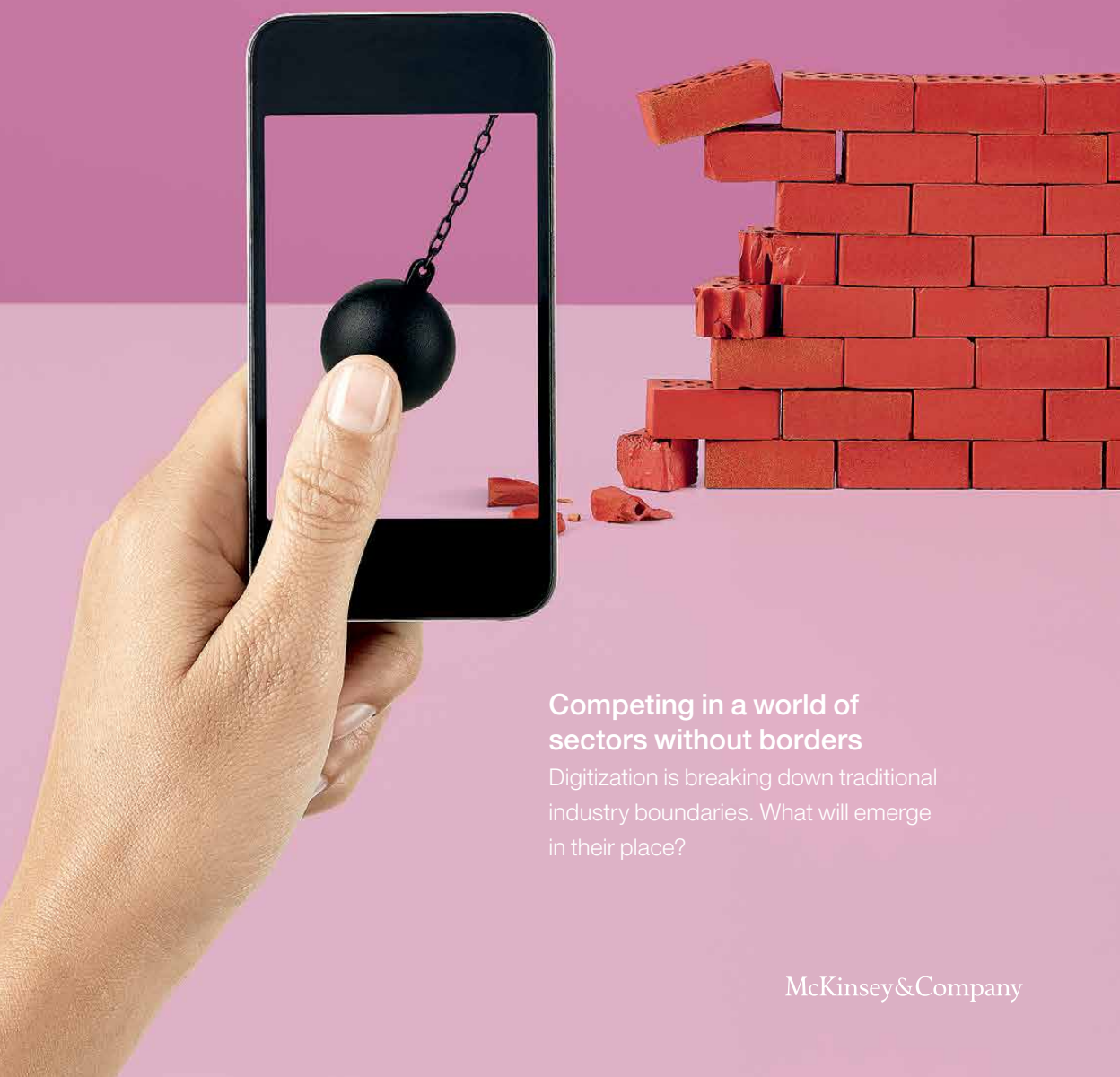
2017 Number 3

McKinsey Quarterly



Competing in a world of sectors without borders

Digitization is breaking down traditional industry boundaries. What will emerge in their place?

