

2016 Number 1

# McKinsey Quarterly



**ORGANIZING  
FOR THE  
FUTURE**

McKinsey&Company

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# McKinsey Quarterly

## THIS QUARTER

Each spring, McKinsey’s global managing director Dominic Barton meets with the leaders of about 15 global organizations to get advice on our emerging ideas. Last year, Dom invited me to go along, but there was a price of admission: putting some thoughts down on paper about the “organization of the future.” As a firm, we had a number of research initiatives underway connected with this theme, and although they were far from complete, Dom suggested we start getting feedback. I sketched out three big priorities (embracing digital tools, achieving agility, and nurturing new kinds of leaders), which our advisors found hard to disagree with but urged us to investigate further.

As we did, we realized that our terms needed to be sharpened. “Organization of the future” implies that there’s a single structural solution to the demands being placed on today’s companies, but that’s simply not true. Instead, as this issue of the *Quarterly* suggests, every company should be thinking about how it “organizes for the future,” by which we mean reconciling the need for organizational stability with the reality that technology-enabled changes in business processes and workforce automation are rapidly uprooting traditional pillars of company confidence.

My colleagues Aaron De Smet, Susan Lund, and Bill Schaninger suggest that part of the answer is workplace labor platforms—digital tools that may, ironically enough, help us strike a more human balance. Ericsson chief human resources officer Bina Chaurasia describes some of her company’s early efforts to build globally integrated processes on such platforms.

The importance—and challenge—of rethinking the organization at the moment is highlighted in three other articles: “Four fundamentals of workforce automation” summarizes the early results of a major McKinsey research effort on the automatability of activities (demonstrated technologies could automate as much as 60 percent of labor activities in the United States) and jobs (just 5 percent could be completely automated). “Agility: It rhymes with stability,” meanwhile, offers advice for designing a backbone of structures, governance arrangements, and processes that enable dynamism. And Roche CEO Severin Schwan suggests what it takes to build an innovative organization.

Leadership implications abound, starting with how to maintain organizational health amid rapid change. As executives seek to do so, they should bear in mind new McKinsey research suggesting that leadership behavior that works in healthy organizations is less likely to work in struggling ones, and vice versa.

Inspiration for embattled leaders can come from many sources. Jeffrey Pfeffer, a professor at Stanford University’s Graduate School of Business and the recent author of *Leadership BS*, suggests five books that he thinks can help. And McKinsey’s Nick van Dam and Els van der Helm explain why leaders who don’t get enough sleep could be damaging their organizations. Manish Chopra, also of McKinsey, offers a personal reflection on how meditation has been a useful coping mechanism in his case. These are valuable reminders that while many of the challenges to the organization come from technology (robots, artificial intelligence) and the seemingly unstoppable pace of competition, people remain at the center of how we will adapt.

Speaking of adapting, you might notice that this issue of the *Quarterly* has an updated look. We hope it helps you enjoy our ideas—the rigor and relevance of which we don’t intend to change. (Q)

A handwritten signature in black ink that reads "Michael Rennie". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

**Michael Rennie**  
Director, Dubai office  
McKinsey & Company

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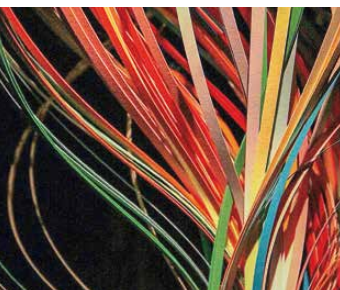
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*Whoopee!*

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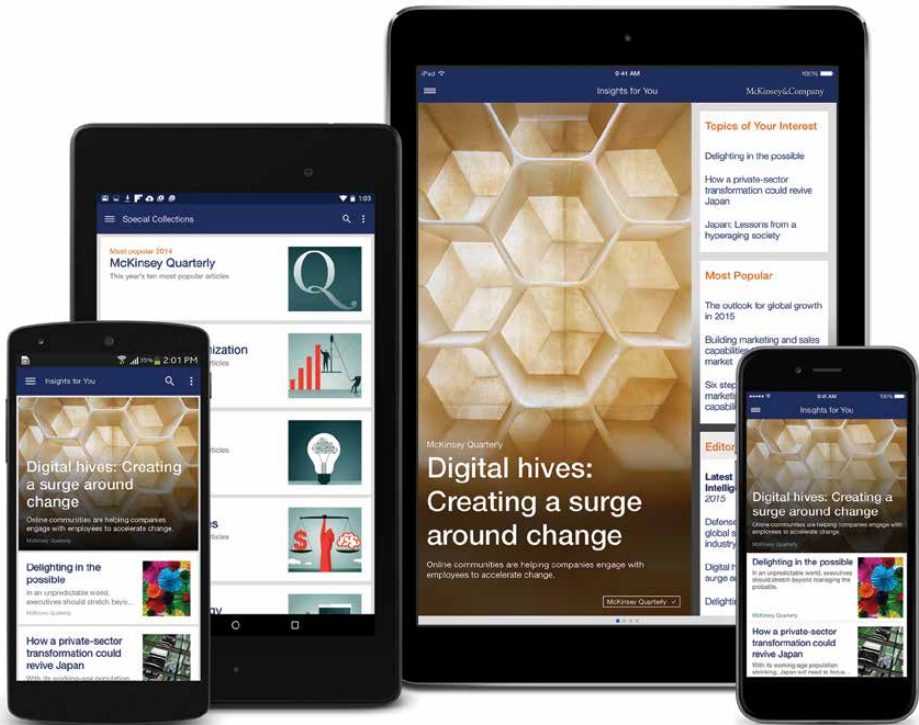
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## BIG DATA: GETTING A BETTER READ ON PERFORMANCE

The benefits match those of earlier technology cycles, but companies must scale up their data-analytics skills to reap the gains.

*by Jacques Bughin*

Over the past several years, many companies have avidly pursued the promised benefits of big data and advanced analytics. In a recent McKinsey survey of executives in this field, nearly all of them said that their organizations had made significant investments, from data warehouses to analytics programs.<sup>1</sup> But practitioners have raised questions about the magnitude and timing of the returns on such investments. In 2014, for example, we conducted a poll of senior executives and found that they had seen only modest revenue and cost improvements from them in the previous year.<sup>2</sup>

Our latest research investigated the returns on big data investments for a random sample of 714 companies

around the world, encompassing a mix of industries and company sizes typical of most advanced economies.<sup>3</sup> Our findings paint a more nuanced picture of data analytics. When we evaluated its profitability and value-added productivity benefits, we found that they appear to be substantial—similar, in fact, to those experienced during earlier periods of intense IT investment. Our results indicated that to produce these significant returns, companies need to invest substantially in data-analytics talent and in big data IT capabilities.<sup>4</sup>

Yet we also found that while data-analytics investments significantly increased value-added or operating profits, the simple revenue impact for consumer companies

was considerably lower. This finding, mirrored among B2B companies on the cost side, appears to confirm the intuition of executives struggling to uncover simple performance correlations. The time frame of the analysis also seems to be important, since broader performance improvements from large-scale investments in data-analytics talent often don't appear right away.

### Analyzing data analytics

The research avoided overweighting technology companies, since many denizens of the C-suite say that “we know that digital natives capture big returns, but does their experience apply to those of us who live in a hard-wired universe of factories and distribution channels?” Operating profit was used to measure returns, since it captures the impact of big data both through value-added productivity and pricing power (often resulting from better customer targeting). The data also allowed us to understand other aspects of the returns on these investments—for example, the advantages of being the first data-analytics mover in a given market.<sup>5</sup>

We took care to measure the returns from technologies specifically linked to big data and therefore considered only analytics investments tied to data architecture (such as servers and data-management tools) that can handle really *big* data. Looking beyond capital spending, we assessed complementary investments in big data talent across eight key roles, such as data scientists, analysts, and architects. Finally, we

examined whether improvements were radiating throughout organizations or captured only in narrower functions or individual businesses.

### Gauging performance

Our research looked at the results of big data spending across three major business domains—operations, customer-facing functions, and strategic and business intelligence. These were our key findings:

#### Big data's returns resemble those of earlier IT-investment cycles.

History tells us that it takes time for new technologies to gather force and diffuse throughout an economy, ultimately producing tangible benefits for companies.<sup>6</sup> Big data analytics—the most recent major technology wave—appears to be following that pattern. The average initial increase in profits from big data investments was 6 percent for the companies we studied. That increased to 9 percent for investments spanning five years, since the companies that made them presumably benefited from the greater diffusion of data analytics over that period.<sup>7</sup> Looked at from another vantage point, big data investments amounted to 0.6 percent of corporate revenues and returned a multiple of 1.4 times that level of investment, increasing to 2.0 times over five years. That's not only in the range of the 1.1 to 1.9 multiples observed in the computer-investment cycle of the '80s but also exceeds the multiples others have identified for R&D and marketing expenditures.<sup>8</sup>

### Investments are profitable across key business domains.

Companies, we found, benefit broadly from big data investments. With minor variations, spending on analytics to gain competitive intelligence on future market conditions, to target customers more successfully, and to optimize operations and supply chains generated operating-profit increases in the 6 percent range. Although companies struggle to roll out big data initiatives across the whole organization, these results suggest that efforts to democratize usage—getting analytics tools in the hands of as many different kinds of frontline employees as possible—will yield broad performance improvements.

### Understanding investment patterns

Three aspects of big data investments determine the magnitude of these performance improvements:

#### Investing early augments the benefits.

Our research helped us identify how significantly early investments in big data analytics can raise the pace at which operating profits improve: first movers accounted for about 25 percent of the increase in our sample. One possible explanation is that early adoption allows companies to learn by trial and error how best to design data-analytics technology and integrate it into their workflows. This, in turn, could create valuable capabilities that help companies differentiate themselves from competitors. If the cycle continues as increasingly powerful data-analytics applications

come on stream, the importance of rapid experimentation and learning—and of leaders who feel comfortable with this approach—could rise.

### Combining investments in IT and skills is decisive.


Many companies still compartmentalize their data-analytics initiatives—for example, by making IT-architecture investments in isolation. That's a mistake: about 40 percent of the profit improvements we measured resulted from complementary and coordinated investments both in IT and in big data talent. Organizational constraints can make such gains difficult to achieve, of course, since companies often silo their investments. For instance, the IT or technology department is commonly tasked with determining the level of big data investments needed, while business units and HR departments draft their own spending plans for employee resources.

We find that when companies fully coordinate their investments in IT capital with those in skilled roles, performance improves substantially. Here's an example of what happens when they don't coordinate them: one company's large investment in database-management software foundered when HR neglected to hire the analysts needed to support the new data-driven business priorities. Experience also tells us that in the most capable organizations, a chief data or analytics officer often coordinates IT spending with efforts to acquire analytical talent across business units.

## Investing in big data talent at scale is a must.

Skilled employees across the spectrum of data-analytics roles are in short supply, so aggressive actions to address this problem are critical. Our study found that 15 percent of operating-profit increases from big data analytics were linked to the hiring of data and analytics experts. Best-practice companies rarely cherry-pick one or two specialist profiles to address isolated challenges. Instead, they build departments at scale from the start. With a broad range of talent, these companies can use data analytics to address the current challenges of their functional areas while developing forward-facing applications to stay ahead of competitors.

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Combined, these three investment characteristics account for about 80 percent of the operating-profit increases in our study. Staying on top of new developments, carefully balancing investments in skills and technologies, and becoming a magnet for cutting-edge talent will be the paramount considerations for leaders keen to turn their modest data-analytics gains into broader and more substantial ones. 

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<sup>1</sup> In mid-2015, McKinsey polled 20 industry-leading analytics executives on their investments to date. The results, while not scientific, were instructive: 90 percent reported medium-to-high levels of data-analytics investment, 30 percent called their investments “very significant,” and 20 percent said data analytics was the single most important way to achieve competitive advantage.

<sup>2</sup> See David Court, “Getting big impact from big data,” *McKinsey Quarterly*, January 2015, mckinsey.com.

<sup>3</sup> These investments include a full range of spending on big data software, analytics, hardware, and data-analytics talent. We used company data to calculate operating profits and value added.

<sup>4</sup> Data were for the year 2013. For the complete set of findings and methodology, see Jacques Bughin, “Big data, big bang?,” *Journal of Big Data*, January 2016, journalofbigdata.com.

<sup>5</sup> For additional analysis of big data returns, see Russell Walker, *From Big Data to Big Profits: Success with Data and Analytics*, New York: Oxford University Press, 2015.

<sup>6</sup> In 1987, Nobel Prize laureate Robert Solow, who studied productivity effects of adopting computers, famously remarked, “You can see the computer age everywhere but in the productivity statistics.”

<sup>7</sup> In the operating-profit measure we account for the tendency of the most productive companies also to be early big data adopters.

<sup>8</sup> See Sunil Mithas et al., “The impact of IT investment on profits,” *Sloan Management Review*, March 20, 2012, sloanreview.mit.edu; and Sunil Mithas et al., “Information technology and firm profitability: Mechanisms and empirical evidence,” *MIS Quarterly*, 2012, Volume 36, Number 1, pp. 205–24, misq.org.

**Jacques Bughin** is a director in McKinsey’s Brussels office.

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# HOW PRIVATE-EQUITY OWNERS LEAN INTO TURNAROUNDS

PE-backed companies outperform their public counterparts during periods of distress because the owners play a more active role in management.

by Hyder Kazimi and Tao Tan

It's well known that the boards of the best private-equity (PE) firms create value by using financial leverage to increase their returns on equity, by improving the strategy and operations of their target companies, and by exiting at higher multiples. Proponents of PE further argue that management incentives, strong board governance,

and a concentrated shareholder base are critical for long-term success.

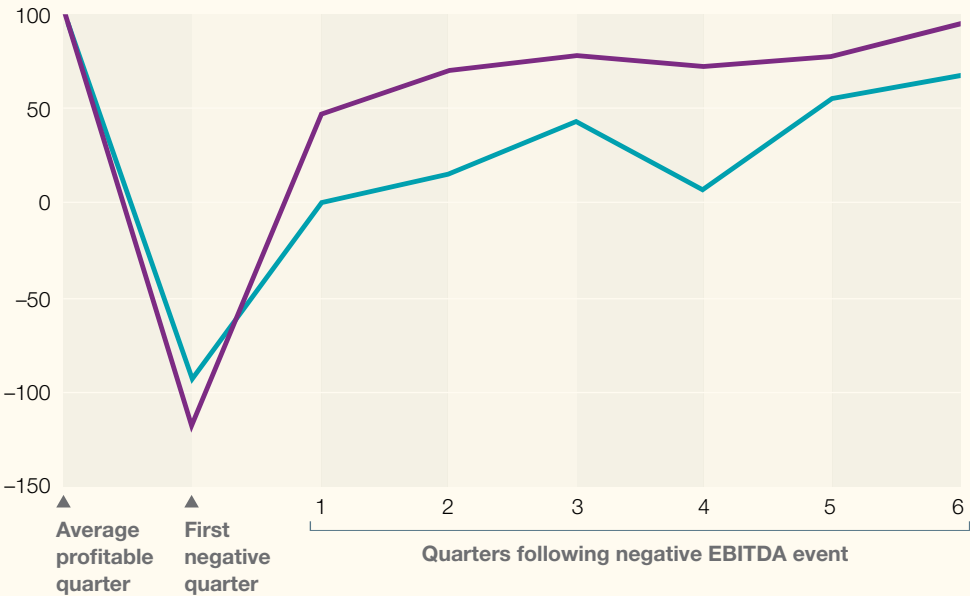
Struck by recent difficulties in sectors such as oil and gas (not to mention mining) in the wake of collapsing commodity prices, we decided to find out whether more disciplined PE practices can

## After entering into distress, private equity-backed companies recovered their EBITDA margins significantly faster than their public counterparts did.

Companies with revenues greater than \$250 million at time of entry into distress

Private-equity companies (n = 94)    Public companies (n = 565)

Average EBITDA margin following a negative quarter, normalized, %



Source: Capital IQ (public and private-equity companies with revenue and EBITDA-margin data, Q1 2006 to Q2 2015); McKinsey analysis

make a difference during troubled economic times. To that end, we compared the performance of more than 659 PE-backed and publicly owned enterprises across different sectors over the last nine years. Our finding: PE-backed companies outperformed their public peers when recovering from business distress, even taking account for a higher risk of bankruptcy.

The exhibit on the previous page shows that PE-backed companies with more than \$250 million in revenue at the time they got into trouble recovered their EBITDA margins significantly faster than their public counterparts did for the

turnaround’s duration—typically, up to 18 months. On average, they succeeded in recovering their pre-distress margins during that period, regardless of their size.<sup>1</sup>


PE ownership does provide some natural advantages over public ownership. Our recent experience working with both types of companies during episodes of economic pressure indicates that the key differences are the active role PE boards play in setting the ground rules and their willingness to hold management teams accountable for driving a turnaround. We have found, for example, that the most successful PE-backed company boards quickly and significantly change the rules

### Private-equity governance provides clear advantages during tough times.

	Turnarounds under public ownership	vs	Turnarounds with active private-equity ownership
<b>Alignment</b>	<b>Blazing the trail</b> Board communicates goals, strategy, and expectations		<b>Setting the pace</b> Board communicates timelines, milestones, and targets
	<b>CEO engagement</b> Board primarily engages with CEO		<b>Senior-management engagement</b> Board engages with senior management, with or without CEO’s guidance
<b>Planning</b>	<b>A “push” approach</b> CEO and senior management report to board at regular intervals		<b>A “push and pull” approach</b> Board actively seeks information updates as needed in between regular reports
	<b>Top-down targets</b> Board approves top-down targets, such as budgets		<b>Bottom-up scrutiny</b> Board monitors and holds management accountable for specific initiatives
	<b>Long-term incentive plans</b> Board develops incentive plans for long-term growth, taking into account corporate, unit, and individual performance		<b>Turnaround-attuned plans</b> Board incorporates specific goals and targets of the turnaround into individual incentive plans
<b>Execution</b>	<b>CEO-determined senior management</b> CEO hires and fires members of senior-management team, with board input		<b>Jointly determined senior management</b> CEO and board determine senior hierarchy, with board playing dominant role
	<b>Strategy</b> Board communicates intent and leaves management to execute		<b>Tactics</b> Board supports management in the “how” and not just the “what”
	<b>Carrots and sticks</b> Board sets incentives and communicates consequences		<b>Helping pull the cart</b> Board is available and present as an active thought partner to management (even if they don’t ask for it)

of engagement, clearly communicate specific performance targets, set an explicit timetable for action, and decide whether the CEO and management team have the mind-set and capabilities required to execute the plans (see exhibit on page 13). These successful PE boards, we have found, are also very effective in shifting their behavior from normal-working mode to crisis mode as planning moves into execution.

Not all company boards must follow these prescriptions. Some may lack the time to do so; others have incentives different from those of PE directors. Nonetheless, we believe that the boards and leadership teams of public companies can learn from the energy, urgency, and hands-on involvement of rapid owner-assisted transformations. PE governance provides clear advantages during tough times,

as well as the less tangible benefits of active board leadership and direct owner accountability. These can truly change the game. 

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<sup>1</sup> We pulled all Capital IQ data on every parent-level company with data on revenues and EBITDA margins from the first quarter of 2006 through the second quarter of 2015. To counteract the survivorship bias, we included companies later acquired or liquidated. Next, we excluded insurance companies because of their inherent cycle of loss-making quarters followed by profitable ones (for example, as a result of natural disasters). We then categorized a company as private equity if there was a record of a sponsor and the company was more than 50 percent privately held, even if it was listed publicly. Privately held companies without sponsors, such as law firms and family businesses, were excluded from our analysis. We set the first quarter when a company's EBITDA turned negative. Finally, we tracked performance for the six quarters after the first quarter when a company's EBITDA turned negative versus the average profitable quarter for the 12 months preceding distress.

**Hyder Kazimi** is a principal in McKinsey's Houston office, and **Tao Tan** is a consultant in the New York office.

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## GE'S JEFF IMMELT ON DIGITIZATION

In this interview excerpt, GE CEO Jeff Immelt describes the organizational consequences of digital advances sweeping the industrial sector.

Industrial companies are in the information business whether they want to be or not; a new jet engine might have a hundred sensors on it, and one flight between New York City and Chicago produces a terabyte of data. Then the next point I'd make is that 15 or 20 percent of the S&P 500 valuation is consumer Internet stocks that didn't exist 15 or 20 years ago. Retailers, banks, consumer-product companies—they

got none of that. If you look out 10 or 15 years and say that same value is going to be created in the industrial Internet, do you as an industrial company want to sit there and say, "I'm going to let some other company get all that?"

All these things led us to say, "Let's build it. Let's see if we can be good at it." We went through a process of "make versus buy," "in versus out." We basically




said, “Look, do we want to make a big acquisition in analytics or IT?” And we analyzed a bunch of different cases and said, “We don’t have the foundation inside the company to do a big acquisition. Do we want to partner, or do we want to do it ourselves?” We have lots of good software partners, but, basically, we said, “We need to do this ourselves. Let’s err on the side of seeing if we could approach it in that way.”

That was 2010. So we brought people in from the outside. We built a center in California. We started populating our businesses. Roll forward, we started doing applications with customers. We started building it into our service business, things like that. We’re about \$5 billion in revenue—this is from software, analytical applications, things like that. We’ve built up a population of applications; we’re approaching \$500 million of productivity a year.

We’ve made the decision that we’re going to try to be both a platform company and an application company. So we have a platform called Predix, and we’re building applications on top of that. We’re probably the only industrial company that’s actually trying to do its own. And we’re opening up our platform to our customers. We’re saying to our customers, “Look, if you want to write apps, applications on Predix, you’re free to do it.”

Now what we’re trying to do is push that back inside the company. We’re selling it, but we want to get our own internal company on the same basis, on the same platform, using the same skills—what we call the “digital thread.” We want the

digital thread to go from engineering all the way through our installed base.

Inside the company, we’ve tried to drive what we call a “culture of simplification”: fewer layers, fewer processes, fewer decision points. We’ve adapted the lean tools in what I would call a Silicon Valley approach, what we call “Fast Works.” We’ve embraced some of the Silicon Valley tools in terms of putting everything on the clock, bringing commercial intensity into the company. The historical organization chart with lots of processes is a thing of the past. We’ve basically unplugged anything that was annual. The notion is that, in the digital age, sitting down once a year to do anything is weird, it’s just bizarre. So whether it’s doing business reviews or strategic planning, it’s in a much more continuous way. We still give a lot of feedback. We still do a lot of analysis of how you’re performing. But we make it much more contemporary and much more 360-degree. So somebody can get interactions with their boss on a monthly basis or a quarterly basis. And the data you get is being collected by your peers, the people who work for you, in a much more accurate and fluid way. 

**Jeffrey R. Immelt** has been the chairman and CEO of General Electric since 2001. This interview was conducted by **Rik Kirkland**, the senior managing editor of McKinsey Publishing, who is based in McKinsey’s New York office.



For the full interview, see “GE’s Jeff Immelt on digitizing in the industrial space,” on [mckinsey.com](http://mckinsey.com).

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# ONLINE CAR SALES IN CHINA MAY BE CLOSER THAN THEY APPEAR


Can automobiles become the next big category for Chinese e-commerce?

by Alan Lau

Until recently, China's innovative e-commerce market, which serves up everything from sportswear to groceries, hasn't emphasized cars. But a breakthrough took place on China's 2014 Singles Day, the country's version of the American Cyber Monday: Chinese consumers purchased and reserved 150,000 cars, worth \$5 billion (exhibit). Even more suggestive of what's to come are efforts behind the scenes; for example, Autohome, a vertical portal for cars, spent three months negotiating and contracting directly for the inventory of 6,000 dealers. Such IT investments mean that vertical auto websites already contribute more than 20 percent of leads to dealers and are preparing to take on direct sales.

Auto OEMs in China are keen not to be left out, and many have launched or are planning e-commerce initiatives. The table stakes for OEMs involves setting up a store on Tmall (part of Alibaba) to sell accessories, services, and the occasional promotional model. Hoping to attract traffic and young buyers, more ambitious

OEMs are selling limited-edition cars on their own branded websites and third-party platforms, such as WeChat. Some OEMs even sell their full range of cars online.

But as first-time car owners look for their second vehicles, OEMs should move beyond selling, to engaging—both online and offline. The ability to reach, engage, and groom loyal customers digitally, not just at the time of purchase, but also throughout a lifetime of vehicle use, will differentiate winners from losers in the world's largest automotive market. 

**Alan Lau** is a director in McKinsey's Hong Kong office.

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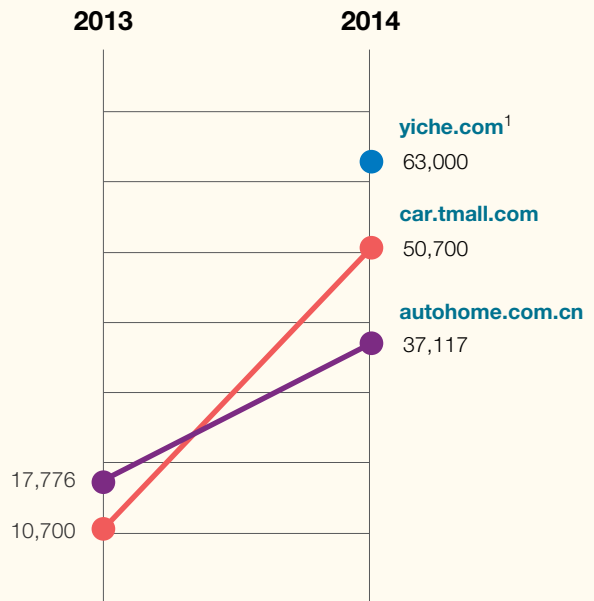
## China's e-commerce market saw a surprising increase in automobile orders on Singles Day in 2014.

### Online car orders

(number of orders with paid deposits or paid in full)

Over 100 brands participated

8,000 auto dealers took part  
(ie, one-third of all dealers in China)



<sup>1</sup> 2013 data unavailable.

Source: Company websites; McKinsey analysis


# CAN BRANDS CONTROL THEIR ONLINE DESTINY IN CHINA?

Consumer brands struggle for prominence on the country's major e-commerce platforms. New opportunities could raise their profile.

by Lambert Bu

Consumer brands have benefited from strong revenue growth on China's dominant online marketplaces, such as Tmall and JD.com. However, these powerful volume-driven mass platforms, which accounted for 80 percent of China's online sales in 2014 (exhibit), give consumer brands little opportunity to control traffic, product searches, or access to consumer data. In the shadow of these mass platforms are brand-owned sites, along with China's equivalent of US retail ones offering brands greater sway. These sites' share of e-commerce, while constrained, has inched upward. In the United States, by contrast, though platforms such as Amazon Marketplace and eBay continue to increase their share, brand-owned and more brand-friendly online retail (including those sites with limited control) account for about 70 percent of all e-commerce.

