone revolution.

Hyperscale platforms also create new barriers to entry, such as the information barrier created by GE Healthcare's platform, Centricity 360, which allows patients and third parties to collaborate in the cloud. Like Zipcar's auto-sharing service, these platforms harness first-mover and network effects. And by redefining standards, as John Deere has done with agricultural data, a platform forces the rest of an industry to integrate into a new ecosystem built around the platform itself.

What are the indicators that hyperscale platforms, and the dynamics they create, could bring disruption to your door? Look for these situations:

- Existing business models charge customers for information.
- No single, unified, and integrated set of tools governs interactions between users and suppliers in an industry.
- The potential for network effects is high.

These factors invite platform providers to lock in users and suppliers, in part by offering free access to information.

FINDING VULNERABILITIES AND OPPORTUNITIES IN YOUR BUSINESS

All of these forces and factors come together to provide a comprehensive road map for potential digital disruptions. Executives can use it to take into account everything at once—their own business, supply chain, subindustry, and broader industry, as well as the entire ecosystem and how it interacts with other ecosystems. They can then identify the full spectrum of opportunities and threats, both easily visible and more hidden.

By starting with the supply and demand fundamentals, the insurance executives mentioned earlier ended up with a more profound understanding of the nature and magnitude of the digital opportunities and threats that faced them. Since they had recognized some time ago that the cross-subsidies their business depended on would erode as aggregators made prices more and more transparent, they had invested in direct, lower-cost distribution.

Beyond those initial moves, the lower half of the framework had them thinking more fundamentally about how car ownership, driving, and customer expectations for insurance would evolve, as well as the types of competitors that would be relevant.

It seems natural that customers will expect to buy insurance only for the precise use and location of a car and no longer be content with just a discount for having it garaged. They'll expect a different rate depending on whether they're parking the car in a garage, in a secured parking station, or on a dimly lit street in an unsavory neighborhood. Rather than relying on crude demographics and a driver's history of accidents or offenses, companies will get instant feedback, through telematics, on the quality of driving.

In this world, which company has the best access to information about where a car is and how well it is driven, which could help underwrite insurance? An insurance company? A car company? Or is it consumer device makers that might know the driver's heart rate, how much sleep the driver had the previous night, and whether the driver is continually distracted by talking or texting while driving? If value accrues to superior information, car insurers will need to understand who, within and beyond the traditional insurance ecosystem, can gather and profit from the most relevant information. It's a point that can be generalized, of course. All companies, no matter in what industry, will need to look for threats—and opportunities—well beyond boundaries that once seemed secure.

Digital disruption can be a frightening game, especially when some of the players are as yet out of view. By subjecting the sources of disruption to systematic analysis solidly based on the fundamentals of supply and demand, executives can better understand the threats they confront in the digital space—and search more proactively for their own opportunities. Q

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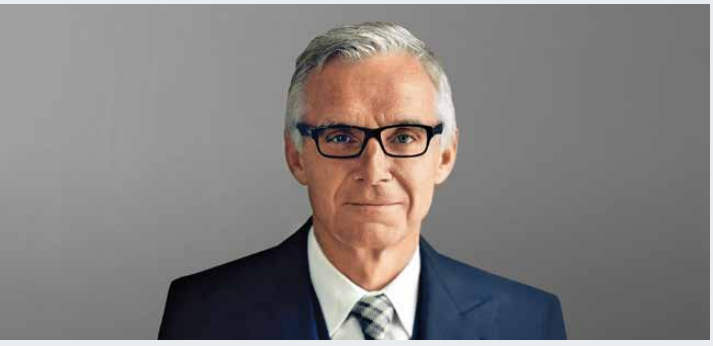
The authors would like to thank Chris Bradley, Jacques Bughin, Mike Ross, Dilip Wagle, and Chris Wigley for their valuable contributions to this article.



Why partnerships are appealing

The chairman of Credit Suisse explains how digital innovation may lead to unexpected outcomes.

by Urs Rohner

Digitization has the power to transform whole industries—not least banking, where technological innovation is among the forces behind the recent wave of profound change. Incumbents have been busy rebuilding the financial system and complying with new rules and regulations in the wake of the 2008 financial crisis. Meanwhile, fintech start-ups have moved swiftly from the sector's periphery toward its core. In 2015, global investment in fintech companies totaled nearly $20 billion,[1] confirming a continued interest within the venture-capital community and a growing appreciation among incumbents of the sector's importance (exhibit).

The process of disruption tends to have a calm beginning followed by a storm of profound change. The basic proposition is usually both simple and powerful: a previously exclusive service becomes available to a broad user base in a more customer-friendly way. Most important, it is offered for a fraction of the original price. At this point, incumbents typically either go into denial about the customer's desire for a better product or service or question the competitors' ability to generate sustained profits in a lower-margin environment.

[1] *The Pulse of Fintech, 2015 in Review*, KPMG and CB Insights, kpmg.com.

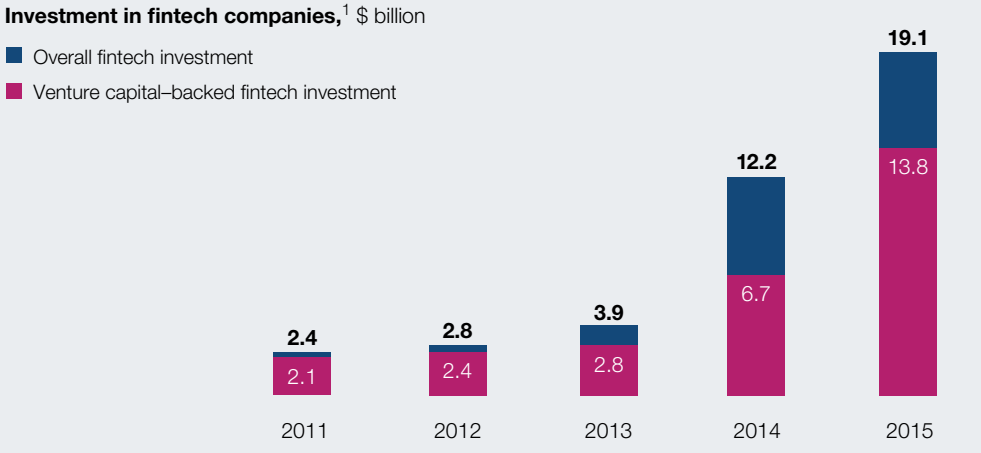
As we have seen recently in the music, photography, and mobile-phone businesses, standing back from the action can be fatal. Cautionary tales from these sectors have helped clarify the challenge for many banks. Although time will tell which of the banking sector's structures remain intact, I contend that disruption is more likely to open up new segments for partnerships between start-ups and incumbents than to usher in an era of head-to-head competition.

INNOVATION IN PAYMENTS

So far, the most significant signs of disruptive innovation in financial services have appeared in payments and lending. Traditionally dominated by a handful of established players, these two areas are now home to more than two-thirds of the world's fintechs valued at above $1 billion, also known as "unicorns." Incumbent banks, arguably, are not investing enough to retain their leading position. For reasons I will explain below, I believe the willingness and the ability of both the incumbents and the newcomers to collaborate will, to a large degree, determine each side's chances of longer-

Exhibit

Venture capital–backed fintech companies accounted for nearly three-fourths of overall fintech funding in 2015.



	2011	2012	2013	2014	2015
Number of deals	457	607	759	933	1,162
	298	397	484	587	653

[1] Fintechs are financial-services businesses, usually start-ups, that use technologically innovative apps, processes, or business models; investment data include angel/VC investors, private-equity firms, mutual funds, and corporate investors.

Source: CB Insights; *The Pulse of Fintech*, 2015 in Review; KPMG

term success. For the moment, apart from a handful of high-profile but modestly performing IPOs, acquisition by established players is probably the most attractive mode of exit for payments fintechs. But different partnership models are developing.

That's not to say the outlook for incumbents is straightforward. Consider mobile points of sale, one of the next major areas for innovation in payments. A multitude of young businesses, such as San Francisco–based Square, are developing solutions to execute and document mobile and tablet merchant payments. This is not only changing the world for small businesses and virtually all merchants in low-margin segments but also affecting the development of hardware and end-user software. Moreover, retail banks under pressure from tech providers competing for market dominance face considerable uncertainty as to which technology to invest in.

CROWD-BASED FINANCING

Just as disruptive as what's happening in payments, albeit less successful in business terms, has been crowd-based lending and financing. It's not hard to see why this space has immense innovation potential: after all, the legacy of bloated back offices and often-underinvested big data capabilities puts a major restraint on incumbent capital intermediaries. Although know-your-client provisions will probably become a bigger issue for challengers in future, LendingClub, the current market leader in peer-based lending, spends much less on credit scoring, billing, and overall compliance than established players do. But it also spends more than the average retail bank on attracting new customers and about as much as other lenders on technology.

As some banks try to reduce their balance-sheet exposure to the small- and midsize-business segment, the fintechs' lean credit-assessment approach and lending services start to look attractive. Collaboration with fintechs could become desirable. In my view, that helps explain why crowd-based fintechs have attracted substantial attention from investors, despite their failure so far to deliver meaningful profits. According to recent industry reports, lending attracted $3.6 billion of investment in 2015, and the aforementioned LendingClub raised just over $1 billion in the largest fintech IPO of 2014. The *Madden v. Midland Funding* case, though, raised a question mark over the future of certain securitization practices behind unsecured consumer loans in the United States, and LendingClub shares lost half their value and have been largely trending downward since.

We also have yet to see the impact of LendingClub's announcement that it would mimic the Federal Reserve's benchmark interest-rate decisions,

including the 0.25 percent increase from last December. Overall, I see great possibilities for companies like LendingClub—but risks too, as they must address significant business and compliance issues before they can live up to their full potential.

CHALLENGES THEY POSE, CHALLENGES THEY FACE

Besides being challengers, fintechs face several hurdles of their own. Some stem from the current hostile market environment; others are less predictable. Take the aforementioned crowdfunding space and one of its most promising areas, corporate funding. This particular segment was recently encouraged in the United States—in every respect by far the world's largest crowdfunding market—thanks in part to a decision of the Securities and Exchange Commission to let small businesses raise up to $50 million from the general public in connection with the JOBS Act.

Such mini-IPOs could be a first step toward challenging and ultimately disengaging key players in the investment-banking business. But regulators are alert to the dangers of exposing private consumers to complex risks. Germany, for example, recently introduced a law capping the ability of private investors to participate in equity crowdfunding at €10,000, on top of several income-related restrictions. Further jurisdictions may follow with similar investment constraints.

Most fintech innovators, meanwhile, would appear to enjoy the advantage of not owning a bank license. In my view, that could become a major limiting factor. For instance, consider legislation against money laundering in relation to virtual currencies, which help facilitate borderless, cost-efficient transactions. The absence of regulated intermediaries reduces the likelihood that money laundering or terrorist financing will be identified and reported.

Regulators have zero tolerance for noncompliance with rules against money laundering by anyone, licensed banks or otherwise. In 2015, for example, the fledgling crypto-currency provider Ripple was fined $700,000 by US authorities for, among other violations, failing to report suspicious transactions, and further cases are likely to follow. The recent investigations into several fraudulent peer-to-peer lending platforms in China raise further serious questions about this young business's level of regulation.

Besides regulation, innovators face other challenges. One, paradoxically, relates to their core strength: the focus on specific customer pain points. As a result, they often try to solve one—but not more than one—issue. A single-value model may be superior in itself but doesn't even come close to revealing

a client's full financial situation. For truly focused innovators, acquiring additional know-how or extending the value proposition is rarely an option. Multiservice providers, such as universal banks, may not be the innovation leaders in every piece of the value chain. But they are at an advantage in developing a comprehensive understanding of a client's situation and the capabilities required to meet the client's financial needs.

Issues like these in no way call into question the massive wave of disruptive banking innovation, which has already benefited customers and enriched the industry in countless ways. Some of the challenges the innovators face, though, are embedded deeply in their business models. They will doubtless continue to compete with banks in some areas, while relying on and working with them in others. But from my perspective, collaboration will ultimately prove an extremely promising proposition, allowing incumbents to reduce their mounting cost pressures and increase their operating efficiency, while helping the newcomers to remain a part of the big picture in the long term. Q

Urs Rohner is chairman of Credit Suisse.

A digital crack in banking's business model

Low-cost attackers are targeting customers in lucrative parts of the sector.

by Miklos Dietz, Philipp Härle, and Somesh Khanna

The rise of digital innovators in financial services presents a significant threat to the traditional business models of retail banks. Historically, they have generated value by combining different businesses, such as financing, investing, and transactions, which serve their customers' broad financial needs over the long haul. Banks offer basic services, such as low-cost checking, and so-called sticky customer relationships allow them to earn attractive margins in other areas, including investment management, credit-card fees, or foreign-exchange transactions.

To better understand how attackers could affect the economics of banks, we disaggregated the origination and sales component from the balance-sheet and fulfilment component of all banking products. Our research (exhibit) shows that 59 percent of the banks' earnings flow from pure fee products, such as advice or payments, as well as the origination, sales, and distribution component of balance-sheet products, like loans or deposits. In these areas, returns on equity (ROE) average an attractive 22 percent. That's much higher than the 6 percent ROE of the balance-sheet provision and fulfillment component of products (for example, loans), which have high operating costs and high capital requirements.

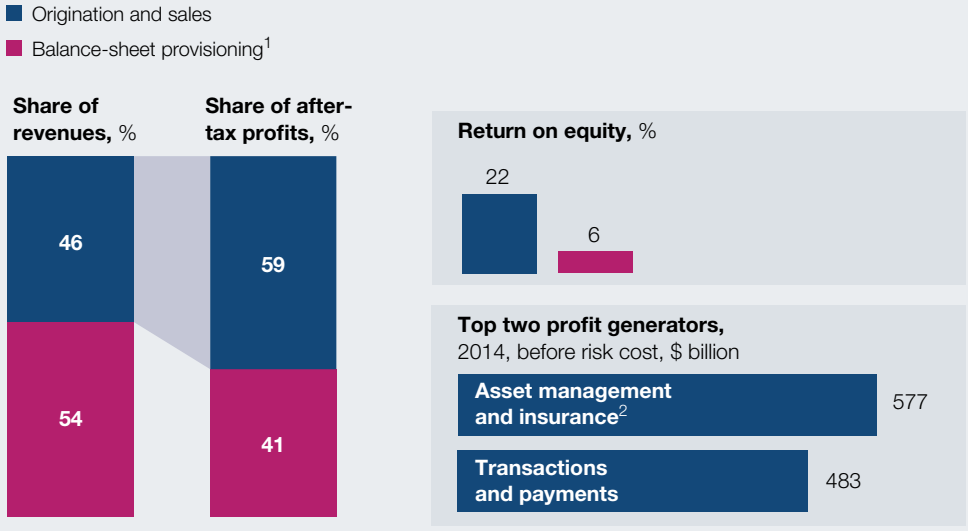
Digital start-ups (fintechs)—as well as big nonbank technology companies in e-retailing, media, and other sectors—could exploit this mismatch in

banking's business model. Technological advances and shifts in consumer behavior offer attackers a chance to weaken the heavy gravitational pull that banks exert on their customers. Many of the challengers hope to disintermediate these relationships, slicing off the higher-ROE segments of banking's value chain in origination and sales, leaving banks with the basics of asset and liability management. It's important that most fintech players (whether start-ups or China's e-messaging and Internet-services provider Tencent) don't want to be banks and are not asking customers to transfer all their financial business at once. They are instead offering targeted (and more convenient) services. The new digital platforms often allow customers to open accounts effortlessly, for example. In many cases, once they have an account, they can switch among providers with a single click.

Platforms such as NerdWallet (in the United States) or India's BankBazaar.com aggregate the offerings of multiple banks in loans, credit cards, deposits, insurance, and more and receive payment from the banks for generating new business. Wealthfront targets fee-averse millennials who favor automated software over human advisers. Lending Home targets motivated investment-property buyers looking for cost-effective mortgages with accelerated

Exhibit

Digital attackers disintermediate profitable customer-facing businesses and avoid capital-intensive areas.



[1] Revenues generated by carrying loans and other assets already sold and sitting on the books.
[2] Asset management includes investment and pension products. Only insurance sold by banks is included.

Source: Analysis and data provided by Panorama (a McKinsey Solution)

Many successful attackers in corporate and investment banking, as well as some in retail banking, are embracing "coopetition," finding ways to become partners in the ecosystems of traditional banks.

time horizons. Moneysupermarket.com started with a single product springboard—consumer mortgages—and now not only offers a range of financial products but serves as a platform for purchases of telecom and travel services, and even energy.

Across the emerging fintech landscape, the customers most susceptible to cherry-picking are millennials, small businesses, and the underbanked—three segments particularly sensitive to costs and to the enhanced consumer experience that digital delivery and distribution afford. For instance, Alipay, the Chinese payments service (a unit of e-commerce giant Alibaba), makes online finance simpler and more intuitive by turning savings strategies into a game and comparing users' returns with those of others. It also makes peer-to-peer transfers fun by adding voice messages and emoticons.

From an incumbent's perspective, emerging fintechs in corporate and investment banking (including asset and cash management) appear to be less disruptive than retail innovators are. A recent McKinsey analysis showed that most of the former, notably those established in the last couple of years, are enablers, serving banks directly and often seeking to improve processes for one or more elements of banking's value chain.

Many successful attackers in corporate and investment banking, as well as some in retail banking, are embracing "coopetition," finding ways to become partners in the ecosystems of traditional banks. These fintechs, sidestepping banking basics, rely on established institutions and their balance sheets to fulfill loans or provide the payments backbone to fulfill credit-card or foreign-exchange transactions. With highly automated, scalable, software-based services and no physical-distribution expenses (such as branch networks),

these attackers gain a significant cost advantage and therefore often offer more attractive terms than banks' websites do. They use advanced data analytics to experiment with new credit-scoring approaches and exploit social media to capture shifts in customer behavior.

Attackers must still overcome the advantages of traditional banks and attract their customers. (See page 54 for the story of how one financial incumbent, Goldman Sachs, is using digitization to strengthen its core businesses.) Most fintechs, moreover, remain largely under the regulatory radar today but will attract attention as they reach meaningful scale. That said, the rewards for digital success are huge. Capturing even a tiny fraction of banking's more than $1 trillion profit pool could generate massive returns for the owners and investors of these start-ups. Little wonder there are more than 12,000 of them on the prowl today.

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The authors would like to acknowledge the contributions of Christopher Manzingo, Asheet Mehta, and Miklos Radnai to this article.

For more on digital banking, see *The fight for the customer: McKinsey Global Banking Annual Report 2015* and "Cutting through the noise around financial technology," both on McKinsey.com.