McKinsey&Company

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

McKinsey Quarterly meets
the Forest Stewardship
Council (FSC) chain-of-
custody standards.

The paper used in the
Quarterly is certified as being
produced in an environ-
mentally responsible, socially
beneficial, and economi-
cally viable way.

Printed in the United States
of America.

2017 Number 3

McKinsey Quarterly

THIS QUARTER

Late last year, we began leading a McKinsey research effort aimed at understanding the impact of digitization, advanced analytics, and artificial intelligence on the future shape of global industries. This issue's cover story, "Competing in a world of sectors without borders," distills our early thinking:

- **The boundaries between economic sectors are blurring.** And don't just take our word for it: when we interviewed 300 global CEOs, across 37 industries, cross-sector dynamics were top of mind for fully one-third.

- **Digital ecosystems are emerging.** While it's far too early to know their exact number or shape, one scenario suggests the emergence of a dozen variants on traditional industries where customers could enjoy an end-to-end experience for a wide range of products and services through a single digital access gateway.

- **We ain't seen nothing yet.** It's easy to fixate on the well-known players that are breaking boundaries and building ecosystems—Amazon getting into everything from groceries to movie making, for example. But our work suggests the value at stake—which reaches into the trillions—transcends these digital natives and could soon be shifting in areas as diverse as education, transportation, business services, and healthcare.

The path ahead is uncertain, and it's possible that customers rather than companies will capture much of the value in play. Still, the nature and magnitude of likely change suggest some no-regrets moves for everyone:

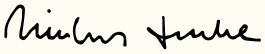
Adopt an ecosystem mind-set as you look past your traditional competitors and industry borders. Follow the data and algorithms, which are critical competitive assets in this new world. Build emotional ties to your customers, whose loyalty will be crucial to ecosystem success. And open your mind to wide-ranging partnership possibilities.

When you start reflecting on the concept of sectors without borders, it influences your take on a variety of management issues—including many in this issue of the *Quarterly*. "Culture for a digital age," for example, isn't just about digital effectiveness, but about enabling your organization to stretch the boundaries of your business by overcoming risk aversion, busting silos, and becoming more customer centric. "A CEO action plan for workplace automation" describes applications of artificial intelligence (AI)—such as using automated facial analysis to strengthen emotional ties with customers and creating "virtual" scale through algorithm-enabled maintenance routines—that can fuel breakout competitive moves. AI also figures in a transformation that venture capitalist Veronica Wu describes taking place in her industry. And data, combined with customer-oriented design, could help ridesharing overcome growth barriers and accelerate the shift from an "automotive industry" to a "mobility ecosystem."

Leaders grappling with these issues are doing so in the context of today's organizations, many of which, our colleagues Aaron De Smet, Gerald Lackey, and Leigh M. Weiss argue, are experiencing decision-making dysfunction because digitization has changed our day-to-day operating norms, and our structures and processes haven't kept up. They suggest ways to do better. Similarly, Scott Keller and Mary Meaney describe how top teams—whose cohesion is critical in fashioning forward-looking responses to our changing world—can work better together. We all need to if we're to help our organizations navigate the new, borderless order taking shape. Q

Venkat Atluri
Senior partner,
Chicago office
McKinsey & Company

Miklos Dietz
Senior partner,
Vancouver office
McKinsey & Company



Nicolaus Henke
Senior partner,
London office
McKinsey & Company

On the cover

Features

EFFECTIVE ORGANIZATIONS

Features

HOW AI IS CHANGING BUSINESS

MODERNIZING TALENT MANAGEMENT

Leading Edge

Extra Point

McKinsey Quarterly

To change your mailing address
McKinsey clients and other recipients
updates@support.mckinsey.com