The picture is changing, however. A growing population of relatively prosperous, more brand-conscious Chinese—more than half of all urban households by 2020—offers brands an opportunity for greater control of their destiny.<sup>1</sup> To

take advantage of it, they'll need to invest more in their own sites and to profit from structural changes at the dominant e-commerce platforms, which are becoming more brand friendly to serve the new Chinese buyers. These platform giants are placing greater emphasis on high-end products and offerings, for which brand authenticity matters; enforcing greater price discipline by avoiding ferocious discounting; and emphasizing best-in-class delivery and customer service. Moreover, they are also showing more openness to sharing selected consumer insights with leading brands. If those brands invest to shape consumer behavior and to increase traffic on their own sites or on others where they have more control, as Apple, Nike, and smartphone maker Xiaomi have done, they should be able to boost their online sales. 

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<sup>1</sup> See Max Magni and Felix Poh, "Winning the battle for China's new middle class," *McKinsey Quarterly*, June 2013, [mckinsey.com](http://mckinsey.com).

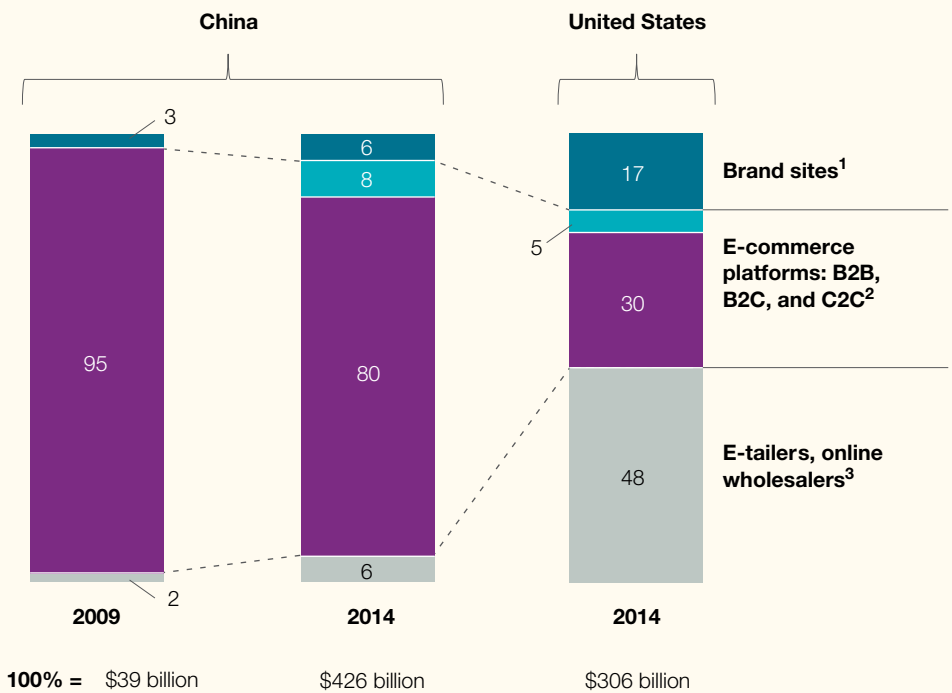
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Although dominance of big e-commerce platforms in China has slightly diminished, it remains dramatically greater than it is in the United States.

Share of online retail-sales value by degree of brand control, %

■ Full ■ High ■ Limited ■ None



<sup>1</sup> For example, in China: Apple, Nike, Xiaomi; in the United States: Apple, Gap, Nike.

<sup>2</sup> Examples of e-commerce sites with high levels of brand control in China: brand stores on JD.com, Taobao; and in the United States: brand stores on Amazon. Examples of those sites with no control in China: dealer stores on JD.com, Tmall; and in the United States: Amazon Marketplace, eBay.

<sup>3</sup> For example, in China: JD.com e-tail, Suning; in the United States: Amazon, Walmart.

# BEHIND CHINA'S RUNAWAY ONLINE-TO-OFFLINE COMMERCE

A flood of liquidity has produced huge subsidies and deep discounts in an app-driven marketplace.

by Wings Zhang

As many executives around the world have discovered, China's e-commerce markets are perhaps the most dynamic—even frenetic—on the planet. Nowhere is this dynamism more evident than in the burgeoning online-to-offline sector, where start-ups use apps, email, and other digital tools to entice shoppers to buy from physical stores or to purchase real-world services. Propelled by high levels of smartphone use, rampant liquidity from China's often-speculative A-share stock market, and deep-pocketed primary investors, online-to-offline sales are a fast-rising component of Chinese e-commerce, with offerings that range from taxi services to food delivery. But the online-to-offline mania has also produced what looks like a classic new-economy disequilibrium: many offerings are discounted by up to 60 percent (exhibit) as players compete on price with the hope that they will be the last company standing. In the late 1990s, the US dot-com market inflated on a similar drenching of liquidity, and start-ups spent wildly to attract eyeballs and traffic to their sites.

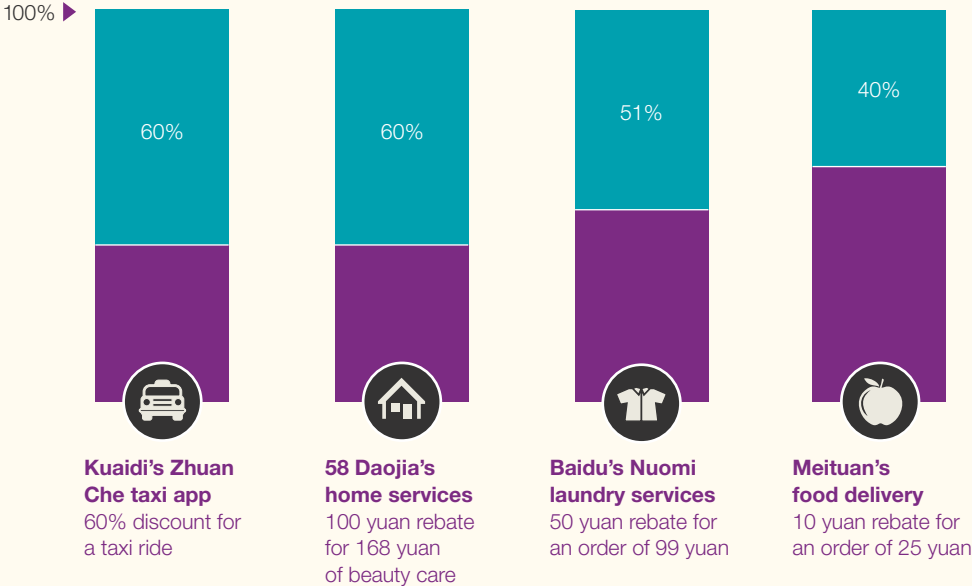
In China, the bet is that weaker players will drop out as cash runs dry and the winners will finally profit from their businesses by slashing discounts and eventually charging merchants fees for sales on the surviving platforms. With few signs of the market calming just yet, even after China's stock-market correction, some bigger players are trying to impose order. In recent months, China's two largest car-hailing start-ups, Didi and Kuaidi, have joined forces. Meanwhile, Dianping and Meituan are consolidating a sprawling range of services, from food delivery and online restaurant reservations to hotel booking and movie reservations. This move could be the start of a broader consolidation—or merely of a new round of competition in a winnowed field. [Q](#)

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**In China, deep discounts to gain share and hold on to customers are common in online-to-offline markets.**

■ Discount or rebate, 2015



# AUTOMATING THE INSURANCE INDUSTRY

A more digital world will place a premium on some skills while reducing the need for others.

by Sylvain Johansson and Ulrike Vogelgesang

The insurance industry—traditionally cautious, heavily regulated, and accustomed to incremental change—confronts a radical shift in the age of automation. With the rise of digitization and machine learning, insurance activities are becoming more automatable and the need to attract and retain employees with digital expertise is becoming more critical.

Our colleagues at the McKinsey Global Institute (MGI) have been exploring the implications of workplace automation across multiple industries (see “The four fundamentals of workplace automation,” on page 50.) Although their preliminary report cautions that “activities” differ from “occupations” (the latter being an aggregate of the former), it presents some stark conclusions: for example, automation will probably change the vast majority of occupations, and up to 45 percent of all work activities in the United States, where MGI performed its analysis, can be automated *right now* with current technology.<sup>1</sup> This figure does not reflect the precise automation potential for each of these specific occupations, because activities are scattered across them, and different activities will be automated at different rates. But significant changes are clearly approaching in many industries, including insurance, whose potential for automation resembles that of the economy as a whole.

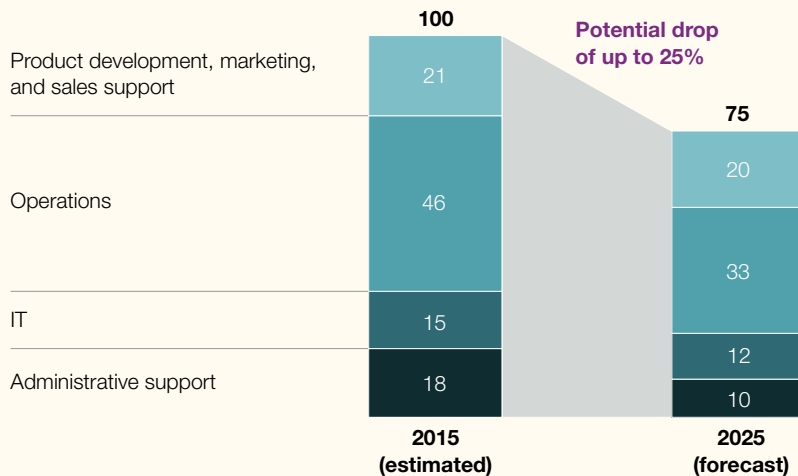
We’ve been studying the impact of automation on insurers from another angle. Drawing on our proprietary insurance-cost and full-time-equivalent (FTE) benchmarking database, we focused on Western European insurers, forecast the outcomes for about 20 discrete corporate functions, and aggregated the results.<sup>2</sup> Our work indicates that some roles will undoubtedly change markedly and that certain occupations are particularly prone to layoffs; positions in operations and administrative support are especially likely to be consolidated or replaced. The extent of the effect differs by market, product group, and capacity for automation.

Steeper declines will occur in more saturated markets, products with declining business volumes, and, of course, the more predictable and repeatable positions, including those in IT. Other roles, however, will experience a net *gain* in numbers, especially those concentrating on tasks with a higher value added. The broader corporate functions including these roles will lose jobs overall. But some positions will be engines of job creation—these include marketing and sales support for digital channels and newly created analytics teams tasked with detecting fraud, creating “next best” offers, and smart claims avoidance. To meet these challenges, insurers will need to source, develop, and retain workers



**Over the next ten years, up to 25 percent of full-time positions in the insurance industry may be consolidated or replaced.**

**Insurance-industry workforce, % of FTEs<sup>1</sup>**



<sup>1</sup> Based on Western European insurers; FTE = full-time equivalent.

with skills in areas such as advanced analytics and agile software development; experience in emerging and web-based technologies; and the ability to translate such capabilities into customer-minded and business-relevant conclusions and results.

The *net* effect of such position-by-position changes is harder to determine with certainty. Numerous variables affect each role’s outcome—whether job creation or contraction—which means that the sum of these potential outcomes could shift significantly. To analyze these outcomes, we have factored in variable growth rates across separate regions and product groups, as well as the possibility of increasing cost pressures (including those arising from a low-interest-rate environment). Our most probable outcome for insurers sees up to 25 percent of full-time positions consolidated or reduced as a net aggregate, occurring at different rates for different roles over a period of about a decade (exhibit).

That’s neither a negligible amount of job loss nor an unimaginably distant time frame. On the contrary, given the magnitude of these changes and the looming future, it’s important that insurers begin to rethink their priorities right now. These should include retraining and redeploying the talent they currently have, identifying critical new skills to insource, and retuning value propositions in the war for new talent and capabilities. That competition will almost certainly increase as the digital transformation takes hold. The first waves are already hitting the beach. [Q](#)

<sup>1</sup> See Michael Chui, James Manyika, and Mehdi Miremadi, “Four fundamentals of workplace automation,” *McKinsey Quarterly*, November 2015, mckinsey.com.  
<sup>2</sup> For more, see Sylvain Johansson and Ulrike Vogelgesang, “Insurance on the threshold of digitization: Implications for the Life and P&C workforce,” December 2015, mckinsey.com.

**Sylvain Johansson** is a principal in McKinsey’s Geneva office, and **Ulrike Vogelgesang** is a senior expert in the Hamburg office.

# THE NEW REALITY FOR GLOBAL BANKING

After the boom and crisis, the industry seems to be returning to a familiar path. But today's stability may prove elusive.


by Miklos Dietz, Philipp Härle, and Somesh Khanna

Despite record after-tax profits of \$1 trillion in 2014 that topped any other industry, global banking seems to be in an era of steady but modest returns on equity (ROE), slow growth, and cost control. Many banks, in fact, find themselves on a treadmill: As pressure on margins continues, they compensate by improving operational efficiency—and holding their ground is not guaranteed.

During 2014, for example, banks suffered hits from persistently low interest rates and digitally-driven commoditization of key products. They were able to limit the damage by aggressive cost management and a slowdown in legal fines and settlements. The 9.5 percent ROE for 2014 was at or slightly below the cost of equity (COE) for most banks, and slightly above the 9.3 percent average for the past three years (which is consistent with returns from 1980 through 2002).

The regional picture varies widely. Sixty-four percent of developed market banks, and 34 percent of those in emerging markets, have weak price-to-book ratios and ROE well below COE. And while

overall industry revenue growth was 4.3 percent, China was the source of almost all of it.

Looking ahead, today's thin margins could collapse if a major political crisis, a big drop in asset prices, or widespread recession were to occur. Rising interest rates could help, but not as much as many industry leaders hope. The best banks continue to do exceptionally well, but all banks—especially the weaker ones—need to master digital technology and make some tough strategic choices. 

*The authors wish to thank Christopher Mazingo for his contributions to this article.*

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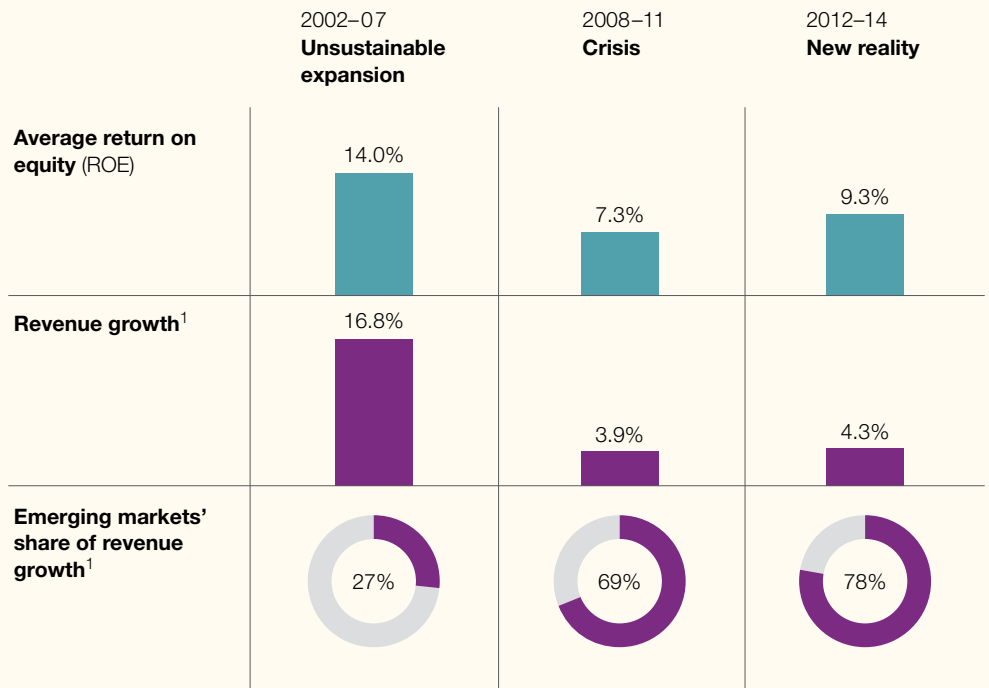


For more, please request a copy of McKinsey's Global Annual Banking Review, *The Fight for the Customer*, on [mckinsey.com](http://mckinsey.com).

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**By many measures, banking remains far below its performance before the 2008 financial crisis.**

Based on a sample of listed banks with >\$10 billion in assets



<sup>1</sup> Revenues before cost of risk.

Source: Thomson Reuters; Panorama (a McKinsey Solution)

# A MIXED RECEPTION FOR GLOBAL GROCERS


Why are modern grocery stores flourishing in some emerging markets but struggling in others?

by Peter Child, Thomas Kilroy, and James Naylor

Global grocery retailers are seeing wide variability in their fortunes as they roll out modern store formats—such as hypermarkets and supermarkets—across Asia, Eastern Europe, and Latin America (exhibit).

To win in emerging markets, retailers must understand all the stakeholders in each local retail ecosystem. Not just consumers and competitors but also governments, manufacturers, and wholesalers count. India's restrictions on foreign direct investment have limited the growth of modern retailing there, for example, but China rewards city governments that attract high levels of foreign investment and economic activity.

Prices—and price perceptions—matter among consumers. In Indonesia and Peru, they tend to think of modern retailers, often inaccurately, as having higher prices than small family-owned stores do. In Turkey, the healthy growth of modern grocery is largely attributable to the popularity of a modern format known for low prices: the discount store.

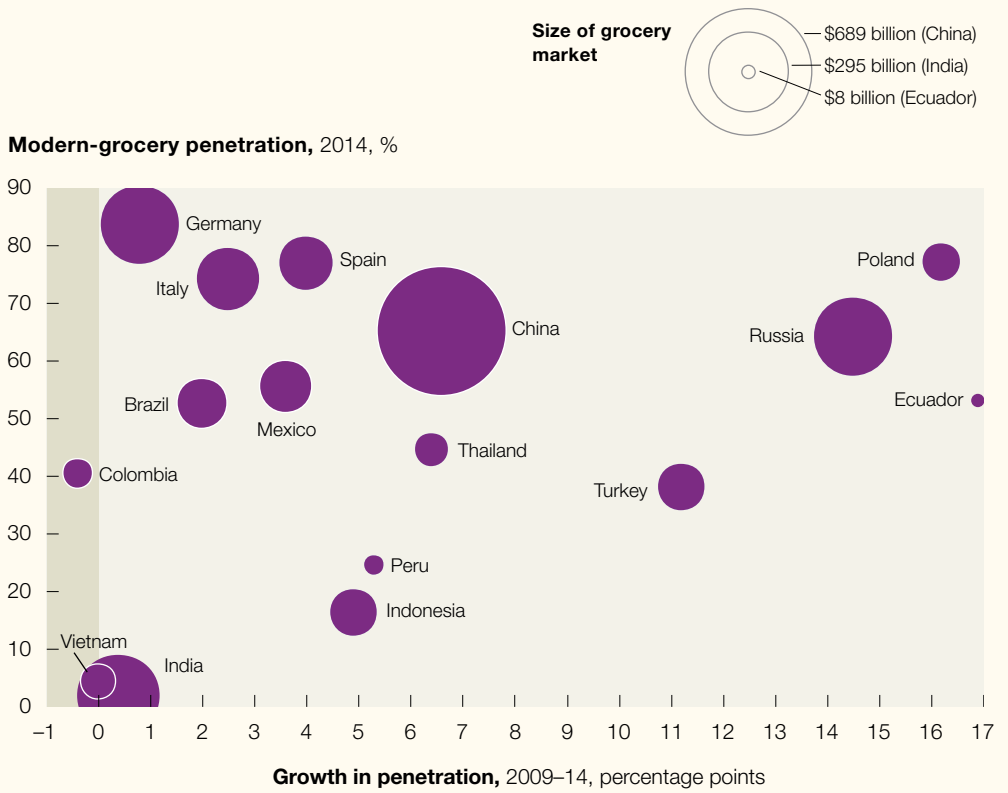
Another big factor is the informality of traditional trade: many owners of independent stores don't pay corporate taxes and get free labor from family and friends. All that puts modern trade at a disadvantage. Supply chains can be challenging, too: the supplier base is fragmented, and some branded manufacturers, which enjoy high margins supplying small shopkeepers, remain reluctant to partner with demanding global retailers. In addition, wholesalers play different roles in each country. 

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 For more, see "Modern grocery and the emerging-market consumer: A complicated courtship," from the autumn 2015 issue of *Perspectives on retail and consumer goods*, on [mckinsey.com](http://mckinsey.com).

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In emerging economies, grocery-market penetration by modern formats—such as supermarkets and hypermarkets—varies widely.



Source: Euromonitor International; McKinsey analysis

The background features a complex, overlapping pattern of orange wireframe cubes. The cubes are rendered in a 3D perspective, creating a sense of depth and architectural structure. The teal background is a solid, vibrant color that contrasts sharply with the orange wireframes.

# ORGANIZING FOR THE FUTURE

In what ways will growing digitization and automation of the workplace change today's organizations? And how can executives design new structures, processes, and governance mechanisms to drive greater agility? The four articles in this section provide some answers.

30 **Organizing for the future**

*Aaron De Smet,  
Susan Lund, and  
Bill Schaninger*

50 **Four fundamentals of workplace automation**

*Michael Chui,  
James Manyika, and  
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44 **How Ericsson aligned its people with its transformation strategy:**

An interview with HR chief Bina Chaurasia

58 **Agility: It rhymes with stability**

*Wouter Aghina,  
Aaron De Smet,  
and Kirsten Weerda*

# Organizing for the future

Platform-based talent markets help put the emphasis in human-capital management back where it belongs—on humans.

*by Aaron De Smet, Susan Lund, and Bill Schaninger*

**The best way to organize corporations**—it’s a perennial debate. But the discussion is becoming more urgent as digital technology begins to penetrate the labor force.

Although consumers have largely gone digital, the digitization of jobs, and of the tasks and activities within them, is still in the early stages, according to a recent study by the McKinsey Global Institute (MGI). Even companies and industries at the forefront of digital spending and usage have yet to digitize the workforce fully (Exhibit 1).<sup>1</sup>

The stage is set for sweeping change as artificial intelligence, after years of hype and debate, brings workplace automation not just to physically intensive roles and repetitive routines but also to a wide range of other tasks. MGI estimates that roughly up to 45 percent of the activities employees perform can be automated by adapting currently demonstrated technologies. (For more, see “Four fundamentals of workplace automation,” on page 50.)

This coming digitization of the workforce—and the powerful economics of automation—will require a sweeping rethink of organizational structures, influence, and control. The current premium on speed will continue, to be sure, even as a new organizational challenge arises: the destabilization of the way people work.

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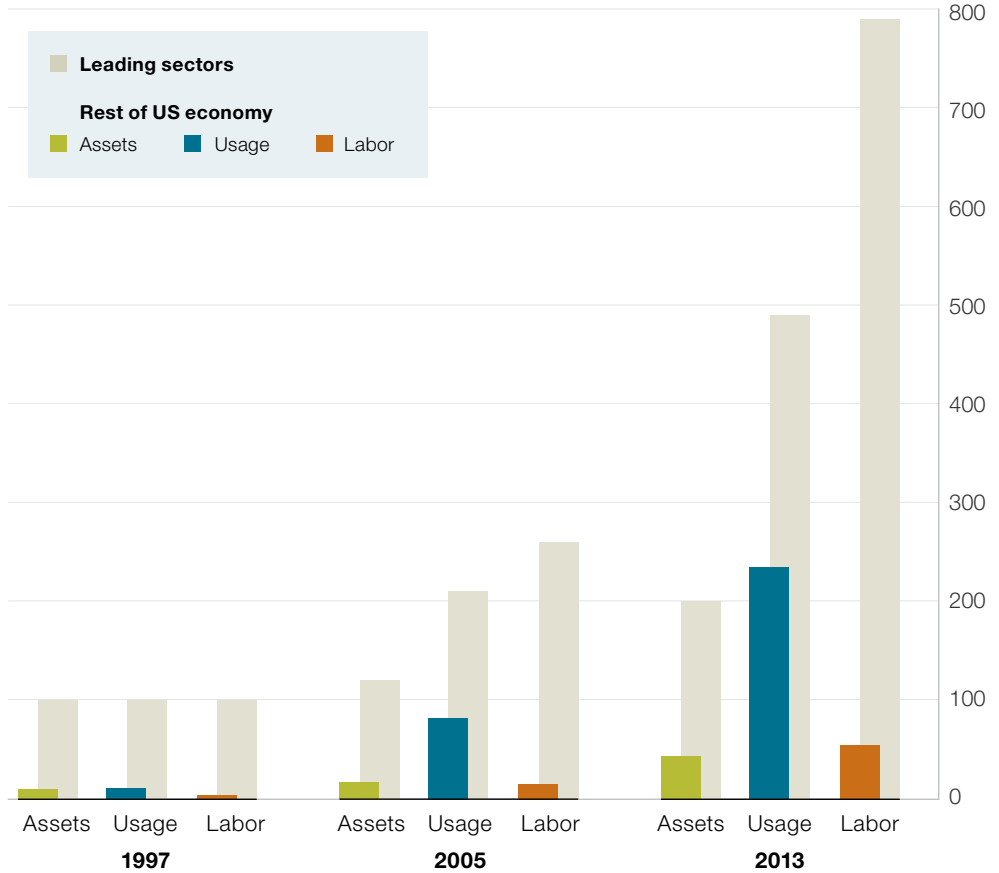
<sup>1</sup> See “Digital America: A tale of the haves and have-mores,” McKinsey Global Institute, December 2015, [mckinsey.com](http://mckinsey.com).



Exhibit 1

According to a recent study by the McKinsey Global Institute, most industries have yet to fully digitize their workforces and are lagging far behind the leading digitized sectors.

**Degree of digitization;** index: leading sectors in 1997 = 100



Measured using a set of 18 historical metrics spanning assets, usage, and labor.

Source: ARP research; DMA; US Bureau of Economic Analysis; US Bureau of Labor Statistics; McKinsey social-technology surveys in 2007 (n = 1,867) and 2014 (n = 2,346); McKinsey Global Institute analysis

### FROM BEDROCK TO QUICKSAND

The threat to organizational health is plain. As we argue in “Agility: It rhymes with stability,” on page 58, the hallmark of an agile age is the ability to be stable and dynamic, allowing incumbents to make the most of their big-company advantages, while simultaneously keeping pace with quicker-moving disruptors. Like old masonry buildings—such as the Musée d’Orsay in Paris or the Asian Art Museum of San Francisco—that have new glass

and steel added to their existing structures, today's leading companies must integrate the contrasting elements of stability and speed to create a more functional, modern whole.