SNAPSHOT

WHY GOLDMAN IS BANKING ON THE CLOUD

Facing digital attackers and a host of market challenges, financial incumbents are turning to digitization to battle-harden their core. Digital tools and cloud platforms can give them a powerful leg up, further automating processes, providing economies of scale in IT, and increasing agility. In this edited excerpt of a conversation with McKinsey's James Kaplan, Don Duet, global head of the Goldman Sachs Technology Division, discusses how the organization has used cloud infrastructure to hone its strategic edge.

Open-source software and cloud architectures have created more opportunity to innovate at a higher pace and lower cost. We're rethinking how we do things and the way we articulate our services for customers—and for ourselves. It's a process of continual transformation: moving more and more core parts of our business to models where things are done electronically, at higher scale, and delivered in a more seamless fashion. Think about how much digital literacy there is today compared with even 10 or 15 years ago. Our customers and our employees want to be empowered through technology.

A few years back, we did a meaningful reorganization in the Technology Division. We were vertically oriented, with teams that focused on different parts of the business. But we wanted to be more like an agile start-up that can go from nothing to running products in months, with very little capital investment. To do that, we created a platform team, moving many people in our division into different roles. This team uniformly supports and delivers core cloud-based services, applications, and data-related services across all business units and groups within the organization. More of our developers now sit on teams aligned with the business. They find that going from concept to product is much simpler.

This uniform structure of our private-cloud infrastructure has allowed us to reduce complexity, which is enormously important for managing risk. We can respond to failures more quickly. We've also moved from an environment in which it could take months to launch or update an application to where it now takes days, sometimes even minutes. Better capacity planning translates into faster turnarounds and much more responsiveness, without creating pools and islands of computing that ultimately increase risk and reduce efficiency.

For more on Goldman's cloud strategy, read "Banking on the cloud," on McKinsey.com.

Five priorities for competing in an era of digital globalization

As digital flows command a growing share of trade and economic growth, executives must answer new questions.

by Jacques Bughin, Susan Lund, and James Manyika

Globalization, once measured largely by trade in goods and cross-border finance, is now converging with digitization. Enormous streams of data and information are transmitted every minute—circulating ideas and innovations around the world via email, social media, e-commerce, video, and more. As these sprawling digital networks connect everything, everyplace, and everyone, companies must rethink what it means to be global. Our latest research quantifies the economic impact of this shift and suggests five critical areas of focus for executives and top teams.

THE NEW TRADE IN BITS

To measure the economic impact of digital globalization, we built an econometric model based on the inflows and outflows of goods, services, finance, people, and data for 97 countries around the world.[1] We found that over a decade, such flows have increased current global GDP by roughly 10 percent over what it would have been in a world without them. This added value reached $7.8 trillion in 2014 alone. Data flows *directly* accounted for $2.2 trillion,

[1] The data cover 1995 to 2013, the most recent year for which a large set of countries reported inflows and outflows of migrants.

or nearly one-third, of this effect—more than foreign direct investment. In their *indirect* role enabling other types of cross-border exchanges, they added $2.8 trillion to the world economy.[2] These combined effects of data flows on GDP exceeded the impact of global trade in goods. That's a striking development: cross-border data flows were negligible just 15 years ago. Over the past decade, the used bandwidth that undergirds this swelling economic activity has grown 45-fold, and it is projected to increase by a factor of nine over the next five years (exhibit).

Beyond creating value in their own right, digital flows are transforming more traditional ones. Some 50 percent of the world's traded services are already digitized and that share is growing. About 12 percent of the global trade in goods is conducted via international e-commerce.[3] Digitization is facilitating flows of people too, as Airbnb, TripAdvisor, and other websites provide information that enables travel.

Meanwhile, the growth of trade in goods has flattened. That's a stark reversal from previous decades, which saw it rise from 13.8 percent ($2 trillion) of world GDP in 1985 to 26.6 percent ($16 trillion) of world GDP on the eve of the Great Recession. Weak demand and plummeting commodity prices account for a large part of this recent deceleration, though trade in both finished and intermediate manufactured goods has also stalled since the crisis. In parallel, many companies are reconsidering the risks and complexity of managing long supply chains—and placing greater importance on speed to market and other costs of doing business and less on labor costs. As a result, more production is occurring in countries where goods are consumed. Looking forward, 3-D technology could further erode international trade as some goods are printed at their point of consumption. These shifts make it unlikely that global trade in goods will resume its previous brisk growth.

OPEN PLATFORMS, VIRTUAL GOODS, AND 'DIGITAL WRAPPERS'

Behind the scenes, the largest corporations have been building platforms to manage suppliers, connect to customers, and enable internal communication and data sharing. While many platforms are internal, the biggest and best known are more open: spanning e-commerce marketplaces, social networks, and digital-media platforms, they connect hundreds of millions of global users.

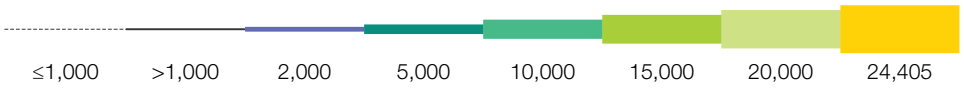
[2] We make the conservative assumption that 12 percent of the impact of other flows on GDP can be accounted for by data flows. This adds a further $0.6 trillion to their direct 2014 impact.

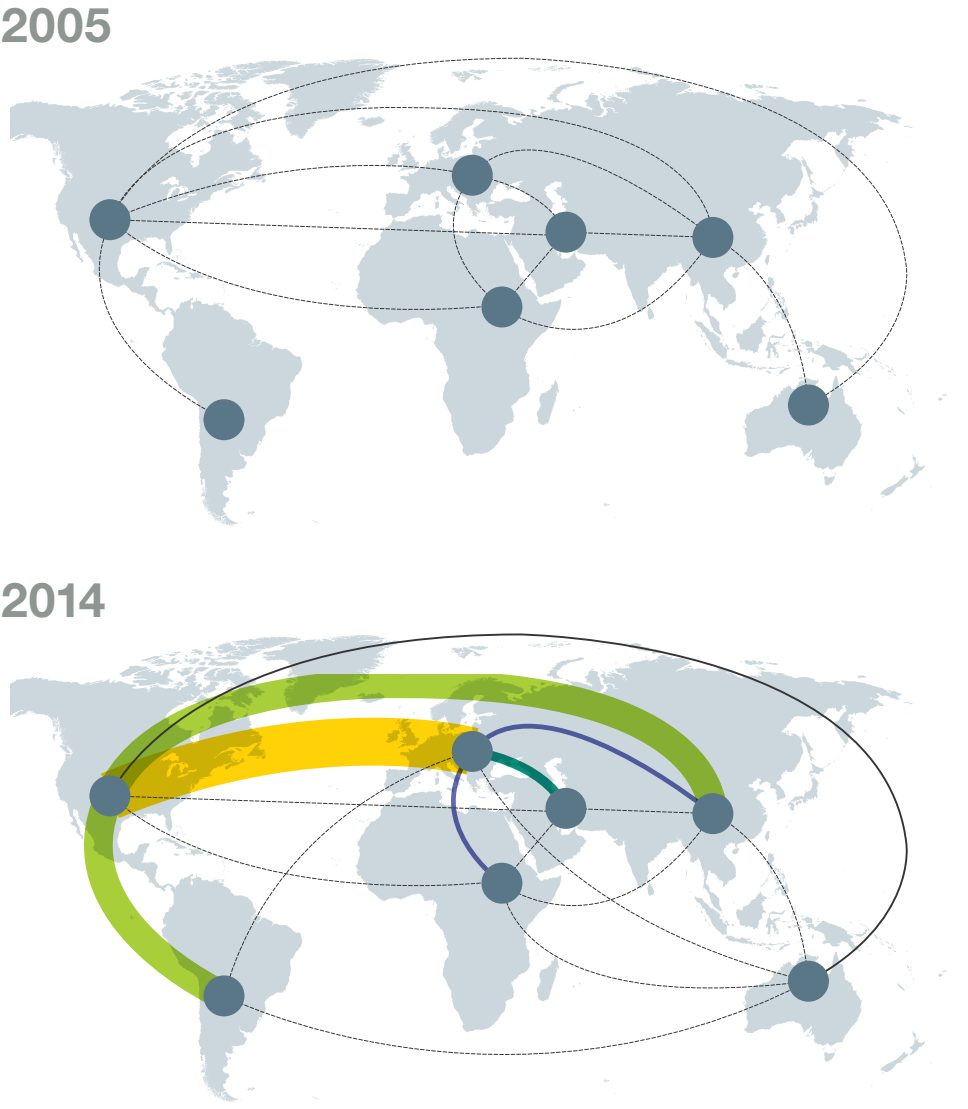
[3] China, pushed by favorable free-trade zones set up by the authorities, is a leader in cross-border B2B commerce. Alibaba.com is the best-known company in the space, but many other players are also important, including Zhejiang China Commodities, which just launched yiwubuy.com, and Zhejiang China Light Textile City Group, which bought the platform globaltextiles.com.

Exhibit

Global flows of data and communication are increasing dramatically.

Used cross-border interregional bandwidth, in gigabits per second





Source: TeleGeography; McKinsey Global Institute analysis

These open platforms give businesses enormous built-in customer bases and ways to interact with customers directly. They also create markets with global scale and transparency: with a few clicks, customers can get details on products, services, prices, and alternative suppliers from anywhere in the world. That makes markets function more efficiently, disrupting some intermediaries in the process. What's more, digital platforms are helping companies that deliver digital goods and services to enter new international markets without establishing a physical presence there. They also give millions of small and midsize businesses global exposure and an export infrastructure. On eBay's platform, anywhere from 88 to 100 percent of these relatively modest companies export—compared with less than 25 percent of traditional ones in the 18 countries the company analyzed.

Also growing rapidly is trade in virtual goods, such as e-books, apps, online games, and music downloads, as well as streaming services, software, and cloud-computing services. As the cost of 3-D printing declines, this trade could expand to new categories—for instance, companies could send digital files to output goods locally. A lot of companies already use 3-D printing for replacement parts and supplies in far-flung locations.

Many companies are adding digital wrappers to raise the value of their offerings. Logistics firms, for example, use sensors, data, and software to track physical shipments. One study found that radio-frequency-identification (RFID) technology can help to reduce inventory costs by up to 70 percent while improving efficiency. Case studies in Germany, including the logistics centers of BMW and Hewlett-Packard, found that the technology reduced losses in transit by 11 to 14 percent.[4]

GROUNDING THE DIGITAL DIALOGUE

Business models built for 20th-century globalization may not hold up as digitization gains ground. As leaders take stock of the opportunities and threats, five questions can help ground the discussion:

1. Do we have a clear view of the competitive landscape?

Competition is intensifying as digital platforms allow companies of any size, anywhere, to roll out products quickly and deliver them to new markets.

[4] Nabil Absi, Stéphane Dauzère-Pérès, and Aysegul Sarac, "A literature review on the impact of RFID technologies on supply chain management," *International Journal of Production Economics*, Volume 128, Number 1, November 2010.

Amazon now hosts two million third-party sellers, while some ten million small businesses have become merchants on Alibaba platforms. The growing trend toward "micromultinationals" is seen most clearly in the United States, where the share of exports by large multinational corporations dropped from 84 percent in 1977 to 50 percent in 2013. New digital competitors from all over the world are unleashing pricing pressures and speeding up product cycles.

2. Do we have the right assets and capabilities to compete?

Building digital platforms, online customer relationships, and data centers is not just for the Internet giants anymore. GE, for example, is transforming its core manufacturing capabilities to establish itself as a global leader in Internet of Things technology. Businesses in all industries need to take a fresh look at their assets, including customer relationships and market data, and consider whether there are new ways to make money from them. To do so, they will need advanced digital capabilities, a major source of competitive advantage, and workers with cutting-edge skills are in short supply. Online talent platforms can help companies navigate a more global labor market and find the people they need in far-flung places.

3. Can we simplify our product strategy?

Digitization can simplify the tailoring of products, brands, and pricing for companies that sell into multiple global markets. But there's a parallel trend toward more streamlined global product portfolios. Several automakers have moved in this direction. Apple offers only a limited number of its iPhone and iPad models, all with consistent design and branding wherever they

Since speed to market matters more than ever in a digital world, many companies are reevaluating the merits of lengthy and complex supply chains; logistics costs, lead times, productivity, and proximity to other company operations now have a higher priority.

are sold. Airbnb, Facebook, and Uber have simply scaled up their digital platforms in country after country, with limited customization. The media and consumer-technology industries are shifting to simultaneous global product launches, since social and other digital platforms enable consumers around the world to see, instantaneously, what's on offer in other countries. This development creates opportunities for products to go viral on an unprecedented scale. Making smart customization trade-offs, in short, is becoming an increasingly important top-management priority.

4. Should we retool our organization and supply chain?

Digital tools for remote collaboration and instant communication make it possible to centralize some global functions (such as back-office operations or R&D), to create virtual global teams that span borders, or even to forgo having one global headquarters location. Unilever, for example, used technology solutions to streamline some 40 global service lines and create virtual-delivery organizations with team members around the world who meet via videoconference.[5]

Digital technologies are also reshaping supply chains. Digital "control towers" that offer up-to-the-minute visibility into complex supply chains, for instance, can coordinate global vendors in real time. Since speed to market matters more than ever in a digital world, many companies are reevaluating the merits of lengthy and complex supply chains; logistics costs, lead times, productivity, and proximity to other company operations now have a higher priority. According to a recent UPS survey, approximately one-third of high-tech companies are moving their manufacturing or assembly closer to end-user markets.[6] The wider adoption of 3-D printing technologies could lead more companies to reconsider where to base production, potentially reshaping the world's manufacturing value chains in the process.

5. What are the new risks?

Maintaining data security has to be a top priority for companies in every industry. It's difficult to stay ahead of increasingly sophisticated hackers, but companies can prioritize their information assets, test continually, and work with frontline employees to emphasize basic protective measures.

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[5] Pascal Visée, "The globally effective enterprise," *McKinsey Quarterly*, April 2015, McKinsey.com.

[6] *Change in the (supply) chain*, United Parcel Service, 2015, ups.com.

In addition, the Internet and international competition have cut into the window of exclusivity that companies once enjoyed for new products and services; copycat versions can be launched in new markets even before the originators have time to scale up.

The economic impact of digitization is growing, and digital competition often spans borders. As digital tools create new possibilities for building and managing a global presence, business leaders must challenge long-held assumptions about the international competitiveness of their companies. Q

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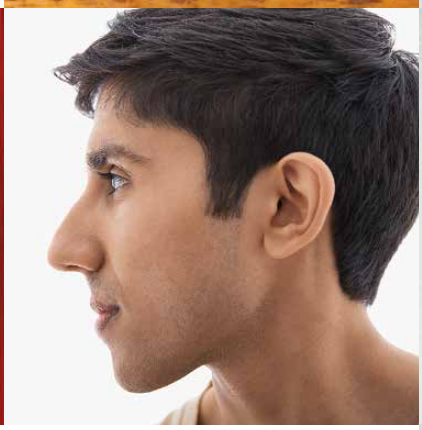
For the full report on which this article is based, see "Digital globalization: The new era of global flows," on McKinsey.com.

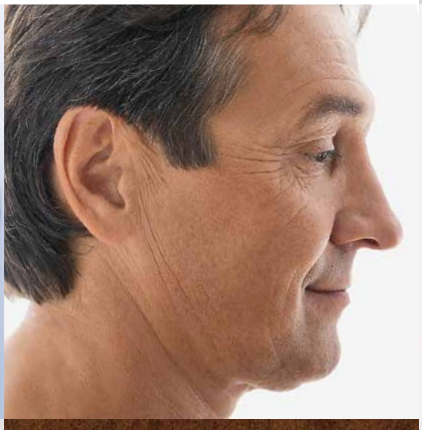


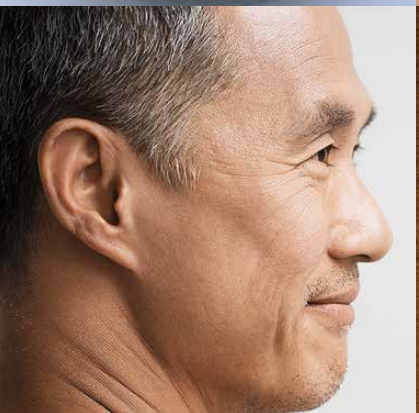
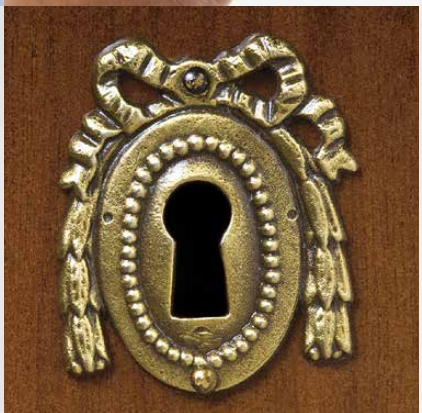


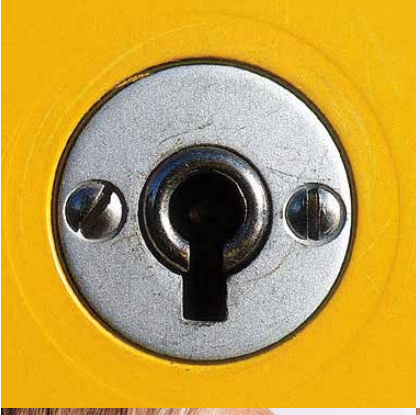
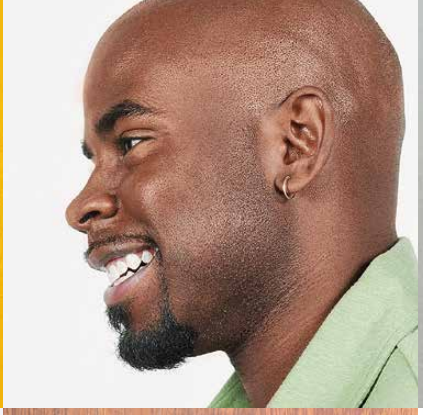


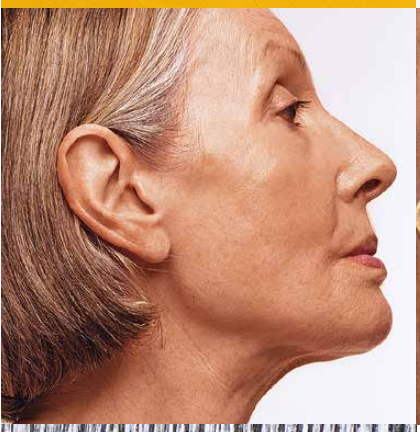

UNLOCKING THE POWER OF PEOPLE



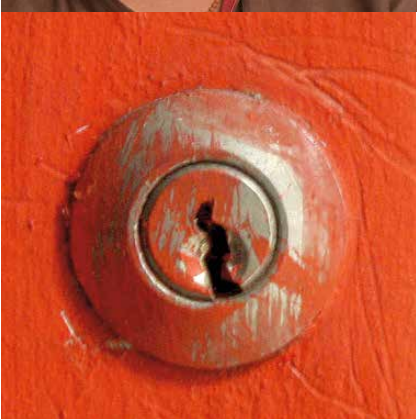


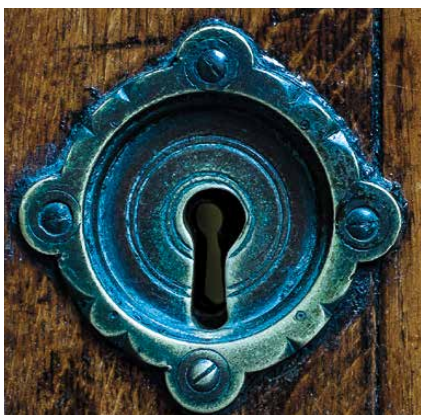






Leaders can harness technology and the latest cognitive research not only to rehumanize the workplace but to inspire better performance.