McKinsey alumni
alumni_relations@mckinsey.com

To provide feedback or submit content proposals
info@support.mckinsey.com

To request permission to republish an article
reprints@mckinsey.com

DIGITAL OFFERINGS

Websites
McKinsey.com/quarterly
McKinsey.com/featured-insights
McKinseyChina.com/insights-publications

Follow us on Twitter
@McKQuarterly

Connect with us on LinkedIn
linkedin.com/company/mckinsey-&-company

Join the *McKinsey Quarterly* community on Facebook
facebook.com/mckinseyquarterly

Watch us on YouTube
youtube.com/mckinsey

Leading Edge

Research, trends, and emerging thinking

THE ROOTS OF ORGANIC GROWTH

There are many paths to growth, and high performers take more than one—supported by reinforcing capabilities such as advanced analytics and digital customer-experience management.

by Kabir Ahuja, Liz Hilton Segel, and Jesko Perrey

Growth is a tonic for most companies. It attracts talent and creates strategic options while generating financial resources to fund new moves—provided the growth is profitable. It's also been harder to come by over the past decade, as a sluggish macroeconomic environment and accelerating, technology-driven disruption have ratcheted up pressure on businesses.

Digital technologies and the pace of competition, however, also open new avenues to organic growth for those companies that have the capabilities and dexterity to take advantage of them. Today's fastest growers, for example, price products in real time; they create meaningful and positive customer experiences with digital interactions; and they refine products continually with customer feedback. To understand the relationship between organic growth approaches, capabilities, and performance in this environment, we recently surveyed approximately 600 executives at leading companies in the European Union and North America.[1] We found that companies exhibit three basic growth tendencies; that an approach combining two or more of these holds particular power in driving growth; that advanced analytics is an ingredient of standout growth; and that success depends on nurturing a set of reinforcing capabilities that fit the growth approach.

Three growth profiles

The corporate growth goals and the behavior tracked by our survey show that companies can be described as having three broad growth profiles. *Investors* have a clear understanding of sources of growth from existing products and services and squeeze funds from a variety of areas, such as low-growth initiatives or unproductive costs, to reallocate capital and double down on winners. *Creators* build value by developing new products, services, or business models. And *performers* grow by constantly optimizing core commercial capabilities in sales, pricing, and marketing.

Understanding each profile is helpful because leaders tend to fall back on what has worked for them in the past, and this can often blind them to new growth opportunities. In our experience, companies that carefully evaluate each

Exhibit 1

When creators and investors embrace one or more additional growth profiles, they boost their odds of becoming top-tier growers.

Source: 2017 McKinsey survey of 573 executives in European Union and North America

growth profile, and make choices based on the strategic fit, will increase their chances of achieving above-market growth rates.

The power of the diversified approach

While approximately 60 percent of those surveyed identified one of the approaches as their primary source of growth, the largest group in our sample—representing about 40 percent of companies surveyed—were those that diversified their organic growth portfolio. A disproportionate number of the companies that grew significantly—at 4 percent greater than the rate of their sector's over the past three years—were in this group.

These results make intuitive sense: companies creating new products or services frequently need to reallocate

Exhibit 2

Few companies have strong advanced-analytics capabilities, but those that do exhibit higher levels of growth.

[1] Companies with 4% greater growth rate than their sector's over past 3 years.

Source: 2017 McKinsey survey of 573 executives in European Union and North America

capital so they can place their bets, while an exceptional sales force or top-flight marketing team can accelerate a variety of new product or service initiatives. Our analysis further showed that companies exhibiting strong investor and creator tendencies particularly benefited from a diversified approach to changing their growth trajectory (Exhibit 1).

The potential of advanced analytics

Across all the growth lenses, we found significant potential for an upside in advanced analytics. As Exhibit 2 shows, even at today's low levels of penetration, advanced-analytics capabilities were strongly associated with the highest levels of growth, suggesting they will be a critical platform for the next generation of performance.