McKinsey research shows that bedrock aspects of stability—workers' roles and the processes that support them—are the first and fourth most important factors, respectively, differentiating agile companies from the rest. What happens when these roles and processes suddenly turn to quicksand? Most of the organizational ideas of the last half-century or more have taken for granted the underlying building blocks of jobs and the way people work, both individually and together.

Automation can devastate these assumptions by disaggregating jobs into their component tasks and subtasks and then hiving off those that can be automated. It will force companies to figure out how to reassemble the remaining tasks into something that makes a new kind of sense, even as it reconceptualizes the very idea of what a job is. The early stages of these efforts may already be visible as organizations free highly specialized knowledge workers from mundane tasks. The most talented surgeons at one cardiac hospital, for example, perform only the heart surgery itself, while more junior staffers handle pre- and post-op procedures; a similar redesign has helped lawyers on the partner track and school administrators make the most of their scarcest skills.<sup>2</sup>

Once roles and tasks are sorted out, the newly constructed jobs that result must be reaggregated into some greater whole, or “box,” on the org chart. Those boxes then need a new relation to each other. Will the destabilization of jobs prove powerfully liberating to organizations, making them far more agile, healthy, and high performing? Or will it initiate a collapse into internal dysfunction as people try to figure out what their jobs are, who is doing what, and where and why?

## REGAINING STABILITY

The answer may depend on the ability of corporate leaders to restabilize the workforce—and to reconceive organizational structures—by using the very same digital technologies that have destabilized it in the first place.

How can they do so? No doubt, at this early juncture, many possibilities exist. One intriguing approach might work as follows: first split multifaceted jobs into discrete tasks, automating some and determining what can be done more effectively by humans. Then match those needs with the employees who can

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<sup>2</sup> See Martin Dewhurst, Bryan Hancock, and Diana Ellsworth, “Redesigning knowledge work,” *Harvard Business Review*, January–February 2013, [hbr.org](http://hbr.org).

meet them, where they are, and when they're available.<sup>3</sup> Finally, introduce a market-clearing mechanism to tie everything together.

Executives have long dreamed of organizational market mechanisms that could mobilize talented people for their best opportunities.<sup>4</sup> But these have proved difficult to achieve at scale. They may be more feasible now, though, thanks to digital workforce platforms—software layers that help executives allocate collections of workers' skills against a wide array of projects and processes. Companies can deploy such a platform even as they lower overhead costs and improve their responsiveness and flexibility.

These new platforms, as we will see, may provide a novel form of organizational structure, but they won't restabilize the workforce in and of themselves. Companies must also be careful to account for the more permanent aspects of their employees' working lives, such as the business segments they know best, their functional areas of expertise, and the geographies where they live. As digital workforce platforms remake organizational structures, these more enduring "homes" will provide a key aspect of stability. More important, a dynamic internal market, in which the most talented and sought-after workers receive the highest compensation, helps people find new and more meaningful ways to commit themselves to their roles, even as the organization finds new ways to assess, develop, and reward them.

The combination of platforms, markets, and deeper engagement with digitally enabled workers holds appealing implications for managing human capital. That means not just allocating talented people effectively and efficiently, which is alluring enough in itself, but also freeing employees to focus on the more meaningful parts of their roles, as machines take over those that can be automated. Managers can benefit as well, by getting out from under the burden of appraisals, which will be redefined and multisourced on the workforce platform, so they can focus more on the development and professional growth of their direct reports. All this, to be sure, must carefully sidestep an obvious pitfall reflected in the current anxiety about a new kind of "digital Taylorism," which, rather than freeing employees to pursue greater meaning and purpose, would chain them to more highly controlled—and controlling—approaches to work.<sup>5</sup>

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<sup>3</sup> For a more detailed description of this process, see Susan Lund, James Manyika, and Sree Ramaswamy, "Preparing for a new era of work," *McKinsey Quarterly*, November 2012, [mckinsey.com](http://mckinsey.com).

<sup>4</sup> See Lowell L. Bryan, Claudia I. Joyce, and Leigh M. Weiss, "Making a market in talent," *McKinsey Quarterly*, May 2006, [mckinsey.com](http://mckinsey.com).

<sup>5</sup> See "Digital Taylorism," *Economist*, September 12, 2015, [economist.com](http://economist.com).

Done right, however, platform-based talent markets can help put the emphasis in human-capital management back where it always belonged—on humans.

### **THINK ‘PLATFORM,’ NOT ‘STRUCTURE’**

Workforce platforms are therefore likely to provide considerable stability in changeable environments. Agile companies tend to have more fluid structures, in which day-to-day work is organized in smaller teams that often cut across business lines and market segments. Platform-based talent markets might provide a solid structure to help supplement and even replace traditional hierarchies. They could also greatly alter how matrix organizations work.

As the old view of hard and dotted lines begins to fade, companies might choose to group employees by their strongest activities and skills. From this functional home, they could be “rented,” via a talent market, by business-line and project leaders. The result would be at once more stable, since employees would be associated with familiar homes, yet more dynamic, as platform-based talent markets would help companies to reallocate their labor resources quickly when priorities and directions shift.

### **What is a platform?**

“Platform” is one of those loosely used words that often lack a specific definition. Broadly speaking, digital platforms are software layers that gather and synthesize large volumes of data to make digital services available and accessible on various devices. They help define the rules and the way work gets done, while better coordinating activities and lowering interaction costs. The best kind of platform invites the involvement of diverse participants, some of whom build their own offerings, tools, and applications on top of it.<sup>6</sup> In practice, platforms typically take the form of a website, app, or other digital tool that connects different types of users.

Most of us are familiar with the impact of digital platforms on business and consumer markets. Think, for example, of Google’s AdSense, connecting advertisers, websites, and customers. Newer industrial platforms, such as GE’s Predix or the German manufacturer Trumpf’s Axiom platform, use the Internet of Things to connect machines and organize production.

Like digital technology in general, digital platforms have been slow to penetrate the world of work. But after transforming consumer and industrial markets,

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<sup>6</sup> For ideas on creating platforms that invite company-wide conversations, see Gary Hamel and Michele Zanini, “Build a change platform, not a change program,” October 2014, [mckinsey.com](http://mckinsey.com).

these platforms—publicly accessible ones like LinkedIn or Monster.com, as well as those inside companies—are now poised to do the same thing across the full spectrum of human-capital management. External platforms are already well established, but it’s a different story behind the corporate firewall: companies must themselves fashion digital workforce platforms using customized mash-ups of tools from solutions providers. HireIQ, for instance, provides software to digitize the interview process and apply predictive analytics to the results. More comprehensive solutions offer further unity and integration. In either case, they usually require extensive customization.

The investment required to put together digital workforce platforms is not small. They also call for superior technical capabilities, including sophisticated data management, advanced-analytics skills, and adaptable application development. Perhaps more important, they require a far more robust understanding of each employee’s skills, experiences, attitudes, performance, potential, and, if you will, desires or dreams for the future. Even though many of the tools used in platforms are available from third-party solutions providers, integrating them into a smoothly functioning whole is no trivial endeavor.

At least the utility of workforce platforms isn’t trivial, either. MGI modeled sample organizations in a range of industries with a diversity of workforce mixes, operating models, and financial characteristics. In this way, it estimated that companies using a combination of publicly available and behind-the-firewall platforms could realize an increase of 275 basis points in profit margins, on average, by 2025.<sup>7</sup> These come about through productivity gains among front- and middle-office workers (which can translate into revenue or other increased output opportunities) and through savings in recruiting, interviewing time, training, onboarding, and attrition costs. The upsides, we suspect, may be far greater for companies that actually succeed in making markets for talented workers inside their organizations.

What follows is a more detailed look at how workforce platforms can resolidify the way work gets done, even as they improve collaboration, retention, succession planning, and decision making.

### **Matching individuals, teams, and projects**

Companies have long had difficulty maximizing the visibility and mobility of their best people. Managers can struggle to find the right person for a specific

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<sup>7</sup> For the full MGI report, see “Connecting talent with opportunity in the digital age,” June 2015, [mckinsey.com](http://mckinsey.com).

project, and talented workers can't always see opportunities that might help them grow professionally and develop their expertise. Staffing coordinators have tried to step into the breach, but their efforts, even when effective, are necessarily limited in scale. These traditional shortcomings will soon increase as the exigencies of automation drive companies to break up jobs into their component parts.

Workforce platforms, which can sort information on employees' skills, performance in previous assignments, working styles, personality traits, availability, and locations, can be particularly valuable matchmakers. Moreover, they can play the clearinghouse role in a neutral and nonbiased way, matching people and opportunities while improving the success of staffing efforts by expanding the known pool of candidates across a whole company. Workforce platforms can also streamline the way employees find colleagues with specific expertise—an important capability for large multinationals with operations spread around the world.

Consider the uses of workplace platforms in hospital systems. Nurses must constantly be matched to departments and cases, taking into consideration their specialized training, availability, doctors' preferences, and technical requirements. Sophisticated software can better deploy the substantial float pool of nurses and per-diem physicians, and the platform's real-time communication tools can help frontline medical personnel access specialists immediately.

### **Bringing science to talent management**

Whom shall we hire? What should we pay them? How can we retain these employees and help them grow and develop as their careers progress? Such people decisions are at the crux of organizational health not only for executives but also for entry-level workers, administrative staff, sales teams, and customer-service representatives. In the absence of sufficient data, companies often fall back on time-consuming and bureaucratic review processes that attempt to look at a year's performance and decide how to grade it for compensation purposes. These time sinks will probably become all the more difficult as companies break jobs into their component tasks, rendering previous role definitions and job descriptions less relevant for evaluating performance.

Ericsson, Google, 3M, Wells Fargo, Xerox, and other early adopters of digital workforce platforms are finding that they help ground people decisions

in hard data rather than gut instinct. The software provider Symantec, for example, used a crowdsourced performance-evaluation process to gain a 16 percent increase in employee satisfaction and engagement.<sup>8</sup> Xerox reduced new-hire attrition and made call-center agents 3 to 4 percent more productive by implementing Evolv's HR analytics software, which sets up a 30-minute online-screening test for applicants and compares the results with a profile of top performers.<sup>9</sup> An aging workforce gave 3M a reason to build an integrated workforce-technology platform to plan for succession management, thus increasing its employees' internal mobility and boosting their annual productivity by 4 percent.<sup>10</sup> Wells Fargo used big data analysis by Kiran Analytics to identify its most engaged and high-performing frontline employees; the company then designed its hiring processes to screen for candidates with similar traits, raising teller retention by 15 percent.<sup>11</sup> Ericsson globalized its HR processes around an integrated platform designed to regather the tools and processes scattered by decentralization. (For more, see "How Ericsson aligned its people with its transformation strategy," on page 44.)

Hard data can support more robust yet streamlined discussions that help companies to reach better-informed decisions. By making it possible to evaluate the performance of employees through multiple sources, digital platforms release managers from lengthy appraisal processes, freeing them to focus on coaching and professional development. They also bring to bear more data, such as the information generated when project teams bid for a particular employee with a specific set of skills, pushing up that person's per diem, which in turn gets reflected in the evaluation cycle. Rather than further destabilizing the organization, digital platforms, the markets they enable, and the hard data those markets provide can help to solidify and stabilize it.

## ENGAGING THE DIGITAL WORKFORCE

In a digital world, where switching jobs is easier than ever and top performers are increasingly in demand, it's no surprise that employees have become more mobile.<sup>12</sup> This change might represent a positive dynamic in the broader economy. But many companies face increased rates of attrition, which is not only expensive but also destabilizing—particularly when strategic capa-

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<sup>8</sup> Eric Mosely, *The Crowdsourced Performance Review: How to Use the Power of Social Recognition to Transform Employee Performance*, McGraw-Hill Education, 2013.

<sup>9</sup> Jessica Leber, "The machine-readable workforce," *MIT Technology Review*, May 27, 2013, [technologyreview.com](http://technologyreview.com).

<sup>10</sup> See *Talent Mobility Good Practices: Collaboration at the Core of Driving Economic Growth*, World Economic Forum, in collaboration with Mercer, 2012, [weforum.org](http://weforum.org).

<sup>11</sup> Katie Kuehner-Hebert, "Predictive analytics for hiring," *BAI Banking Strategies*, September 6, 2013, [bai.org](http://bai.org).

<sup>12</sup> Warren Bennis and Philip Slater were perhaps the first to foreshadow this trend, in 1968, in their book *The Temporary Society*, (New York, NY: Harper & Row).

bilities, institutional knowledge, and leadership skills walk out the door. Workplace platforms offer new ways to restabilize attrition rates by helping employees become more engaged with their work and flagging early warning signs, so that managers can intervene before high performers leave as a result of low morale or boredom.

### Getting personal

By allowing even the largest organizations to move beyond a one-size-fits-all approach to human resources and talent management, digital workforce platforms can help create the conditions in which employees feel energized by their work, valued by their organization, and happy in their environment. Such platforms can, for example, create a more personalized onboarding process that incorporates what companies know about new hires and their skills when they arrive. Appical, a Dutch start-up that uses digital games to transform the onboarding process, is among the companies creating tools to streamline orientation and training for new employees.

Workforce platforms also support the ongoing and self-directed virtual learning that's crucial to professional development and growth. Digital training services like those provided by City & Guilds Kineo and LEO Learning enable companies to cut back on live training sessions and create more comprehensive, personalized, and effective online learning programs.

### Designing employee journeys

In product and service markets, digital technology has helped companies take a new view of interactions with customers by mapping and shaping their “journeys” from their first awareness of a product to its purchase and beyond.<sup>13</sup> This new, technology-enabled approach helps companies answer an age-old question: Why should customers buy from you?

There's a similarly long-standing question for employers, of course: Why should top performers choose to work for you?<sup>14</sup> In response, some companies have begun examining the design of their employee journeys with the same intensity they bring to designing the customer experience.

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<sup>13</sup> See David Edelman and Marc Singer, “The new customer decision journey,” October 2015, mckinsey.com.

<sup>14</sup> Professors Rob Goffee and Gareth Jones also ask this question in their 2015 book, *Why Should Anyone Work Here?: What It Takes to Create an Authentic Organization*, (Boston, MA: Harvard Business Review Press).



Why does the employee experience matter? For one thing, because studies show that intrinsic factors—the meaningfulness and purpose of work, for example—can motivate employees more effectively than just traditional extrinsic ones (think: money) tend to do.<sup>15</sup> Furthermore, inroads by automation will doubtless leave many employees feeling vulnerable, though it is more likely to redefine jobs than to eliminate them. Improving the employee experience can help balance that feeling of vulnerability.

Just as digital technologies help companies design the customer decision journey, workforce platforms help them design the experience of employees as they move through their career paths, from their initial consideration of a company until they become alumni. At each stage along the way, the platform provides greater visibility into what works and what doesn't, by tracking the behavior of employees and enabling real-time, personalized responses to it.

Workforce platforms could, for example, roll up and provide access to the data gathered through the “sociometric badges” invented by MIT computer scientist Alex Pentland, who cofounded the social-technology firm Humanyze. These badges look closely at the interactions and social behavior of employees, even while raising new questions about confidentiality, ethics, and the use and sharing of information, among other things. The data they generate can help reveal, measure, and analyze organizational dynamics—and give companies a better understanding of how employees work and of how to make them more satisfied with their jobs (Exhibit 2).

Will such devices bring the looming presence of Big Brother? Case studies conducted with them found that they can actually reinforce the more humanistic elements of high performance: a pharma company, for example, found ways to improve the way people communicate with each other across departmental lines, while a German bank used badge data in reconfiguring seating arrangements to encourage more face-to-face interactions and to control email overload.<sup>16</sup>

Of course, legitimate privacy concerns must be carefully tended to, though millennial workers, who have grown up with wearable technology, may be

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<sup>15</sup> See, for example, Martin Dewhurst, Matthew Guthridge, and Elizabeth Mohr, “Motivating people: Getting beyond money,” *McKinsey Quarterly*, November 2009, on [mckinsey.com](http://mckinsey.com); and Daniel Pink, *Drive: The Surprising Truth About What Motivates Us*, New York: Riverhead Books, 2011.

<sup>16</sup> For more about these cases, see [humanyze.com/cases.html](http://humanyze.com/cases.html).

Exhibit 2

Companies can use wearable technology, such as sociometric badges, to improve organizational dynamics and workplace design.

**Humanyze's sociometric badge is worn around the neck and collects data through 4 sensors.**

**Microphone**  
Records rhythm and pitch of speech (not content)  
Detects if you are speaking with another person

**Infrared camera**  
Detects face-to-face interactions with others

**Accelerometer**  
Measures activity level by detecting movement

**Bluetooth**  
Detects proximity to others wearing badges  
Measures location relative to stationary bases

Level of data aggregation	Output
<b>Individual</b>	Personal profile for individual use
<b>Team</b>	Analysis of interaction patterns within groups
<b>Organization</b>	Analysis of interactions and differences in behavior between groups

**To provide more holistic views, badge data can be integrated with other data sources, including:**

- Workload** (eg, email or call volume)
- Performance reviews** (eg, ratings)
- Demographics** (eg, tenure or role)
- Surveys** (eg, organizational health)

Source: Humanyze; McKinsey analysis

more comfortable with potential privacy trade-offs. Using aggregated and anonymized (rather than individual) data will help.

## **THE LEADER AS ORGANIZATIONAL ARCHITECT**

Recent McKinsey research into the health of organizations finds that the definition of great leadership varies according to context. (For more, see “Leadership in context,” on page 72.) Certain kinds of baseline behavior that are required of leaders when organizational health is poor, for example, recede as it improves and other, higher-order forms of behavior come to the forefront. This idea bears a resemblance to Abraham Maslow’s hierarchy of needs: people concerned with their own (and their families’) physiological health and safety have little or no time for higher-order needs, like self-actualization.

The coming digitization of the workforce and the automation of tasks will take a toll on organizational health by destabilizing the ways and means through which work is performed. As this happens, executives should carefully reassess the well-being of their organizations and, in many cases, adjust their leadership styles for the new context. That may involve the kinds of behavior required when companies trend toward dysfunction: effectiveness at facilitating group collaboration, demonstrating concern for people, championing desired changes, and offering critical perspectives.

CEOs must be alert to how machine learning and advanced analytics will automate some of their own tasks, as well. They will not only have to rethink their leadership behavior but also keep a sharp eye out for their own comparative advantage.<sup>17</sup>

In an age of automation, CEOs and their top teams will need to gain an almost architectural sense of how machines and people work together side by side, each making the other more productive and effective, while never losing sight of their employees’ humanity. They will have to look beyond the architecture of mechanical “hard” structures to include the orchestration of complex social systems as well.

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<sup>17</sup> See Martin Dewhurst and Paul Willmott, “Manager and machine: The new leadership equation,” *McKinsey Quarterly*, September 2014, [mckinsey.com](http://mckinsey.com).

## HUMANIZING DYNAMIC SCHEDULING

The data insights woven into workforce platforms can help companies combine demand forecasting with scheduling tools, so that staffing is adequate at peak times. These automated, just-in-time scheduling systems have set off a wave of controversy and questions about which of their uses are legal. Many companies, particularly in the retail and food industries, have used software tools to manage workforce deployment so tightly that employees have little notice or downtime before shifts. Unpredictable, erratic schedules can make logistics like childcare impossible for employees, and when shifts are cut short they lose pay. Hourly employees often find their incomes and lives squeezed.

Dynamic scheduling does not have to be used in this way. Companies that want to


give employees greater flexibility can do so by using platforms that not only take into account the suitability of workers for a given assignment but also combine that information with their preferred tasks and times to work. Zappos, for instance, has launched an initiative to reward customer-service agents with “surge pay” during peak call-volume times, ensuring that flexibility matches up with customer demand. On-demand service platforms not only adjust pricing and deployment to meet instantaneous spikes in demand but also create flexible, entirely self-directed work opportunities. Approaching the schedules of workers empathetically can create win-win situations that pay off in greater retention, improved morale, better customer service, and higher performance.

Leaders must help to reconcile and interrelate the forces and mandates of digitization and automation, on the one hand, with the needs and tenets of organizational health, on the other. A virtuous circle could certainly arise, but so could a vicious one. If enthusiasm for technology makes executives lose sight of the human needs of the workforce—for example, by steering too far toward machine-based control of employees, especially lower-status, lower-paid employees—organizational health will surely suffer. (See sidebar, “Humanizing dynamic scheduling.”)

The broader view required will force CEOs to transcend their own functional or business-unit backgrounds. Former CFOs, for example, have always had to see beyond the numbers on becoming chief executives. Now top leaders

will need an even deeper grasp of people, the roles and tasks they perform, and their fears about the future.

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The approaching age of automation, together with the impending penetration of digital technology into the labor force, threatens to destabilize crucial aspects of how employees work, by undermining the stability companies depend on to be agile. Executives can resolidify their companies even while making the most of the coming transformation if they adjust their leadership behavior, embrace digital workforce platforms, and deepen their engagement with digitally enabled workers. 

**Aaron De Smet** is a principal in McKinsey's Houston office; **Susan Lund** is a principal with the McKinsey Global Institute, who is based in the Washington, DC, office; and **Bill Schaninger** is a director in the Philadelphia office.

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## ABOUT THE ARTWORK

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*Telemetry*, 2015  
Matthew Shlian

# How Ericsson aligned its people with its transformation strategy

A recent shift in strategy required an overhaul of HR. Ericsson's chief human-resources officer, Bina Chaurasia, describes how skills, technology, and processes had to change on a global scale.

**It's been more than a decade** since Ericsson relied on its own mobile-phone production, and nearly four years since it sold its stake in the Sony–Ericsson joint venture. In 2010, Ericsson embarked on a journey to reframe its strategy and become a leader in telecom services, software, and hardware.

This strategic shift brought with it a talent challenge, as new markets and priorities required different capabilities. In this interview conducted by McKinsey's Simon London, Bina Chaurasia, Ericsson's chief human-resources officer, describes how the company has revamped HR in response—increasing its agility, coordination, global scale, and ability to leverage data analytics.

**The Quarterly:** *What was the business context for the organizational changes human resources has been driving over the past few years?*

**Bina Chaurasia:** When Hans Vestberg started as CEO six years ago, he decided to get out of the remaining consumer businesses and grow the

software and services segments, which now make up about two thirds of our total operations. The idea was to leverage the core network-infrastructure business to develop new growth areas, including TV and media, cloud services, and support software—what you might call telecom IT solutions. At the time, it was very clear to Hans that you couldn't accomplish this vision without transforming the skills and capabilities of our people across the organization.

**The Quarterly:** *What were the company's biggest organizational strengths and liabilities in pursuing this new strategy?*

**Bina Chaurasia:** Our culture was our strongest asset. It's a culture of collaboration and innovation; people are used to working with colleagues across the globe or taking assignments in other locations. Our employees are also very clear about our deeper purpose—we are ultimately creating technology for good. We go where no one's gone before, and we build communications infrastructure that makes a difference in communities across the world.

At the same time, we were incredibly decentralized. We had 23 regional groups that are now consolidated into 10. Every region had their own way of doing things. We had no clear systems in place. From an HR perspective, we had scattered processes and tools.

We had to tackle the problem in three simultaneous waves. One, we needed a single people strategy that was fully aligned with the business strategy. Two, we needed an integrated IT platform for HR. You can't run an efficient global company with disjointed IT tools. We're now on an integrated platform that can be used by both managers and employees, where our data can be centrally gathered and analyzed. And, three, we had to globalize our HR processes, with the criteria that each one should be simple, user friendly, and business focused. For example, we created global learning programs that our employees can access virtually on our Ericsson Academy portal from anywhere in the world.

We also had a larger vision to build an HR team with the knowledge and skills to partner with our leaders on implementing strategic shifts in the business. So we had to clarify roles, promote from within, bring in some strong external talent, and provide everyone with thorough training that included business acumen, financial analysis, and data analytics.

**The Quarterly:** *What kind of insights have you been able to glean from the data analytics?*

**Bina Chaurasia:** It's incredible. It's a guiding indicator in a variety of areas for the business as a whole. We can pool and crunch data from all over, not just from recruiting or performance. For example, in 2014, we did an extensive data analysis across more than 52,000 job applications for over 2,000 open positions in the US. We saw that more female candidates were applying to jobs posted by female managers. So we started looking at what might be the cause. Is the wording in the female managers' job descriptions different?

We decided to use an app to do a "gender bias wash" of job descriptions, removing male-focused references. Overall, we have now increased the percentage of external female applicants to one of our key global job portals from 16 percent to 21 percent in just the last 9 months. We have similar analytics insights into our learning programs, which enable us to develop and deliver those programs to our employees that best enable knowledge transfer on the job. It's essentially provided us with an ROI that we had not previously seen.

These kinds of stats are great, but the key is to move beyond data reporting and basic analytics to true predictive analytics—make the data a parameter in decision making. And you can't have that kind of analysis across the whole enterprise, if you don't go through the initial pain of bringing everyone onboard with common platforms and processes. And, of course, we build flexibility into our processes as needed to ensure that we are fast and relevant across our business lines and regions.

**The Quarterly:** *How did you go about tackling your new people strategy?*

**Bina Chaurasia:** From a business perspective, it was important for us to identify the skill gaps that we would need to fill in order to succeed in our targeted growth areas. And a big part of that is building a competency model that we could use as a framework. So, we literally took every single function in the company and all of its roles, mapped out the stages of each job, and laid out the competence needed for each one. That took a couple years, as you might imagine, getting every functional area into the framework. At



that time, many in the company thought it would be impossible. Today, every position in the company is mapped out.

At the same time, we had to ask ourselves, “How do we get an aggregated assessment of capabilities across the entire organization?” Our answer was to tie in the gap-identification process with our annual strategy review. Every business unit, every region develops their annual operating plan and their three-year plan. We then analyze the competencies needed to deliver those plans, and determine how we’ll fill the gaps. The aggregated information creates clear demand signals for our learning and recruiting teams. They know exactly what competence will be needed by which date, and in which country. And *how* you fill those competence gaps is equally important. You can’t just go and hire all of them. You have to have a clear idea of what talent to hire, what learning programs to develop, and at what scale. It has always been very important to us as a company to focus on developing our employees’ competence instead of just relying on hiring from the outside.

**The Quarterly:** *How do you manage your talent pipeline?*

**Bina Chaurasia:** Hans and I meet annually with every member of our global leadership team, and their HR partners, to review their talent and succession plans. The executive-leadership team then calibrates our top talent as a group and this talent-planning process culminates in my presentation to the board of directors. Over the years, our talent pools have been extremely healthy for any position. So when we look externally, it’s because we want to, not because we have to.