Ahead of the curve: The future of performance management

What happens after companies jettison traditional year-end evaluations?

by Boris Ewenstein, Bryan Hancock, and Asmus Komm

The worst-kept secret in companies has long been the fact that the yearly ritual of evaluating (and sometimes rating and ranking) the performance of employees epitomizes the absurdities of corporate life. Managers and staff alike too often view performance management as time consuming, excessively subjective, demotivating, and ultimately unhelpful. In these cases, it does little to improve the performance of employees. It may even undermine their performance as they struggle with ratings, worry about compensation, and try to make sense of performance feedback.

These aren't new issues, but they have become increasingly blatant as jobs in many businesses have evolved over the past 15 years. More and more positions require employees with deeper expertise, more independent judgment, and better problem-solving skills. They are shouldering ever-greater responsibilities in their interactions with customers and business partners and creating value in ways that industrial-era performance-management systems struggle to identify. Soon enough, a ritual most executives say they dislike will be so outdated that it will resemble trying to conduct modern financial transactions with carrier pigeons.

Yet nearly nine out of ten companies around the world continue not only to generate performance scores for employees but also to use them as the basis for compensation decisions.[1] The problem that prevents managers' dissatisfaction with the process from actually changing it is uncertainty over what a revamped performance-management system ought to look like. If we jettison year-end evaluations—well, then what? Will employees just lean back? Will performance drop? And how will people be paid?

Answers are emerging. Companies, such as GE[2] and Microsoft,[3] that long epitomized the "stack and rank" approach have been blowing up their annual systems for rating and evaluating employees and are instead testing new ideas that give them continual feedback and coaching. Netflix[4] no longer measures its people against annual objectives, because its objectives have become more fluid and can change quite rapidly. Google transformed the way it compensates high performers at every level. [5] Some tech companies, such as Atlassian,[6] have automated many evaluation activities that managers elsewhere perform manually.

The changes these and other companies are making are new, varied, and, in some instances, experimental. But patterns are beginning to emerge.

- Some companies are rethinking what constitutes employee performance by focusing specifically on individuals who are a step function away from average—at either the high or low end of performance—rather than trying to differentiate among the bulk of employees in the middle.

- Many companies are also collecting more objective performance data through systems that automate real-time analyses.

- Performance data are used less and less as a crude instrument for setting compensation. Indeed, some companies are severing the link between evaluation and compensation, at least for the majority of the workforce, while linking them ever more comprehensively at the high and low ends of performance.

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[1] See "The measure of a man," *Economist*, February 20, 2016.

[2] "Why GE had to kill its annual performance reviews after more than three decades," *Quartz*, August 13, 2015, qz.com.

[3] Nick Wingfield, "Microsoft abolishes employee evaluation system," *New York Times*, November 13, 2013, nytimes.com.

[4] Patty McCord, "How Netflix reinvented HR," *Harvard Business Review*, February 2014, hbr.org.

[5] Richard Feloni, "Inside Google's policy to 'pay unfairly'—why 2 people in the same role can earn dramatically different amounts," *Business Insider*, April 11, 2015, businessinsider.com.

[6] "8 automations that improved our HR team's productivity," *Atlassian blogs*, blog entry by jluijke, November 29, 2011, atlassian.com.

- Better data back up a shift in emphasis from backward-looking evaluations to fact-based performance and development discussions, which are becoming frequent and as-needed rather than annual events.

How these emerging patterns play out will vary, of course, from company to company. The pace of change will differ, too. Some companies may use multiple approaches to performance management, holding on to hardwired targets for sales teams, say, while shifting other functions or business units to new approaches.

But change they must.

RETHINKING PERFORMANCE

Most corporate performance-management systems don't work today, because they are rooted in models for specializing and continually optimizing discrete work tasks. These models date back more than a century, to Frederick W. Taylor.

Over the next 100 years, performance-management systems evolved but did not change fundamentally. A measure like the number of pins produced in a single day could become a more sophisticated one, such as a balanced scorecard of key performance indicators (KPIs) that link back to overarching company goals. What began as a simple mechanistic principle acquired layers of complexity over the decades as companies tried to adapt industrial-era performance systems to ever-larger organizations and more complicated work.

What was measured and weighted became ever more micro. Many companies struggle to monitor and measure a proliferation of individual employee KPIs—a development that has created two kinds of challenges. First, collecting accurate data for 15 to 20 individual indicators can be cumbersome and often generates inaccurate information. (In fact, many organizations ask employees to report these data themselves.) Second, a proliferation of indicators, often weighted by impact, produces immaterial KPIs and dilutes the focus of employees. We regularly encounter KPIs that account for less than 5 percent of an overall performance rating.

Nonetheless, managers attempt to rate their employees as best they can. The ratings are then calibrated against one another and, if necessary, adjusted by distribution guidelines that are typically bell curves (Gaussian distribution curves). These guidelines assume that the vast majority of employees cluster around the mean and meet expectations, while smaller numbers over- and underperform. This model typically manifests itself in three-, five-, or seven-

point rating scales, which are sometimes numbered and sometimes labelled: for instance, "meets expectations," "exceeds expectations," "far exceeds expectations," and so on. This logic appeals intuitively ("aren't the majority of people average by definition?") and helps companies distribute their compensation ("most people get average pay; overperformers get a bit more, underperformers a bit less").

But bell curves may not accurately reflect the reality. Research suggests that talent-performance profiles in many areas—such as business, sports, the arts, and academia—look more like power-law distributions. Sometimes referred to as Pareto curves, these patterns resemble a hockey stick on a graph. (They got their name from the work of Vilfredo Pareto, who more than a century ago observed, among other things, that 20 percent of the pods in his garden contained 80 percent of the peas.) One 2012 study concluded that the top 5 percent of workers in most companies outperform average ones by 400 percent. (Industries characterized by high manual labor and low technology use are exceptions to the rule.[7]) The sample curve emerging from this research would suggest that 10 to 20 percent of employees, at most, make an outsized contribution.

Google has said that this research, in part, lies behind a lot of its talent practices and its decision to pay outsized rewards to retain top performers: compensation for two people doing the same work can vary by as much as 500 percent.[8] Google wants to keep its top employees from defecting and believes that compensation can be a "lock-in"; star performers at junior levels of the company can make more than average ones at senior levels. Identifying and nurturing truly distinctive people is a key priority given their disproportionate impact.

Companies weighing the risks and rewards of paying unevenly in this way should bear in mind the bigger news about power-law distributions: what they mean for the great majority of employees. For those who meet expectations but are not exceptional, attempts to determine who is a shade better or worse yield meaningless information for managers and do little to improve performance. Getting rid of ratings—which demotivate and

[7] Ernest O'Boyle Jr. and Herman Aguinis, "The best and the rest: Revisiting the norm of normality of individual performance," *Personal Psychology*, 2012, 65, pp. 79–119. Researchers canvassed studies involving more than 600,000 people in academia, politics, entertainment, and sports. They found performance power curves consistent across different jobs, performance measures, and time frames.

[8] Google's senior vice president for people operations, Laszlo Bock, wrote about these practices in his book, *Work Rules: Insights from Inside Google That Will Transform How You Live and Lead*, New York, NY: Hachette Book Group, 2015.

irritate employees, as researchers Bob Sutton and Jeff Pfeiffer have shown—makes sense.

Many companies, such as GE, the Gap,[9] and Adobe Systems,[10] have done just that in a bid to improve performance. They've dropped ratings, rankings, and annual reviews, practices that GE, for one, had developed into a fine art in previous decades. What these companies want to build—objectives that are more fluid and changeable than annual goals, frequent feedback discussions rather than annual or semiannual ones, forward-looking coaching for development rather than backward-focused rating and ranking, a greater emphasis on teams than on individuals—looks like the exact opposite of what they are abandoning.

The point is that such companies now think it's a fool's errand to identify and quantify shades of differential performance among the majority of employees, who do a good job but are not among the few stars. Identifying clear overperformers and underperformers is important, but conducting annual ratings rituals based on the bell curve will not develop the workforce overall. Instead, by getting rid of bureaucratic annual-review processes—and the behavior related to them—companies can focus on getting much higher levels of performance out of *many more* of their employees.

GETTING DATA THAT MATTER

Good data are crucial to the new processes, not least because so many employees think that the current evaluation processes are full of subjectivity. Rather than relying on a once-a-year, inexact analysis of individuals, companies can get better information by using systems that crowdsource and collect data on the performance of people and teams. Continually crowdsourcing performance data throughout the year yields even better insights.

For instance, Zalando, a leading European e-retailer, is currently implementing a real-time tool that crowdsources both structured and unstructured performance feedback from meetings, problem-solving sessions, completed projects, launches, and campaigns. Employees can request feedback from supervisors, colleagues, and internal "customers" through a real-time online app that lets people provide both positive and more critical comments about each other in a playful and engaging way. The system then weights responses by how much exposure the provider has to the requestor. For every kind of behavior that employees seek or provide feedback about, the system—

[9] Vauhini Vara, "The push against performance reviews," *New Yorker*, July 24, 2015, newyorker.com.

[10] *Adobe Life Blog*, "The dreaded performance review? Not at Adobe," adobe.com.

a structured, easy-to-use tool—prompts a list of questions that can be answered intuitively by moving a slider on the touchscreen of a mobile device. Because the data are collected in real time, they can be more accurate than annual reviews, when colleagues and supervisors must strain to remember details about the people they evaluate.

Employees at GE now use a similar tool, called PD@GE, which helps them and their managers to keep track of the company's performance objectives even as they shift throughout the year. The tool facilitates requests for feedback and keeps a record of when it is received. (GE is also changing the language of feedback to emphasize coaching and development rather than criticism.) GE employees get both quantitative and qualitative information about their performance, so they can readjust rapidly throughout the year. Crucially, the technology does not replace performance conversations between managers and employees. Instead, these conversations center around the observations of peers, managers, and the employees themselves about what did and didn't help to deliver results. GE hopes to move most of its employees to this new system by the end of 2016.

In other words, tools can automate activities not just to free up time that managers and employees now spend inefficiently gathering information on performance but also transform what feedback is meant to achieve. The quality of the data improve, too. Because they are collected in real time from fresh performance events, employees find the information more credible, while managers can draw on real-world evidence for more meaningful coaching dialogues. As companies automate activities and add machine learning and artificial intelligence to the mix, the quality of the data will improve exponentially, and they will be collected much more efficiently.[11]

Finally, performance-development tools can also identify the top performers more accurately, though everyone already knows subjectively who they are. At the end of the year, Zalando's tool will automatically propose the top 10 percent by analyzing the aggregated feedback data. Managers could adjust the size of the pool of top performers to capture, say, the best 8 or 12 percent of employees. The tool will calculate the "cliff" where performance is a step function away from that of the rest of the population. Managers will therefore have a fact-based, objective way to identify truly distinctive employees. Companies can also use such systems to identify those who have genuinely fallen behind.

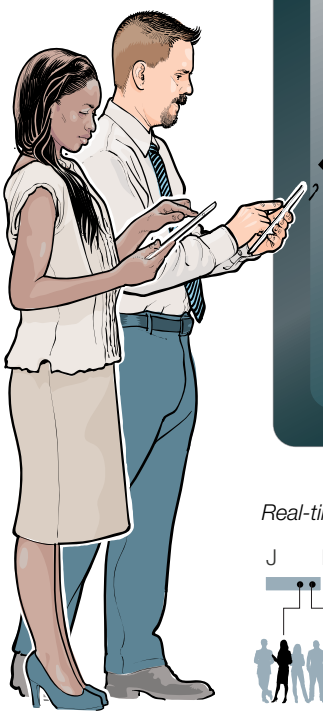
[11] For additional insights, see Aaron De Smet, Susan Lund, and William Schaninger, "Organizing for the future," *McKinsey Quarterly*, January 2016, McKinsey.com.

Relatively easy and inexpensive to build (or to buy and customize), such performance-development applications are promising—but challenging (see the exhibit for a generic illustration of such an app). Employees could attempt to game systems to land a spot among the top 10 percent or to ensure that a rival does not. (Artificial intelligence and semantic analysis might conceivably distinguish genuine from manicured performance feedback, and raters could be compared with others to detect cheating.) Some employees may also feel that Big Brother is watching (and evaluating) their every move. These and other real-life challenges must be addressed as more and more companies adopt such tools.

Exhibit

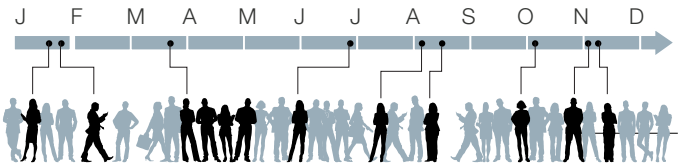
Continually crowdsourcing performance data provides fresher and more timely insights.

An online app facilitates the collection of real-time peer feedback from multiple sources throughout the year.



- Structure feedback along set performance dimensions or treat more informally.
- Request feedback at any time—eg, from leader, team member, or customer.
- Use badges and comment field for additional nuances.
- Offer unprompted feedback.

Real-time feedback, throughout the year, from multiple sources



TAKE THE ANXIETY OUT OF COMPENSATION

The next step companies can take to move performance management from the industrial to the digital era is to take the anxiety out of compensation. But this move requires managers to make some counterintuitive decisions.

Conventional wisdom links performance evaluations, ratings, and compensation. This seems completely appropriate: most people think that stronger performance deserves more pay, weaker performance less. To meet these expectations, mean performance levels would be pegged around the market average. Overperformance would beat the market rate, to attract and retain top talent. And poor scores would bring employees below the market average, to provide a disincentive for underperformance. This logic is appealing and consistent with the Gaussian view. In fact, the distribution guide, with its target percentages across different ratings, gives companies a simple template for calculating differentiated pay while helping them to stay within an overall compensation budget. No doubt, this is one of the reasons for the prevalence of the Gaussian view.

This approach, however, has a number of problems. First, the cart sometimes goes before the horse: managers use desired compensation distributions to reverse engineer ratings. To pay Tom *x* and Maggie *y*, the evaluator must find that Tom exceeds expectations that Maggie merely meets. That kind of reverse engineering of ratings from *a priori* pay decisions often plays out over several performance cycles and can lead to cynical outcomes—"last year, I looked out for you; this year, Maggie, you will have to take a hit for the team." These practices, more than flaws in the Gaussian concept itself, discred it the performance system and often drown out valuable feedback. They breed cynicism, demotivate employees, and can make them combative, not collaborative.

Second, linking performance ratings and compensation in this way ignores recent findings in the cognitive sciences and behavioral economics. The research of Nobel laureate Daniel Kahneman and others suggests that employees may worry excessively about the pay implications of even small differences in ratings, so that the fear of potential losses, however small, should influence behavior twice as much as potential gains do. Although this idea is counterintuitive, linking performance with pay can demotivate employees even if the link produces only small net variances in compensation.

Since only a few employees are standouts, it makes little sense to risk demotivating the broad majority by linking pay and performance. More and more technology companies, for instance, have done away with performance-related bonuses. Instead, they offer a competitive base salary and peg bonuses (sometimes paid in shares or share options) to the company's overall performance. Employees are free to focus on doing great work, to develop, and even to make mistakes—without having to worry about the implications of marginal rating differences on their compensation. However, most of these companies pay out special rewards, including discretionary pay, to truly outstanding performers: "10x coders get 10x pay" is the common way this principle is framed. Still, companies can remove a major driver of anxiety for the broad majority of employees.

Finally, researchers such as Dan Pink say that the things which *really* motivate people to perform well are feelings like autonomy, mastery, and purpose. In our experience, these increase as workers gain access to assets, priority projects, and customers and receive displays of loyalty and recognition. Snapping the link between performance and compensation allows companies to worry less about tracking, rating, and their consequences and more about building capabilities and inspiring employees to stretch their skills and aptitudes.

A large Middle Eastern technology company recently conducted a thorough study of what motivates its employees, looking at combinations of more than 100 variables to understand what fired up the best people. Variables studied included multiple kinds of compensation, where employees worked, the size of teams, tenure, and performance ratings from colleagues and managers. The company found that *meaning*—seeing purpose and value in work—was the single most important factor, accounting for 50 percent of all movement in the motivation score. It wasn't compensation. In some cases, higher-paid staff were markedly less motivated than others. The company halted a plan to boost compensation by $100 million to match its competitors.

Leaders shouldn't, however, delude themselves into thinking that cutting costs is another reason for decoupling compensation from performance evaluations. Many of the companies that have moved in this direction use generous stock awards that make employees up and down the line feel not only well compensated but also like owners. Companies lacking shares as currency may find it harder to make the numbers work unless they can materially boost corporate performance.

COACHING AT SCALE TO GET THE BEST FROM THE MOST

The growing need for companies to inspire and motivate performance makes it critical to innovate in coaching—and to do so at scale. Without great and frequent coaching, it's difficult to set goals flexibly and often, to help employees stretch their jobs, or to give people greater responsibility and autonomy while demanding more expertise and judgment from them.

Many companies and experts are exploring how to improve coaching—a topic of the moment. Experts say three practices that appear to deliver results are to change the language of feedback (as GE is doing), to provide constant, crowdsourced vignettes of what worked and what didn't (as GE and Zalando are), and to focus performance discussions more on what's needed for the future than what happened in the past. Concrete vignettes, made available just-in-time by handy tools—and a shared vocabulary for feedback—provide a helpful scaffolding. But managers unquestionably face a long learning curve for effective coaching as work continues to change and automation and reengineering configure job positions and work flows in new ways.

Companies in high-performing sectors, such as technology, finance, and media, are ahead of the curve in adapting to the future of digital work. So it's no surprise that organizations in these sectors are pioneering the transformation of performance management. More companies will need to follow—quickly. They ought to shed old models of calibrated employee ratings based on normal distributions and liberate large parts of the workforce to focus on drivers of motivation stronger than incremental changes in pay. Meanwhile, companies still have to keep a keen eye on employees who are truly outstanding and on those who struggle.