The importance of reinforcing capabilities

Like a triathlete who needs to develop different sets of muscles to effectively compete, delivering on a diversified growth strategy requires building the right reinforcing capabilities. Our research indicated that there are table stakes for growers across all dimensions: nimble resource reallocation, effective branding, and growth-oriented organizational culture. There were other areas that, predictably, seemed more tightly linked with individual strategies. Sales and pricing were key to faster-growing performers while the ability to develop products and services differentiated investors and creators.

These capabilities, combined with an understanding of the options for activating growth, are fundamental to building up a company's growth DNA. And, as our research shows, a purposeful approach across a diverse portfolio of growth strategies increases the odds of success. Q

[1] We asked companies to determine their growth strategy, providing the option of choosing more than one. We then asked respondents to indicate how much each strategy contributed to their growth in percentage terms.

For more, see "*Invest, Create, Perform: Mastering the three dimensions of growth in the digital age*," on McKinsey.com.

Kabir Ahuja is a partner in McKinsey's Stamford office, **Liz Hilton Segel** is a senior partner in the New York office, and **Jesko Perrey** is a senior partner in the Düsseldorf office.

WHEN B2B BUYERS WANT TO GO DIGITAL—AND WHEN THEY DON'T

New research indicates where to focus digital investments so that they will reap rewards in online and face-to-face channels.

by Christopher Angevine, Candace Lun Plotkin, and Jennifer Stanley

It was long held that B2B customers would shun digital channels, explaining why many suppliers have been slow to make significant investments in them. Wisdom had it that the products and services purchased were just too complex. New research puts that claim to rest, but it also makes clear that B2B suppliers cannot choose between a great sales force and great digital assets and capabilities. To drive growth, they need both. The research further suggests that companies should see their initial digital investments as the glue that holds together a powerful multichannel sales strategy.

The findings

We surveyed more than 1,000 buyers in four countries in a range of industries to identify their preferences when dealing with suppliers. The responses showed that industry sector is not a factor in buyers' decisions to turn to a digital channel rather than a traditional one when deciding what to buy. What determines the channel of choice is whether or not the buyer is making a first-time purchase. As Exhibit 1 shows, 76 percent of B2B buyers find it helpful to speak to a salesperson when they are researching a new product or service. That figure falls to around 50 percent for repeat purchases of products with new or different specifications. And only 15 percent want to speak with a salesperson when repurchasing exactly the same product or service, no matter whether it's the purchase of a router or, say, bulk commodity chemicals. There is also a small group of people who are happy if they never speak with a sales representative.

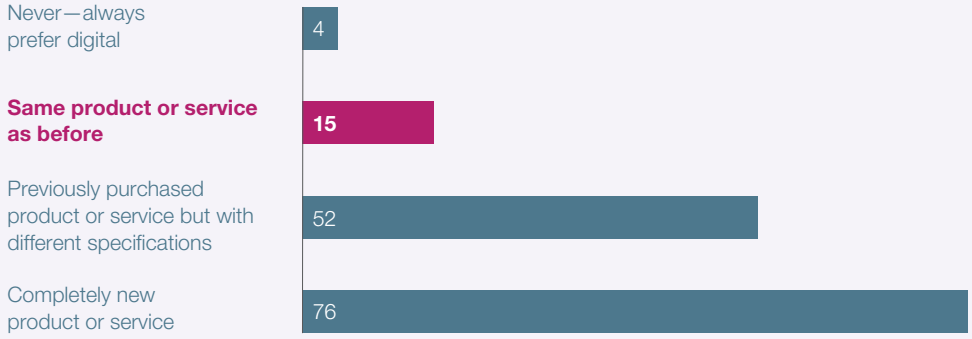
When it comes to actually making a purchase, 46 percent of buyers say they would be willing to buy from a supplier's website if the option were available and the service efficient. That compares with just 10 percent who make an online B2B purchase today.

The importance of an efficient service relates to the second finding: the way the experiences of B2B buyers in the online consumer world has influenced their expectations. Be they online or off, B2B buyers want an immediate response. They want ease of use (the ability to find the information they need effortlessly). And they want that information to be both accurate and highly relevant to their particular needs, wherever they are on the customer decision journey.