The key is to move beyond data reporting and basic analytics to true predictive analytics—make the data a parameter in decision making.

## BINA CHAURASIA

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### Education

Graduated with a master's degree in management and human resources from Ohio State University and a master's degree in philosophy from the University of Wisconsin

### Career highlights

#### Ericsson

(2010–present)  
Chief human-resources officer

#### Hewlett-Packard

(2007–10)  
Vice president of global talent

Various executive positions at Gap, Sun Microsystems, and PepsiCo/Yum! Brands

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**The Quarterly:** *Have you put any directional targets in place when it comes to geographic presence or diversity?*

**Bina Chaurasia:** Along with many leading Silicon Valley tech companies, we publicized our diversity figures. We weren't happy with the reality, so we put down a milestone—by 2020, at least 30 percent of our global employees will be women, up from 22 percent in 2014. It starts with the tone from the top. Hans has changed the makeup of his own leadership team. Before, there was one woman on the executive team; now there are four. If employees don't see it from the leaders, then it won't happen across the board. I've also been very clear in communicating our philosophy: Not only do you have to send the right signals from the top, but you have to make it organic so it's not about a quota system; naturally embed it into your hiring and talent-review process. Finally, make it locally relevant.


**The Quarterly:** *What role have social tools played in the transformation, internally or externally?*

**Bina Chaurasia:** We've invested a lot in collaboration tools for our internal learning programs. It's increasingly the way people want to learn, particularly millennials. We created Ericsson Play, a video learning model, where any

employee can upload their own videos. Today, we have over 30 video channels with over 450,000 video views. We also launched Ericsson Academy Virtual Campus, which makes online training available to all our employees, and we've included mobile programs as well so people can learn on the go.

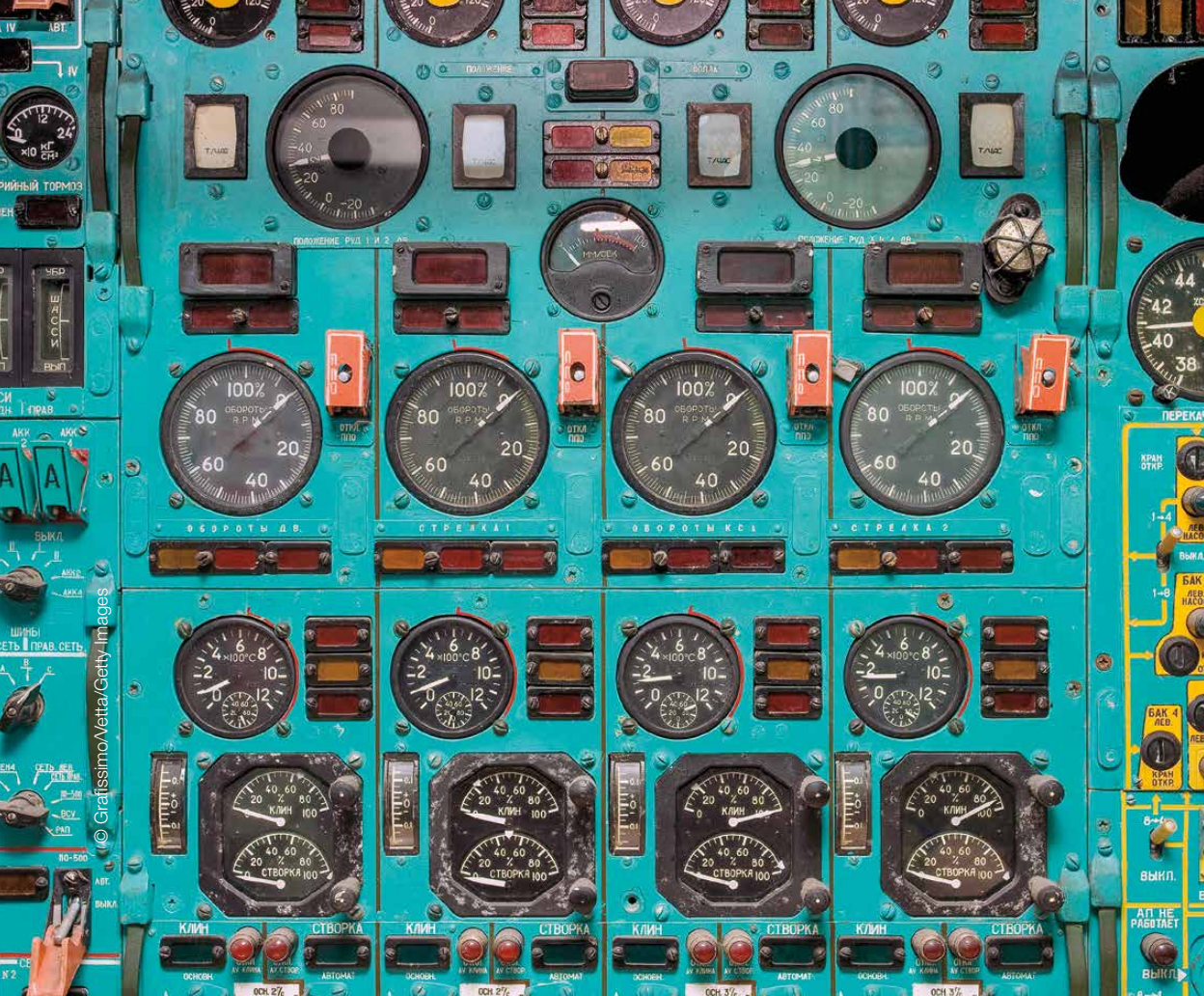
Externally, we've used social to build the company's employer brand. When I joined the company, we asked an outside firm to evaluate our employer brand and in their words it was "an incredibly well-kept secret." So we tried to change that, and our employees have been our best advocates on social media. We started winning in rankings for great places to work.

**The Quarterly:** *Looking back, is there anything you would have done differently?*

**Bina Chaurasia:** I would have focused more on change management. I would have prepared the organization more by saying up front, "This is going to be a year of transition." I kept the unit heads apprised, and the next level down was also engaged, but I could've done better to ensure communication all the way down the line. Building enterprise-wide tools and processes, and an HR department engaging on a strategic level, was a big change. But if we hadn't done that, we would not be able to transform Ericsson's capabilities, or contribute fully to the people side of our business strategy. 

**Bina Chaurasia** is the chief human-resources officer of Ericsson. This interview was conducted by **Simon London**, McKinsey's digital communications director, who is based in the firm's Silicon Valley office.

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# Four fundamentals of workplace automation

As the automation of physical and knowledge work advances, many jobs will be redefined rather than eliminated—at least in the short term.

*by Michael Chui, James Manyika, and Mehdi Miremadi*

**The potential of artificial intelligence** and advanced robotics to perform tasks once reserved for humans is no longer reserved for spectacular demonstrations by the likes of IBM's Watson, Rethink Robotics' Baxter, DeepMind, or Google's driverless car. Just head to an airport: automated check-in kiosks now dominate many airlines' ticketing areas. Pilots actively steer aircraft for just three to seven minutes of many flights, with autopilot guiding the rest of the journey. Passport-control processes at some airports can place more emphasis on scanning document bar codes than on observing incoming passengers.

What will be the impact of automation efforts like these, multiplied many times across different sectors of the economy?<sup>1</sup> Can we look forward to vast improvements in productivity, freedom from boring work, and improved quality of life? Should we fear threats to jobs, disruptions to organizations, and strains on the social fabric?<sup>2</sup>

Earlier this year, we launched research to explore these questions and investigate the potential that automation technologies hold for jobs, organizations, and the future of work.<sup>3</sup> Our results to date suggest, first and foremost, that a focus on occupations is misleading. Very few occupations will be automated in their entirety in the near or medium term. Rather, certain activities are more likely to be automated, requiring entire business processes to be transformed, and jobs performed by people to be redefined, much like the bank teller's job was redefined with the advent of ATMs.

More specifically, our research suggests that as many as 45 percent of the activities individuals are paid to perform can be automated by adapting currently demonstrated technologies.<sup>4</sup> In the United States, these activities

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<sup>1</sup> Leading perspectives on the changes under way include Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*, New York: W. W. Norton, 2014; Carl Benedikt Frey and Michael A. Osborne, "The future of employment: How susceptible are jobs to computerisation?," Oxford Martin School Programme on the Impacts of Future Technology, September 17, 2013, [futuretech.ox.ac.uk](http://futuretech.ox.ac.uk); and David H. Autor, "Why are there still so many jobs? The history and future of workplace automation," *Journal of Economic Perspectives*, Summer 2015, Volume 29, Number 3, pp. 3–30, [aeweb.org/jep](http://aeweb.org/jep).

<sup>2</sup> For a proposed agenda to examine some of these topics, see "Research priorities for robust and beneficial artificial intelligence: An open letter," Future of Life Institute, January 11, 2015, [futureoflife.org](http://futureoflife.org).

<sup>3</sup> This initiative builds on earlier McKinsey Global Institute (MGI) work describing a range of disruptive technologies, which could multiply the capacity of companies to automate physical and intellectual tasks. For the full MGI report, see *Disruptive technologies: Advances that will transform life, business, and the global economy*, May 2013, on [mckinsey.com](http://mckinsey.com). This research has examined the economic potential of disruptive technologies that can automate physical work (for example, advanced robotics, 3-D printing, and autonomous vehicles) as well as those that can automate knowledge work requiring intellectual effort and the ability to interact with others (for example, various types of artificial intelligence, machine learning, and deep learning).

<sup>4</sup> We define "currently demonstrated technologies" as ones that have already exhibited the level of performance and reliability needed to automate one or more of the 18 capabilities required for carrying out work activities. In some cases, that performance has been demonstrated in a commercially available product and in others as part of a research project.

represent about \$2 trillion in annual wages. Although we often think of automation primarily affecting low-skill, low-wage roles, we discovered that even the highest-paid occupations in the economy, such as financial managers, physicians, and senior executives, including CEOs, have a significant amount of activity that can be automated.

The organizational and leadership implications are enormous: leaders from the C-suite to the front line will need to redefine jobs and processes so that their organizations can take advantage of the automation potential that is distributed across them. And the opportunities extend far beyond labor savings. When we modeled the potential of automation to transform business processes across several industries, we found that the benefits (ranging from increased output to higher quality and improved reliability, as well as the potential to perform some tasks at superhuman levels) typically are between three and ten times the cost. The magnitude of those benefits suggests that the ability to staff, manage, and lead increasingly automated organizations will become an important competitive differentiator.

Our research is ongoing, and in 2016, we will release a detailed report. What follows here are four interim findings elaborating on the core insight that the road ahead is less about automating individual jobs wholesale, than it is about automating the activities within occupations and redefining roles and processes.

## 1. THE AUTOMATION OF ACTIVITIES

These preliminary findings are based on data for the US labor market. We structured our analysis around roughly 2,000 individual work activities,<sup>5</sup> and assessed the requirements for each of these activities against 18 different capabilities that potentially could be automated (Exhibit I). Those capabilities range from fine motor skills and navigating in the physical world, to sensing human emotion and producing natural language. We then assessed the “automatability” of those capabilities through the use of current, leading-edge technology, adjusting the level of capability required for occupations where work occurs in unpredictable settings.

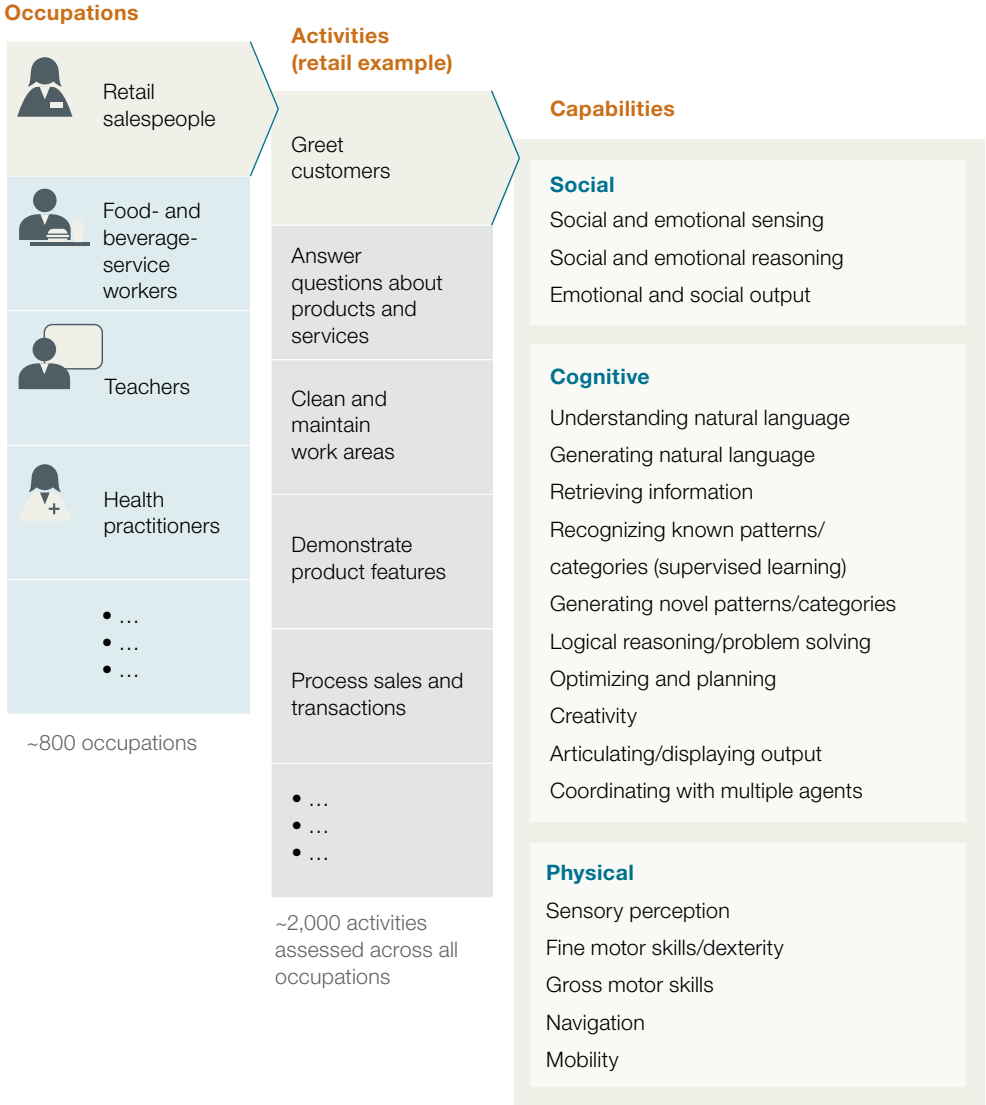
The bottom line is that 45 percent of work activities could be automated using already demonstrated technology. If the technologies that process and “understand” natural language were to reach the median level of human performance, an additional 13 percent of work activities in the US economy could be automated. The magnitude of automation potential reflects the

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<sup>5</sup> Our analysis used “detailed work activities,” as defined by O\*NET, a program sponsored by the US Department of Labor, Employment and Training Administration.

Exhibit 1

To grasp the impact of technological automation, we structured our analysis around 2,000 distinct work activities.



Source: Expert interviews; McKinsey analysis

speed with which advances in artificial intelligence and its variants, machine learning and reinforcement learning,<sup>6</sup> are challenging our assumptions about what is automatable. It’s no longer the case that only routine, codifiable activities are candidates for automation and that activities requiring “tacit”

<sup>6</sup> Reinforcement learning allows software to automatically improve toward optimal behavior through the use of feedback (reward signals) collected during interactions within a specific context.

knowledge or experience that is difficult to translate into task specifications are immune to automation.

In many cases, automation technology can already match, or even exceed, the median level of human performance required. For instance, Narrative Science's artificial-intelligence system, Quill, analyzes raw data and generates natural language, writing reports in seconds that readers would assume were written by a human author. Amazon's fleet of Kiva robots is equipped with automation technologies that plan, navigate, and coordinate among individual robots to fulfill warehouse orders roughly four times faster than the company's previous system. IBM's Watson can suggest available treatments for specific ailments, drawing on the body of medical research for those diseases.

## **2. THE REDEFINITION OF JOBS AND BUSINESS PROCESSES**

According to our analysis, fewer than 5 percent of occupations can be entirely automated using current technology. However, about 60 percent of occupations could have 30 percent or more of their constituent activities automated. In other words, automation is likely to change the vast majority of occupations—at least to some degree—which will necessitate significant job redefinition and a transformation of business processes. Mortgage-loan officers, for instance, will spend much less time inspecting and processing rote paperwork and more time reviewing exceptions, which will allow them to process more loans and spend more time advising clients. Similarly, in a world where the diagnosis of many health issues could be effectively automated, an emergency room could combine triage and diagnosis and leave doctors to focus on the most acute or unusual cases while improving accuracy for the most common issues.

As roles and processes get redefined, the economic benefits of automation will extend far beyond labor savings. Particularly in the highest-paid occupations, machines can augment human capabilities to a high degree, and amplify the value of expertise by increasing an individual's work capacity and freeing the employee to focus on work of higher value. Lawyers are already using text-mining techniques to read through the thousands of documents collected during discovery, and to identify the most relevant ones for deeper review by legal staff. Similarly, sales organizations could use automation to generate leads and identify more likely opportunities for cross-selling and upselling, increasing the time frontline salespeople have for interacting with customers and improving the quality of offers.



### 3. THE IMPACT ON HIGH-WAGE OCCUPATIONS

Conventional wisdom suggests that low-skill, low-wage activities on the front line are the ones most susceptible to automation. We're now able to scrutinize this view using the comprehensive database of occupations we created as part of this research effort. It encompasses not only occupations, work activities, capabilities, and their automatability, but also the wages paid for each occupation.<sup>7</sup>

Our work to date suggests that a significant percentage of the activities performed by even those in the highest-paid occupations (for example, financial planners, physicians, and senior executives) can be automated by adapting current technology.<sup>8</sup> For example, we estimate that activities consuming more than 20 percent of a CEO's working time could be automated using current technologies. These include analyzing reports and data to inform operational decisions, preparing staff assignments, and reviewing status reports. Conversely, there are many lower-wage occupations such as home health aides, landscapers, and maintenance workers, where only a very small percentage of activities could be automated with technology available today (Exhibit 2).

### 4. THE FUTURE OF CREATIVITY AND MEANING

Capabilities such as creativity and sensing emotions are core to the human experience and also difficult to automate. The amount of time that workers spend on activities requiring these capabilities, though, appears to be surprisingly low. Just 4 percent of the work activities across the US economy require creativity at a median human level of performance. Similarly, only 29 percent of work activities require a median human level of performance in sensing emotion.

While these findings might be lamented as reflecting the impoverished nature of our work lives, they also suggest the potential to generate a greater amount of meaningful work. This could occur as automation replaces more routine or repetitive tasks, allowing employees to focus more on tasks that utilize creativity and emotion. Financial advisors, for example, might spend less time analyzing clients' financial situations, and more time understanding their needs and explaining creative options. Interior designers could spend

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<sup>7</sup> In addition to analyzing the relationship between automatability and compensation levels, the inclusion of wages allows us to compare the potential costs to implement automation with labor costs, which inherently reflect supply, demand, and elasticity dynamics.

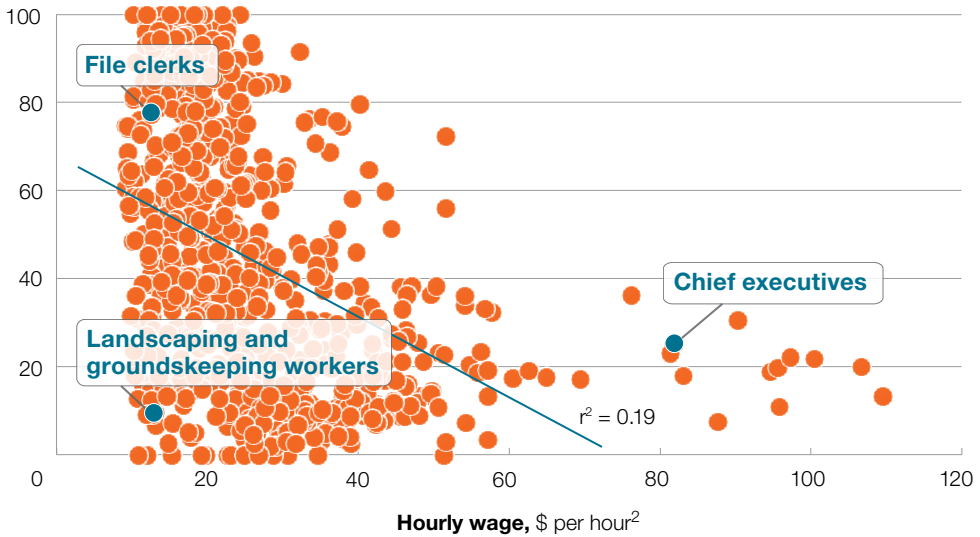
<sup>8</sup> Using a linear model, we find the correlation between wages and automatability (the percentage of time spent on activities that can be automated by adapting currently demonstrated technology) in the US economy to be significant (p-value < 0.01), but with a high degree of variability ( $r^2 = 0.19$ ).

Exhibit 2

**The hourly-wage rate alone is not a strong predictor of automatability, despite some correlation between the two.**

**Comparison of wages and automation potential for US jobs**

**Ability to automate**, % of time spent on activities<sup>1</sup> that can be automated by adapting currently demonstrated technology



<sup>1</sup> Our analysis used “detailed work activities,” as defined by O\*NET, a program sponsored by the US Department of Labor, Employment and Training Administration.

<sup>2</sup> Using a linear model, we find the correlation between wages and automatability in the US economy to be significant (p-value < 0.01), but with a high degree of variability ( $r^2 = 0.19$ ).


Source: O\*NET 2014 database; McKinsey analysis

less time taking measurements, developing illustrations, and ordering materials, and more time developing innovative design concepts based on clients’ desires.

These interim findings, emphasizing the clarity brought by looking at automation through the lens of work activities as opposed to jobs, are in no way intended to diminish the pressing challenges and risks that must be understood and managed. Clearly, organizations and governments will need new ways of mitigating the human costs, including job losses and economic inequality, associated with the dislocation that takes place as companies separate activities that can be automated from the individuals who currently

perform them. Other concerns center on privacy, as automation increases the amount of data collected and dispersed. The quality and safety risks arising from automated processes and offerings also are largely undefined, while the legal and regulatory implications could be enormous. To take one case: who is responsible if a driverless school bus has an accident?

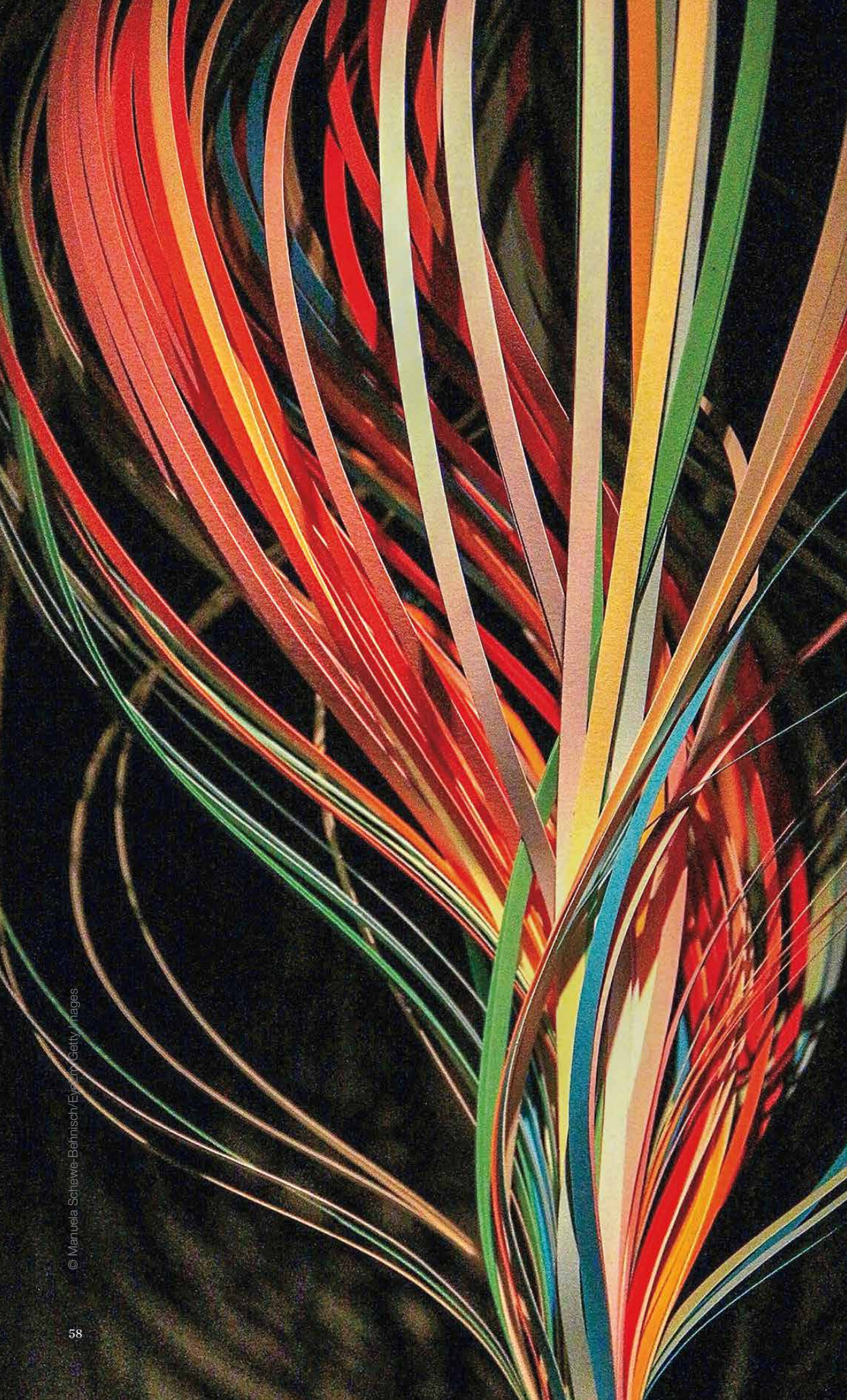
Nor do we yet have a definitive perspective on the likely pace of transformation brought by workplace automation. Critical factors include the speed with which automation technologies are developed, adopted, and adapted, as well as the speed with which organization leaders grapple with the tricky business of redefining processes and roles. These factors may play out differently across industries. Those where automation is mostly software based can expect to capture value much faster and at a far lower cost. (The financial-services sector, where technology can readily manage straight-through transactions and trade processing, is a prime example.) On the other hand, businesses that are capital or hardware intensive, or constrained by heavy safety regulation, will likely see longer lags between initial investment and eventual benefits, and their pace of automation may be slower as a result.