It's time to explore tools to crowdsource a rich fact base of performance observations. Ironically, companies like GE are using technology to democratize and rehumanize processes that have become mechanistic and bureaucratic. Others must follow. Q

Boris Ewenstein, Bryan Hancock, and **Asmus Komm** are expert principals in McKinsey's Johannesburg, Atlanta, and Hamburg offices, respectively.

The authors would like to thank the People & Organization team at Zalando SE for their valuable collaboration and contributions to this article.

How small shifts in leadership can transform your team dynamic

Simple tweaks in communication and role-modeling based on the latest behavioral research can nudge employees into top form and create a more productive environment for everyone.

by Caroline Webb

Once upon a time, saying "the soft stuff is the hard stuff" was a snappy challenge to business convention. Now, it's a cliché. Everyone knows that it's not easy to suddenly make your colleagues more creative, adaptable, or collaborative, however well-intentioned you may be.

But thanks to research on human behavior, we know what it takes for the average person's brain to perform at its best, cognitively and emotionally—even under the pressures of the modern workplace. These new insights suggest that simple tweaks in leaders' communication and behavior can potentially create a much more productive atmosphere for any team. In this article, I'll describe three leaders who knew enough of this science to spark positive behavioral shifts in their organizations.

THE TWO-SYSTEM BRAIN

Antony heads a successful technology consultancy that has grown rapidly since it was founded in 2011. Before starting the firm, he worked for a big

agency with a toxic culture. "There was a sort of 'cultural presenteeism'—you needed to look like you were always working." At his new company, he wanted to forge a very different culture that would enable people to be both innovative and focused, collaborative and emotionally balanced. He and his two cofounders did all the usual things—hired carefully, developed an inspiring vision for the company, and designed an inviting workspace.

But Antony knew enough of the research on optimal brain function to see that more tangible measures were needed. In particular, he raised the issue of information overload and multitasking and how their team could avoid it. Antony knew that the brain's activity is split across two complementary systems—one deliberate and controlled, the other automatic and instinctive. The *deliberate system* is responsible for sophisticated, conscious functions such as reasoning, self-control, and forward thinking. It can only do one thing at a time and tires remarkably quickly. The brain's *automatic system* lightens this load by automating most of what we do from day to day, but as the brain's deliberate system becomes more exhausted, the automatic system increasingly takes the reins, leaving us prone to make misleading generalizations and kneejerk responses.

That's why multitasking is such a problem. We think we can parallel process, but each tiny switch from one conscious task to another—from email to reading to speaking on a conference call, for example—wastes a little of the deliberate system's time and mental energy. And those switches cost us dearly. Research shows that people are less creative, more stressed, and make two to four times as many mistakes when they deal with interruptions and distractions.

Another way that the deliberate system's limitations play out in the workplace is that decision-making quality drops the longer people go without a break. Classic cognitive biases like groupthink and confirmation bias take firmer hold, and we're more prone to sloppy thinking in general. In one study, where hospital leaders were trying to encourage the use of hand sanitizer, they found that compliance rates fell when people worked long hours without a break.

But here's the silver lining: if leaders can encourage people to go offline when doing their most important work, as well as taking more frequent breaks, they'll see an uptick in productivity, innovation, and morale.

As Antony thought about how to do this, he knew that a common hurdle to taking breaks and avoiding multitasking was that people often feel they

need to show their responsiveness to senior colleagues by being constantly available, whether on email, instant messaging, or in person. So he knew that his own behavior would be central to shifting norms in his organization. He decided to place a timer on his desk to signal that he was taking 25 or 45 minutes to go offline—something that also helped him focus his brain on the task at hand—and wore enormous noise-canceling headphones to amplify the message. And then, between deep working sessions, he would "bugger off for a walk," as he puts it. The role modeling worked, he says. "It's become a collective thing in the office now. And everyone's decided that breaks are a legitimate use of time because we get so much more done afterward."

Antony and his cofounders also created a "Monday meeting" for all of the staff to discuss how they were working together as a company. After some time, it surfaced that pressures were mounting, threatening to derail their commitment to focusing and recharging. "It was an emerging cultural behavior, and we wanted it to stop. So we set some rules, like 'we encourage each other to have lunch' and 'we schedule breaks between meetings.'" Most important, he felt, was that "we as leaders had to take responsibility for our behavior and give out the right signals, use the right language, celebrate the right behaviors in others. So we cheered people for leaving the office to go for a run. Later, we adopted the phrase 'leaving by example,' encouraging people to use it instead of a mumbled, guilty excuse for taking a break."

In the Monday meeting, the leaders took one further step to reduce cognitive overload, by asking everyone to name their two priorities for the week. Antony says "the 'two priorities' rule encourages people to be realistic and focused in their work. Sometimes you really have to force yourself to decide what really matters this week. But it always pays off." They also use the meeting as an opportunity to highlight opportunities to redistribute work. "When it looks like someone has too much on, people are encouraged to offload rather than suffer in silence." The result: great creativity and camaraderie, without a foosball table in sight.

THE DISCOVER-DEFEND AXIS

Ros is one of the most senior leaders in the UK's state-run healthcare system. She oversees the complex web of relationships between the system's many payers and providers and ensures that the interactions between the two help rather than hinder improvements in patient care. Budgets are tight and the outcomes of her team's work are often subject to scrutiny by politicians and the media. So Ros has to help her colleagues stay energized and on their game as they pursue their noble goals, even when the going gets tough. Resilience is key.

The problem is, our brain is constantly looking for threats to fend off or rewards worth pursuing. When we're more focused on threats than rewards, we're in *defensive mode*. Our brain diverts some of its scarce mental energy into launching a "fight, flight, or freeze" response, and as those instinctive responses unfold—looking more like "snap, sulk, or skulk" in the workplace—brain scans show less activity in the parts of the brain known as the prefrontal cortex. To put it another way: some of our more emotionally sophisticated neural machinery has gone offline.

This matters, because it takes surprisingly little to put someone's brain into defensive mode—anything threatening a person's self-worth, even the smallest social slight. This can create vicious circles in the workplace when, for example, people feel daunted from the start, triggering an instinctive defensive reaction that makes it harder for them to solve the problem at hand.

But then there's *discovery mode*, where people's brains are focused on the potential rewards in a situation—for instance, a feeling of belonging or social recognition, or the thrill of learning new things. If leaders can foster a rewarding environment even amid the most difficult situations, it's likely that they can dampen that primal feeling of being under threat just enough to nudge people out of defensive mode and back into top form.

Ros has put this insight at the heart of her leadership style. First, she creates a positive frame for difficult tasks or discussions. "We've got a huge project where 95 percent of it is going fine, but three things aren't going so well," she says. "We're getting a lot of questions about those three things, and I can see my team tensing up whenever we talk about them. So now I always begin

If leaders can foster a rewarding environment even amid the most difficult situations, it's likely that they can dampen that primal feeling of being under threat just enough to nudge people out of defensive mode and back into top form.

our meetings by talking about what we've done well. And you can see how it calms everyone down and helps people think more clearly." She's keen to emphasize that "it's not about trying to spin or gloss over the problems. But beginning with what's working well puts everyone in a more open frame of mind, meaning we can look at what's not working without people getting defensive."

By focusing on something positive before getting into the tough stuff, leaders can help people stay in high-performance discovery mode. It doesn't take much. Research found that when volunteers were given a puzzle where they had to navigate a little mouse out of a maze, all it took to lift their performance by 50 percent was seeing a picture of some cheese next to the exit instead of a menacing owl. In a meeting, the metaphorical "cheese" can even be as simple as discussing the ideal outcome everyone's shooting for, before talking about the steps to get there.

Ros also reinforces her team's feelings of autonomy and competence—two things that feel highly rewarding for the average brain. Usually, when a colleague has an issue, leaders help by offering advice or direction. But that can backfire, because a well-intentioned "have you tried this/that..." can be subconsciously interpreted as a judgment, as in: "why haven't you tried this/that?" And this mild cognitive threat can be enough to constrain the deliberate system and make people less creative in their own thinking. The alternative: create space for people to do their own best quality thinking. Ros uses the "extreme listening" technique. She asks someone what they want to think through, and lets them talk without interrupting or making suggestions. Sounds simple, but Ros says it's rare enough to feel a little strange initially.

She describes the first time she used it with her deputy, Alex. "He had an issue he wanted to talk about" and "I actually explicitly told him the 'rule' I was following. I nodded, encouraged him, and asked 'what else?,' when he flagged. Within five minutes, he'd literally solved the whole thing himself. We both laughed so hard. It absolutely worked." Alex went on to use the technique with his colleagues, too, and now it's a team habit. Ros is clear on the lesson for leaders: helping colleagues feel capable of handling matters on their own "is one of the greatest gifts you can give someone," providing a great boost to their resilience and confidence.

THE SOCIAL SELF

Charles heads the marketing function of a major retail chain. He's overseeing a lot of change in the way his team works, as they take advantage of new technology. "Marketing is evolving fast," he says. "Traditional marketing requires creativity." He adds, "Modern marketing still requires that, but we now get to benefit from new analytical tools that allow us to track return on investment of our marketing campaigns. And that data crunching requires quite a different type of skillset—much more quantitative." That means he's had to hire new types of people in the marketing department, alongside existing staff.

It sounds like nothing but upside for the marketing team. As Charles says, "It's fantastic to be able to combine the best of both skillsets." So what's the challenge? "Whenever you have a very new group of people joining an existing team, you've got to pay real attention to motivation," Charles warns. The reason for this lies deep in our highly social brains. Of all threats, social slights are especially high on the list of things against which our brains seek to defend us. This social sensitivity probably helped keep us safe when tribal belonging determined whether we'd survive the dangers of the prehistoric savannah—but in the workplace, it means leaders have to meet three main types of deep social needs if they want their colleagues to thrive:

- *Inclusion*: "Do I belong?" In Charles's case, existing staff may be worried that they're going to be excluded from the exciting new work. The newbies, meanwhile, will be wondering whether they truly fit in.

- *Respect*: "Do people recognize the value I bring?" Everyone on the team wants to feel that their efforts are useful and appreciated.

- *Fairness*: "Am I being treated just like everyone else—or do I at least understand the reason that things are the way they are?"

If the answer to any of those questions is "no," people's brains can quickly go into defensive mode—which, as we learned earlier, is a sure recipe for dysfunctional behavior. Indeed, Charles said, "People were clearly feeling anxious and nervous. As a result, they started complaining about things they've never complained about before—making snide comments or questioning things that they saw as scope creep or turf invasion. People here are generally polite and friendly, and passionate about their work. So they weren't hostile. Just unsettled."

To boost feelings of inclusion, Charles deliberately created opportunities for both groups of staff to get to know each other and later collaborate in cross-functional teams to work on new product innovation. In addition to emphasizing these shared wins from teamwork, Charles also takes the time to make everyone feel respected for their individual contribution. "You have to make sure to give people 'spotlight moments.' I look for opportunities to get them in front of the management team. I hate it when someone works on a presentation and then their boss delivers it. If people have done the work, they present it."

Finally, he's transparent about the rationale behind his decisions. As he explains, "It's a great investment in minimizing suspicion and defensiveness later on." In doing so, he personally takes time to balance his time between the creatives and the technical folks, and if someone's giving up some responsibilities to one of the new hires, he says, "I make sure to explain why that's happening and emphasize the opportunities they will have to do new stuff in other areas—often areas that they're better at and enjoy more."

As a result, Charles says, "both sides are learning and growing by being exposed to each other." It's not something he sees as a one-off effort, either. "The company never stops changing. The people who are currently 'new' will become the 'old guard' and then there will be a new generation of skills needed." After all, he says, "this sort of attention to the social dimension is important in any industry where systemic change is happening."

The evidence is pretty clear. Colleagues will behave more like their best selves, more of the time, if leaders take a few modest steps to foster an environment where people's brain's aren't overloaded—more focused on rewards than threats—and have their fundamental social needs met. With a little behavioral science in their toolkit, leaders can build a more productive team—and a happier one at that. Q

Caroline Webb is a senior adviser to McKinsey and an alumna of the firm's London office.

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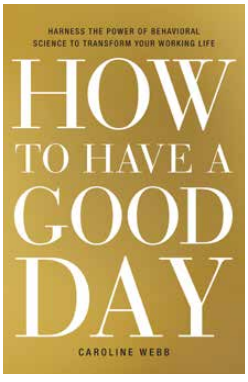


This article is based on research in her new book, *How to Have a Good Day: Harness the Power of Behavioral Science to Transform Your Working Life* (Crown Business, February 2016).

LEADERS ON LEADERSHIP

Staying one step ahead at Pixar: An interview with Ed Catmull

The cofounder of the company that created the world's first computer-animated feature film lays out a management philosophy for staying innovative.

Ed Catmull has been at the forefront of the digital revolution since its early days. The president of Pixar and Disney Animation Studios began studying computer science at the University of Utah in 1965. In 1972, he created a four-minute film of computer-generated animation that represented the state of the art at the time.

In his 2014 book, *Creativity, Inc.*, Catmull chronicled the story of Pixar—from its early days, when Steve Jobs invested $10 million to spin it off from Lucasfilm, in 1986; to its release of the groundbreaking *Toy Story*, in 1995; and its acquisition by the Walt Disney Company, for $7.4 billion, in 2006. But even more, he described the thrill and the challenge of stimulating creativity while keeping up with the breakneck pace of the digital age.

Catmull recently sat down with McKinsey's Allen Webb and Stanford University professors Hayagreeva Rao and Robert Sutton for a far-ranging discussion that picked up where *Creativity, Inc.* left off. They delved deeply into Catmull's rules for embracing the messiness that often accompanies great creative output, sending subtle signals, taking smart risks, experimenting to stay ahead of uncertainty, counteracting fear, and taking charge in a new

environment—as Catmull did when he became the president of Disney Animation Studios.

The *Quarterly*: *One of the questions we had after reading your book is how do you, as the leader of a company, simultaneously create a culture of doubt—of being open to careful, systematic introspection—and inspire confidence?*

Ed Catmull: The fundamental tension is that people want clear leadership, but what we're doing is inherently messy. We know, intellectually, that if we want to do something new, there will be some unpredictable problems. But if it gets too messy, it actually does fall apart. And adhering to the pure, original plan falls apart, too, because it doesn't represent reality. So you are always in this balance between clear leadership and chaos; in fact, that's where you're supposed to be. Rather than thinking, "OK, my job is to prevent or avoid all the messes," I just try to say, "well, let's make sure it doesn't get too messy."

Most of our people have learned that it isn't helpful to ask for absolute clarity. They know absolute clarity is damaging because it means that we aren't responding to problems and that we will stop short of excellence. They also don't want chaos; if it gets too messy, they can't do their jobs. If we pull the plug on a film that isn't working, it causes a great deal of angst and pain. But it also sends a major signal to the organization—that we're not going to let something bad out. And they really value that. The rule is, we can't produce a crappy film.

The *Quarterly*: *So that's the rule; that's the strategy?*

Ed Catmull: Our real rule is to make a great movie. Our business is predicated on this. Of course, we need the film to be financially successful, and restarting a film is very expensive. But if we're to avoid becoming creatively bankrupt, we have to do things that are high risk. This affects the entire culture—everybody keeps raising the bar, upping the ante in terms of what goes on the screen. This raises costs, so we have a continual struggle to reduce our costs.

People coming in from the outside, as well as employees, look at the process and say, "you know, if you would just get the story right—just write the script and get it right the first time, before you make the film—it will be much easier and cheaper to make." And they're absolutely right. It is, however, irrelevant because even if you're really good, your first pass or guess at what the film should be will only get you to the B level. You can inexpensively make a B-level

film. In fact, because the barriers to entry into this field now are quite low, you can get to B easily.

If you want to get to A, then you have to make changes in response to the problems revealed in your first attempt and then the second attempt, et cetera. Think of building a house. The cheapest way to build it is to draw up the plan for the house and then build to those plans. But if you've ever been through this process, then you know that as the building takes shape, you say, "What was I thinking? This doesn't work at all." Looking at plans is not the same thing as seeing them realized. Most people who have gone through this say you have to have some extra money because it's going to cost more than you think. And the biggest reason it costs more than you think is that along the way, you realize something you didn't know when you started.

Ed Catmull (center) works through story ideas with his team at a retreat for *Toy Story 3*.

The *Quarterly*: *You mentioned signals a moment ago; say a bit more about that.*

Ed Catmull: Restarting something that doesn't work is costly and painful, but in doing so, we send a major signal to our company. But there are other signals, too. We put short films at the beginning of our movies. Why? Nobody is going to go to a movie because of the shorts, and neither the theater owners nor Disney gets any more money because of them.

So why do the shorts? Well, we are sending some signals. It is a signal to the audience that we're giving them more than they're paying for, a signal to the artistic community that Pixar and Disney are encouraging broader artistic expression, and a signal to our employees that we're doing something for which we don't get any money. While they all know that we have to make money and want us to, they also want a signal that we are not so driven by money that it trumps everything else.

The *Quarterly*: *Are there any other signals you'd highlight?*

Ed Catmull: Here is a simple example, so simple that most people would overlook it: our kitchen employees are part of the company. I think a lot of companies overuse the phrase "our core business"—for instance, "making food for our employees is not our core business." So they farm it out. Now, in a lot of companies, including ours, there are certain things you do farm out. You don't do everything yourself. But this notion of "our core business" can become an excuse for being so financially driven that you actually harm your culture.

If you farm out your food preparation, then you've set up a structure where another company has to make money. The only way they can make more money, which they want to do, is to decrease the quality of the food or service. Now we have a structural problem. It's not that they're bad or greedy. But in our case, the kitchen staff works for us, and because it's not a profit group, their source of pride comes from whether or not the employees like the food. So the quality of food here is better than at most other places.

Also, the food here is not free—it's at cost. Making it free would send the wrong signal about value to the kitchen crew. Everybody loves the chef and the staff. We have people who are happier. They're not gone for an hour and a half because they're going somewhere else to get a decent meal. They're here, where we have more chance encounters; it creates a different social environment. That's worth something to us, to our core business.

The *Quarterly*: *You said that risk taking is critical to your artistic and, ultimately, your business success. Could you describe how you think about risk at Pixar?*

Ed Catmull: For me, there are three stages of risk. The first stage is to consciously decide what risks you want to take. The second is to work out the consequences of those choices; this can be fairly time consuming. The third

stage is "lock and load," when you do not intentionally add new risk. The trick is to make sure you do stage one—doing something that has risk as part of it.

For example, when you're building a team for a film, if you have a team that's worked together before and it's exactly the same team, you know *they* know how to work with each other and that they can be very efficient. If you keep doing this, though, you're going to end up with an ingrown team. On the other hand, if you build a team with all new people, then they won't see looming hazards, and they can fall apart. So you put together a blend. The mix of new and experienced people is a conscious risk taken at the beginning—stage one. The second stage then is getting the group working as a coherent whole for the heavy-duty work at the end of a production.