Exhibit 1

Only a small proportion of B2B buyers need in-person support when making a simple repeat purchase.

When buyers find it helpful to speak with someone,[1] % of respondents



[1] In person or by phone. Respondents were able to choose more than 1 answer.

Source: McKinsey B2B customer decision journey survey, 2016

Noteworthy too is how often they are dissatisfied with suppliers' current level of digital and offline performance: some 46 percent of survey respondents said it was difficult to compare products online accurately. They are frustrated that they cannot complete a repeat order easily. And they grumble about the time it takes to get a response when seeking help.

Indeed, slow response times are by far the biggest frustration for buyers, bigger even than pricing issues (Exhibit 2). Some 30 percent of buyers of industrial technology, for example, said they preferred to buy from distributors because manufacturers' sales representatives took too long to get back to them. That is not to say that all distributors outperform suppliers, but it illustrates how a slow response risks lost sales. After the sale, the four most commonly identified pain points that would prompt a buyer to consider an alternative supplier all relate to suppliers' lack of responsiveness (Exhibit 3).

The implications

The survey findings suggest the need for two different sets of digital investments.

Customer-facing investments

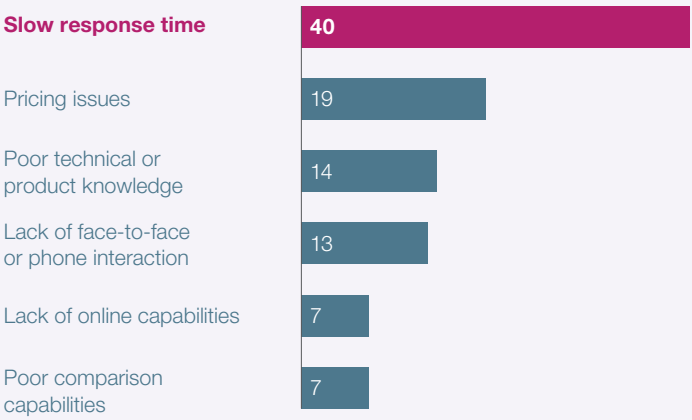
The first set targets those who are comfortable or even prefer being online, keeping them satisfied and loyal, speeding up the sale, and encouraging them to spend more.

For instance, comparison engines will help ensure buyers consider suppliers' products and services in initial searches and give them easy access to information. Click-to-chat support on company websites will offer buyers the assistance

Exhibit 2

A slow response time is buyers' biggest complaint.

What frustrates buyers most, % of respondents



Source: McKinsey B2B customer decision journey survey, 2016

they expect around the clock. And automatic email reminders will drive repeat purchases. (Half of all B2B buyers rely on sellers to remind them when to reorder, according to our survey, but many sellers disappoint.)

Some companies provide direct online sales, perhaps with an automated next-product-to-buy engine based on customer-transaction data. An advanced-materials and -machinery company we know tripled market revenue growth in this way. Direct sales are not an option for all, yet even those suppliers that sell indirectly will have to work with distribution partners to facilitate online purchases if growth is their goal.

Whatever the functionality, it will have to meet expectations for speed set in the B2C world. "There's no sense having an e-chat function that I have to wait in a 15-minute queue to use," one buyer told us. "I want it now, or I'm logging out and going elsewhere."