All this points to new top-management imperatives: keep an eye on the speed and direction of automation, for starters, and then determine where, when, and how much to invest in automation. Making such determinations will require executives to build their understanding of the economics of automation, the trade-offs between augmenting versus replacing different types of activities with intelligent machines, and the implications for human skill development in their organizations. The degree to which executives embrace these priorities will influence not only the pace of change within their companies, but also to what extent those organizations sharpen or lose their competitive edge. 

*The authors wish to thank McKinsey's Rick Cavolo and Sean Kane for their contributions to this article.*

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# Agility: It rhymes with stability

Companies can become more agile by designing their organizations both to drive speed and create stability.

*by Wouter Aghina, Aaron De Smet, and Kirsten Weerda*

**Why do established companies** struggle to become more agile? No small part of the difficulty comes from a false trade-off: the assumption by executives that they must choose between much-needed speed and flexibility, on the one hand, and the stability and scale inherent in fixed organizational structures and processes, on the other.

Start-ups, for example, are notoriously well known for acting quickly, but once they grow beyond a certain point they struggle to maintain that early momentum. Equally, large and established companies often become bureaucratic because the rules, policies, and management layers developed to capture economies of scale ultimately hamper their ability to move fast.

In our experience, truly agile organizations, paradoxically, learn to be both stable (resilient, reliable, and efficient) and dynamic (fast, nimble, and adaptive). To master this paradox, companies must design structures, governance arrangements, and processes with a relatively unchanging set of core elements—a fixed backbone. At the same time, they must also create looser, more dynamic elements that can be adapted quickly to new challenges and opportunities. This article offers early insights from our work with large global institutions that have successfully become more agile by redesigning themselves for both stability and speed.

## THE POWER OF ‘AND’

Many companies have long been striving for greater agility—and many academics, consultants, and other advisers have been searching for successful ways to help them. Much of the management literature, however, has emphasized only one part of the equation: how to achieve speed and flexibility.

Companies have indeed been able to move quickly by creating a flexible ring that’s fenced off from the rest of the organization or, more recently, self-directed team structures embodied by “holacracy.”<sup>1</sup> But our research and experience show that these ideas, on their own, are not enough. (To test your company’s current agility level, see Exhibit 1.)

A 2015 analysis of McKinsey’s Organizational Health Index showed that companies with both speed and stability have a 70 percent chance of being ranked in the top quartile by organizational health. That’s a far higher proportion than McKinsey found among companies focused only on one or the other.<sup>2</sup> We’ve long established that organizational health is itself a predictor of strong financial performance.

These results are also consistent with an analysis by Columbia Business School professor Rita Gunther McGrath.<sup>3</sup> From a pool of more than 2,300 large US companies, she identified ten that increased their net income by at least 5 percent annually in the ten years up to 2009. Her conclusion? These high-performing companies were both extremely stable, with certain organizational features that remained the same for long stretches, and rapid innovators that could adjust and readjust their resources quickly.

The ability to be both stable and dynamic, the essence of true organizational agility, is most easily grasped through a simple product analogy. Smartphones have become ubiquitous in part because of their design and functionality. The hardware and operating system form a stable foundation. But a dynamic application layer builds in “white space” for new apps to be added, updated, modified, and deleted over time as requirements change and new capabilities develop.

In the same way, agile companies design their organizations with a backbone of stable elements. These foundations, like a smartphone’s hardware and operating system, are likely to endure over a reasonable period. They might

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<sup>1</sup> Holacracy, exemplified recently by the online footwear company Zappos, seeks to encourage employees to behave like self-directed entrepreneurs and to instill their own sense of meaning and purpose in the workplace.

<sup>2</sup> For the full research findings, see Michael Bazigos, Aaron De Smet, and Chris Gagnon, “Why agility pays,” *McKinsey Quarterly*, December 2015, on [mckinsey.com](http://mckinsey.com).

<sup>3</sup> Rita Gunther McGrath, “How the growth outliers do it,” *Harvard Business Review*, January–February 2012, [hbr.org](http://hbr.org).

Exhibit 1

**Worksheet: Where does your organization fall today?**

Place a check mark by every word that describes how it currently feels to work at your company. Total the number checked in each quadrant to see where your company falls.



<sup>1</sup> Exhibiting the characteristics of a start-up.

last a couple of years in the smartphone’s case, and more like five to ten years in a company’s. These agile companies also have more dynamic capabilities: organizational “apps” to plug and play as new opportunities arise or unexpected challenges threaten to destabilize formerly protected profit streams. (For examples of these capabilities, see Exhibit 2.)

## **BALANCING THE TENSION**

Our work has highlighted three core organizational areas where balancing this tension between stability and flexibility is critical: organizational structure, which defines how resources are distributed; governance, which dictates how decisions are made; and processes, which determine how things get done, including the management of performance.

### **Structure**

Traditional hierarchies—boxes and lines on the org chart—typically specify where work gets done and performance is measured, and who’s responsible for awarding bonuses. All this generally involves a boss (or two in matrix organizations), who oversees work and manages direct reports (see sidebar, “Moving away from the mechanistic,” on page 65).

Agile organizations, by contrast, deliberately choose which dimension of their organizational structure will be what we call their “primary” one. This choice will dictate where individual employees work—in other words, where they are likely to receive coaching and training and where the infrastructure around their jobs is located. Day-to-day work, performance measurement, and the determination of rewards, on the other hand, are more likely to happen in teams that cut across formal structures. The primary home of employees remains an anchor along their career paths, while the crosscutting teams form, dissolve, and re-form as resources shift in response to market demands. Sometimes these dynamic teams show up in the org chart, typically in the form of business lines, market segments, or product units. At other times, they don’t, notably in a holacracy or other start-up organizational forms.

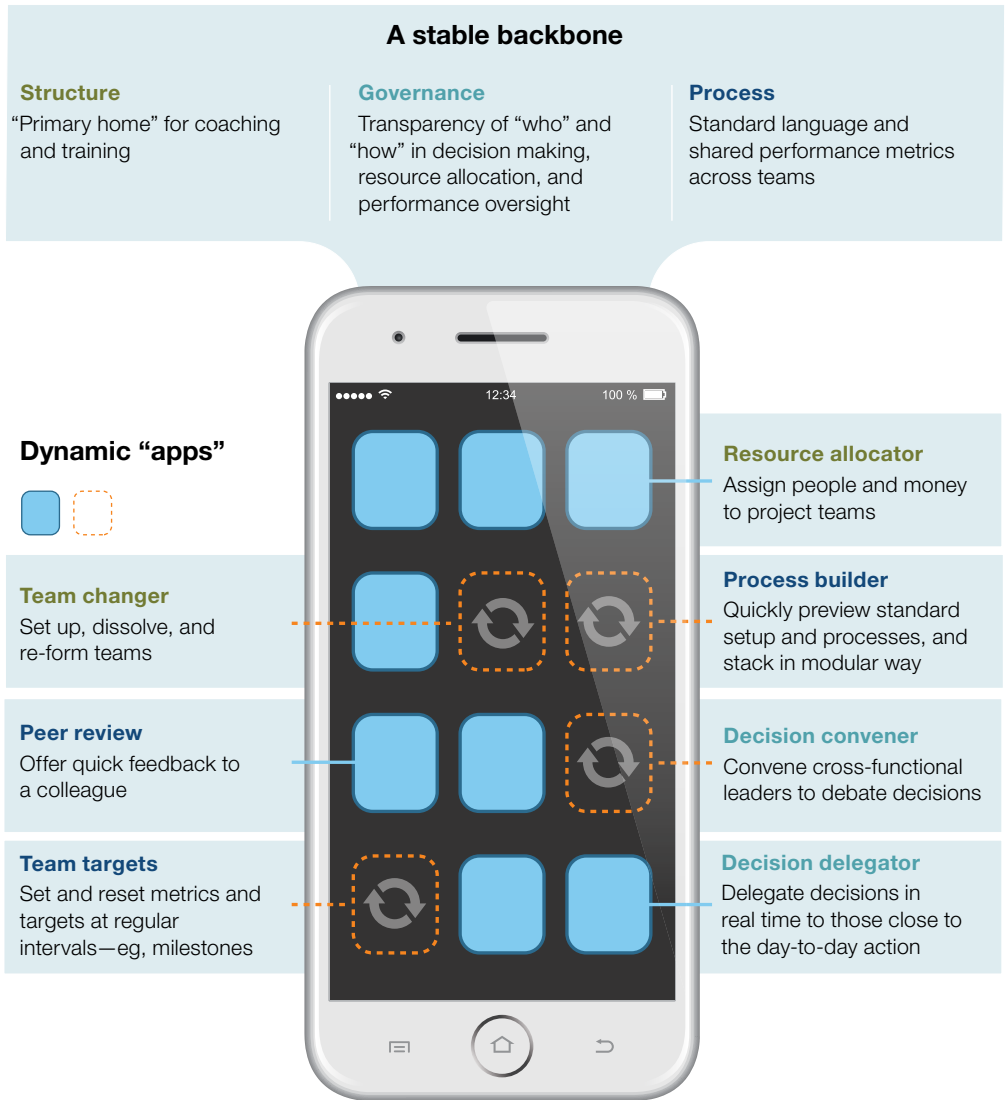
A global chemical manufacturer we know illustrates the benefits of this approach. Struggling to get traction on a new, increasingly international strategy, it changed its long-standing business-unit structure. Functions—that is, technical, sales, supply-chain, and customer-service resources—became the primary home for employees. At the same time, the company established a small product-line organization with P&L accountability, considerable decision-making authority, and a head who reports directly to the CEO. This “secondary” (product-line) organization holds the enterprise view for overall profitability and thus autonomously synthesizes product



Exhibit 2

### Agility and the smartphone: An analogy

The phone's fixed hardware platform and space for new apps mirrors the agile organization's **stable backbone** and **dynamic capability** to add, abandon, replace, and update "apps." Together, these allow the organization to respond quickly to market changes.



strategy, decides where and how the company should invest its resources, and drives collaboration across functions and geographies.

Thanks to these changes, the company now has a better position to move quickly, and without major disruptions, as new and varied opportunities in emerging markets, notably China, present themselves. An application engineer in China, for example, might work in an office with the local sales team and report to a primary technical-support function in the org chart. That engineer could one moment be serving on a team developing a chemical product for the medical market and then be redeployed to a new team when an opportunity arose to supply that product to the Chinese construction industry. The roles, capabilities, and accountabilities of this engineer will be the responsibility of the more stable functional unit. But to use the smartphone analogy, the engineer's work teams are a dynamic, perhaps temporary application layer on top of the long-term organizational backbone.

A fast-growing online company we know applies the same logic. Its primary dimension revolves around functions. Dynamism comes from a series of performance units for customers with the same needs and product requirements. These market segments are not hardwired into the formal structure; they are temporary performance cells, populated by employees from across the organization (IT, marketing, finance) and reviewed every 90 days through clearly defined key performance indicators (KPIs). Senior executives then decide whether to keep these cells going, switch them off, or give them more or fewer resources. The reallocation process tends to be much more dynamic in this environment than in traditional structures. Why? The new market segments don't own the resources; the functions do. Customer units that have the greatest potential and perform well get the most resources. Those that have limited potential or perform poorly eventually die.

Another structural lesson from agile companies is that once they have chosen their primary dimension, that choice remains consistent over time. Coca-Cola, which has delivered top-quartile shareholder returns for years, has long implicitly understood this stable-dynamic paradox. Over many years, its organizational structure has integrated dominant geographic units (regions and countries) as the primary axis, and a second dimension around a few strong central functions (marketing, finance, HR, and the like) in a well-understood, and largely unchanging, basic operating model. Adjustments are often made to the specifics as new issues and opportunities arise, but the essence of the matrix structure—i.e., geographic units as the primary axis, intersecting with strong key functions—has remained virtually unchanged for many years.

## MOVING AWAY FROM THE MECHANISTIC

To take the first step in joining the agile high-performing class, a company must challenge some of the most deeply held principles of organizational theory. Influenced by Frederick Taylor's and Max Weber's powerful ideas, first propounded roughly a century ago, many large businesses still think their organizations should operate like integrated machines comprising working parts that fit together seamlessly, like a smoothly running automobile.

In this machine view, organizations should be designed to run like clockwork. Organizational structures should follow rules that determine where resources, power, and authority lie, with clear boundaries for each role and an established hierarchy for oversight. When decisions require collaboration, governance committees should bring together business leaders to share information and to review proposals coming up from the business units. All processes should be designed in a very precise, deliberate way to ensure that the organization runs as it should and that employees can rely on rules, handbooks, and priorities coming from the hierarchy to execute tasks. Structure, governance, and processes should fit together in a clear, predictable way.

Today's problem is that by the time companies have designed this kind of structure, the world has already moved on and it's time to change again. In a McKinsey survey conducted last year, the executives responding told us that at least half of their companies are making significant structural changes, at either the unit or the enterprise level, as frequently as every two or three

years. The redesigns often take one or two years to complete.<sup>1</sup> Why do these companies redesign themselves so frequently? A mechanistic approach logically leads executives to go back to the drawing board and redesign how the organization will work when things change. But in today's fast-changing world, this approach results in almost constant disruption and change fatigue. Even worse, only 23 percent of the redesigns in our sample were deemed successful by our respondents. They thought that most of the others had destroyed value.

The issue is that traditional mechanistic approaches to setting up and running organizations have tended to slow and restrain the creativity, innovation, and self-organization that social and technological developments could unleash. Internet companies like Wikipedia have harnessed enormous collective power with new models of collaboration. But executives in long-established and even blue-chip companies often feel trapped. Instead of developing the organization, many have yet to abandon the mechanistic model, which favors control and a precise engineering mind-set.

<sup>1</sup> For additional research findings, see Steven Aronowitz, Aaron De Smet, and Deirdre McGinty, "Getting organizational redesign right," *McKinsey Quarterly*, June 2015, on [mckinsey.com](http://mckinsey.com).

Contrast this approach with that of an international consumer-goods company we know which developed and implemented a painful redesign of its regional operations more than a year ago. It found that by the time the changes were finally taking hold, a further shift in the market had made the new organization redundant. In the smartphone analogy, this company had hardwired the anticipated needs into its structure but had not built a dynamic capability that would allow the new arrangements to endure over time.

Agile companies have learned that the stability of an organizational home is critical because it helps companies to redeploy employees in less successful cells more easily and rapidly, with little of the disruption and fear over job losses that traditionally deter and hinder change. We're not talking about fixed-term projects with a clear end date but rather about an open-ended deployment that could last a few weeks—or a few years. Functional heads therefore have the responsibility to provide coaching and develop capabilities that enable people to move on quickly to the next opportunity, opening a new door when an old one closes.

## Governance

The idea behind agile governance is to establish both stable and dynamic elements in making decisions, which typically come in three types. We call big decisions where the stakes are high Type I; frequent decisions that require cross-unit dialogue and collaboration, Type II; and decisions that should be parsed into smaller ones and delegated as far down as possible, often to people with clear accountability, Type III.

It is Type II topics that most often hinder organizational agility. Companies that have successfully addressed this problem define which decisions are best made in committees and which can be delegated to direct reports and to people close to the day-to-day action. They also establish clear charters for committee participants and clarify their responsibilities—avoiding, in particular, overlapping roles. This is the stable backbone. But these companies also make speedy decisions and adapt to changing circumstances: they dynamically rotate individual members of such committees, hold virtual meetings when necessary, and spend their meetings engaging in robust discussion and real-time decision making rather than in sharing information through endless presentations, many dealing with issues that have already been resolved.

Take an energy company which introduced a new approach after realizing that its internal governance was broken. It found, for example, that the executive committee actually had no explicit decision rights: the committee's meeting agenda was set by the CEO's executive assistant after lobbying

from individual executives, and the vast majority of meeting time was spent listening and reacting to presentations. To address the problem, the company appointed a chief of staff to manage meetings and declared a meeting-time target of 90 percent dialogue, debate, and decision making. The CEO asked meeting participants to watch recorded presentations as part of their “pre-read,” and that alone cut presentations and information sharing to less than 10 percent of the total meeting time. The company also clarified the responsibilities and voting rights of meeting participants and set up a strategy group to engage with a broader set of nonvoting leaders on the more important decisions. Thanks to a new spirit of collaboration and trust, there are no longer “meetings after the meeting” to talk about what didn’t come up earlier.

The introduction of a mandate for balanced governance, with a charter and clear decision rights at its core, also had a galvanizing effect on the agility of a major global healthcare business we know. Previously, a simple product enhancement for a particular country required a torturous half-year approval process involving six overlapping committees. Now a single cross-functional team can make this sort of decision in a matter of weeks. (A second team is involved in certain cases, though only to improve coordination, not as part of the decision-making process.) Clear authority thresholds, below which no higher-level approval is necessary, are in place for product-group leaders. Thanks to greater clarity about voting rights and committee-chairing responsibilities, it is now easy to convene the core team or to make urgent decisions virtually and over the phone.

## Process

Much as agile companies underpin the new dynamism with a degree of stability in their structure and governance, they create a stable backbone for key processes. These are usually signature processes, which these companies excel at and can explicitly standardize but are hard for competitors to replicate. In a brand- and innovation-driven consumer-goods company such as P&G, for example, product development and external communication are high on the list of signature processes. Amazon’s synchronized supply chain, with its common language and standards identifying clear decision rights and handoffs, is another. In many companies, idea to market, market to order, and order to cash are signature processes. When everyone understands how these key tasks are performed, who does what, and how (in the case of new initiatives) stage gates drive the timetable for new investment, organizations can move more quickly by redeploying people and resources across units, countries, and businesses. In other words, everyone must speak the same standardized language.

When that kind of standardization is lacking, agility suffers. Executives at one highly diversified global technology company we know noted how slowly local units were responding to new initiatives. On closer examination, the leaders discovered that those involved invariably devised their own customized processes as part of any solution. The result? Essentially identical processes had multiple variants, each with its own governance conventions and different and duplicative structures. Employees spent too much time on internal discussions about best practices, methodologies, and process frameworks and not enough on actively improving their own ways of working.

The company has now created a common operational language, codified in one standard process framework for all 60 businesses in its portfolio. It harmonized these processes where feasible but also spelled out the allowable degree of differentiation for business models or for the needs of specific customer segments. As a result, the company could further simplify and harmonize roles and job titles. It can now execute any operational activity in just seven standard value chains covering 22 processes, such as order to cash.

Extra dynamism comes from two new overarching roles in the organization—those of a business-process owner, who champions and improves each signature process, and an integrator, responsible for cross-functional collaboration, execution, and performance management. The integrator is accountable for meeting specific end-to-end KPIs and targets and for leading cross-functional teams executing processes. The rollout is in its early stages. Nonetheless, there is a growing realization, across the organization, that while the old approach seemed fast and responsive to local needs, the new one enables the company to move even more quickly, without having to change processes constantly.


Performance management is particularly crucial in the context of agile processes. In many businesses, a top-down strategy guides efforts to realize the CEO's and top team's targets, which are cascaded down the organization to business units, smaller units, and ultimately individuals. Along the way, each function, product group, and territory develops its own metrics, often in isolation from—or even at cross-purposes with—other departments working toward the same end. Silos are thus reinforced, and dysfunction rears its head.

One company we know moved from this top-down target-setting approach to one involving a set of performance metrics jointly owned across the value chain. Originally, the sales leaders, rewarded by top-line numbers, tended to inflate inventory needs at the start of a production cycle. Meanwhile, the logistics managers, judged by waste-minimization targets, significantly

reduced that figure when they could. The supply chain therefore often exceeded its targets, but salespeople frequently ran out of stock and key customers were alienated. To solve this problem, the company built a few common KPIs (sales-forecast accuracy and customer satisfaction) into the incentives of sales, logistics, and manufacturing managers, so that all functions had some stake in business outcomes. This change laid the foundation for regular team targets, reset every quarter; more frequent performance conversations, both for individuals and teams; and additional peer reviews—changes that have enabled the company to become more agile.

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Agile companies regularly rethink and, if necessary, redesign their structures, governance mechanisms, and processes to strike a balance between speed and stability. But a company attempting to become more agile may find the effort daunting. One critical prerequisite for sustaining real change is putting in place the behavioral norms required for success. This is not about making cultural statements or listing company values; it is, rather, a matter of instilling the right kinds of behavior for “how we do things around here.”

While agile companies seem to share a few behavioral norms, such as a bias for action and the free flow of information, other norms vary according to the nature of the company and the specific recipe it adopts to encourage a healthy, high-performing culture.<sup>4</sup> The clearer and more widely adopted these kinds of behavior become throughout all levels and units of a company, the easier it will be to change structures, governance, and processes in pursuit of agility. 

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<sup>4</sup> For more, see Aaron De Smet, Bill Schaninger, and Matthew Smith, “The hidden value of organizational health—and how to capture it,” *McKinsey Quarterly*, April 2014, on [mckinsey.com](http://mckinsey.com).

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# Leadership: Context, innovation, and authenticity

Organizations are changing—and so is what’s expected of today’s leaders. Here, McKinsey authors and two outside contributors offer perspectives on the challenges ahead.

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*Jeffrey Pfeffer*

# Leadership in context

Organizational health matters more than you might expect.

*by Michael Bazigos, Chris Gagnon, and Bill Schaninger*

**Great leaders complicate leadership development**—a notion that may seem paradoxical until you stop and consider just how much has been written about Winston Churchill, Mahatma Gandhi, Abraham Lincoln, Golda Meir, Ernest Shackleton, and countless other celebrated leaders. The sheer volume is overwhelming, and the lessons that emerge from one leader’s experience may be completely inapplicable to another’s.

The complications run deeper for business leaders. In the corporate context, effectiveness depends less on the traits of any one executive (or of that person’s direct reports) and more on a company’s competitive challenges, legacies, and other shifting forces. If only we had a clear set of keys to effective organizational leadership—a “decoder ring” to understand which practices produce the best outcomes. Our latest research, however, does point to one major element of the equation: organizational health. For people seeking to lead companies effectively and for organizations seeking to develop managers who can deploy different kinds of leadership behavior when appropriate, recognizing and responding to a company’s health is far more important than following scripts written by or about great leaders. And that’s true even of great leaders whose circumstances might, on the surface, seem relevant under a given set of conditions.

To be sure, certain normative qualities, such as demonstrating a concern for people and offering a critical perspective, will always be part of what it takes to be a leader. But the importance of other elements, such as keeping groups

on task and bringing out the best in others, vary in importance depending upon an organization's circumstances. Organizational health changes over time. Effective situational leadership adapts to these changes by identifying and marshaling the kinds of behavior needed to transition a company from its present state to a stronger, healthier one.

### **'HOW HEALTHY ARE WE?'**

All this presupposes, of course, that leaders have an accurate sense of how healthy their organizations are. Developing such a view is easier said than done: it's only natural for leaders to overestimate the health of their organizations and the effectiveness of their leadership, given the way many of them identify with their companies and roles. In our experience, too many executives default to describing their companies as good and striving to be great. But this can't be true; by definition, more companies can't be above the median line of organizational health than below it. When we examine survey data through the lens of the different levels of an organization, we find that leading executives typically have more favorable views of its health than do its line workers—who are, after all, much closer to the true center of gravity.

What's more, surveys, interviews, and a significant amount of honest self-reflection all go into more robust assessments of organizational health. Since a rigorous self-diagnosis isn't always possible, we've developed some rules of thumb, such as those depicted in Exhibit 1. These move a bit beyond guesswork and provide a more informed sense of what it feels like to be in one type of company or another.<sup>1</sup> In ailing organizations, for example, the leadership tends to rely on very detailed instructions and monitoring—a symptom of excessively tight control. A healthier organization's leadership, by contrast, shows greater support for colleagues and subordinates, and sensitivity to their needs. And the leaders at elite organizations challenge employees to aspire higher still by setting stretch goals that inspire them to reach their full potential.

### **THE SITUATIONAL-LEADERSHIP STAIRCASE**

To explore the effectiveness of different kinds of leadership behavior at companies in different states of organizational health, we surveyed more than 375,000 people from 165 organizations across multiple industries and geographies. Drawing both from our own work experience and from evolving academic research, we focused on more than 20 distinct kinds of behavior that cover a broad range of leadership characteristics and appear, at least

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<sup>1</sup> Readers seeking an additional indication of their organization's health quartile are invited to take McKinsey's nine-question quiz, "How healthy is your organization?," available at [ohsolution.com](https://www.ohsolution.com).

Exhibit 1

**When a rigorous self-diagnosis isn't possible, these rules of thumb are helpful in assessing the health of organizations.**

	<b>Ailing</b>	<b>Able</b>	<b>Elite</b>
<b>Direction</b>	Strategy fails to resolve tough issues	Compelling strategy reinforced by systems and processes	Sense of purpose and engagement about the vision
<b>Leadership</b>	Very detailed instructions and monitoring (high control)	Sensitivity to needs of subordinates (high support)	Stretch goals to inspire working at full potential (high challenge)
<b>Culture and climate</b>	No coherent sense of shared values	Baseline of trust within and across organizational units	Strong, adaptable organization-wide performance culture
<b>Accountability</b>	Excessive complexity and ambiguous roles	Clear roles and responsibilities; performance and consequences linked	"Ownership" mind-set encouraged at all levels
<b>Coordination and control</b>	Conflicting and unclear control systems and processes	Goals, targets, and metrics aligned and managed through effective processes	Value from collaboration captured and measured across organizational boundaries
<b>Capabilities</b>	Failure to manage the talent pipeline or deal with poor performers	Institutional skills developed as required to execute strategy	Distinctive capabilities nurtured to create long-term competitive advantage
<b>Motivation</b>	Low engagement accepted as norm	Motivation promoted through incentives, opportunities, and values	Extraordinary effort generated through employees' sense of meaning and identity
<b>External orientation</b>	Energy of organization directed inward	Primary objective to create value for customers	Focus on creating value for all stakeholders
<b>Innovation and learning</b>	No structured approaches to harnessing employees' ideas	Ideas captured and converted into value incrementally and through special initiatives	Internal and external networks leveraged to maintain leadership position

Source: Alice Breeden, Aaron De Smet, Helena Karlinder-Ostlundh, Colin Price, Bill Schaninger, and Eilidh Weir, *Building healthy organizations to drive performance: The evidence*, McKinsey & Company, 2009

under certain circumstances, to correlate closely with strong corporate performance.<sup>2</sup>

Analytically, we studied organizational health and leadership effectiveness in turn. First, health: We sorted companies into organizational-health quartiles, then observed which leadership behaviors were most prevalent in each quartile. We were particularly interested in identifying leadership behaviors that were almost always present (as it turned out, there weren't many), and those that were more (or less) prevalent, depending upon an organization's current state of health. Next, we repeated the quartile approach but this time, we focused not on health but on leadership effectiveness. Which behaviors did respondents perceive to be most effective? The purpose was to address the possibility that we were giving too much prominence to behaviors exhibited at companies that were otherwise healthy, but which survey recipients thought were ineffective practices nevertheless. Instead, we sought to identify behaviors that matched organizational health with perceived leadership effectiveness, and to isolate those behaviors that were most effective in different situations.