Likewise, with technology, we know that if we don't change the technology from film to film, we can become extraordinarily efficient because everybody knows how to use it. But we also know we'll become out-of-date if we do that. So we introduce new technology. Sometimes it's a small risk and sometimes it's a complete replacement of the underlying infrastructure—a huge risk, with great angst and pain. But our people buy into it because it's for the good of the studio, even though they know it will cause them so much trouble.

Similarly, if you consider the stories themselves, they're all hard to make—it doesn't matter whether it's an original film or a sequel. But there are different levels of commercial risk. If we're making a sequel to *The Incredibles*, it is low commercial risk. It is very hard to make, yet low commercial risk. A sequel to *Frozen* would be low commercial risk. However, if we make a movie about a rat who wants to cook or a trash compactor that falls in love with a robot, this is high commercial risk.

But if we only made low-commercial-risk films, we would become creatively bankrupt. Again, we make conscious choices to assume different levels of risk. This isn't the same thing as risk minimization or spreading risk. In the case of Pixar, every film we have started in the last 20 years, except one, we have finished. These are our babies.

The *Quarterly*: *In your book, you suggested that Disney Animation fell into a trap like that.*

Ed Catmull: When Walt was alive, Disney made impactful films. After he died, the quality went down. Then in the '90s, they had four more impactful films—*The Little Mermaid*, *Beauty and the Beast*, *Aladdin*, and *The Lion King*.

At that time, they thought they had found a template to consistently produce good movies. They said, "Animation is the new American Broadway." So every film was a musical with five to seven songs and a funny sidekick, and they kept doing that. Spectacular success doesn't lead to deep introspection, which in turn leads to wrong conclusions. You see this all the time, right? Successful companies draw conclusions about how smart and good they are, and then a significant number of them fall off the cliff because they drew the wrong conclusions.

Pixar's 2007 Academy Award–winning film, *Ratatouille*, the story of a rat who longs to be a chef, was praised by critics for its imaginative premise and innovative animation.

The *Quarterly*: *You said the barriers to entry have fallen in your business. What other big changes are taking place?*

Ed Catmull: We can all see that technology is changing and, just as obvious, the way people spend their time is changing. One result is that major tentpole movies have become increasingly important because they bring a lot of people into the theaters. These are a great social experience, although I should add that none of us wants to see the smaller films marginalized—they bring a lot of creativity into the industry. It is a real dilemma.

Meanwhile, if you look out 10 or 20 years from now, will the changes we are seeing lead to new business models? Change is coming, and the impact isn't clear. In my career, I've gone through many major transitions. If you pay attention, you can get it right about two to four years out. After that, we are

doing a lot of guessing. I can see, though, that more people in this industry embrace change than ever before.

On the hardware side of things in our business, the technological change, frankly, is driven by the gaming industry. Even though we were the originators of the graphics technology, which they fully acknowledge and are thankful for, we're just not big enough to drive people to design chips for us. So we are fortunate that there's this major gaming industry and that graphics chips keep getting better so we can keep driving forward.

But there is nothing stable in this environment. Disney is in the extraordinary position of having three graphics and animation R&D groups—Pixar, Disney Animation, and now ILM [Industrial Light and Magic, acquired by Disney when it purchased Lucasfilm in 2012]. In addition, we have two research groups at major universities to keep driving the technology, as well as research at Disney's Imagineering. Participating in and driving change are taken very seriously.

The *Quarterly*: *So it's about placing a lot of bets and hedging your bets?*

Ed Catmull: My own belief is that you should be running experiments, many of which will not lead anywhere. If we knew how this was going to end up, we'd just go ahead and do it. This is a tricky issue—people don't want to fail. They put a greater burden on themselves than we intend to put on them. I think it's natural because they never want to fail. One of the things about failure is that it's asymmetrical with respect to time. When you look back and see failure, you say, "It made me what I am!" But looking forward, you think,

For Disney's latest animated film, *Zootopia*, animators developed new technology to more realistically render the characters' fur, using as many as two million individual hairs for some animals.

"I don't know what is going to happen and I don't want to fail." The difficulty is that when you're running an experiment, it's forward looking. We have to try extra hard to make it safe to fail.

The *Quarterly*: *That's fascinating. Experiments are great in retrospect but not in prospect—because you're scared.*

Ed Catmull: In addition to the asymmetry, there are two meanings to the word "failure." The positive meaning is that we learn through failures. But in the real world—in business, in politics—failure is used as a bludgeon to attack opponents. So there is a palpable aura of danger around failure. It's not made up; it's real. This is the second meaning. So we have these two meanings and, emotionally, we can't separate them. And we don't actually call something educational until after it happened.

The *Quarterly*: *So what can you do about that?*

Ed Catmull: On the film side, we are making more experimental films that aren't burdened with the expectation of theatrical release but give us the opportunity to try something riskier. For feature films, we try to make sure that a certain number are "unlikely" ideas, which force us to stretch.

The *Quarterly*: *It sounds as though you think a lot about fear and how to counteract its corrosive effects.*

Ed Catmull: Fear is built into our nature; we want to succeed and we respond physiologically to threats—both to real threats and to imagined threats. If people come into an organization like ours and they're welcomed in, what's the threat? Well, from their point of view, they're thinking, "This is a high-functioning environment. Am I going to fit in? Am I going to look bad? Will I screw up?" It's natural to think this way, but it makes people cautious.

When you go to work for a company, they tell you something about the values of the company and how open they are. But it's just words. You take your actual cues from what you see. That's just the way we're wired. Most people don't talk explicitly about it, because they don't want to appear obtuse or out of place. So they'll sometimes misinterpret what they see. For example, when we were building Pixar, the people at the time played a lot of practical jokes on each other, and they loved that. They think it's awesome when there are practical jokes and people do things that are wild and crazy.

Now, it's 20 years later. They've got kids; they go home after work. But they still love the practical jokes. When new people come in, they may hear stories about the old days, but they don't see as much clowning around. So if they were to do it, they might feel out of line. Without anyone saying anything, just based on what they see, they would be less likely to do those things.

Meanwhile, the older people are saying, "What's wrong with these new people? They're not like we were. They're not doing any of this fun stuff." Without intending to, the culture slowly shifts. How do you keep the shift from happening? I can't go out and say, "OK, we're going to organize some wild and crazy activities." Top-down organizing of spontaneous activities isn't a good idea. Don't get me wrong—we still have a lot of pretty crazy things going on, but we are trying to be aware of the unspoken fears that make people overly cautious. If you're just measuring yourself by your outward success, then you're missing a huge part of what drives people.

The *Quarterly*: *In light of your experience integrating Pixar and Disney, what do you think a new CEO coming into an existing organization should—and should not—do during the first month or so?*

Ed Catmull: When we came to Disney, we spent two months just listening. Obviously, John [Lasseter, the chief creative officer of Pixar and Disney] and I were talking with people, doing some coaching and so forth. But we drew no conclusions for two months, about people or anything else. We just watched. The idea is to pay attention to the psychology and the sociology of the people.

When you come in and you're the new boss, everybody's rather nervous. They're trying to figure you out, too. So you should start with the assumption that everybody's trying to do the best they can. For me, it's not even putting people on a provisional basis by saying, "Well, we'll see how they work out." I'm just assuming they're going to work out. When they start to falter, you help them. And it's only after you've tried to help them—and they don't respond after repeated tries—that you do something.

Here's another thing that isn't obvious that we tried to be very careful about. Let's suppose somebody doesn't work out. And you, as an experienced person, know fairly soon that they don't have the ability to do the job. If they're leading a team and you've determined they can't do it, what should you do? The normal thing is to say, "Why would I waste people's time by letting a poor leader stay in place?" We don't say that. The reason is, if we remove somebody

as soon as we figure out they can't do the job, we've just induced fear in the other leaders. They don't usually see things as fast as you do because they're focused on their jobs. It makes them think, "Oh, if I screw up, they're going to remove me." So the cost to the organization of moving quickly on somebody is higher than it is if you let the person go on too long. You make the change when the need for it becomes obvious to other people. Then you can do it. I will admit that there are a couple of times, though, that we waited too long. This is a hard part of managing.

The *Quarterly*: *As you look ahead, what worries you?*

Ed Catmull: Everybody talks about succession planning because of its importance, but to me the issue that's missed is cultural succession. You have to make sure the next level down understands what the actual values are. For example, Walt Disney was driven by technological change and he brought that energy into the company. This was sound and color in the early days of the film industry. Then, in the theme parks, he used the highest technology available to create experiences and animatronics.

But after he died, the people left didn't fully understand how he thought. So it fell away from the company, and it didn't come back until Walt's nephew, Roy Disney Jr., used his authority to reintroduce the concept. He insisted on getting into a contract with Pixar, over the objection that our software wouldn't save any money. He said, "No, I want it because it will infuse energy into animation." He was very explicit about it—he understood better what Walt was doing.

The question is, "If Walt understood it, why didn't the other people understand it?" They just assumed that he was a genius, without thinking about what he was actually doing. Thus, the value wasn't passed on. Today, much of our senior leadership's time is spent making sure our values are deeply embedded at every level of our organization. It is very challenging—but necessary for us to continue making great movies. Q

This interview was conducted by Stanford University professors **Huggy Rao** and **Robert Sutton** and the *Quarterly*'s editor in chief, **Allen Webb,** who is based in McKinsey's Seattle office.

Toward a circular economy in food

The French food and water company Danone has a history of environmental awareness. In this interview with McKinsey partner Clarisse Magnin, CEO Emmanuel Faber discusses his commitment to resource efficiency.

The *Quarterly*: *What inspired Danone's current thinking?*

Emmanuel Faber: Three things. My own upbringing and convictions, the culture and history of Danone, and the overwhelming case for change.

I grew up in the Alps, where the beauty of the natural cycles seeded in me the underlying importance of something that we as managers can often lose sight of—namely, that life is more than ideas, mathematical models, and software. I later spent three years in Asia, including Indonesia and China, where I saw firsthand how fast resources were being depleted in emerging markets.

Danone's commitment to tackling these problems is not new, so it was always fitting that I should join such a company. More than 40 years ago, in Marseille, Antoine Riboud, our founding CEO, made a speech in which he pointed out that we only have one Earth, that it's our responsibility to look after it, and that as a business we would pursue a dual economic and social agenda.

Last, the world is changing. Cheap, low-quality calories have dominated the industrial-food business for nearly 100 years, but we are reaching the end

of this era. Consumer tastes and behavior are evolving, and as part of this evolution consumers expect us to act differently.

The *Quarterly*: *Can you say more about these changes?*

Emmanuel Faber: Supply chains are increasingly global, which means there are systemic risks that we don't see. While we've been able to improve food security in many regions, this has also led to other issues, such as declining soil fertility and threats to the biodiversity of our planet. At the same time, we cannot continue to reduce the costs of agricultural production. The volatility of input prices is much greater than it used to be, and food inflation is rising. The price of milk, our major raw material, was near an all-time low in 2009 but has gone up three times since and 18 months ago almost hit an all-time high.

On top of that, we need to address the needs of a growing population, new regulatory requirements in the area of public health, and the increasing impact of diseases such as obesity and diabetes. Some companies are turning to big data management and ERP[1] to meet these challenges. But I believe this is the wrong approach. We need a comprehensive response to tackle growing resource scarcity, which both drives the efficient use of those resources through the supply chain and brings healthy food to as many people as possible. Danone's approach rests on what we call consumption ecosystems, taking into account every stage in the life of products, from the production of raw material to the "second life" of packaging.

The *Quarterly*: *What does that mean in practice for the way you make products and source materials?*

Emmanuel Faber: To embed the principles of the circular economy in our operations, we have started managing our three key resources—water, milk, and plastic—as cycles rather than as conventional linear supply chains.

One example of this is what we are doing in yogurt. To make Greek yogurt, you use a "strained" technology with a membrane, extracting a lot of acid whey. Instead of just seeing this acid whey as an effluent, we are testing technology solutions in five or six countries and working with different partners to find ways to use whey as a resource. We are already using whey protein, for instance, in our Early Life Nutrition business, and we will soon be able to

[1] Enterprise resource planning.

EMMANUEL FABER

Vital statistics
Born January 22, 1964, in Grenoble, France

Married, with three children

Education
Graduated with bachelor's degree in business administration from HEC Paris

Career highlights
Danone Group
(1997–present)

CEO (2014–present)

Vice chairman, board of directors (2011–present)

Various executive positions (1997–2014)

Legris Industries
(1993–97)

Chief executive officer (1996–97)

Chief administrative and financial officer (1993–96)

Fast facts
Director, danone. communities mutual-investment fund (SICAV)

Member, steering committee, Danone Ecosystem Fund

Member, steering committee, Livelihoods Fund

use it for animal feed, fertilizers, and energy. What we're doing is turning something that is a challenge today into something that will have value tomorrow.

Under a new partnership with Veolia, a global waste-management company, we are working together on building a circular economy around water and packaging waste, testing new ideas and investigating new technology. One project, for example, aims to optimize recycling techniques so we can build plants with zero liquid discharge.

The *Quarterly*: *What are you doing with plastic waste?*

Emmanuel Faber: At the moment, nearly 30 percent of our total packaging comes from recycled materials, and as much as 80 percent from cartons. But for plastics, we want to create a net-positive cycle, which means that if you do a P&L for all the plastics we consume, the net outcome would be a profit.

Plastics are interesting because they highlight an important challenge of a circular economy, namely managing the "hierarchy of degradation."

If, say, we allow virgin PET[2] to go into landfills, its reusability potential ends up being low. But if we save it in a closed-loop system, it will continue to be of food-grade quality, good enough to reuse in food packaging. This means it stays at a high level in the hierarchy of degradation. Our ambition is to create a second life for all the plastic packaging we put on the market, so that we move toward 100 percent recycling in this respect. Part of the plan is also to launch a 100 percent biosourced second-generation plastic.

The *Quarterly*: *What changes have you made to Danone's organization to reflect the new ways of working?*

Emmanuel Faber: We have created a position in the executive committee in charge of our Strategic Resources Cycles unit. This person oversees separate internal units for the milk cycle, the water cycle, and the plastic cycle. This organizational change has already started to transform the way we work, because it is cross-divisional and cross-functional.

We have also created a Milk Technology Center that reports to the Milk Cycle Organization—part of the Strategic Resources Cycles unit—not to R&D or to the dairy business, as it might under a conventional structure. The aim here is to achieve a step change in our ability to maximize the value of milk and limit the waste from milk production.

The *Quarterly*: *How do you change Danone's culture to embrace circular-economy thinking?*

Emmanuel Faber: Danone has circular-economy principles in its DNA, and people join Danone because of its unique culture and heritage. We do, however, need to continue to create the conditions for new generations to embrace our founding principles of business success and social progress.

The time horizon is critical. You won't start anything if you only think of the next three months; it's got to be something for the next 30 years. At the same time, you need breakthrough objectives. We would never have made as much progress with our CO_2 reduction program in 2008 if we had just gone for a 2 percent reduction per year rather than 30 percent over five years, which we set ourselves. We actually achieved 42 percent.

If you know at the outset how you are going to achieve an objective, you're not aiming high enough to get the organization to start working differently.

[2] Polyethylene terephthalate.

You have to come up with an objective which is aspirational—something that is too far away to know how it will be reached. That was our intent when we announced, in December last year, that we would target zero net carbon emissions on our full scope of responsibility by 2050.

You also need an investment-payback period that is longer than it is in today's traditional model—five years instead of three; seven years instead of five. For our CO_2 reduction program, we created a special green CapEx category with this in mind. Some bets may have no payback at all. It's about getting a balance between the short, the medium, and the long term.

Incentives are also an important part of the culture because they really show that the leadership team means what it says. A few years ago, the annual incentive program for the 1,500 top managers at Danone encompassed the CO_2 reduction objective, to the point where, broadly speaking, the yearly bonus attached to CO_2 reduction was equivalent to the yearly bonus attached to profit generation. This is just one example of how we're using incentives to embed our vision across the business.

On top of this, and in order to foster change with Danone's 100,000 employees, the company launched a manifesto to underpin the way we intend to deliver on our mission. This manifesto aims at deepening and enriching Danone's mission, to bring it to the next level of impact, through a series of initiatives across the company and outside it. For instance, a dedicated internal website has been created where people can post ideas and thoughts related to the manifesto and contribute to Danone's journey. To support and coordinate the establishment of the manifesto across Danone's teams and local communities worldwide, the role of chief manifesto catalyst has been created to maximize the potential of this process and catalyze bottom-up innovation.

The *Quarterly*: *How do you think this approach will ultimately benefit Danone, as well as society and the environment?*

Emmanuel Faber: Consumers are interested in what is at work in the products they eat, how these products were produced and delivered, and what is their effect on the body. I believe there is a ladder of brand equity in food. There is a lot attached to the values and culture. Ultimately, the brand should be the link with the consumer and tell the story. Q

This interview was conducted by **Clarisse Magnin,** a principal in McKinsey's Paris office.

Leading in the digital age

The automation of work and the digital disruption of business models place a premium on leaders who can create a vision of change and frame it positively.

How disruptive will accelerating workplace automation be for organizations in the future? For decades, businesses have deployed technology to reduce costs and complexity, make better products, and develop new business models. But the new potential of artificial intelligence and advanced robotics poses major new challenges for leaders as they seek to reset their strategies for a digital age.

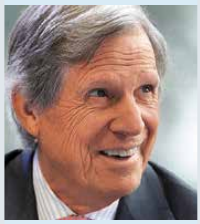
Last November, Bloomberg chairman Peter Grauer and Nadir Mohamed, the recently retired CEO of Rogers Communications, sat down with Manfred Kets de Vries, a professor at INSEAD, and Harvard professor Robert Kegan to debate some of the issues with Claudio Feser, head of McKinsey's leadership-development initiative. Their conversation started at the movies . . .

Peter Grauer: Recently, I was watching Spencer Tracy and Katharine Hepburn in a 1957 movie called *Desk Set*, about the early stages of computerization in offices. The workforce was petrified that it was going to end up out of work. In the end, the employees learned that they weren't going to lose their jobs. In fact, their jobs were going to become more interesting because, as we see in Bloomberg's global data operation today, the computer does the more routine work and humans can do the more analytical work.

The top-line benefit is that the quality of what we do gets better. Bloomberg is the largest provider of news-related data analytics and execution for the financial-services sector worldwide. Obviously, given what the sector has

ROUNDTABLE PARTICIPANTS


Claudio Feser


Peter Grauer


Nadir Mohamed


Manfred Kets de Vries


Robert Kegan

gone through during the last eight years, we've restructured our business dramatically. In the end, though, we've also become more efficient and able to provide increasingly higher-quality information to customers.