Sales-force investments

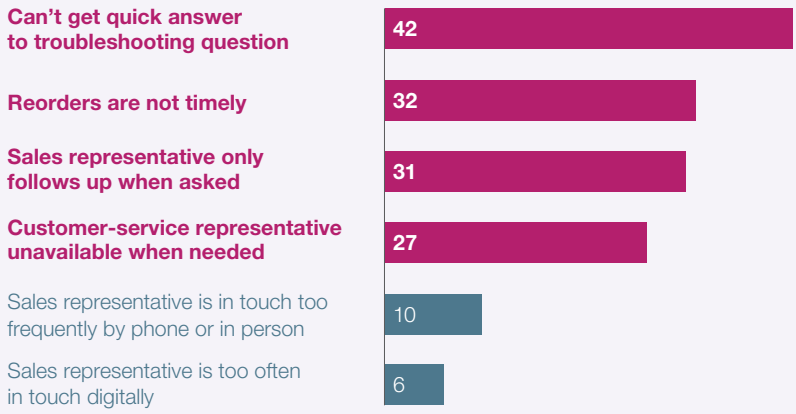
The overwhelming majority of buyers told us they still want the prompt attention and expertise of a salesperson when making decisions about first-time purchases. Investments in digital assets will indirectly help the sales force meet those needs, freeing them up from dealing with routine inquiries (when customers don't want to talk to them anyway). Instead, they can devote time to helping customers with more complex buying needs, as well as seeking out new customers. However, a second set of digital investments will help the sales force directly.

Relatively simple customer-relationship-management tools can track customers' previous questions and help anticipate needs. Virtual product demonstrations on a browser or tablet (when visiting a

Exhibit 3

A slow response risks losing customers to competitors.

Why, after making a purchase, buyers might look for a different supplier,
% of respondents[1]



[1] Respondents were able to choose more than 1 answer.

Source: McKinsey B2B customer decision journey survey, 2016

buyer) will assist in a sale. Customer-segmentation and value-proposition engines help sales representatives build tailored offers in the field that quantify the value for the customer. And as in the online world, advanced analytics can prompt buy recommendations. They can even feed sales representatives with real-time information on how to price an offer based on an analysis of deals other salespeople in the company have closed.

This is just the start. Suppliers' digital strategies will have to change in line with evolving customer preferences. But it makes sense for them to cut their teeth in the digital world with investments that reflect customers' current preferences and expectations. Q

Christopher Angevine is an associate partner in McKinsey's Atlanta office; **Candace Lun Plotkin** is a master expert in the Boston office, where **Jennifer Stanley** is a partner.

WHEN TO SHIFT YOUR DIGITAL STRATEGY INTO A HIGHER GEAR

There may be a premium for making early moves.

by Jacques Bughin, Laura LaBerge, and Nicolas van Zeebroeck

When companies first sense a digital competitor entering their market space, they tend to react timidly, reasoning that the risk of damage to revenues and profits is not enough to justify tampering with current business models. Our research indicates, however, that executives may underestimate how close they are to an industry tipping point.[1]

The signals. As the exhibit shows, during the early stages of digital competition (when rates of digitization hover below 30 percent), fewer than one out of ten incumbent players across industries have adopted offensive corporate strategies that change their portfolios and business models.[2] At this juncture, new digital entrants typically hold less than 10 percent of the market. However, when industry digitization climbs toward the 40 percent mark, the environment changes abruptly. That's when digital attackers will likely have locked in a 15 percent market share and incumbents will be sensing that the upstarts have sufficient momentum to tilt the market to their advantage.

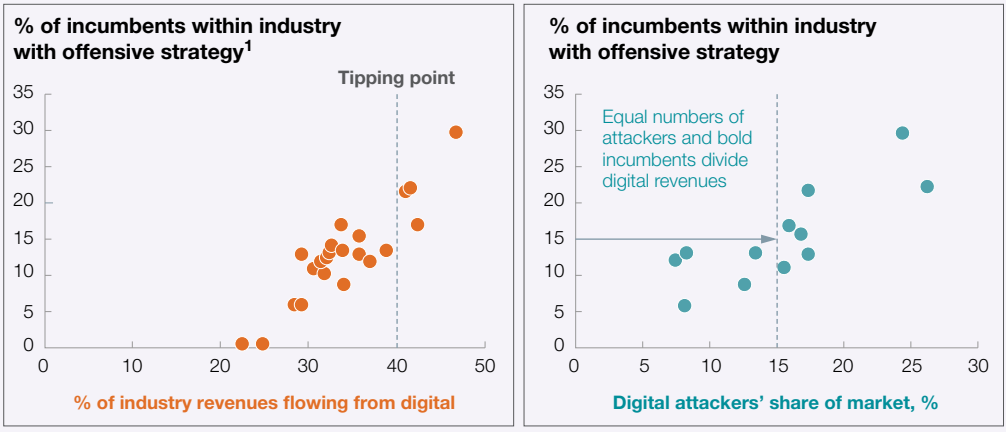
Many more incumbent players are reacting in ways that seemed unimaginable before. We found, for instance, that 15 percent of incumbent companies within an industry have revised their strategy—three times more than before the 40 percent threshold. As companies approach the 40 percent threshold, the portion of revenue digitized by incumbents still remains modest, just 20 percent, since they still have considerable legacy businesses. However, it's here that the two camps divide the market's overall digital revenues roughly evenly (15 percent for entrants and 17 percent for incumbents), so the risks of inaction are high.