The analysis yielded what we call a leadership staircase—a pyramid of behavior analogous to Maslow's hierarchy of needs (Exhibit 2).<sup>3</sup> In our hierarchy, like similar ones, some kinds of behavior are always essential. As organizational health improves, quartile to quartile, additional behaviors become apparent. More tellingly, some appear to be differentiators: emphasizing them in different situations can lift the organizational health of a fourth-quartile company to the third quartile, a third-quartile company to the second quartile, and so on. This staircase model aligns squarely with our own real-world observations.

### Baseline behavior

For companies at every level above the truly dysfunctional, a set of threshold forms of behavior appears to be essential. We call them “baseline behavior.” Others may also be called for, depending upon an organization's state of health, but the following practices are appropriate no matter what a company's health may be: effectiveness at facilitating group collaboration, demonstrating concern for people, championing desired change, and

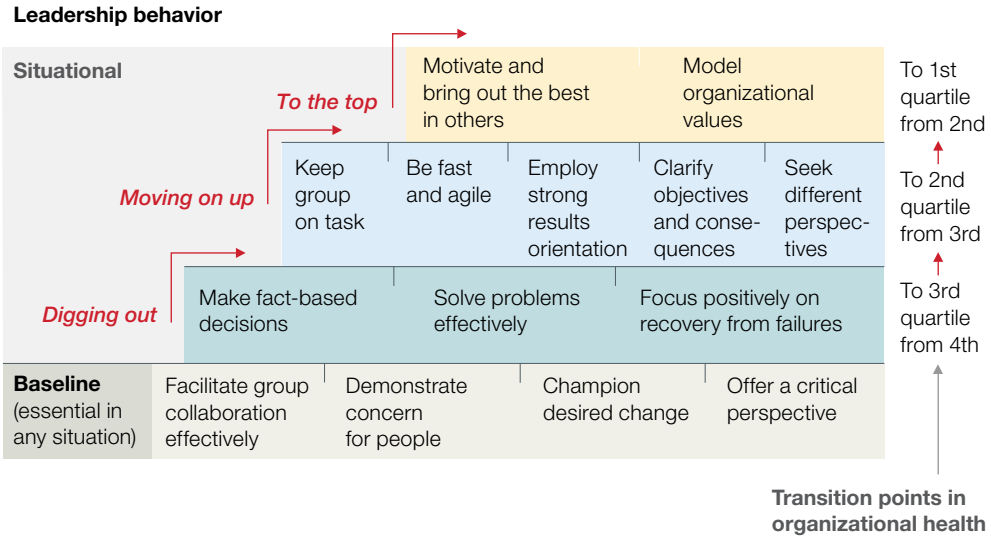
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<sup>2</sup> For a more detailed review of a substantially similar list of such leadership behaviors, see Claudio Feser, Fernanda Mayol, and Ramesh Srinivasan, “Decoding leadership: What really matters,” *McKinsey Quarterly*, January 2015, [mckinsey.com](http://mckinsey.com).

<sup>3</sup> Psychologist Abraham H. Maslow contended that human needs are structured in a hierarchy; as each level of needs is satisfied, the next higher level of unfulfilled needs becomes predominant. See Abraham H. Maslow, “A theory of human motivation,” *Psychological Review*, 1943, Volume 50, Number 4, pp. 370–96; and Abraham H. Maslow, *Motivation and Personality*, first edition, New York: Harper & Brothers, 1954.

Exhibit 2

The importance of employing different kinds of leadership behavior to improve organizational health will vary according to a company's starting point.



Source: 2014 McKinsey survey of >375,000 people from 165 organizations in multiple industries and geographies; McKinsey analysis

offering critical perspectives. The absence of such fundamentals of healthy interpersonal interaction invites disorder; shoring up these behaviors, on the other hand, serves to keep organizations from sliding backward into organizational trouble. But in themselves, they don't spell the difference between mediocre and top-tier organizational health. Companies need additional practices to climb the staircase.

**Digging out**

Companies in the lowest (fourth) health quartile confront stark—even existential—challenges, such as low levels of innovation, declining customer loyalty, wilting employee morale, the loss of major talent, and critical cash constraints. Typically, these companies lack some or even all of the baseline forms of behavior. Implementing the full complement is essential. But under trying conditions, our research suggests, the most effective forms of leadership behavior are making fact-based decisions, solving problems effectively, and focusing positively on recovery. Ironically, these additional behaviors are often the opposite of what distressed organizations actually do. Leaders at too many fourth-quartile companies, in their urgency to act, seek quick top-down fixes (such as replacing senior executives one or more times) but forego granular, fact-based analyses or well-rooted strategies. Those missteps often mark a company in its death spiral.

No doubt it's a bit dangerous to draw too many lessons from well-known historical examples; memories are selective, and researchers can easily see what they want. Yet we're struck by the parallels between these findings and the experiences of IBM in the early 1990s and of Continental Airlines later that decade. When Lou Gerstner, hired from the outside, took over as the new chairman and CEO of a then-deeply troubled IBM, he prioritized clear, fact-based problem solving. One measure of this mandate was his insistence that the executive team essentially abandon slide presentations and submit plans in jargon-free prose. He also refused to accept the idea that the company's decline, partition, or even liquidation was inevitable. The ability to see the facts clearly and to demonstrate resilience helped Gerstner and his team to break a long downward slide, reconsider a product category previously dismissed as obsolete, and turn what many had presumed to be an inevitable asset breakup into a new trajectory for growth. The leadership's mind-set, moreover, became ingrained in the enterprise; members of Gerstner's team who rode out the reorganization bought into his practices, and passed many of them on to their own working teams.

So too at Continental: morale had been so broken that workers were reportedly tearing the Continental logo off their uniforms to avoid being recognized as company employees off the job. As part of the company's turnaround, members of the new leadership team embraced effective attitudes and behaviors, drilled down to assess profitability on a route-by-route and flight-by-flight basis, and took decisive action grounded in reality. In fact, this uncompromising focus on facts led then-COO Greg Brenneman to discover, over Thanksgiving, that the company would run out of cash in less than two months. With spirited resilience, the leadership team eliminated unprofitable routes, implemented specific initiatives for recovery (such as bonuses for on-time departures), and brought a loss maker into the black within 12 months.<sup>4</sup>

### Moving on up

Our research and experience suggests that a major differentiating leadership characteristic of companies on the upswing is the ability to take practices that are already used at some levels of the organization and use them more systematically, more reliably, and more quickly. This shift calls for behavior that places a special emphasis on keeping groups on task and orienting them toward well-defined results. Such situations also favor leaders who embrace agility and seek different perspectives to help ensure that their companies don't overlook possibly better ways of doing things. But under these circumstances, qualities (such as the ability to motivate and bring

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<sup>4</sup> Greg Brenneman, "Right away and all at once: How we saved Continental," *Harvard Business Review*, September–October 1998, hbr.org.

out the best in others and to model company values) found at the top tier of organizational health typically have a less pronounced effect.

A US-based financial-services company we know supplies a practical example. Its leadership aspired to strengthen the organization's financial performance, innovate in the core business, and use an integrated package of health, performance, and leadership initiatives to capture more value at risk. At the outset, this company's organizational health was in the third quartile—below the median. Key challenges included a lack of clear objectives or accountability (highlighted by committees with muddled or overlapping missions; poor development and career opportunities for high performers; and weak management of financials, operations, and risk (reflected, among other ways, by the absence of robust metrics). Exacerbating these problems, the leadership's approach to running the company was pervasively top down.

To meet the challenges, the leaders implemented an integrated set of health and performance initiatives—for example, they developed clear standards and outcomes to clarify day-to-day tasks. The company made its objectives (and the consequences of not achieving them) transparent by articulating a forceful strategic vision marked by specific operating goals and milestones. The leadership also aimed to foster bottom-up, employee-driven solutions and actively encourage new perspectives. Although many things went right for this company beyond its walls, these internal moves undoubtedly strengthened it, and the results were tangible. Within two years, it had achieved its topline objectives in health, performance, and leadership, and its stock price had increased by 250 percent.

### Why not start at the top?

If identifiable forms of leadership behavior are associated with companies in the higher quartiles, can an organization in the lower ones apply them immediately and leap to the top? Our research and experience suggest that attempts to do so typically end poorly. Emphasizing kinds of behavior that are not attuned to an organization's specific situation can waste time and resources and reinforce bad behavior. Worse, it can make an upgrade to a higher health quartile even more difficult. This makes intuitive sense: the leaders of a company in deep trouble should not prioritize, for example, modeling organizational values, a first-quartile behavior.


We observed one cautionary example at a joint venture that ended badly for a number of related health, performance, and leadership reasons. Its board installed a highly charismatic leader with an outsized focus on top quartile-style motivational behavior. He traveled globally with his chairperson,



for example, touting the joint venture’s “premium on innovation” and declaring that despite its merger-like characteristics, there was a “job for everyone” who was passionate about its vision. Unfortunately, at the time of these pronouncements, the organization had done little groundwork on critical issues of integration, including the difficult how-tos of harmonizing disparate IT systems and organizational cultures. Both legacy organizations responded by continuing to execute and perform as if nothing had changed. There was evidence they hoped that nothing ever would.

The joint venture responded to missing its first-quarter targets by setting even more ambitious ones. It handed accountability to the executive responsible for sales and marketing, but no root-cause analyses were undertaken. When it discovered a cash crisis, it made no credible efforts to craft a practical response; instead, the top executive continued to trumpet his mission throughout his global visits. But a “job for everyone” fell victim to the joint venture’s alarming cash position, which forced mass layoffs, and with them came the end of the leadership’s credibility. The venture was dissolved after just over a year of misguided operation.

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Even the best scripts can ring hollow in the wrong settings. Our research suggests that the most effective leadership behavior reflects the state of a company’s organizational health. Top-management teams that are serious about developing vibrant businesses and effective leaders must be prepared to look inward, assess the organization’s health objectively, and ask themselves frankly whether their leadership behavior is strong enough in the ways that matter most at the time. This question has implications not just for developing but also for assessing a company’s leaders. However much an executive may seem to have a leadership “it” factor, the organization’s health, not the claims of individuals, should come first when companies determine which kinds of behavior will be most effective for them. In short, they should spotlight different sets of actions in different situations. Fortunately for aspiring leaders, they don’t have to do everything at once. 

*The authors wish to thank Aaron De Smet, Lili Duan, Claudio Feser, and Abby Wurts for their contributions to this article.*

**Michael Bazigos**, head of organizational science at McKinsey, is based in its New York office; **Chris Gagnon** is a principal in the New Jersey office; and **Bill Schaninger** is a director in the Philadelphia office.

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# Organizing for breakthrough innovation

Roche's CEO, Severin Schwan, talks about the group's R&D structure, tough decisions, and long-term mind-set.

**Roche**, the worldwide pharmaceutical and diagnostics group based in Basel, Switzerland, has enjoyed an innovation run that would make most other large companies envious. On the back of an impressive record of scientific discoveries, the company is today the acknowledged leader in the industry's most profitable category, cancer drugs. Over the past decade, its shares have been among the best performing in the sector. CEO Severin Schwan declares that Roche's continued success will depend on its ability to replenish its pharma and diagnostics pipeline through further innovation breakthroughs.

In this wide-ranging interview, he talks with McKinsey partner Joel Claret about how Roche structures its R&D, why he prizes employees who make tough decisions, and what investors with a long-term mind-set bring to the party.

**The Quarterly:** *You've often said you think of yourself as Roche's chief innovation officer as much as its CEO. Why is that?*

**Severin Schwan:** Looking back over the past 100 or more years, all our periods of strongest growth were driven by breakthrough innovations. This started off with medicines like the heart tonic Digalen,<sup>1</sup> one of the most important medical innovations of its time. Later—between the two world wars, a time of rising concern about public health—we were the first company to synthesize vitamin C. The ability to make it artificially and in industrial quantities, rather than extracting it from plants, transformed the business in the 1930s. Then in the 1960s, we took a major stride forward by developing benzo-diazepines, such as Valium, for the central nervous system. This was a true breakthrough innovation because other anesthetic medicines, at the time, had serious side effects. If you took too much of them, you could die.

Over the past decade, the growth of Roche has come from different areas—new targeted therapies for cancer and biologics. Our US company Genentech was searching for new antibodies when most people in the scientific community did not believe that compounds such as those that became known as Herceptin and Avastin could treat major diseases, like cancer. The emphasis on breakthrough medicines, which has characterized our history, remains core to our strategy today. If we fail in innovation, we fail as a company.

**The Quarterly:** *Why do you emphasize science-driven innovation so strongly?*

**Severin Schwan:** Other companies take a broader approach, encompassing activities such as generics, biosimilars, and over-the-counter products, but we have consciously focused on the most innovative areas of pharmaceuticals and diagnostics. There's so much potential here. Two-thirds of diseases in the world still can't be treated, and many others are not treated well. When I became CEO, I thought hard about what makes us distinctive. The first step was to choose which playing field to be on—"soccer" or "basketball"—because I believe it's hard to be good at both. Then the question quickly becomes "How do you win if you play soccer?" Our differentiation is cutting-edge science. The rest we have to do well, though not necessarily

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<sup>1</sup> Introduced in 1904.

much better than others. But on the dimension of science, we must have a real competitive advantage.

On top of this, I believe our combined capabilities as worldwide leader in diagnostics and the largest biotech company give us an important edge to drive a more personalized form of healthcare. We know that different patient groups react differently to the same medicines. A better understanding of the heterogeneity of diseases—and of the differences in people’s genetic makeup—will be vital to the future of healthcare.

**The Quarterly:** *As CEO, how close are you to Roche’s innovation process and innovation teams?*

**Severin Schwan:** I passionately believe innovation happens from the bottom up, and I don’t believe in the approach of those visionary leaders who try to determine the fate of their companies with their own miracle insights. After all, we have thousands and thousands of brilliant minds closely connected to science and scientific communities. That said, although I am an economist by training, it’s important that I have an affinity for the science and a good understanding of disease biology. Lots of the things we talk about—internal projects, partnerships, or acquisitions—hinge on issues of science. Should we go into this or that area? Do we have the capabilities to do so? If I was too detached from science, I wouldn’t ask the right questions and I wouldn’t have a feel for the management implications of the decisions we make.

Clarity of thinking is key here. In my experience, scientists who really understand what they are talking about can explain even the most complex scientific topics to laypeople. If, on the other hand, scientists can’t explain the principles or why they’re exciting, I start to have my doubts. I go into the labs and talk to people—sometimes for 30 minutes or an hour—who are often world experts in their fields. And of course I triangulate; I talk to others to pick up the signals. This takes time. It’s not as though you have a meeting, somebody tells you about an exciting technology, and the next day you go out and acquire a company. The buildup can literally last years.

**The Quarterly:** *Is that the sort of mind-set you expect from the whole top team?*

**Severin Schwan:** Absolutely. If you believe in teamwork, as I do, and half of the corporate executive team has no clue about science or medicine, you have a problem. I ask all of the top team to visit patients, to meet physicians,

and to engage with the technologies. Sometimes I ask members of the top team to present on topics outside their immediate area of expertise. Like me, they have the privilege of asking any kind of question that might encourage a different perspective. This interest in what we do should go right through the organization. When we bought Genentech, what really impressed me was that you could talk to the receptionists, and they would have an affinity with the patients' stories and be proud of the company's scientific and medical achievements.

**The Quarterly:** *Can you talk about the structure of the Roche R&D function? What is your operating model?*

**Severin Schwan:** Early-stage research is about insight, understanding, and the quality of people. It's not about scale. The key is to give teams as much freedom as possible. If you put them in little boxes, impose standard operating procedures, and tell them what to do, you achieve nothing. So unlike most of our competitors, we have divided our research into very independent—and I do mean independent—units. The major ones are in San Francisco, in Basel, and in Tokyo,<sup>2</sup> as well as several within the business areas of diagnostics. There is no global head of R&D. The pharma research units report to me, including the partnering function, which covers external opportunities. The diagnostic ones report to the head of diagnostics.

In my view, the problem with having a global R&D head is that such a person inevitably has biases, prefers one approach over another. He or she will want to impose central guidelines and decision committees. I think a global R&D head is an unnecessary layer that potentially can destroy value by taking away freedoms and stifling diversity. All of us think about the world in our own way, and it takes a lot of discipline to let other views count.

**The Quarterly:** *Do you find that the R&D units, because of their independence, sometimes work on the same things—even compete against each other for resources?*

**Severin Schwan:** We haven't had too much overlap, but I'm actually fine in principle when people in different units are working toward the same targets. Often, a very small difference in a molecule can dramatically improve its efficiency or safety, so having two teams involved is a good thing. In some cases, one of the two may also become an extremely valuable backup in helping us get to market on time.

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<sup>2</sup> Roche is the majority owner of Chugai Pharmaceutical.

That perspective changes, though, when you get to late-stage development, and scale starts to matter. At this point, you may need big numbers of patients for trials, and that can be expensive, so you want to leverage your scale and networks. You have to make choices—it doesn't make sense to duplicate. For late-stage development in pharma, we therefore have one global organization.

**The Quarterly:** *How does Roche decide whether to proceed with a project?*

**Severin Schwan:** Typically, our R&D units apply to the late-stage portfolio committee, the final decision maker, if they want to move a medicine to what we call pivotal studies. There are subcommittees to bring in detailed technical expertise. But, ultimately, it is either the head of global development or the head of product strategy who takes the lead and has the final say. This accountability is important. Some decisions are easy—the data are so clear one way or the other. However, there should be no ambiguity about who calls the shots even when a decision is much more difficult, good arguments can be found on both sides, and tension is in the room.

**The Quarterly:** *How does the company make decisions further down the organization?*

**Severin Schwan:** It's one of our principles to decentralize and give people the freedom to be creative. But people must also have the courage to use their freedom to take risks. If nobody is willing to take a position, the model doesn't work.

It's important, therefore, to have a culture that attracts the sort of people prepared to act in the face of ambiguity rather than to delegate upward and wait for confirmation from the top. People who make decisions might be proved wrong, of course. But the one thing I know for sure is that those furthest from the science are the most likely to get it wrong. You need committees, of course, to gather information, but those closest to the action will always have the best hunch, and at the end of the day it's a single individual who has to be accountable. In my experience, the quality of a decision gets worse the higher up it is delegated. Every time you delegate upward, even if that turns out to be the right decision, you risk losing time and seeing competitors overtake you.

At Roche, people have to take their own initiative. I always tell them, "You're not promoted from the top." We have succession planning, for sure, but the

# SEVERIN SCHWAN

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## Vital statistics

Born November 17, 1967, in Hall in Tirol, Austria

Married, with three children

## Education

Graduated with bachelor's degrees in economics and law in 1991 and a PhD in law in 1993, all from the University of Innsbruck

## Career highlights

**Roche**  
(1993–present)

CEO of Roche Group  
(2008–present)

CEO of Roche  
Diagnostics (2006–08)

Head of Asia–Pacific  
region, Roche  
Diagnostics Singapore  
(2004–06)

## Fast facts

Member of the International Business Leaders Advisory Council for the Mayor of Shanghai (IBLAC)

Member of the Board of Directors of Roche Holding Ltd.

Member of the Board of Credit Suisse Group AG

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idea that employees have mentors who will take care of their careers is an illusion. If you have a good idea, pursue it. If you wait to be asked, you'll be lost.

**The Quarterly:** *What other elements of the culture attract and retain the right sort of employees?*

**Severin Schwan:** Having a sense of purpose about patients is very important. I know that “culture” is a buzzword. The real challenge is how to translate it into something real, not just a PR brochure. It's a very soft concept. But while people might come to us because they see us as leaders in a certain scientific field, they only stay if they share and understand our core values. People need to be really passionate about making a difference in patients' lives, no matter which function they work in. They need to have the courage to take risks and go new ways and follow their convictions with integrity. Openness to the outside world is also very important. The reality is that 99 percent of innovation happens outside the walls of Roche, so to succeed you have to treat an innovation that happens out there with the same respect as if it were your own. In an acquisition or a collaboration, you need a culture where people don't differentiate between the two sides.

**The Quarterly:** *Many experts argue that big companies can best foster innovation by emulating start-ups. Do you try to do this?*

**Severin Schwan:** I think you have to be careful here. For one thing, statistically, most start-ups fail. For another, it's hard to emulate something which you're patently not. Putting people in a different location, just for the sake of it, risks losing the substantial advantages of a big company—access to money, broad expertise, and technology—for little or no gain. Even if people don't always admit it, I believe that quite a few of those who join start-ups want to get stock and become millionaires. There's nothing wrong with that. But “disintegrating” people in a large listed company and giving them a few shares in it delivers the worst of both worlds. The thing we want to share with start-ups is the freedom to be creative.

**The Quarterly:** *Do you actively encourage diversity as a driver of innovation?*

**Severin Schwan:** Breakthrough innovation has a lot to do with things few people believe in, so diversity of thinking is very helpful. I'm always happy when lots of good scientists tell me something is nonsense—because when I hear this, I know it has the potential for a breakthrough. If everyone agrees on an outcome, it's already common knowledge; in other words, we are probably too late.

Diversity is hard to achieve, but at Roche it has to do with our decentralized approach and with our conscious policy of fostering it in different dimensions. Five years ago, we set ourselves a goal to increase the proportion of women in the 400 top leadership positions to 20 percent, from 13 percent. In fact, it's now 22 percent. More recently, we've also set out to increase the number of leaders from emerging markets by 30 percent—an acknowledgment not only of the growing importance of these markets but also of the fact that we are still very Europe- and US-centric at the top. We need to understand markets like China not just from a commercial perspective but from the point of view of all the functions.

It's really important to be inclusive. Bringing, say, a brilliant general manager to Switzerland from Asia is one thing. But you also have to work to bridge the gap between cultures. One individual we'd invested in nearly failed because where he comes from in Asia, people are quiet and don't speak up. This was misinterpreted as an unwillingness on his part to engage.



It's fine to encourage diversity, but you have to create an environment where diversity is leveraged. Otherwise, there's a danger that a lot of diverse people will just sit around the table in a dysfunctional way.

**The Quarterly:** *Will you create more innovation hubs in emerging markets?*

**Severin Schwan:** We have the full value chain in China already, and there's clearly a lot of innovation coming from emerging markets, but research there is still in its infancy compared with Europe and the United States. On the whole, we will continue to follow the science and the places where innovation is taking place, so I have no ambitions to build a hub anywhere in particular. The great thing about clusters like the Bay Area is that they already have the diversity we just mentioned. Like a magnet, they attract the best people from all over the world. You can't force diversity—there has to be something at the center, an initial power that creates the secret sauce. If you try to make it yourself, you'll leave out one of the ingredients or get the temperature wrong.

**The Quarterly:** *To what extent does Roche push for innovation from the top? Are there, for example, particular therapies you target strategically?*

**Severin Schwan:** In my experience, good scientists always ask for three times the money we have—a sign that they have lots of ideas. But someone still has to allocate resources from the top. Beyond that, I think it's dangerous to intervene too much. If we decide we're only going to focus on oncology, we might miss the next big thing in another field. It was only by chance, for example, that we discovered that the cancer medicine MabThera also works for rheumatoid arthritis. Strategies at Roche follow the science, but the problem is that you just don't know where it's going to take you.

That said, there are some special circumstances when we shift resources from the top. Right now, for example, a lot of companies are investing a lot of money in cancer immune therapies. Given our expertise in this area and all the compounds we already have, it's a natural field for us to be playing in. We have to ask ourselves if we would have a greater impact spending more in this area and less elsewhere or if we should increase the budget overall. We had similar discussions before deciding recently to take two Alzheimer molecule projects to the late stage. We know we are only at the beginning of understanding this terrible disease and that the risks are huge. But it would be a major breakthrough if we succeeded, and it would make a huge difference to humanity.

**The Quarterly:** *How many of those really risky projects can you take on?*

**Severin Schwan:** The amount we invest in really big, high-risk, late-stage projects is a small part of what we spend on projects that reach the late stage. We know we can digest the Alzheimer project if it fails, but I would be extremely uncomfortable if all late-stage projects were like that. These big late-stage projects, of course, are very different from our early-stage clinical research, which comprises lots of smallish, very high-risk activities. We know from the outset the odds of success are low. Our aim is to find things that will one day be breakthrough innovations and to “derisk” them during the early stage, to the point where they are not big gambles if they get to the late stage.

**The Quarterly:** *Do you try to measure R&D?*

**Severin Schwan:** I have seen companies making statements about how they measure their research productivity and proposals for measuring the internal rate of return on R&D. I find this absurd. If taken to its extreme, this is the sort of bureaucracy—a controller running around a lab getting scientists to fill in spreadsheets—that kills innovation. You can’t capture scientific judgment in numbers. You can look at it retrospectively. If you see a deviation from the previous path, you can ask what went wrong. Have we got the right people? Is the governance right? But to do this prospectively is impossible.

Of course, in later stages of development, you have more data, there is less ambiguity, and it’s easier to have metrics. On the whole, though, I’m more of a believer in scenario planning—looking at what would happen if everything went wrong, how we would pay for that, how we would mitigate the risks.


**The Quarterly:** *Must there be a trade-off, then, between innovation and productivity?*

**Severin Schwan:** I don’t think they’re mutually exclusive—if you waste money, you won’t have the flexibility to innovate. But my bias will always be for the decentralized approach. I’d rather have 10 percent more innovation than 10 percent more efficiency. In most cases, you can have both.

**The Quarterly:** *Is it important to have shareholders who think for the long term?*

**Severin Schwan:** The fact that we are still majority owned by the Hoffmann and Oeri founding families gives us an important edge and allows us to think

about the long term. What they care about more than anything is handing the company over to the next generation in a better state than they found it. They think in 30-year cycles, and this works very well with breakthrough science—it gives us the luxury of making decisions that we know may not produce tangible benefits for at least 10 to 15 years.