Claudio Feser: Recent research on workplace automation from the McKinsey Global Institute[1] suggests that advances in artificial intelligence and robotics mean that we've only taken the first few steps of a long journey that mainly lies ahead of us. From your perspective, are we at a turning point, or is none of this necessarily that new?

Peter Grauer: I happen to think companies have been living with this for a long time. For us, deploying technology is an absolute necessity, and we have to reinvent ourselves all the time. What's new is that the speed of change in automation is dramatically faster than it once was.

Nadir Mohamed: Automation isn't new. I think what is different, just in the last few years—and will become more significant and more frequent—is the intersection between automation and changing business models.

Automation itself may or may not lead to business-model change. It depends on how you think about this. Automation can mean taking a process and doing it much faster, better, and cheaper. Or automation can fundamentally change what a business offers, requiring a new business model and profoundly disrupting an organization or industry in the process.

We tend to see these two things as the same, but they aren't. In banking, for example, you could think of discount brokerages either as the automation of tasks or as the potential disintermediation of a bank's offering to customers. The implications are profoundly different.

[1] Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015, McKinsey.com.

Robert Kegan: I agree. Some kinds of automation help organizations to move faster and more efficiently, versus transforming the business and bringing about a new paradigm. You have to be mindful of the difference. Take the simple example of student papers today. Thanks to technology, they are more handsome to look at than they were in earlier times. You could be forgiven for thinking, sometimes, that they'd been published by a professional publisher. But the thinking of the students isn't necessarily any better. Technology can keep us where we are, but moving faster. Looking at it another way, you could say, "The greatest opportunities are going to require transformation. How can technology help me with that?"

Nadir Mohamed: The word "automation" itself is part of the problem. Take Uber as an example. You could argue that what they've done through automation is to make dispatching better. But, clearly, what they've done is more significant than just refining the same process so it's faster and cheaper. Automation today is about reconfiguration, transformation, disruption.

Claudio Feser: What changes for leaders in this new technology environment?

Nadir Mohamed: From a leadership perspective, I don't think the challenge is an intellectual one of knowing which disruption is coming. The challenge is how you get the organization to embrace the looming change.

Why didn't cable companies launch their own version of Netflix? Intellectually, they surely knew what was going to happen. For a long time before they were hit by the new model, even their own customers were moving toward delivery over the Internet. It wasn't that cable-company executives didn't see this coming. Their challenge was organizational—"How do we set up the capabilities to make change happen?"

Manfred Kets de Vries: I think the leadership challenge is even deeper than that. When we talk about leaders, we too often think about an individual with specific abilities. But no one can do everything. Leadership is a team sport. What's really at stake here is finding the right combination of complementary talents. The CEO playing Moses is a distortion, particularly in America, compared with Europe. Leaders should be asking themselves, "How do we build a diverse and creative team that can reach better decisions?"

Peter Grauer: You're right. There's something fundamentally broken about the CEO model, given the accelerating speed of change and the shortening "life cycle" of chief executive officers, particularly in public companies.

In our interconnected, global environment, 60 percent of our business and 47 percent of our employees are outside North America. Our fastest-growing markets are the emerging ones. We check our smartphones when we wake up in the morning, and that's the last thing we do at night. We are totally wired. The only time CEOs are not bombarded by electronic media is when they are on airplanes. How can one person run the business? I don't think the old model of the supreme CEO works anymore.

Nadir Mohamed: I'm perhaps more "old school" on this. I agree the speed of change is intense. And I agree that glorifying the leader is a problem. Even good leaders can lead us astray.

But I do think the response to automation starts with the CEO. It starts with the leadership saying, "The company is going to change. We see this coming." Obviously, you have to build teams, collaboration, and what have you. The leadership, at the top, must embrace and drive change because organizations will not have the luxury to play out change over time, particularly in the midst of disruption. The leadership has to recognize the need for change and get the organization to change fast enough.

Robert Kegan: One way to think about the leadership implications of a major technology-driven change—whether for an individual or a team—is to start by asking more broadly what the functions of leadership are, by which I mean the position, not the individual.

I think there are a small number of functions for the leader. One is asking whether the organization is realizing its fullest potential. That's a question about the future. Most people in an organization are paid to think about optimizing the present. There are other functions for the leader, but this one—unleashing potential—is perhaps the most relevant to our discussion.

Automation is not an inspiring topic. It creates the specter of employees losing their jobs. Talking about the tools that will make our lives better, about unleashing potential, is a more uplifting way of looking at it. Leaders have to frame the story differently, as an opportunity, not a threat.

Nadir Mohamed: Framing change positively is really important. Leaders must paint that picture. But I think they also have to be firm about what has to stop happening in an organization.

You can make the case, for example, that mortgage brokers need to spend much less time doing menial work. Isn't it great that with a new technology,

they'll be able to apply their critical skills more productively and do a better job serving clients? But this is only true for a particular type of broker. A lot of them may not have the skills that are needed after the changeover. The ability of the organization to get these brokers to change is a critical part of this positive story, to my mind, and we shouldn't underestimate that.

Claudio Feser: Leaders are dealing with more complex and diverse work roles than they were 30 years ago. And there are now many different ways to organize work. Looking ahead, will leaders need to be open minded and experiment with new organizational models?

Nadir Mohamed: That question highlights the need for clarity about what roles different layers of leadership play. What are the key decisions an executive should focus on as part of a leadership group? The greater the clarity, I think, the fewer the issues about changes in roles. The challenge of people working from home or on smartphones or on airplanes—to address Peter's point—need not be much of an issue provided there is clarity as to who does what.

The problems come when that's not clear and people are trying to do things they aren't suited for. Framing change positively is important, as we were saying, but in no way is it a compromise. Organizations suffer when the leadership doesn't deal with these problems and challenges.

Claudio Feser: That leads to capabilities. Is it right for the role profiles of board committees to emphasize lengthy industry and P&L experience while 22-year-old billionaires are disrupting whole industries? How, as a leader, do you make sure the organization has the capabilities and capacity to talk about the future and act on it?

Nadir Mohamed: The hard fight is how to get there. Think about banking or, specifically, Canadian banking, which I am more familiar with. A successful business model that delivers tons of value and is deeply embedded in communities. Bank leaders there see the disruption caused by peer-to-peer lending and the growth of all kinds of fintech companies.

The CEO of a bank, as part of the leadership team, has to paint a picture of where this is all going: "Here is how the new world will look." A picture of a future where the number of bank branches falls by 3 percent? A future in which there are no bank branches at all?

Then the question becomes what must you do to get there and how fast can you drive the change. The answers about what to do are multifaceted. There are regulatory questions. Do you want to be regulated more like the disruptors? In that case, your regulatory strategy has to switch from trying to get them regulated as you are. Or maybe you need a partner rather than building a capability on your own. Some things have to change faster than others; some things will take longer.

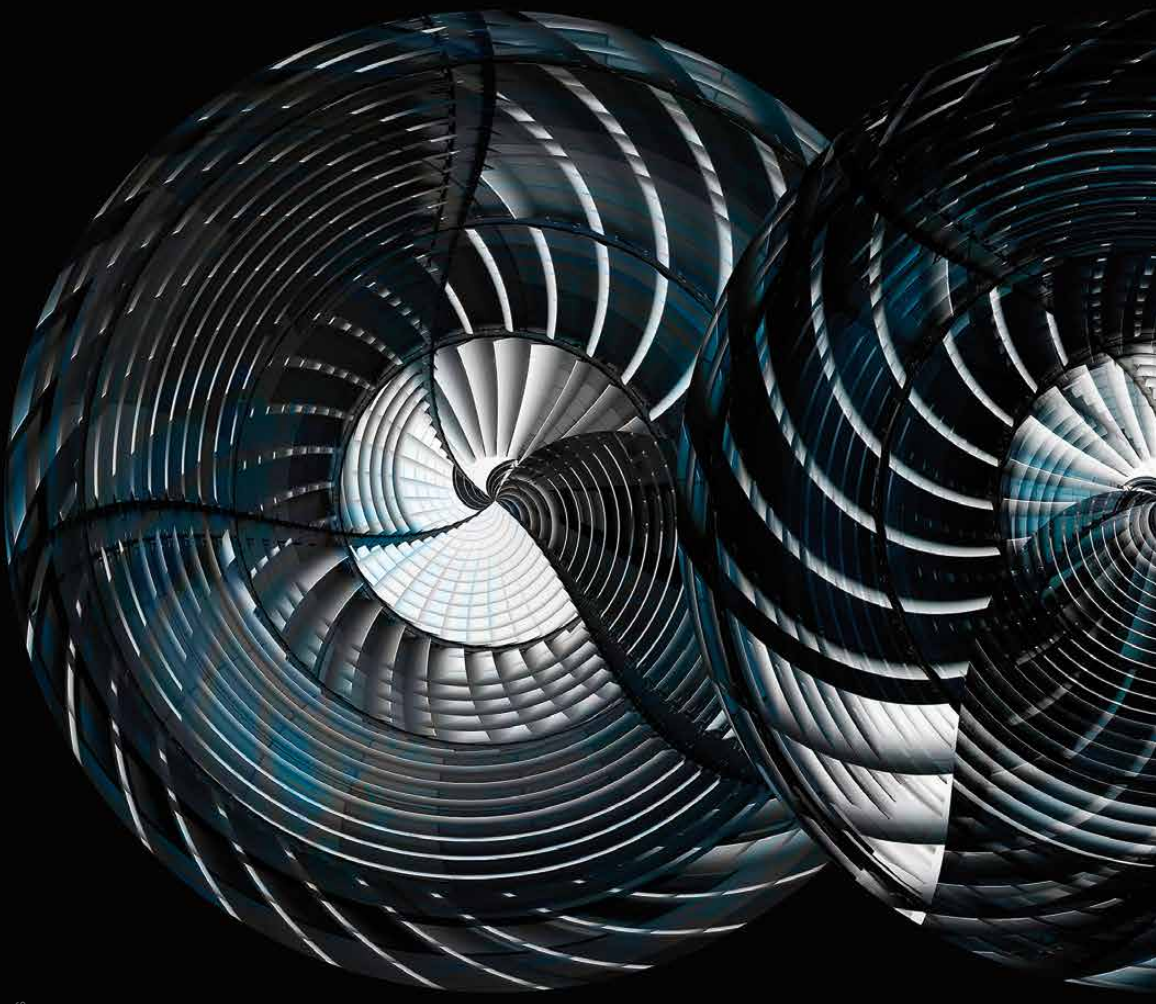
These are hard decisions. You have to paint the best picture you can, get the 100 top people to buy into it, and drive change throughout the organization.

Peter Grauer: Leaders need to make these changes. We all tend to underestimate institutional inertia.

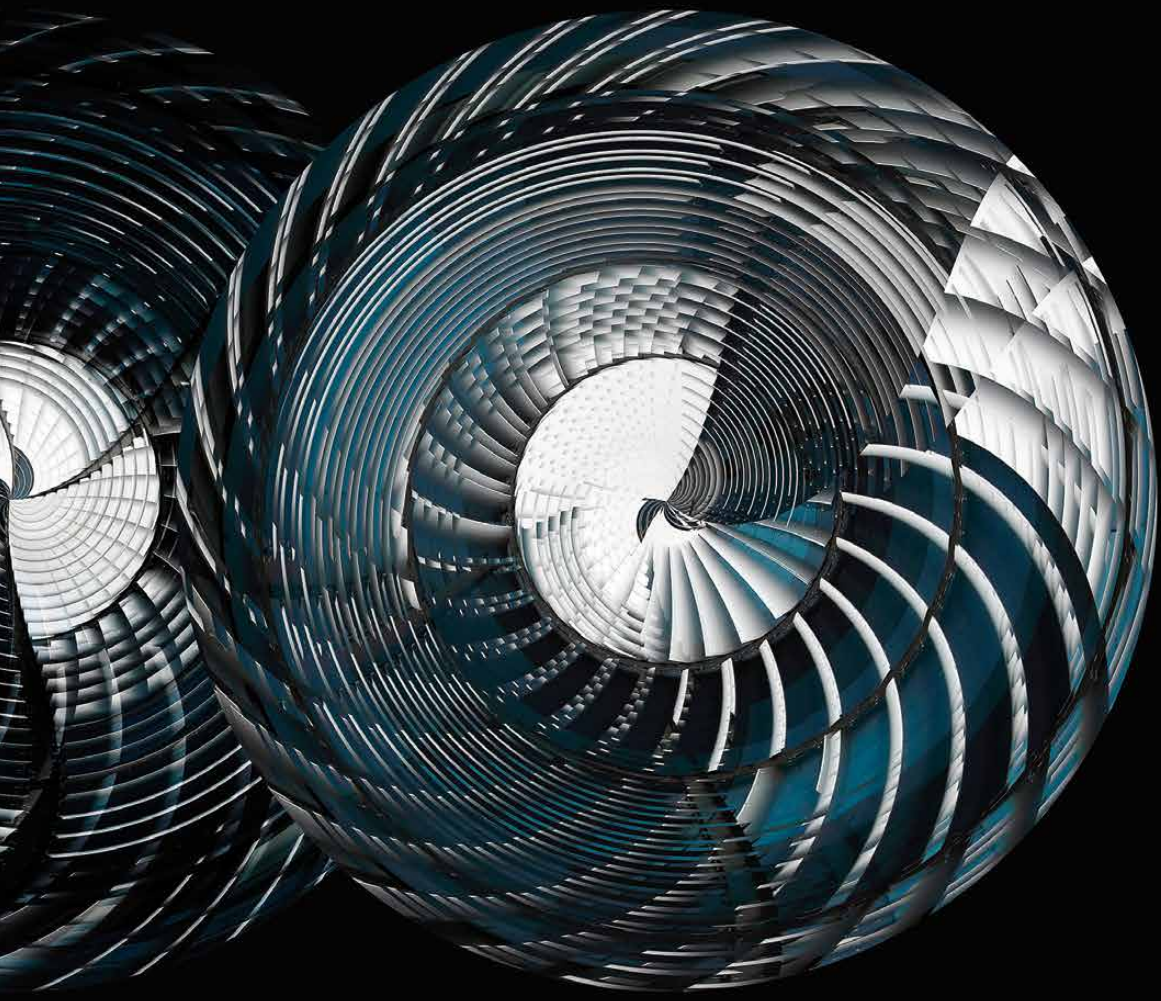
I hear new leaders of some organizations talk about the changes they are going to make, but they are doing no more than saying what their predecessors said. I know some of these organizations, and their resistance to change is difficult to confront. I call it "corporate obesity"—big, lumbering, complicated, sometimes paranoid, sometimes complacent organizations that will have to change.

This roundtable was moderated by **Claudio Feser,** a director in McKinsey's Zurich office.

MAKING COMPANIES HUM



New digital tools are transforming business. But organizations will only run smoothly when silos are tackled and deep-rooted cultural assumptions challenged.



Making collaboration across functions a reality

Fast-changing global markets put a premium on simplifying processes radically and breaking through silos.

by Ruben Schaubroeck, Felicita Holsztejn Tarczewski, and Rob Theunissen

Companies have long struggled to break down silos and boost cross-functional collaboration—but the challenge is getting more acute. The speed of market change requires a more rapid adaptation of products and services, while customers increasingly expect an organization to present them with a single face. Even well-established multinationals routinely fail to manage operations end to end.[1] The result: interactions with customers are sluggish; complex, customized products are hard to create on time and on budget; and blocked lines of communication make new sales and distribution channels difficult to navigate.

The basic principles for improving performance—imposing stretch targets from the center, empowering cross-functional teams, standardizing processes, tightening up execution—are mostly familiar. But making these things happen is a different matter. In many companies, ownership of processes and information is fragmented and zealously guarded, roles are designed around parochial requirements, and the resulting internal complexity hinders sorely needed cross-business collaboration. What's more, in our experience, companies that apply traditional solutions (such as lean

[1] Pascal Visée, "The globally effective enterprise," *McKinsey Quarterly*, April 2015, McKinsey.com.

and business-process reengineering) either exhaust their managers with efforts to rework every process across business units or, by contrast, focus too narrowly *within* functions.

Our observations of 25 companies in a wide range of industries in Europe, Asia, and North America have led us to conclude that perspiration is as important as inspiration in addressing these challenges. Here's the story of how two companies launched new approaches successfully. One needed to focus narrowly to fix a critical process that compromised its core business. The other, swamped by the complexity of its processes, required a broad-based transformation.

RESETTING TARGETS

Executives at a communications-services company were initially puzzled by feedback showing that only 65 percent of its customers got a working connection when they first attempted to use a new premium fiber-optic product. After all, the functions responsible for the various parts of the process—the sales, back-office, operations, and logistics teams—had received scores of more than 90 percent in an earlier survey to assess their ability to "get things right the first time."

On closer inspection, executives discovered that field engineers, under pressure to meet new orders, had cut down on the time they spent with customers during installation, prompting a flood of requests for help to call centers. Back-office staff, meanwhile, were struggling to cope with incomplete and often incorrect orders submitted by the sales team. More fundamentally, collaboration was weak and incentives were misaligned. Sales and marketing, for example, rarely discussed how they could work with field engineers (or vice versa) to address problems. Meeting the needs of customers wasn't included in individual or functional performance targets.

The company responded by setting several breakthrough targets aimed at uniting different teams and pushing them beyond their usual work practices and patterns. One target, for the sales and field-engineering teams, was to halve the number of requests for help to the call center following new installations.

At the same time, the company established new cross-functional teams charged with controlling the installation process from initial order to after-

Exhibit

An end-to-end operating model rests on three fundamentals.

sales service. As a result, teams that traditionally had separate workflows and little shared responsibility were forced out of their comfort zones. The cross-functional representatives convened every week to review how well they did on a set of cross-functional key performance indicators and to generate further ideas for improvement. These meetings provided an opportunity to choose the high-payoff areas for execution—it was clear, for instance, that engineers should spend additional time in the field educating customers (at their premises) about successful connection procedures. Senior leaders reinforced accountability by assigning a strong manager to coordinate the process end to end.

The impact of this cross-functional collaboration has been tangible: first-time-right delivery has increased to over 80 percent (from 65 percent), customer satisfaction is up, and the number of requests for help to the call

center during the first six weeks after installation dropped by one-third, with a commensurate reduction in costs. The leadership concluded that focusing on the way a single process broke down across functions, rather than following the initial impulse to have each of them address a range of process issues, generated a better solution, with far less stress on management resources.

RETHINKING PROCESSES AND ROLES

After steady performance declines in key business areas, the reconstituted board and new CEO of a global industrial company realized that internal complexity was hampering its reputation for innovation. Sixty businesses, each with its own P&L, often devised or maintained their own fairly similar processes, sometimes even lauded internally as marks of innovation. "We were like the UN without translators," one executive noted, "with different language and terminology describing nearly every process." In one division, half of the job titles in a commercial function were unique to a single person, making it hard to share information and thwarting potential economies of scale and the transfer of skills across businesses units. Different ones often swarmed clients with different and uncoordinated approaches; for example, each sales team pursued customers with separate promotional materials and financing arrangements. Atomized processes led to fragmented IT architectures, which allowed only a limited sharing of production or customer data.