When I tell the board that something's a long shot, the chances are that if it's digestible and doesn't bet the farm, the directors will think more about their legacy and what they're passing on than about the short-term consequences. That's hardly something the traditional investor community will applaud. This said, I'm not naive. Short-term success is also important, adds to your financial power, and allows you to do the right thing for the long term. Without this long-term mind-set, I'm quite sure we would not have taken over Genentech, nor would we have been able to buy the PCR<sup>3</sup> technology in the diagnostics field, a deal which has opened up whole new possibilities in molecular diagnostics. Sometimes people tell me we are mad to do a deal, because it will take 15 years to get a return. I tell them that's exactly why we did it. 

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<sup>3</sup> Polymerase chain reaction, a technology used to make copies of individual pieces of DNA, developed in the 1980s.

This interview was conducted by **Joel Claret**, a director in McKinsey's Geneva office, and *McKinsey Quarterly's* deputy editor in chief **Tim Dickson**, who is based in the London office.

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# Getting beyond the BS of leadership literature

Management books and commentaries often oversimplify, seldom providing useful guidance about the skills and behavior needed to get things done. Here's a better reading list for leaders.

by Jeffrey Pfeffer

**The almost insatiable demand** for leadership studies is a natural outgrowth of the all-too-frequent leadership failures in government, business, and nonprofits. Few people trust their leaders, according to the Edelman Trust Barometer surveys, among others.<sup>1</sup> Gallup data show low levels of employee engagement worldwide, while the Conference Board finds job satisfaction at a low ebb and executive tenures decreasing.<sup>2</sup> Other research consistently indicates that companies give their own leadership-development efforts low marks. Leaders aren't doing a good job for themselves or their workplaces, and things don't seem to be improving.

This consuming interest in leadership and how to make it better has spawned a plethora of books, blogs, TED talks, and commentary. Unfortunately, these materials are often wonderfully disconnected from organizational reality and, as a consequence, useless for sparking improvement. Maybe that's one reason the enormous resources invested in leadership development have

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<sup>1</sup> "2013 Edelman Trust Barometer finds a crisis in leadership," Edelman, January 20, 2013, edelman.com.

<sup>2</sup> The data on job satisfaction come from Susan Adams, "Most Americans are unhappy at work," *Forbes*, June 20, 2014, forbes.com. The data on executive tenure is from *CEO Succession Practices: 2012 Edition*, Conference Board, 2012, conference-board.org.

produced so few results. Estimates of the amount spent on it range from \$14 billion to \$50 billion a year in the United States alone.<sup>3</sup>

## THE LIMITS OF MORALITY TALES

Despite the many shortcomings of leadership instruction, some books and articles do provide fruitful guidance on how to be a better, more effective leader. And there's scattered information about what skills and behavior are needed to get things done and how to develop them. Sadly, and for a number of reasons, there's a scarcity of useful material. Here's why.

The first and maybe most pernicious problem is that thinking on leadership has become a sort of morality tale. There are writers who advocate authenticity, attention to employees' well-being, telling the truth, building trust, being agreeable, and so forth. A smaller number of empirical researchers, contrarily, report evidence on the positive effects of traits and behavior such as narcissism, self-promotion, rule breaking, lying, and shrewd maneuvering on salaries, getting jobs, accelerating career advancement, and projecting an aura of power. Part of this discrepancy—between the prescriptions of the vast leadership industry and the data on what actually produces career success—stems from the oft-unacknowledged tendency to confuse what people believe ought to be true with what actually is. And underlying that is an associated confirmation bias: the tendency to see, and remember, what you're motivated to believe.

Second, this moral framing of leadership substantially oversimplifies the real complexity of the dilemmas and choices leaders confront. An essay on the 500th anniversary of the writing of Machiavelli's *The Prince* noted that it is sometimes necessary to do bad things to achieve good results.<sup>4</sup> Not surprisingly, then, some of the most successful and admired leaders—for example, Nelson Mandela, Abraham Lincoln, and John F. Kennedy—were above all pragmatists, willing to do what was necessary to achieve important objectives.

As such, each of them (and many other renowned leaders) changed their positions on decisions and issues and behaved inconsistently. They dissembled and engaged in strategic misrepresentation, not always disclosing their full agendas and plans, in part to avoid provoking opposition. At times, they acted in ways inconsistent with their authentic feelings. Human beings are complex and multidimensional, so not only do bad people do good things and vice versa but the whole idea of good and bad can also be problematic when

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<sup>3</sup> McKinsey has cited estimates that the cost is \$14 billion a year. My own estimate, extrapolating from Association for Talent Development (ATD) data, is about \$20 billion. Harvard Kennedy School lecturer Barbara Kellerman puts the amount at \$50 billion.

<sup>4</sup> John T. Scott and Robert Zaretsky, "Why Machiavelli still matters," *New York Times*, December 9, 2013, nytimes.com.

you consider the knotty dilemmas leaders face deciding whether the ends justify the means.

Finally, the division of leaders and their actions into good and bad seriously oversimplifies a much more complex reality and continues to reinforce a problematic, trait-based, and personality-centric view of human behavior. As social-psychological research has made clear for decades, people are not only shaped by their enduring traits but also profoundly influenced by cues and constraints that vary by situation. So they adopt different types of behavior and even personas, depending on the circumstances and the various roles they play. Leaders may behave differently within their families and religious institutions than they do at work, to take one example. When individuals are promoted to management, their perspectives change and so too does their behavior. McKinsey research also suggests that the effectiveness of various types of leadership behavior varies with the health of the organization in which they are practiced (see “Leadership in context,” on page 72.)

Characterizing leaders’ behavior as somehow dependent on inherent traits provides an easy excuse for avoiding the sort of behavior and strategies that may be required to get things done. To take a simple example, people sometimes tell me that they are not networkers, as a way of explaining their reluctance to build the social relationships so necessary for success. I remind them that they were not born walking or using the toilet either. Networking behavior and skills, like all such behavior and skills, can be learned, as University of Chicago sociologist Ronald Burt has nicely demonstrated.<sup>5</sup>

## LESSONS FROM ARTFUL LEADERS

The focus on leadership should be about useful behavior rather than overly simplistic, and therefore fundamentally inaccurate, categorizations of people and personalities. Not surprisingly, the materials I find most useful for teaching leadership accurately describe the types of behavior, and the underlying social-science evidence and principles, that are needed to get things done in complex, interdependent systems in which people pursue multiple, often conflicting, agendas. Here are lessons drawn from what, in my view, are the best books on leadership.

### **Build your power base relentlessly (and sometimes shamelessly)**

Robert Caro, the Pulitzer Prize-winning biographer, admits to an ambivalence about power, and its use, that should resonate with many leaders. All of his volumes on Lyndon B. Johnson are superb, but my favorite is *Master of the*

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<sup>5</sup> See, for example, Ronald S. Burt and Don Ronchi, “Teaching executives to see social capital: Results from a field experiment,” *Social Science Research*, 2007, Volume 36, Issue 3, pp. 1156–83, journals.elsevier.com.

*Senate*. It's full of lessons, but two stand out. In the chapter "The Orator of the Dawn," Caro describes how Johnson seduced Senator Hubert Humphrey, a leader among liberals in the Senate, into supporting Johnson and his aims and ambitions. The two men were not natural allies, given the substance of their political positions, their circles of friends, or their personal styles. Nonetheless, Johnson was able to win Humphrey over. When executives tell me that flattery doesn't work and that people can see through strategic efforts to garner their support, I cite extensive evidence showing that we are generally quite poor at discerning deception. When the deception is coming from a master deceiver and consummate politician like Johnson, the odds of successful resistance are quite low.

In a second illuminating example, Caro describes how Johnson took what he called a "nothing job," assistant majority leader (also known as the whip) in the Senate, and turned it into a power base. The fundamental idea: work diligently to create resources that are useful to others and assiduously build relationships, even with enemies. Johnson created tally sheets that he and his aide, Bobby Baker, used to track likely votes by senators. He helped manage the schedule that determined when bills would be considered and votes held. He helped senators get their bills through the House of Representatives with support from its leader (and Johnson's personal mentor), Speaker Sam Rayburn. He often asked for assistance from, and in the process developed contacts with, powerful Republicans. Johnson built such a reputation for providing useful information and getting things done that when the Democrats retook control of the Senate, after the 1954 election, he became the youngest majority leader in history.

### Embrace ambiguity. . .

Caro's other Pulitzer Prize-winning book, *The Power Broker*, chronicles the 40-year career of New York parks and public-works commissioner Robert Moses. At the age of 35, Moses had little to show for the government-reform efforts he had pushed. His campaign to build parks and public works such as roads and bridges to improve the lives of New Yorkers had stalled, despite the support of a popular governor, Al Smith. In a telling chapter, "Robert Moses and the Creature of the Machine," Caro describes how Moses finally decided to do deals with the local Republican political bosses on Long Island, who had the clout to turn his plans for public works into realities.

Caro brilliantly explains how Moses decided to pursue immoral or at least questionable actions, such as letting the political bosses and their friends profit from inside information on the proposed paths of parkways and providing these insiders with some of the construction contracts, to accomplish

public good, including the creation of Jones Beach. The problem of getting things done in a world of imperfect people and ambiguous choices—a reality that confronts many people in many sectors—comes alive in Caro’s telling.

### ... and eschew popularity contests

Walter Isaacson’s biography *Steve Jobs* describes another form of behavior, which is sometimes uncomfortable for leaders. The book has provoked controversy over its depiction of Jobs. But there is little doubt that its subject was, on the one hand, a visionary leader who cofounded and built an amazingly successful company, Apple—and helped build another, Pixar—and, on the other, was notoriously hard on the people who worked for and with him. The takeaway: leadership is not about winning popularity contests or being the most beloved person in a social organization. As former Caesars CEO Gary Loveman told my class, “If you want to be liked, get a dog.” Creating things and innovating often disturb the status quo and vested interests. Moreover, the monomaniacal focus and energy so useful (if not essential) in bringing great ideas to life are not always pleasant for those in close proximity.

### When the situation demands change—adapt

*Team of Rivals*, Doris Kearns Goodwin’s lengthy group biography of Abraham Lincoln and three members of his Cabinet, explores the importance of remaking oneself and sometimes putting on a show. Abraham Lincoln certainly did not begin his public life as the heroic figure and transformative president he truly was and for which he became celebrated.

On display throughout the work is how Lincoln remade himself and was willing to do what situational exigencies required—all the while learning, evolving, and developing his leadership skills. Sometimes, this approach to leadership required Lincoln to make deals he was initially uncomfortable with to gain the support of legislators, notably to win passage of the constitutional amendment that outlawed slavery. Sometimes, it required Lincoln to depart from the truth—for example, about precisely where a Southern peace delegation was as it approached Washington and when it might arrive, to give him an opportunity to negotiate privately with its members. Sometimes, it required him to display energy and confidence that he might not really have felt. The ability to do what is required in and by a situation, to behave in usefully inauthentic ways, characterized not only Lincoln but also, I would argue, many other great leaders.




## Master the science of influence

No consideration of important lessons in leadership would be complete without noting Robert Cialdini's *Influence: Science and Practice*. This ever-evolving book contains a common set of theoretically sound, empirically based principles of interpersonal influence. Cialdini demonstrates, in ways at once evocative of, but also different from, the seminal ideas of Daniel Kahneman and the late Amos Tversky, that people are often cognitively lazy, not just cognitively biased. Our mental shortcuts and unconscious patterns of thought make *everyone* susceptible to the tactics of interpersonal influence: tactics that depend on the norm of reciprocity, accepting and obeying authority (or its symbols), the power of liking, the value created by scarcity, and the tendency to escalate levels of commitment, even in the face of negative outcomes. Cialdini reminds us that we are all susceptible to these well-known influence strategies, even if we know about them. As a consequence, they represent a set of tools potentially available to anyone who takes the time to learn them and master their use.

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The most important message embodied in all of these books is that leadership, the capacity to get things done, is a skill that can be improved like any other, from playing a musical instrument or speaking a foreign language to mastering a sport. The leaders highlighted in these books—Lyndon Johnson, Robert Moses, Steve Jobs, and Abraham Lincoln—and others like them evolved and developed over time. They learned how to weigh what trade-offs they were willing to make and, more important, to size up the circumstances required to achieve their bold objectives.

In so doing, they illustrate what could be possible for those who willingly step into the arena to tackle important, and therefore contested, problems. More critically, they are a caution against self-handicapping and a reluctance to embrace required types of behavior—deficiencies that keep many leaders from living up to their full potential. 

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# The organizational cost of insufficient sleep

Sleep-awareness programs can produce better leaders.

*by Nick van Dam and Els van der Helm*

*Thou hast no figures nor no fantasies,  
Which busy care draws in the brains of men;  
Therefore thou sleep'st so sound.*

—William Shakespeare, *Julius Caesar*

In the passage above, the playwright's tragic antihero Brutus enviously reflects on the timeless truth that people without worries and anxieties (in this case, his servant Lucius) generally enjoy the most peaceful and uninterrupted rest.

Some senior business people skillfully and consciously manage their sleep, emerging refreshed and alert after crossing multiple time zones or working late into the night. Yet we all know caffeinated and careworn executives who, after hours of wakeful slumber, struggle to recall simple facts, seem disengaged and uninspired, lack patience with others, and can't think through problems or reach clear-cut decisions.

Sleep (mis)management, at one level, is obviously an individual issue, part of a larger energy-management challenge that also includes other forms of mental relaxation, such as mindfulness and meditation, as well as nutrition and physical activity. But in an increasingly hyperconnected world, in which many companies now expect their employees to be on call and to answer

emails 24/7, this is also an important organizational topic that requires specific and urgent attention.

Research has shown that sleep-deprived brains lose the ability to make accurate judgments. That, in turn, can lead to irrational and unjustified claims such as “I do not need sleep” or “I’m doing fine with a couple of hours of sleep.” Our own recent survey of executives (see sidebar “Highlights from our survey of 196 business leaders”) demonstrates how many of them remain in denial on this point. Yet our respondents contradicted themselves by suggesting that companies should do more to help teach leaders the importance of sleep.

On this point, they are right. Many companies do not do enough to promote healthy sleep, which can have serious consequences. As we will demonstrate, sleep deficiencies impair the performance of corporate executives, notably by undermining important forms of leadership behavior, and can thereby hurt financial performance. This article will demonstrate and explore the link between sleep and leadership behavior before discussing solutions that can improve both individual well-being and organizational efficiency and effectiveness.

## **THE LINK TO ORGANIZATIONAL LEADERSHIP**

The last part of our brain to evolve was the neocortex, responsible for functions such as sensory perception, motor commands, and language. The frontal part of the neocortex, the prefrontal cortex, directs what psychologists call executive functioning, including all the higher-order cognitive processes, such as problem solving, reasoning, organizing, inhibition, planning, and executing plans. These help us get things done.

It’s long been known that all leadership behavior relies on at least one (and often more than one) of these executive functions and therefore, in particular, on the prefrontal cortex. Neuroscientists know that although other brain areas can cope relatively well with too little sleep, the prefrontal cortex cannot.<sup>1</sup> Although basic visual and motor skills deteriorate when people are deprived of sleep, they do not do so nearly to the same extent as higher-order mental skills.

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<sup>1</sup> Namni Goel et al., “Neurocognitive consequences of sleep deprivation,” *Seminars in Neurology*, 2009, Volume 29, Number 4, pp. 320–39; Ilse M. Verweij et al., “Sleep deprivation leads to a loss of functional connectivity in frontal regions,” *BMC Neuroscience*, 2014, Volume 15, Number 88, [biomedcentral.com](http://biomedcentral.com).

# HIGHLIGHTS FROM OUR SURVEY OF 196 BUSINESS LEADERS

- Almost half (46 percent) believe that lack of sleep has little impact on leadership performance.
- Four out of ten (43 percent) say they do not get enough sleep at least four nights a week, and nearly six out of ten that they do not sleep enough at least three nights a week.
- Sixty-six percent said they were generally dissatisfied with how much sleep they get, and 55 percent were dissatisfied with the quality of sleep.
- Almost half (47 percent) of the leaders in our survey felt that their organizations expect them to be “on” too long and too responsive to emails and phone calls.
- Over a third (36 percent) said that their organizations do not allow them to make getting enough sleep a priority.
- Eighty-three percent of the leaders said their organizations did not spend enough effort educating leaders about the importance of sleep.

Previous McKinsey research has highlighted a strong correlation between leadership performance and organizational health,<sup>2</sup> itself a strong predictor of a healthy bottom line. In a separate study of 81 organizations and 189,000 people around the world, we have found that four types of leadership behavior are most commonly associated with high-quality executive teams: the ability to operate with a strong orientation to results, to solve problems effectively, to seek out different perspectives, and to support others.<sup>3</sup> What’s striking, in all four cases, is the proven link between sleep and effective leadership (exhibit).

## Operating with a strong orientation to results

To do this well, it’s important to keep your eye on the ball and avoid distractions, while at the same time seeing the bigger picture—that is, whether your company is heading in the right direction. Scientists have found that sleep deprivation impairs this ability to focus attention selectively. Research shows that after roughly 17 to 19 hours of wakefulness (let’s say at 11 p.m. or 1

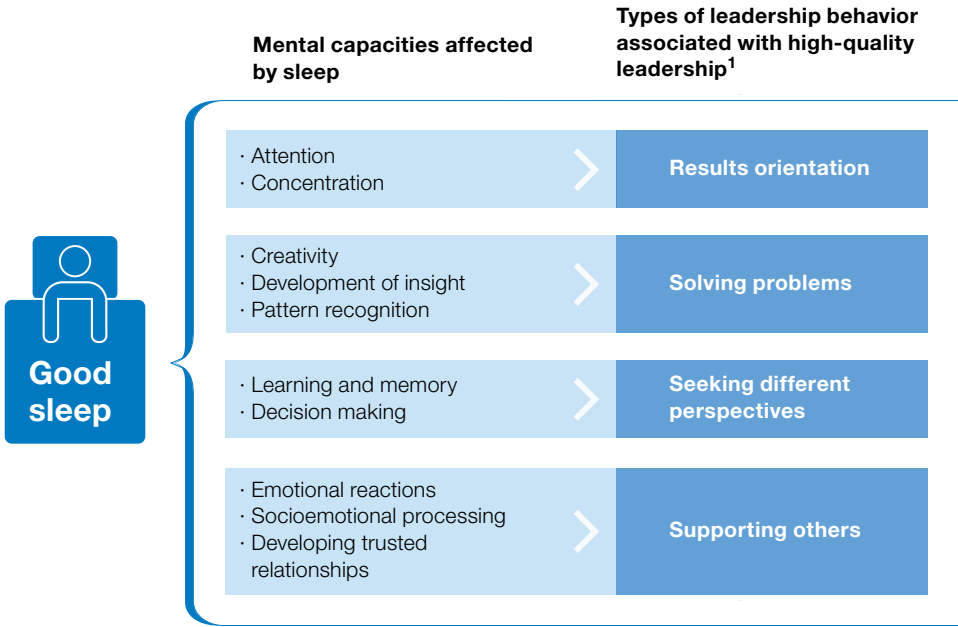
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<sup>2</sup> We define organizational health as the ability to align around a clear vision, strategy, and culture; to execute with excellence; and to renew a company over time by responding to market trends.

<sup>3</sup> See Claudio Feser, Fernanda Mayol, and Ramesh Srinivasan, “Decoding leadership: What really matters,” *McKinsey Quarterly*, January 2015, [mckinsey.com](http://mckinsey.com).

Exhibit

The link between effective leadership and a good night's sleep is clear.



<sup>1</sup> Based on a McKinsey study of 81 organizations and 189,000 people around the world. For more, see Claudio Feser, Fernanda Mayol, and Ramesh Srinivasan, “Decoding leadership: What really matters,” *McKinsey Quarterly*, January 2015, mckinsey.com. Source: McKinsey analysis and synthesis of neuroscience research. See article for additional citations.

a.m. for someone who got up at 6 a.m.), individual performance on a range of tasks is equivalent to that of a person with a blood-alcohol level of 0.05 percent. That’s the legal drinking limit in many countries. After roughly 20 hours of wakefulness (2 a.m.), this same person’s performance equals that of someone with a blood-alcohol level of 0.1 percent, which meets the legal definition of drunkenness in the United States.<sup>4</sup>

### Solving problems effectively

Sleep is beneficial for a host of cognitive functions—insight, pattern recognition, and the ability to come up with innovative and creative ideas—that help us solve problems effectively. One study has shown that a good night’s sleep leads to new insights: participants who enjoyed one were twice as likely

<sup>4</sup> A. M. Williamson and Anne-Marie Feyer, “Moderate sleep deprivation produces impairments in cognitive and motor performance equivalent to legally prescribed levels of alcohol intoxication,” *Occupational and Environmental Medicine*, 2000, Volume 57, Number 10, pp. 649–55, oem.bmj.com.

as those who didn't to discover a hidden shortcut in a task. Likewise, an afternoon nap has been found to aid creative problem solving: subjects who took a nap after struggling on a video-game problem were almost twice as likely to solve it as subjects who had remained awake. Other research has established that creative thinking is especially likely to take place during dream sleep, enhancing the integration of unassociated information and promoting creative solutions.

### Seeking different perspectives

A wealth of scientific studies has also highlighted the impact of sleep on all three stages of the learning process—*before* learning, to encode new information; *after* learning, in the consolidation stage, when the brain forms new connections; and *before* remembering, to retrieve information from memory. An important consideration for leaders seeking different perspectives is the ability to weigh the relative significance of different inputs accurately, to avoid tunnel vision, and to reduce cognitive bias. Sleep has been shown to improve decision making for tasks that mimic real life, such as complex cognitive–emotional ones which integrate emotional responses by involving financial rewards and punishments. Science supports the commonly heard advice that rather than making an important decision or sending a sensitive email late at night, you should sleep on it.<sup>5</sup>

### Supporting others

To help other people, you must first understand them—for example, by interpreting the emotions on their faces or their tone of voice. In a sleep-deprived state, your brain is more likely to misinterpret these cues and to overreact to emotional events,<sup>6</sup> and you tend to express your feelings in a more negative manner and tone of voice.<sup>7</sup> Recent studies have shown that people who have not had enough sleep are less likely to fully trust someone else, and another experiment has demonstrated that employees feel less engaged with their work when their leaders have had a bad night of sleep.<sup>8</sup>

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<sup>5</sup> Matthew P. Walker and Els van der Helm, "Overnight therapy? The role of sleep in emotional brain processing," *Psychological Bulletin*, 2009, Volume 135, Number 5, pp. 731–48, [apa.org/pubs](http://apa.org/pubs).

<sup>6</sup> Els van der Helm, Ninad Gujar, and Matthew P. Walker, "Sleep deprivation impairs the accurate recognition of human emotions," *Sleep*, 2010, Volume 33, Number 3, pp. 335–42, [journalsleep.org](http://journalsleep.org); Els van der Helm et al., "REM sleep depotentiates amygdala activity to previous emotional experiences," *Current Biology*, 2011, Volume 21, Number 23, pp. 2029–32.

<sup>7</sup> Eleanor L. McGlinchey et al., "The effect of sleep deprivation on vocal expression of emotion in adolescents and adults," *Sleep*, 2011, Volume 34, Number 9, pp. 1233–41, [journalsleep.org](http://journalsleep.org).

<sup>8</sup> William H. Macey and Benjamin Schneider, "The meaning of employee engagement," *Industrial and Organizational Psychology*, 2008, Volume 1, Number 1, pp. 3–30, [my.siop.org/journal](http://my.siop.org/journal); and Steven A. Stumpf, Walter G. Tymon Jr., and Nick van Dam, "Felt and behavioral engagement in workgroups of professionals," *Journal of Vocational Behavior*, 2013, Volume 83, Number 3, pp. 255–64, [journals.elsevier.com/journal-of-vocational-behavior](http://journals.elsevier.com/journal-of-vocational-behavior).

## WHAT ORGANIZATIONS CAN DO

How can organizations improve the quality and efficiency of sleep to ensure that their leaders attain—or recapture—the highest performance levels? At McKinsey, we've been working on this issue with our own colleagues, as well as with business leaders, over the past year. We offer this menu of possible solutions for companies to consider. As we are the first to admit, our own people do not always practice what we preach. In any case, certain types of organizations cannot implement these ideas without an accompanying change in the underlying culture.

### Training programs

Interestingly, 70 percent of the leaders in our survey said that sleep management should be taught in organizations, just as time management and communication skills are now. Ideally, such programs should be part of a unified learning program that includes a number of components, such as online assessments, in-person workshops, and a performance-support app offering reminders, short inspirational videos or animations, additional assessments, and opportunities to connect with online communities. (For a selection of healthy sleep habits, see sidebar “Sleep tips.”)

Companies should embed sleep training in a broader approach to well-being that takes in other topics, notably exercise, nutrition, mindfulness, and energy management. Yet it can be daunting for leaders to go about changing a lot of behavior at once, so it's important to allow time for new habits to stick.

### Company policies

Before introducing new policies, businesses should start a conversation among their leaders to determine which ideas will best suit the organization, particularly bearing in mind the fact that working cultures differ.

**Travel.** Companies should encourage flexibility—for example, by allowing employees, if possible, to take an earlier plane (rather than an overnight “red eye” flight) to get a good night's sleep before an important meeting.

**Team working.** Companies must increasingly be responsive 24/7, but this doesn't mean that specific people should bear the brunt of the burden single-handedly. IT help desks in many global organizations have shown the way—shifting location every eight hours. Likewise, other groups should work to alleviate the pressure by creating “tag teams” of employees who seamlessly hand over the reins to other teams, in different time zones, at the end of their shifts. Phone calls and home-based videoconferences do run



the risk of extending the workday but, used judiciously, can cut unnecessary travel-to-work time. Leaders should set an example by being mindful of local times (and the time preferences of the people involved) when scheduling global calls. Simply knowing the participants' preferences can help reinforce a sleep-friendly culture.

**Emails.** A number of companies have imposed blackout times on work emails. A large European car business, for example, programs the smartphones of its nonmanagement employees to switch off work emails automatically between 6 p.m. and 7 a.m. In many companies, particularly knowledge-based ones, this would be disruptive and counterproductive—but provided there are overrides, such a policy can send a clear signal of management's intent.

## SLEEP TIPS

Here's a selection of sleep tips we share with McKinsey consultants.

### CREATE THE RIGHT SLEEP ENVIRONMENT

1. Remove the smartphone from your bedroom: your brain associates it with stress and excitement (even when it's off), which can hinder deep and restorative sleep. The screen's blue light tricks the brain into thinking it's still daytime, not bedtime. Research has shown that late-night smartphone use significantly reduces performance at work the next day through its pernicious effects on sleep.
2. Don't use the bedroom for work.
3. Keep the bedroom cool, allowing your core body temperature to drop, which helps you fall and stay asleep.
4. On business trips, take items that remind your brain of home, such as your own pillow, pajamas, shower gel, and toothpaste.

### WIND DOWN

Quality of sleep is compromised when you don't sufficiently relax and reduce stress in the evening. It's critical to wind down at night and "unplug," perhaps with meditation.

### STOP SNOOZING

Don't set multiple alarms in the morning. The waking-brain state is very different from the sleeping-brain state, and the brain prefers to wake up naturally. Don't force it to make this transition multiple times; instead, get a longer bout of consolidated sleep without interruptions.

### BE EFFICIENT WITH YOUR TIME

1. Go to bed early—a recipe for deeper and more restorative sleep—rather than sleeping in late.
2. Try napping in the early afternoon—either a short nap of less than 30 minutes or a recovery nap of around 90 minutes for a full sleep cycle.

**Work-time limits.** Some companies known for a “long-hours culture” have been implementing rules to curb working very late at night. One major financial-services business, for example, specifically required its summer interns to leave the office before midnight each day to ensure that they were not subjected to “all-nighters.” This organization’s full-time employees have been told to stay out of the office from 9 p.m. Friday to 9 a.m. Sunday.

**Mandatory work-free vacations.** A US software company gives employees a \$7,500 bonus if they follow two rules: (1) They have to actually go on vacation or they don’t get the money. (2) They must disconnect, and hence cannot work, on vacation.

**“Predictable time off” (PTO).** Leslie Perlow, a professor at Harvard Business School, introduced a good way to catch up on lost sleep: a planned night off, with no email, no work, and no smartphone. A large global consulting firm found that productivity went up when it tested this approach, which is now the basis for a company-wide program.

**Napping rooms or pods.** The image of a sleeping manager is easy to mischaracterize. Research has shown that a short nap of 10 to 30 minutes improves alertness and performance for up to two and a half hours.<sup>9</sup> Over half of the leaders in our survey wanted their businesses to imitate the large technology companies and telcos that have already successfully adopted sleep pods and nap rooms.

**Smart technology.** Companies should consider supplying (or at least informing their employees about) some of the gadgets and tools designed to improve sleep management. Examples include the f.lux application, which limits blue light on computers and iPhones, thereby boosting reduced levels of the sleep hormone melatonin. Other apps on the market provide individualized jetlag-minimizing schedules.


## ORGANIZATIONS OF THE FUTURE

Much attention has been focused on the importance of sleep for top-performing athletes, musicians, and even politicians. Expert violinists, for example, have cited practice and sleep as two of the most important drivers of performance. (One study shows that the top performers consistently take a nap and get over half an hour more sleep than their less well-regarded peers do.) Former US president Bill Clinton once admitted, “Every important

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<sup>9</sup> Amber Brooks and Leon Lack, “A brief afternoon nap following nocturnal sleep restriction: Which nap duration is most recuperative?,” *Sleep*, 2006, Volume 29, Number 6, pp. 831–40, [journalsleep.org](http://journalsleep.org).

mistake I've made in my life I made when I was tired." Business people have often lagged behind others in both their willingness to acknowledge the issue and their readiness to act on it.

A recent Harvard Medical School study surveyed senior leaders and found that 96 percent reported experiencing at least some degree of burnout. One-third described their condition as extreme.<sup>10</sup> It's time for organizations to find ways of countering the employee churn, lost productivity, and increased healthcare costs resulting from insufficient sleep. If it is true that some millennials care less about high salaries and more about work–life integration, the next generation of employees will demand solutions even more strongly. 

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<sup>10</sup> Leslie Kwoh, "When the CEO burns out," *Wall Street Journal*, May 7, 2013, wsj.com.

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# Want to be a better leader? Observe more and react less

Overloaded executives need coping mechanisms. This personal reflection shows how meditation can help.

*by Manish Chopra*

**Most time-strapped executives** know they should plan ahead and prioritize, focus on the important as much as the urgent, invest in their health (including getting enough sleep), make time for family and relationships, and limit (even if they don't entirely avoid) mindless escapism. But doing this is easier said than done, as we all know—and as I, too, have learned during years of trying unsuccessfully to boost my effectiveness.

In my case, I stumbled upon an ancient meditation technique that, to my surprise, improved my mind's ability to better resist the typical temptations that get in the way of developing productive and healthy habits. Much in the same way that intense, focused physical activity serves to energize and revitalize the body during the rest of the day, meditation is for me—and for the many other people who use it—like a mental aerobic exercise that declutters and detoxifies the mind to enhance its metabolic activity.

Before my chance discovery of this timeless technique, I was skeptical, despite the accounts of the many accomplished practitioners who have preceded my

own beginning efforts.<sup>1</sup> Just as learning to swim or the enjoyment of floating in water can't be experienced by reading books about it or hearing others' accounts of the joy of aquatic self-buoyancy, so the benefits of meditation can only begin to be understood by taking an experiential plunge.

So why write about it? Because I think today's "always on" work culture is taking a heavy toll on today's leaders, and we need coping mechanisms. Meditation isn't the only one; it's just one that I feel somewhat qualified to talk about because of my experiences with it over the past five years. I'm far from alone; mindfulness has been gaining currency in business circles, and a few business schools also have been wading into the topic of meditation through the leadership of professors like Ben Bryant at IMD, Bill George at Harvard, and Jeremy Hunter at the Drucker School of Management.<sup>2</sup>

In my experience, though, most of today's workers—and senior executives perhaps most of all—lack what they need, whether it's meditation or a different approach, to balance and offset the demands of their "anywhere, everywhere" roles in today's corporations. The famous hitter Ted Williams, at the conclusion of a long baseball season, used to go hunting and fishing to relax and recharge. Winston Churchill was an amateur painter who once said, "If it weren't for painting, I couldn't live. I couldn't bear the strain of things."

Most executives can't disappear for long stretches to go fishing, and picking up painting sounds daunting. But they can use simple versions of proven meditation techniques to improve the quality of their lives, even if it's only by increments. My purpose in this article isn't to tell you whether, or how, to meditate; there are several flavors of meditation and I have only really ever tried the tradition of *Vipassana*.<sup>3</sup> Instead, I will describe how it has helped me deal with three common challenges faced by leaders: email addiction, coping with disappointment, and becoming too insular.

## FIGHTING EMAIL ADDICTION

Compulsively checking email, particularly first thing in the morning, is probably the biggest affliction to grip the modern-day professional. This was also the productivity-destroying habit I had found hardest to shake off.

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<sup>1</sup> There has been a trend over the past 30 years or so to secularize a range of teachings from great spiritual traditions in order to make them more accessible for a variety of purposes, including personal effectiveness.

<sup>2</sup> See "Mindfulness in the age of complexity," *Harvard Business Review*, March 2014, hbr.org; and Beth Gardiner, "Business skills and Buddhist mindfulness," *Wall Street Journal*, April 3, 2012, wsj.com.

<sup>3</sup> In the *Pali* language *Vipassana* means "to see things as they really are," or, put differently, to gain insight into the true reality of things. For more information, see dhamma.org. *Vipassana* is one of many meditation practices.

In the past, I would find it almost impossible to resist looking at messages as soon as I woke up between 6 and 7 a.m., my mind conditioned in a Pavlovian manner to keep doing it. Some messages came in overnight from other time zones; others might be truly pressing items that couldn't wait. Many were nonurgent notifications and newsfeeds.

The impact of checking everything first thing was a combination of electronic overload, a heightened stress response to difficult messages (leading to knee-jerk replies), and, most seriously, a slower start to the morning's activities. This welter of electronic communications consumed my mind's energy. A curt or unpleasant email from someone important could easily affect my mood and get me off on the wrong foot with other, unconnected people, as I ruminated on whether a personal grievance or some other reason was responsible. The email habit started to feel like self-inflicted harm that I couldn't avoid.

Through meditation, my self-awareness and self-regulation "muscles" have grown to the point where I now am better able, after a good night's rest, to put the first several hours of my day to better use: toward meditating, exercising, writing, planning the day's priorities, and other complex-thinking tasks that would likely be crowded out later. I have relegated my heavy emailing period to the post-dinner timeframe when my mind is typically sluggish and less productive. Also, taking the extra time to respond to emails has helped my responses be more considered and deliberate.

My new conditioning means colleagues know that I won't always get back to every email first thing in the morning. This has stemmed the flow of overnight messages and served to alleviate anxiety and guilt over unanswered emails. Like everybody, I'm at constant risk of slipping back into old habits. I try to guard against this risk with the mental space I have recaptured for myself, motivating myself with the improvements I recognize in my personal and professional life that have occurred as a result of meditation.

## **TAKING POSITIVES FROM THE NEGATIVE**

Shortly after starting meditation five years ago, I vividly recall hearing that McKinsey had lost to one of our main competitors the opportunity to serve an important healthcare ministry. As lead partner on the negotiation, I'd spent months with colleagues from around the world developing what we thought was a compelling approach for helping the ministry.

My instinctive reaction in similar situations previously would have been a mix of deflation, disappointment, frustration, and even resentment towards competitors. Minimizing any damage to the firm—and containing the impact on my own standing and career—would have been uppermost in my mind.

I'm not saying I was completely free of those feelings this time around, either—but something was different. There was more space between me and the emotional reaction that I'd have had previously. I surprised myself by acknowledging to colleagues that the rival bid must really have been better, and I almost took some satisfaction from the competitor's success. The win would admittedly allow them meaningful entry into a market that they had been pursuing for some time, but it would likely mean they would be a more rational competitor in the future. On reflection, I also felt genuinely happy for the clients, who I believed had run a fair and thorough process and had now found a well-qualified partner for this important assignment. I was aware that my own negativity hadn't been magically removed from me by meditation, but I was able to respond in a more neutral manner and not allow myself or others to be consumed by it.

## **FOCUSING ON OTHERS**

Although meditation is a solitary act, it has helped me focus more on others as I shed some of my insecurities and redefined the way I make tough trade-offs. I used to feel insecure about being “left out” of certain meetings or discussions, thereby passing up opportunities to delegate. Similarly, when I faced dilemmas that required balancing conflicting interests, my dominant consideration was “What's in it for me?”

Again, I wouldn't say I'm now free of insecurity or self-interest. But regular meditation has helped me better identify those things that I truly need to be involved with and those that could carry on without my direct involvement. This has freed up a good 10 to 20 percent of productive time, and it has reduced my stress about not pulling my weight. It was also energizing for those who worked with me, as it allowed many of them to step up and take greater ownership and control. While all this might seem intuitive, it had eluded me before because of my insecurities and my lack of self-awareness with regard to my unconscious drives, and about how I was matching my energy level with productive uses of it. Meditation has made me more aware of these issues and, as I continue practicing, I'm hoping and expecting to access further levels of self-awareness and to make more progress toward letting go.

Although meditation is a solitary act, it has helped me focus more on others as I shed some of my insecurities and redefined the way I make tough tradeoffs.

What's also shifted is my definition of personal gain or loss. I still acknowledge the personal dimension, but I find myself slowing down, and reflecting on situations from more angles, including more of how the situation will affect other people or the environment in which we live, and of what's right or fair. The impact of a decision on me personally is less of a yoke that makes the labor of assessing my choices exhausting or draining.


Instead, I find myself coming to “seemingly right” conclusions more nimbly than in the past. When I am able to avoid, or at least put in perspective, my previously perpetual orientation—“How does this serve my agenda?”—the “right” approach becomes relatively self-evident. This is liberating: it helps free me from the internal turmoil that used to arise when I tried to reverse engineer solutions that, first and foremost, served me.

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At one point before beginning the practice of meditation, I had a renowned time-mastery coach assist me in rewiring my tendencies, including blocking off periods of the day for important strategic tasks. This advice, like Stephen Covey's habits for personal effectiveness, which I have long admired, was elegant and highly appealing. Yet I found it puzzlingly inapplicable to high-intensity professional life and I rapidly fell back into old habits. I would often feel a sense of passively going through the day's events rather than making active choices in the driver's seat.



Post-meditation, I have experienced a real shift in how I focus my energies. Despite the same, if not greater, pressures at work, I am enjoying more control and a greater sense of purpose in my daily and weekly activities. I no longer take pride in the number and diversity of my appointments—even as I now have to be on guard for new ways pride can present itself.

I would sum up my experience in four words: observe more, react less. I try to observe myself more disinterestedly and to avoid knee-jerk reactions to the rush of incoming stimuli and to situations that seem negative. Even if I don't always succeed, I am more easily able to identify my weaknesses: my sense of insecurity, addiction to short-term benefits, and overemphasis on process-driven results. That helps me work smarter and lead better toward longer-lasting achievements. 

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# HOW THE SHARING ECONOMY CAN MAKE ITS CASE

*These challengers must develop a smarter approach to external engagement.*



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The sharing economy, popularized by the likes of Airbnb and Uber, has enjoyed remarkably rapid growth over the last five years and looks set to scale new heights over the next decade. Some projections put the sector's revenues at \$335 billion globally by 2025, and the scope for further widening its geographic reach remains huge. But as with any fast-expanding sector, governments, regulators, and industry incumbents are taking greater interest, and the growth pains are becoming louder.



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Amid the confrontations and the name calling—not to mention legal problems from California to continental Europe—sharing-economy players must now adopt a fresh approach to external engagement. Some of the leading ones are tentatively developing a new tone, to be sure. In our view, however, they must demonstrate a greater willingness to collaborate with governments, to help shape emerging regulatory frameworks, and to take an active part in countering the recent volleys of negative publicity that could undermine their innovative potential. This article sets out some ideas to underpin such a strategy.

## NEGATIVE PUBLICITY

The best-known sharing-economy companies do business in ride sharing (BlaBlaCar, Didi Kuaidi, Lyft, Uber, and Yandex.Taxi, for example) or in room sharing (Airbnb, Couchsurfing, onefinestay, 9flats). But in other areas too, companies have succeeded by identifying market inefficiencies and transferring control over transactions to consumers. They include shop and office sharing (We Are Pop Up), meal sharing (EatWith, Meal Sharing, Traveling Spoon)—and even clothes sharing (Yerdle) and solar-energy sharing (Yeloha).

In all cases, the common threads are disintermediation, the sharing of excess capacity, and increased productivity—as well as commercial challenges, on an unprecedented scale, for incumbent operators such as taxi firms, hotels, restaurants, and utilities. From a standing start seven years ago, Airbnb is now active in more



than 190 countries and valued at more than \$20 billion. Uber, launched six years ago, operates in more than 300 cities in over 60 countries, has more than one million drivers globally, and is valued at more than \$50 billion. The appetite of investors remains keen, as shown by the recently oversubscribed fund-raising of Didi Kuaidi, a company made up of China's two biggest taxi-hailing services.

Not everyone is happy, however. Courts in Belgium, France, Germany, Italy, and the Netherlands have declared ride-sharing services using nonprofessional drivers, such as the company's uberPOP service, to be illegal. The service was also effectively banned in the Hamptons area of Long Island in the summer of 2015. A California court ruled that a ride-sharing driver is an employee, not a contractor, and an administrative judge later recommended that Uber be fined \$7.3 million and suspended from operating in the state altogether. The South Korean government banned Uber to encourage the development of alternative, locally developed apps. And the Delhi authorities imposed a ban on Uber (later revoked) following a well-publicized rape case in the Indian capital.


More broadly, regulators and governments have started to question the long-term impact of the sharing-economy business model on incumbents and communities. The mayor of Paris, for example, set up a team of 20 agents specifically to crack down on illegal room-sharing hosts. As a result, 20 owners of 56 such apartments incurred large fines. Catalonia and other regions want to assess the potentially negative impact of extra tourism on pollution, rents, and local convenience stores.

Sharing-economy players have generally fought back using either of two approaches. The first is to operate until they get noticed and then respond to challenges in the courts. The other, seen by critics as a touch patronizing, is to educate stakeholders about the benefits of the sharing economy until they finally recognize them.

Both approaches, fine when companies were small and business models niche, now show signs of fatigue. Litigation and resentment are increasing, and recent EU debates have been peppered with references to the arrogance of some sharing-economy players, notably about taxes and the law.

## **A NEW TYPE OF ENGAGEMENT**

A more active engagement stance seems to be on the way. Airbnb, for instance, decided to hire Blackstone's ex-CFO, no doubt to assure markets that its valuation is realistic. Uber recently established a policy-shaping team under ex-Google highflier Rachel Whetstone, and David Plouffe, US President Barack Obama's 2008 campaign manager, serves as a company



advisor. As these companies work to adapt the economic model of the sharing economy to more communities, they should take three actions to start rebuilding trust.

### **1. Establish the facts around the sharing economy's societal benefits**

Although Airbnb already publishes economic-impact reports, it and others can go further than they do at present. It's one thing to highlight the economic benefits for the 50 percent of room-sharing hosts who use the service to pay their rent and utility bills. It would be much more useful and transparent for sharing-economy companies to use their data to identify segments, such as owners of multiple properties, that compete directly with incumbents and should perhaps be regulated in a more traditional way.


In addition, a better case should be made for the sharing economy's contribution not just to employment but also to other social concerns, like the environment and female participation in the workforce. What, for example, might be the role of ride sharing in cutting emissions in the 93 Asian cities that rank among the world's 100 most polluted, according to the World Health Organization? And although less than 20 percent of Uber drivers are women, the company should highlight its pledge to have one million of them worldwide by 2020.

Sharing-economy players are in an ideal position to use their data-analytics capabilities to inform discussions with stakeholders. As one government official from a Southeast Asian country explained to one of our colleagues, "Bad lobbying is telling me something I know. Average lobbying is telling me something I did not know. Excellent lobbying is telling me something I did not know and that's useful to me. Good analytics can make that difference."

Sharing-economy businesses should also dispute incorrect factual claims. Contrary to general opinion, for instance, Uber drivers *are* required to have insurance, and their contracts with the company provide additional coverage. Airbnb now has in place property-damage insurance of \$1 million. Recent debates on contingency have tended to obscure rather than illuminate, but existing laws on copyright and consumer rights apply as much to the sharing economy as to the traditional one.

### **2. Identify common ground and build alliances**

Sharing-economy companies have so far failed to build the sort of powerful trade associations and alliances found among traditional industries. In our experience, the most successful and influential of these associations share three characteristics: they align their members on one important topic, have a strong and committed leader (typically, the CEO of a member organization),



and use analytical capabilities to buttress their ideas and shape the debate. The potential for such a body is wide open in Europe, where the European Commission, seeking to examine the sector's aggregate economic contribution, has launched a formal assessment of the sharing economy.

Cooperation and alliances, moreover, should go beyond immediate peers in the sector. The insurance industry, for example, is an interesting opportunity for the sharing economy. Only a couple of years ago most insurers treated it as an afterthought, but many now realize that it may become more mainstream and therefore relevant to their own future business success. Insurers need help to fit these new models into their traditional actuarial analysis, which is why partnerships with Trov and sharing-economy middlemen could be one path forward. Meanwhile, many new feeder businesses, ranging from rental-management to cleaning to meal-delivery services, are springing up around room sharing. If such ecosystems are orchestrated well and their benefits can be demonstrated, they could underpin new development models for tourist areas.

In other cases, sharing-economy players might even consider partnerships with incumbents, notably what we call the “sleeping beauties” among traditional industries. Yandex.Taxi, Russia's main ride-sharing service, developed by the country's most popular search engine, at first quickly won market share by helping established taxi companies win additional orders. The food-sharing service Eatro pivoted into another business that delivered courses prepared by professional chefs, thereby creating new channels for (rather than bypassing) them. As incumbents respond to changing consumer needs, more such opportunities will arise.


To broaden this kind of external engagement beyond traditional stakeholders, such as legislators, sharing-economy players might consider deploying their superior consumer data-mining capabilities, much as best-in-class multinationals now use big data to identify the needs of their stakeholders and to reframe their narratives.

### **3. Shape regulatory frameworks—don't just litigate**

Policy confusion about the exact definition of the sharing economy represents a big opportunity for companies competing in it. The European Union, for example, is soon to decide whether ride sharing is a digital service (regulated under the 2006 EU Services Directive) or a transport service (regulated by member states). Rather than just asking, quite rightly, for “smart and proportionate regulation,” sharing-economy companies should learn from other industries, such as telcos and energy producers, how to help policymakers identify areas for regulatory intervention. Potential issues might include these:

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- **Clarifying roles and responsibilities for tracking and penalizing abuses.** How can ride-sharing companies collaborate with local authorities to prevent rape in New Delhi? How can room-sharing companies address the concerns of the authorities about rising rents in cities such as Florence and Reykjavik or about the degradation of neighborhoods in, say, Barcelona?
  - **Coexisting with incumbents.** How can the sector's ride-sharing and taxi offers be more clearly differentiated for the benefit of consumers? How can room-sharing services help municipalities host big one-off events such as the United Nations' COP21 conference in Paris in December 2015 or the 2016 Olympics in Brazil? How, for example, could sharing-economy companies help Brazil's government if the Olympics attract the same number of visitors (1 million) as the 2014 World Cup did?
  - **Collecting taxes.** Airbnb has started collecting occupancy taxes for its hosts in Barcelona and in Paris.
  - **Preventing abuse of data privacy.** Sharing-economy players can help clarify the risks and, in collaboration with regulators, ensure that customers know their rights.

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The sharing economy is growing rapidly and creating new opportunities across the globe. Like all major disruptions, it is putting pressure on existing business models and regulatory frameworks and triggering other significant changes. Participants have an opportunity to play a role in developing long-term solutions that encourage innovation while protecting consumers and society more generally. 

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# CREATING VALUE FROM LONG-TERM BETS

*Corning's CEO reminds us that big corporate achievements rarely come overnight.*



**Wendell P. Weeks**  
is the chief  
executive officer  
of Corning.


The argument for corporate longevity is quite simple: achieving something strategic, significant, and sustainable almost always takes time. Longevity is particularly important for innovation because time and sustained investment are needed to solve really tough problems. To understand why, consider an example from the history of my company, Corning.

This story begins in the mid-1960s. Phone carriers were in trouble because their existing copper lines were being strained by the volume of information. Physicists thought optical technology could provide a solution. There were high-powered lasers, but no way to transport the light without major signal loss.

So Corning stepped up to tackle that challenge. It was a highly speculative project, and Bill Armistead, the company's chief technical officer at the time, was concerned about taking on such a long-term initiative when he was facing pressure to deliver on existing projects. But he approved the capital expenditure because the challenge seemed uniquely suited to Corning's capabilities, and he recognized that the technology had enormous potential. Armistead assembled a team of three scientists, and they decided to pursue an unconventional path—using strands of pure silica to transport the light. The lead researcher argued to his colleagues that if you do the same thing everyone else does, the best you can have is a tie.

One afternoon in 1970, about four years into the project, one of the scientists was in the lab and decided to run another experiment before leaving for the weekend. He treated a strand of fiber, lined up the laser, examined it under the microscope, and the light hit him right in the pupil. It was literally and figuratively an eye-opening experience.

That was the pivotal moment in the development of optical fiber, as evidenced by the scientist's *highly technical* entry—"Whoopee!"—




in his lab journal (see page 120). Of course, fiber didn't proliferate until two decades later, because we needed to develop effective manufacturing processes and the right infrastructure. Today, more than two billion kilometers of optical fiber have been installed worldwide, and a single fiber can transmit the entire collection of the US Library of Congress from Florida to London in less than 25 seconds. This life-changing invention would not have been possible without a long-term focus and sustained investment—a pattern that has repeated itself throughout Corning's history. We lost money on LCD glass for 14 years before it became an overnight success. Today, that business accounts for about 65 percent of Corning's profits.

Does anyone recall what happened to the telecom industry in 2002? As someone who watched his company's net income drop by 70 percent, I sure do.


Corning is often questioned on its R&D investments or urged to shed businesses that aren't delivering double-digit growth in the current year. For example, during the fiber boom in the late 1990s and early 2000s, investors encouraged us to shed most of our business segments and become a telecommunications-focused company because that appeared to offer the most potential for growth. Does anyone recall what happened to the telecom industry in 2002? As someone who watched his company's net income drop by 70 percent, I sure do. Fortunately, we didn't follow this advice. We maintained our diverse businesses and our investment in R&D, which not only drove Corning's next growth surge but also led to breakthrough innovations in LCD glass, fiber to the home, clean-air technologies, and more. I am not saying that we can neglect our responsibility to create value for investors, but we must recognize that the *greatest* value often comes from our longer-term bets.





I'm a capitalist. I believe capitalism is the best tool to allocate resources and drive progress efficiently. But we can continue to evolve and improve that tool to create more paths to success. The metrics that emphasize near-term results were developed for a world in which capital was scarce; today, we're awash in capital.

I believe we can create a more balanced approach, between near-term pay-offs and long-term investment. As investors, we need to expand our notion of value and broaden our horizon for value creation. As leaders, we need to keep challenging ourselves with questions. What is our unique contribution to the world? How can we be the best in the world at what we do? How do we focus so that we spend at least as much time managing talent, which is scarce, as we do managing capital, which is plentiful? And how do we continually create better versions of ourselves? As directors and trustees, we must understand and embrace the organization's mission, hold leaders accountable for executing strategies that advance it, and support them through periods of volatility.

Finally, as individuals, we need to ask what we value. What kind of world do we want? What organizations are creating that world? And what sacrifices do we refuse to make? Otherwise, we could sacrifice valuable institutions and lose our opportunity to tackle challenges that generate the greatest progress and improve our quality of life. 

This article is adapted from Wendell Weeks' keynote address at the *Financial Times* and McKinsey Business Book of the Year Award ceremony, in New York, on November 17, 2015.

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## WHOOPEE!

In 1970, a scientist at Corning had a breakthrough moment in the lab: for the first time, a strand of silica fiber proved capable of transmitting light emitted by a laser. His handwritten note, including the celebratory, “Whoopee,” circled, marks a pivotal moment in the development of optical fiber. Today it is a backbone of the digital economy, with more than 2 billion kilometers worldwide.

 For more, see “Creating value from long-term bets,” on page 117.

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Then the attenuation is:

$$\beta_t = \frac{10 \log \frac{40}{350}}{29 \text{ meters}} = 17 \text{ dB/km} \text{ Whoopee!!}$$

Must remeasure this to check!

Left laser and electronics running during lunch, signal is holding constant @ 158 mV. Noise is definitely lower. Maximized output and found I had to decrease the HV to 850.  
HV = 850, RC = 100, RL = 100 KΩ.

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# Highlights

New McKinsey research on China's digital economy, and on the global banking, grocery, and insurance sectors

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How Ericsson overhauled HR

Roche's CEO on organizing for breakthrough innovation

Why agility means speed *and* stability

Corning's CEO on why corporate longevity matters

Leadership in context

The organizational cost of insufficient sleep

How the sharing economy can make its case