The company's leaders concluded that squeezing marginal improvements out of thousands of processes wouldn't achieve their goals. Their response was to launch a multiyear business transformation built on two levels of a tightly specified architecture. One was bottom-up, grounded in an end-to-end view of markets and customers, the other a top-down redesign of the company's operating model (exhibit).

Rewiring expectations

The company started by identifying a few hundred combinations of global businesses and local markets: matrix-like operational units known as business-market combinations. The executives in charge of each of them co-owned P&Ls and had free rein to overturn conventional ways of working and forge cross-functional and cross-business combinations. They also set stretch goals that no individual function or business could meet on its own. These included achieving a number-one market position, reaching new segments in emerging markets, embracing new business models, and opening new sales channels.

A group of transformation leaders was created to fight cultural resistance and help connect teams end to end. Monthly reviews by top executives tagged lagging business-market combinations requiring extra attention. One of the business units in need of change manufactured lower-tech products. It had long operated in an oligopoly market with high margins and sluggish multiyear technology cycles but now faced threats both from chip-based offerings with six-month technology churns and from more efficient competitors, some in China, offering better-priced products.

A business-market combination took the lead in redesigning its value chain end to end. Early on, it agreed to move new products from sourcing to retail shelves in 50 days rather than the usual lead time of up to 300 days. This radical shift in tempo forced the company to plan more collaboratively with retailers, to introduce platform-based product designs that encouraged input across business units, and to redesign regional supply chains to keep pace with the changing components.

Within 18 months, this business-market combination turned around its performance—from heavy losses to a number-one market position, with healthy margins. Company leaders noted that few of the changes were fundamentally new in concept; it was the mind-set and behavioral shifts that had enabled broader collaboration and made the real difference. They also concluded that they could accelerate cultural change by investing in leadership capabilities rooted in transparency and regular feedback. This overcame the impulse of many managers to sidestep any changes that might lead to conflict.

Revolutionizing processes

Without more standardized processes, however, the innumerable variations in operating models across the company's many businesses and geographical markets would hamper collaboration between the new cross-functional and cross-business teams. This would continue to stymie innovation, constrain cross-business sales, frustrate efforts to achieve scale economies in IT, and inhibit the sharing of information and skills. Team leaders, including some of those initially most skeptical about change, had a year to simplify processes. They began by defining seven value chains that created and delivered value to customers in truly distinctive ways. These value chains served as the operational platforms for manufactured products, large projects, two distinct software business models, and three broadly different service businesses. By identifying what really mattered to customers, the company consolidated more than 80 value-chain designations.

For each designation, the team leaders identified cross-business processes across the company that were truly distinctive, typically about 10 percent of the total. They allowed variations only in processes that were needed to serve specific customer segments or to satisfy regulatory requirements. The hundreds of others were slotted into standardized process templates that could be supported by readily available IT. A new and relatively concise process lexicon[2] replaced a massively complex compendium that hindered cooperation—for example, by including dozens of business-planning definitions that prevented units from sharing forecasts. Standardization also led to vastly simplified roles (reducing them to just a handful of roles for each function), as well as to shared performance metrics and capability frameworks.

The changes have had a striking impact on the company's morale, ways of working, and performance. Multiple sales teams in a region, for instance, with a transparent view into each others' order books, can now negotiate deals collaboratively with customers across a range of products. The greater transparency has enabled health-services businesses in one part of the group to learn from the large-project capabilities of manufacturing-oriented units. Consumer-products businesses have been able to share speed-to-market insights with other units. In IT, a consolidation of approaches to enterprise resource planning has expanded opportunities to share data and develop more robust analytics. Meanwhile, to remain agile, functional teams from different units coalesce and disband as demand and business conditions shift.

As in most transformations, pockets of resistance took time to unblock. In one business, sales managers pushed back when asked to open their book of potential clients to colleagues in other units, arguing that critical intelligence would leak to competitors. In reality, core competitive information was well protected, and when the list was opened, several business lines came together to win a big contract to serve a major new customer. By making senior managers owners of simplified process repositories, the company hopes to keep complexity from creeping back at the grass roots.

Overall, however, the leaders have been struck by how cultural change takes hold once proof of the gains from transparency and collaboration become tangible. They point particularly to the way functional "ambassadors" outlined the benefits of standardization, so that a multitude of variations on a

[2] The company now has a total of 340 processes, which can be described by a straightforward vocabulary of 6,000 individual tasks.

commercial process for forecasting sales and managing leads could be replaced by just one. These ambassadors, with their strong knowledge of how to standardize processes, have taken on a second mandate: collaborating with peers from other functions to link processes end to end. New measures of accountability, and end-to-end performance targets (for functional leaders) tied to them, have served to bring teams together.

While markets remain fluid and organizational change is hard, executives across a wide range of companies and industries must expect silos to continue obstructing joint action among functions. But they can head off the problem before it overwhelms them if they establish the kind of targets, end-to-end accountability, process standardization, and execution-oriented, collaborative culture the two companies described here did. Q

Ruben Schaubroeck is a principal in McKinsey's Antwerp office; **Rob Theunissen** is a principal in the Amsterdam office, where **Felicita Holsztejn Tarczewski** is an associate principal.

Cisco's drive to break down organizational barriers

Cisco executive chairman John Chambers describes how the company has tackled process and organizational change.

Technologies like the cloud or mobility, and things like cybersecurity and the Internet are very important. However, that's actually the easy part. How do you change your organization structure? How do you change your culture to be able to think in terms of outcomes for customers, new competitors, and new business models? It's all about speed of innovation and changing the way that you do business. The majority of companies will be digital within five years, yet the majority of digital efforts will fail—which speaks to what a CEO has to do differently.

She or he has to think much more outside the box. They have to reinvent themselves. They have to reinvent their company. Not delay doing the right thing for too long. That's what got companies into trouble in the past. But then the rate of change was much slower. Today you're talking about digitization being an integral part of the fabric of a company's business strategy, the interface between supply chains and customers. Companies aren't just enabled by technology. Technology will become the company.

But as a CEO you also have to change organization structure, focusing more horizontally on how things work together as opposed to in silos. If all you do is have a bunch of silos in your company that don't really talk to each other,

you're going to get displaced, perhaps by a small company that literally has just a CEO and a CIO and has $1 billion in sales. Because that company will be able to bring together—through a combination of concepts like outsourcing and digitization—a speed of product delivery that you're not going to be able to match. So you have to break down those barriers in your organization. You also need to think about everything around speed and innovation and how you paint the picture of what you will look like as you come out of this.

We transformed our engineering organization from silos to a horizontal structure. We took out about 5,000 people and worked across the groups. We refocused on leaders who could work horizontally together, as opposed to in silos, focused on their own P&L. We changed our sales organization, which is one of the top sales organizations in high tech. Yet we changed 41 percent of the client interface and execs, because they were selling routers and switching technology, not business outcomes, or the architectures and speed-to-market delivery that are based on understanding the customers.

And it caused us to change our top leadership as well. We changed 40 percent of our top leadership over the last two years. It's not something I'm terribly proud of, but it's something that we had to do so that we were disrupters as opposed to being disrupted. So when I talk about, in theory, what CEOs need to do, this is what we did ourselves. The penalty for not moving fast—is the highest it's ever been in my business career. It's no longer a factor of 2x, but probably five to tenfold. That's how quickly transitions are going to occur. That's how short the life of a company, or a CEO, could be if they don't move. Q

John Chambers is executive chairman of Cisco. This commentary is adapted from a recent interview with him conducted by Rik Kirkland, McKinsey Publishing's senior managing editor.

Watch the full interview, "Cisco's John Chambers on the digital era," on McKinsey.com.

Learning at the speed of business

What digital means for the next generation of corporate academies.

by Richard Benson-Armer, Arne Gast, and Nick van Dam

Corporate universities are entering their second century, just as the businesses that rely on them are transforming themselves for the digital age. When pioneers such as General Motors and General Electric began offering standardized in-house training programs, about 100 years ago, they focused on imparting lower-level, day-to-day skills. Back then, it may have seemed fanciful to imagine the full-fledged academies that would emerge in later decades. But emerge they did: GE's Crotonville leadership center, in 1956; McDonald's Hamburger University, in 1961; and today's true learning institutions for global corporations such as Apple, Boeing, and Danone.

Now a new phase is unfolding at these organizations, which must grapple with tools and platforms that facilitate knowledge sharing and employee interactions on an almost limitless scale, challenging—and sometimes appearing to sweep away—the old brick-and-mortar model (exhibit).

WHERE THE FINDINGS LEAD

In 2014, we queried some 1,500 global executives about capability building. Last year, we sharpened our focus, surveying approximately 120 senior learning-and-development (L&D) officers to gain a more in-depth understanding of the present state and probable trajectory of corporate

academies.[1] We also conducted multiple benchmarking visits at best-in-class organizations and interviewed more than a dozen chief learning officers (CLOs) with experience at some of the largest, most successful companies around the world. Our findings derive, moreover, from insights we've gleaned through practical experience with corporate academies globally. That includes McKinsey Academy, this firm's digital offering, which serves not only our consultants but also our clients, to help develop leaders and build functional capabilities.

The great majority of our respondents expect corporate learning to change significantly within the next three years—both the capabilities imparted and the new agility required to match the faster pace of business. Most also acknowledge that these developments will probably have a material cost: over that period, more than 60 percent of the respondents' companies plan to increase their learning-and-development spending and 66 percent to increase the number of formal-learning hours per employee.

What's worrying is the level of dissatisfaction with the status quo. Only 57 percent of the respondents believe that their academies are "very or fully aligned" with corporate priorities. Even fewer (52 percent) reported that these institutions enable their companies to meet strategic objectives. About 40 percent of CLOs say that their initiatives are either "ineffective" or "neither effective nor ineffective" in assessing the capabilities and gaps of employees. These shortcomings are most pronounced among midlevel managers and senior leaders—reflecting, in our experience, how difficult it is to instill new attitudes, particularly at the higher levels of a company.

Many respondents also think that these organizations don't sufficiently deploy the full array of learning tools, methods, and approaches now available. They report that classroom training, experiential learning, and the on-the-job application of skills were in regular use. But less than half of the organizations avail themselves of peer and self-directed learning, educational initiatives that take participants outside their comfort zones, or risk-free learning environments. About one-third of the respondents reported that their organizations lack systems to share learning among employees. And the surveyed CLOs overwhelmingly think that their organizations' digital capabilities are too low.

[1] The respondents' organizations spend roughly 4 percent of their payroll budgets to build capabilities and invest about 34 hours per employee a year in formal learning. Research, both by us and by others, suggests that the ratio of learning expenditures to payroll is generally inversely proportional to an organization's size. The Association for Talent Development (ATD), for example, reported that small organizations invest about 5.4 percent of payroll on learning, midsize organizations 3.0 percent, and large organizations 1.7 percent. See *State of the Industry*, Association for Talent Development, 2015, www.td.org.

THE DIGITAL LEARNING OPPORTUNITY

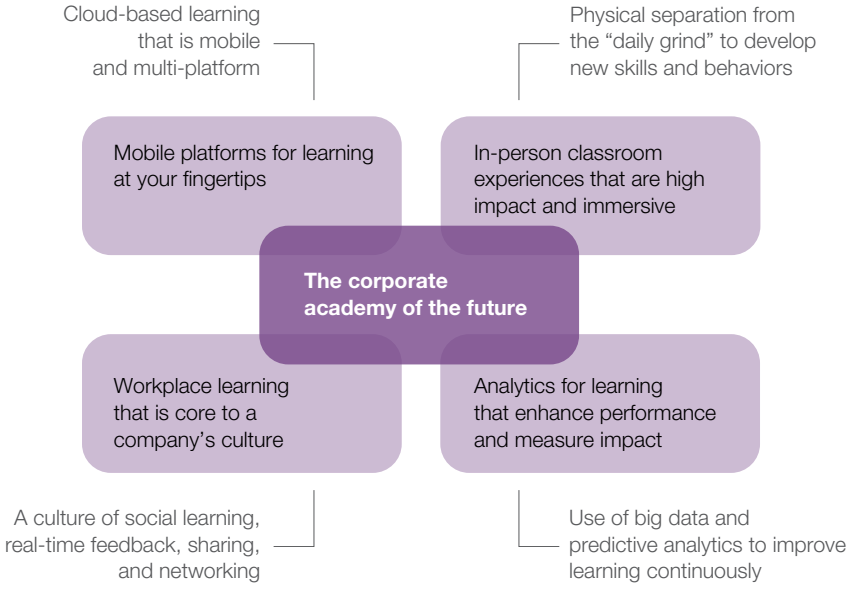
Digitization offers a huge opportunity to transform learning and address some of its current deficiencies, though it bears noting that digital learning tools are not new. What is new—and disruptively so—is the fact that the content of learning is moving to the cloud, becoming accessible across multiple devices and teaching environments and often being generated, shared, and continually updated by users themselves.

Unsurprisingly, our research indicates that younger employees—millennials and postmillennials, or Generation Z—feel the greatest level of comfort with digitization. At China Fortune Land Development Company (CFLD), Han Qing, the head of CFLD University, explains that "deploying digital learning and using technology is part of our strategy because there are more and more young people joining the workforce. They are used to mobile phones and PCs. And they demand more digital learning."

Integrated cloud-based platforms enable more than just new computer programs or nifty smartphone apps. Sophisticated organizations are now expanding their use of cloud-based learning to run such personalized applications as MOOCs (massive open online courses), SPOCs (small private online courses), instructional videos, learning games, e-coaching, virtual classrooms, online performance support, and online simulations.

Exhibit

The next generation of corporate academies supports learning at the speed of business.



One global Asian original design manufacturer we know offers a digital 3-D learning environment at its virtual model factory. This system lets employee participants "see" and "feel" complex equipment deployed at many of the company's plants. Danone—long committed to encouraging professional and individual development through means such as more than ten learning facilities around the world—successfully rolled out its cloud-based Danone Campus 2.0 in 2014. Easily accessible and continually updated, this innovative approach to learning involves Danone employees in their own development by providing a digital, user-friendly space to share best practices, to highlight the latest internal and external knowledge, and to foster a culture of collaborative learning and networking.

Unleashing the power of collective intelligence is especially critical to the digital-learning transformation. Increasingly, the learner and the learner's inner circle—colleagues who send each other articles or recommend content through a central online-learning system—act as curators. In large global companies, HR or L&D can't own (or even share ownership of) detailed knowledge about the existing and emerging skills a diverse workforce must have to improve the performance of each business. But employees themselves can be empowered to share knowledge across the company, an approach that also helps solve the perennial problem of who will be the trainer. When training is automated, consistency improves and C-suite messages go straight to the front line, avoiding potentially distorted "translations" passed on at a company's middle levels.

The cloud-based Danone Campus 2.0 provides employees with a digital, user-friendly space.

Flattening the knowledge hierarchy not only sharpens the messaging and broadens the pool of available content but also enables faster delivery and, potentially, more sophisticated performance measurement. We expect L&D and HR personnel to become less the authors of what gets taught in digital formats and more the facilitators who ensure that employee-generated content can be seamlessly dispersed throughout the company. Our respondents rated their companies highly on designing and delivering learning programs—more than 75 percent said they were effective on both counts. But digitizing education effectively requires the additional, more technical capabilities that a wired-in world demands.

For make no mistake, it really *is* a new world, learning at the speed of business. Since there is less need to wait for scheduled training sessions, "pull" can complement "push," as employees empowered to upskill and reskill themselves log on to user-friendly learning platforms. Much as Amazon makes books instantly available anywhere, any time, on its Kindle and other devices, the digitization of learning can provide unprecedented access to relevant knowledge, a lot of it at relatively low or even no cost.

The impact of today's best systems and tools can be just as profound as Amazon's, even if the results aren't always precisely measurable. As an executive at one leading global company noted, investing in modern learning-and-development platforms is so fundamental that it transcends simple metrics—akin to building a house and then trying to measure the ROI of the plumbing. Despite the ability of digital platforms to make the collection, analysis, and scoring of data more sophisticated, the full measure of impact can't be captured to the decimal.

THE ENDURING CASE FOR (AT LEAST SOME) BRICKS AND MORTAR

Similarly, for all of the notable advances that digitization promises, comprehensive learning cannot be based on the cloud alone. Companies still have compelling reasons to locate significant elements of corporate learning in tangible, specialized educational facilities—increasingly, with ergonomically designed furniture, plenty of light, and interior design geared specifically to learning. In our experience, any successful educational program allows employees to unplug and enjoy a respite from an always-on, 24/7 tempo.

The importance of this physical separation from the daily grind should not be underestimated. If employees have no opportunity to step away from their working environments, the same old behavior, for good and ill, is constantly reinforced, and the chance for more reflective, committed learning is lost. Harvard professor Ronald Heifetz calls this a "balcony moment": the imperative

for leaders to leave the "dance floor" periodically and reflect on the patterns and movement below.

Dedicated learning facilities also befit the gravitas of a professional function. However virtual business may now seem, we still belong to a physical world; even Amazon recently established its own physical bookstores. It's worth noting, as well, that millennials benefit from high-touch learning no less than workers from previous generations do. Younger employees may spend more time online and be more comfortable with mobile applications. But they should not be forced—and, in our experience, don't desire—to engage solely with digital learning tools.

Indeed, corporate academies provide an unparalleled opportunity for employees to share experiences with fellow participants and to connect with company leaders. Many best-practice corporate academies deploy their top executives as visiting faculty; GE, for instance, has long used its most senior leaders in many learning programs. A major Asian oil and gas company we know includes the number of days senior executives spend in such teaching capacities in their performance evaluations. The value of this interaction is particularly high for companies that operate across businesses and geographies.

That said, learning is an expertise, no less than disciplines such as marketing or finance. It's therefore critical to maintain a core learning-and-development team with professionals in that field. We've observed that too many L&D organizations are led by employees from other company functions who "graduate" to managing L&D a few years short of retirement. Companies that are serious about modernizing their skill-building efforts as digitization transforms corporate learning must attract and develop leaders with deep experience in this unique function. Some global organizations are even sending senior personnel to a new executive doctoral program, launched by the University of Pennsylvania, designed specifically to prepare CLOs and other senior executives for success as educational and talent-development leaders.

TYING IT ALL TOGETHER

Ultimately, we believe, the future of corporate academies lies in blended learning, which combines classroom forums, in-field applications, personal and results-oriented feedback, and online engagement. There is no magic number for allocating time between digital and in-person learning; different industries, and different companies within them, must determine the mix that makes the most sense for their circumstances and capability-development priorities. Connectivity allows organizations to meet many of the most important learning objectives: avoiding disruptions in day-to-day business,

delivering content consistently (as opposed to in-person training with different facilitators), and sustaining learning for employees (who review the content after the end of each lesson and then update and share their new knowledge in real time).

It's critical, too, for an organization to express its commitment from the very highest levels. Just as the digital and physical elements of learning must fit together in a rational way, L&D should collaborate with the C-suite to ensure general agreement on educational priorities and the required funding. "If L&D is not a strategic partner for the important initiatives of the company," noted the CLO of one European telecom we interviewed, "you're just working reactively with the other businesses. In our company, there is a strong alignment between learning and our overall business strategy. But that's because of a strong push from the CEO."

Farsighted corporate leaders understand the value proposition. When critical training programs became mandatory, a leading financial institution we are familiar with boosted its level of engagement and morale and halved its absentee rate for key positions. Across many dimensions, the effects of corporate learning—especially in the digital age—will find their way to the bottom line.

Corporate academies are poised for change on the order of magnitude experienced a century ago, when they developed from low-level workshops into mature institutions. The disruption now underway is remarkable, representing a transformation even when compared to what had been standard practices at the end of the 20th century, when the focus was largely on classroom-based learning. Achieving the next level of change—akin to the revolution that Amazon brought to retailing—will require a nimble balance between digital and physical platforms, cultural messaging and technical content, and real-time and actively shared learning. The sudden emergence of a more digitally engaged generation and the stepped-up pace of technological change suggest that time is of the essence. Successfully navigating the coming transformation will require not just a shift in tools and approaches but also an agile, engaged organization. Q

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The authors wish to thank Jacqueline Brassey, Andy Moffit, Nicolai Nielsen, and Silke-Susann Otto for their contributions to this article.

WINNING HEARTS AND MINDS IN THE 21ST CENTURY

Leaders must consider new ways to change the attitudes and behavior of employees.

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The psychological contract that traditionally bound employees to their employers has been fraying. Many of today's workers, having experienced the pain of the economic downturn and large-scale layoffs, no longer feel as much loyalty and commitment to their organizations as they did even a decade ago. Job hopping has been described as the "new normal," and millennials are expected to hold 15 to 20 positions over the course of their working lives.[1]

Meanwhile, middle management—the executives who traditionally act as a conduit for communication from the top to the bottom of companies—has been hollowed out. So perhaps it's no surprise that in the face of these two trends, leaders struggle to get their employees to embrace big change programs. Rather than adapt to the demands of an organizational transformation, employees are more likely to resist passively, undermining the effort and spreading that contagion throughout the organization. Or they might simply decide that such a transformation isn't worth the risk and look for their next opportunity elsewhere.

To counter these problems, it's more important than ever for companies in transition to invest time and effort in changing the mind-sets and behavior of the workforce. Almost 15 years ago, we introduced the idea that four key actions could work together to support such initiatives: fostering understanding and conviction, reinforcing change through formal mechanisms, developing talent and skills, and modeling the new roles. New research has since reinforced the significance of these four priorities. (For more on that research and the Influence Model it supports, see this article's online companion, "The four building blocks of change," on McKinsey.com.)

The challenge for executives now is that they must learn to apply the model in new and imaginative ways that would not have been

possible when we first published our research, at a time when the world was a very different place. Back in 2003, the iPhone had yet to be released. There was no such thing as Facebook, much less Chatter, Twitter, or Yammer. The more fortunate millennials were off at college and still dreaming of the success they would eventually have from launching start-ups like Box or Instagram. Uber was just a German word. We rented movies at Blockbuster, drove around in Hummers, and read print editions of *Newsweek*—all of which have since folded.

Two key features of the modern workplace are particularly important in the context of change. One is the increasingly advanced technological and digital landscape, including mobile connectivity and social media, that has opened up exciting new possibilities for influence. The second is the new generation of millennial employees. On the surface, at least, they seem to have different needs and respond to change in ways that set them apart from their more tenured coworkers—though we'd echo our colleagues' view (see "Millennials: Burden, blessing, or both?," on page 127) that their attitudes, in some ways, reflect those of the workforce as a whole. In the face of these inter-related opportunities and challenges, here are some ideas on how to win hearts and minds in the modern era.

New tools for influence

Digital advances can turbocharge efforts to foster understanding and conviction, thereby helping employees to feel more involved in change efforts and better able to play a role in shaping them. Consider, for example, how modern digital communications make it easy to personalize messages, tailoring them to the needs of individuals and delivering them directly to frontline employees. We take such personalized communications for granted, but they are significant in the context of major change efforts: they help to prevent a break in the cascade when a message trickles down from the CEO through middle management. For example, a global pharmaceutical company engaged in a major change program used its internal social-media platform in exactly this way, sharing different messages with different groups of users and ensuring that communications stayed relevant.

Technology also can help identify obstacles to change, such as overconfidence in your abilities or knowledge. Consider the popular FitBit and other activity trackers: these small devices provide an accurate (and sometimes surprising) picture of individual activity, expose the truth, and hold users accountable for their performance. Rapid-fire online-polling tools make it relatively straightforward to take an organization's pulse, identifying differences in outlook and understanding between top management and the rank and file. Research

Over the past couple of years, we've seen a growing number of companies use social-networking analyses and similar techniques to help identify hidden influencers: people whose attitudes may command respect among their colleagues and whose role might be critical for the success of a change program.

based on McKinsey's Organizational Health Index suggests that management frequently overestimates the impact of its messages on employees (for more, see "Why frontline workers are disengaged," on page 16).

More positively, leaders can use technology tools to celebrate skill building. For example, digital tools give organizations a creative way to show how increased effort (such as the adoption of new software or attendance at a training program) can improve performance. By profiling success stories on company Intranet pages and displaying training certificates and "badges" on Chatter and Yammer, organizations can instill a sense of control and competence that stimulates the improvement efforts of both individuals and teams.

Social platforms are more than just tools for communication and for building skills and a sense of community. They provide a sophisticated analysis that reinforces role modeling and builds up a momentum of influence. Over the past couple of years, we've seen a growing number of companies use social-networking analyses and similar techniques to help identify hidden influencers: people whose attitudes may command respect among their colleagues and whose role might be critical for the success of a change program. Having identified a few dozen influencers across regions, functions, and roles in this way, a large manufacturer we know enlisted the support of these employees to help communicate the changes it wanted to make, role-model the desired mind-sets and behavior, and fight skepticism.[2]

New employees, new challenges

Indeed, the power of the group may be the most potent influence of all. Today's increasingly connected digital world provides more opportunities than ever to share information about how others think and behave. Millennials typically take their cue from positive reviews on Instagram, SnapChat, or Yelp or from "Twitterati" with many followers. It's no surprise that users of social media can "buy followers," thereby boosting the popularity of a person or brand when it starts trending. Millennial workers, sometimes described as "hyperconnected globally," may be especially open to persuasion through the collective voice and expect real-time communication from everyone, not just top management.

The potential of technology to inspire action is good for would-be change agents, because today's employees are increasingly skeptical. A generic change story won't cut it now, if it ever did. To change hearts and minds, a story must be personally meaningful to the listener or reader. That's particularly true for today's younger employees. Recent interviews with hundreds of high-potential millennials, for example, revealed how, in many cases, their decisions to stay with or leave a company depended upon their ability to find meaning and purpose within it.

Technology's new transparency, though, can be a double-edged sword. In today's world, sites like Glassdoor take the mystery out of salaries and increased job mobility. That makes it easier than ever for employees to judge when they are unhappy with the direction of a company or decide that they are not getting an equitable deal. Remember, some twentysomethings recall how their own parents were mistreated in previous bouts of cost cutting, and many jaded older employees remain in the workforce. Organizations hoping to win over such employees need to do what's necessary to neutralize compensation as a source of anxiety and focus instead on what really matters. For some workers, extra flexibility and telework may be more alluring than a bigger paycheck. Leaders directing significant change efforts should look at all the formal reinforcing mechanisms at their disposal.

Finally, don't overlook skill building as a means of fostering commitment in the younger generation; millennials, after all, appear to be particularly hungry for opportunities to develop. The previously mentioned McKinsey research on this generation found many who were eager for advancement opportunities and receptive to various learning programs—from entrepreneurial challenges to more traditional rotational programs. In the past few years, organizations have started to tap into this mind-set, and some are exploring discounted education as an employee benefit. Starbucks's college achievement plan, for example, now pays tuition fees for part- and full-time workers taking Arizona

State University's courses. Other organizations, such as Anthem and Fiat Chrysler Automobiles, have since launched similar programs.

Millennials may seem challenging. Yet their search—for diverse role models, meaning beyond a paycheck, equitable treatment in an increasingly transparent and transient world, and leading-edge skill building—is one that many employees, regardless of age, industry, or nationality, are undertaking today. Leaders who understand both the changing workforce and leading-edge digital tools and have a well-tuned grasp of the building blocks of organizational change should be well positioned to break through the noise and inspire these employees. Q

[1] Jeanne Meister, "Job hopping is the 'new normal' for millennials: Three ways to prevent a human-resource nightmare," August 14, 2012, forbes.com.

[2] Lili Duan, Emily Sheeren, and Leigh M. Weiss, "Tapping the power of hidden influencers," *McKinsey Quarterly*, March 2014, McKinsey.com.

THREE "MUSTS" FOR CHANGE MANAGERS

Turn to page 132 for an at-a-glance summary of McKinsey's Influence Model and the new ways leaders can win over their employees.

For the original 2003 McKinsey article, see "The psychology of change management," on McKinsey.com.

And for a recent discussion of the academic research underlying the Influence Model, read "The four building blocks of change," also available on McKinsey.com.

MILLENNIALS: BURDEN, BLESSING, OR BOTH?

Companies often complain about the unrealistic expectations of millennial workers, but heeding their call to action can improve the work environment for everyone.

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We recently came across the following quote about the younger generation:

> Because all the peoples of the world are part of one electronically based, intercommunicating network, young people everywhere share a kind of experience that none of the elders ever had. . . . This break between generations is wholly new: it is planetary and universal.

Cultural anthropologist Margaret Mead wrote these words in 1970. They are an important reminder that older generations often see stark differences between themselves and up-and-coming ones. We're seeing that same pattern play out today: a barrage of articles and commentators has stamped today's youth as "millennials"—workers who are said to be difficult to manage and likely to quit at a moment's notice, and to make needless mistakes as they forge ahead blindly without permission.

The research we've conducted suggests a more complex reality. Yes, the youngest generation differs from the older ones. *But this has always been true*. Can you define everyone born between 1980 and 2000 by a handful of generalized characteristics? You know the answer.

It's time for leaders of organizations to stop debating the millennial problem, hoping that this supposedly exotic flock of sheep will get with the program. Instead, they should see how questions and challenges from their youngest employees can spark action to help their companies change for the better. It's easy to say that young people haven't matured enough to resign themselves to the reality of what's possible. Yet they are asking an important question: "Why does it have to be this way?" In the process of listening, leaders will soon realize that young people want the same things we all do.

This past year, Joanna conducted 200 in-depth interviews with high-potential young professionals and an additional 60 with talent professionals looking for ways to engage younger employees effectively. We'd be the first to acknowledge that this research is qualitative, but it covers 120 companies, including 55 of the Fortune 500, across many industries. The sample primarily draws from millennials in the United States but includes multinational perspectives: more than 40 percent of those sampled were immigrants from over 40 different countries or first-generation Americans. The emerging themes were consistent enough to make us feel comfortable sharing our observations and early conclusions from them.

For starters, these interviews underscore what shapes this generation: even high-performing young professionals acknowledge the harsh economic realities they've seen and the stress they experience. Many in the United States continue to bear the burden of thousands of dollars in student-loan debt. Coming of age amid the global financial crisis, they have also observed firsthand the weakening of the social contract as corporate scandals stripped workers of their pensions and companies cut costs or closed their doors, leaving committed workers and their families financially vulnerable. This has understandably influenced their decisions to join or leave companies and sharpened their desire to find meaning and purpose in the chaos of the world in which they've grown up.

Millennials also speak of themselves as hyperconnected globally—always on—with resulting work behavior that seems peculiar to some of their managers. But this natural affinity for technology provides them with unique skills and insights that managers can use. They're efficient, and they also see patterns not always evident higher up the hierarchy.

We don't want to belabor this familiar ground or the obvious ways in which young employees are important to companies: at a minimum, they're needed to replace aging baby boomers and Gen Xers. Let's focus instead on the actions that companies are taking to adapt. If these seem relevant for most if not all employees, that's because they are. Young professionals don't want to be patronizingly singled out; they just want to create the kind of environment that many older employees have longed for but never found. Any one of these actions would be a significant shift from business as usual. Collectively, they represent a new workplace dynamic spurred by the high expectations of young employees but meeting a larger need for more thoughtful relations between all workers and employers.

- Build bridges with data. People analytics has been gaining momentum in a wide variety of organizations, but few have thoughtfully used research to understand their youngest employees better. P&G has deployed its

consumer-marketing expertise to learn more about them and to generate ideas that help middle managers to shift their own mind-sets and adapt their management approach. They're far from alone; some companies are gathering data to understand not only their youngest workers but also the entire workforce—tracking tenure, movement, performance evaluations, and attrition, as well as qualitative data to gauge engagement and find ways of increasing it.

- Put communication on steroids. Many companies have learned that employees are eager to hear from top management. But the young ones in our research expect this to happen at hyperspeed: real-time, two-way communication that accepts input from everyone, followed by fairly immediate action. Here, tech firms are leading the way. HubSpot, a marketing-software company with a recent IPO, conducts surveys of its mostly millennial employee base every 90 days and reports the raw findings, along with analysis, to all employees. In addition, they use anonymous microfeedback platforms to ask questions about specific topics and to engage on follow-up feedback requested by supervisors or senior management. This approach provides unprecedented visibility into issues and solutions—and changes the rhythm of continuous improvement.

- Develop a culture of mentorship. Many young people thrive on collaborative work and support from colleagues, but few companies have figured out how to build a culture that helps existing employees to mentor new ones. Personal relationships are crucial for companies anxious to stem attrition or hang on to their young workers. W.L. Gore's use of this approach is a classic example: all new employees are assigned a sponsor who helps them to navigate the culture; to reach out and form other mentoring relationships, based on work interests and chemistry; and to be successful. More recently, Sodexo began to test mentoring circles of four people to help onboard new employees: three experienced ones each form their own connection with a newcomer.

- Get creative about professional growth. This young generation has grown up watching entrepreneurs reach the height of success before age 30, taking on responsibilities usually reserved for older executives and gaining unprecedented wealth. Many young professionals want a chance to flex their entrepreneurial muscles; they chafe at the lack of advancement opportunity in today's flat structures. Any kind of movement that promotes professional development is a plus. For example, last year Barclays started up a young leaders' resource group called Emerge. Its primary goal is to help the company's most recent hires accelerate their careers through opportunities to develop skills, to network, and to manage projects through "extracurricular" initiatives inside or outside the company.

Temporary projects over and above the day job are nothing new, but for millennials who thrive on challenges they are crucial. For example, Synchrony Financial offers a spot in one of its Innovation Stations—collaborative, cross-functional teams across the United States—to encourage its young high performers to dream up and test bold ideas. Like many tech companies, the teams host one-day Bolt Sessions that rapidly deliver working prototypes of digital solutions to help solve business or customer problems.

Finally, young workers tell us they are energized by rotational programs, an old standby that's fallen by the wayside at many companies. Programs at Synchrony Financial and other businesses have expanded the traditional model to include increased mentoring, exposure to senior leaders, cross-functional work, and community service—elements that millennials value highly.

- Make flexibility more than polite talk. Young employees, more than their older coworkers, value the genuine blending of their work and personal lives. Leaders may be apprehensive at the prospect, but there are simple ways to make flexibility work. Journeys, a leading specialty retailer where young workers make up a large majority of the workforce, has created a core time block when all headquarters employees must be in the office unless they are on the road for work. In return, employees are responsible for their results, regardless of their work hours, which they are otherwise free to choose.

  Flexibility is also important to millennials starting families: many young women, and a growing number of young men, cite their families as a top priority and want more family-friendly policies at work. Netflix has instituted an unlimited parental-leave policy allowing employees to spend more time with their newborns and to choose return dates balancing their responsibilities at home and at work. For many companies, paid parental leave would be a long-overdue first step.

- Shape midlevel managers into leaders. Middle managers are the first line of supervision that young employees meet. That encounter can be disastrous. But it also can be edifying if the managers are prepared to handle pivotal scenarios, such as giving (and receiving) more frequent development feedback, managing difficult situations, and learning to adapt to challenges. It is not enough to create management tools that sit on the shelf.

  For example, Danone has created an innovative internal training program that brings together leaders of different generations so that each can better understand how the others work (and to stamp out stereotypes) in this

digital era. Citigroup requires every manager to undergo coaching and training before working with an intern or a participant in a rotation program. You might think training an intern is just a headache, but not so. It's a form of recognition for mentoring ability.

Young employees are part of the solution. They can learn how to broach issues with the empathy that comes from standing in the shoes of their managers, to pose questions that foster solutions rather than more problems, and to pause and thoughtfully engage with their elders before moving on to action. It's crucial to encourage this two-way dialogue between the generations. Given the right attitudes, senior and junior leaders can bridge the cultural gap that divides them.

But that's only the start. We understand that implementing most of our recommendations will be challenging. They change the nature of work, establishing a new standard for the way leaders, managers, and employees interact. Companies will therefore not only more effectively retain young professionals, who may eventually become their leaders, but also increase the engagement of all employees across the organization.

We're also optimistic that young people can help show the way, not because they are so different, but because they are expressing common human needs and raising relevant questions about why more progress hasn't been made already. Leaders who listen, who have long-term horizons and the courage to break new ground, can improve their odds of building a lasting legacy that serves generations to come. Q

NEW WAYS TO WIN OVER EMPLOYEES

by Tessa Basford and Bill Schaninger

Almost fifteen years ago, we introduced the Influence Model, four key actions to support change. In the meantime, social technology has created new opportunities and the millennial generation has presented new challenges for executives. Companies can now influence people in new ways.

For more on the Influence Model, see "Winning hearts and minds in the 21st century," on page 122.

Highlights

A supply and demand guide to digital disruption, plus a spotlight on digitization in banking

Pixar's Ed Catmull on staying innovative

The future of performance management

Leading in the digital age

Danone CEO Emmanuel Faber on prioritizing sustainability

Breaking down the gender challenge

Making companies hum—new insights on fostering cross-functional collaboration and building the next generation of corporate academies in a digital world

Cisco's John Chambers on breaking down organizational barriers

McKinsey alumna and author Caroline Webb on improving team dynamics

Winning hearts and minds in the 21st century

Millennials: Burden, blessing, or both?

New McKinsey research on organizational health, China's e-commerce market, buzz analytics, and more

McKinsey.com/quarterly