The fallout. Mounting market turbulence hits digital laggards the hardest. Attackers squeeze their revenues, and heavy digital investments are now required to match what incumbent competitors are spending to play catch-up. Room for maneuver narrows substantially. Fast-moving incumbents, our research shows, still have a chance to stay in the game if they move boldly. However, companies in the bottom quartile of digitization will struggle to remain competitive.

We found that the high-tech, media, and telecom industries are well past the 40 percent digitization mark, with attackers taking more than a 15 percent share of the market, and in excess of one in five of incumbents moving boldly. Retail is

Exhibit

Incumbents' bold moves increase as the industry's rate of digitization rises and they respond to the growing market share of attackers.



[1] Specifically, strategies that place incumbents' revenue streams at risk with new digital offerings that reshuffle activities and current business models, and also strategies that significantly overinvest in digital technology relative to competition.

Source: Digital McKinsey survey, 2016

close to the tipping point with respect to digital entrants, although relatively fewer traditional companies are moving boldly. Incumbent healthcare-services players, on the other hand, are more digitally engaged as they move beyond the 40 percent digitization threshold. In aerospace and automotive industries, where digitization pressures are lower, only 5 percent of players are making bold moves.

Having a better view of how the market may develop should encourage executives to make decisive moves sooner rather than later. By doing so, they will increase their odds of successfully navigating digitization's perilous break point. Q

[1] Based on an original survey of C-suite executives, with answers from 2,100 incumbent companies in 60 countries: Jacques Bughin, Laura LaBerge, and Anette Mellbye, "The case for digital reinvention," *McKinsey Quarterly*, February 2017, McKinsey.com; also see Jacques Bughin and Nicolas van Zeebroeck, "The right response to digital disruption," *MIT Sloan Management Review*, April 6, 2017, sloanreview.mit.edu.

[2] We asked executives about the nature of their digital strategy, the share of company revenues linked to digitization, and their digital capabilities versus the competition's.

Jacques Bughin is a director of the McKinsey Global Institute and a senior partner in McKinsey's Brussels office, and **Laura LaBerge** is a senior expert at Digital McKinsey and is based in the Stamford office. **Nicolas van Zeebroeck** is a professor of innovation and digital business at the Solvay Brussels School of Economics and Management, Université libre de Bruxelles.

NEW EVIDENCE FOR THE POWER OF DIGITAL PLATFORMS

Incumbents should go on the attack with their own online exchanges.

by Jacques Bughin and Nicolas van Zeebroeck

Digital attackers in most industries can severely drain the profits and revenues of incumbent players, as we have shown in recent research.[1] Companies under pressure, though, can limit the damage if they adopt an offensive corporate strategy, one that involves willingly cannibalizing existing businesses and reallocating resources aggressively to new digital models.

Which digital business model—when deployed offensively—offers the best odds for regaining lost ground? We dug deeper into the data from our survey of more than 2,100 global executives[2] and found that going beyond the mere digital delivery of products or services and setting up an online marketplace correlates with markedly improved performance at established companies.

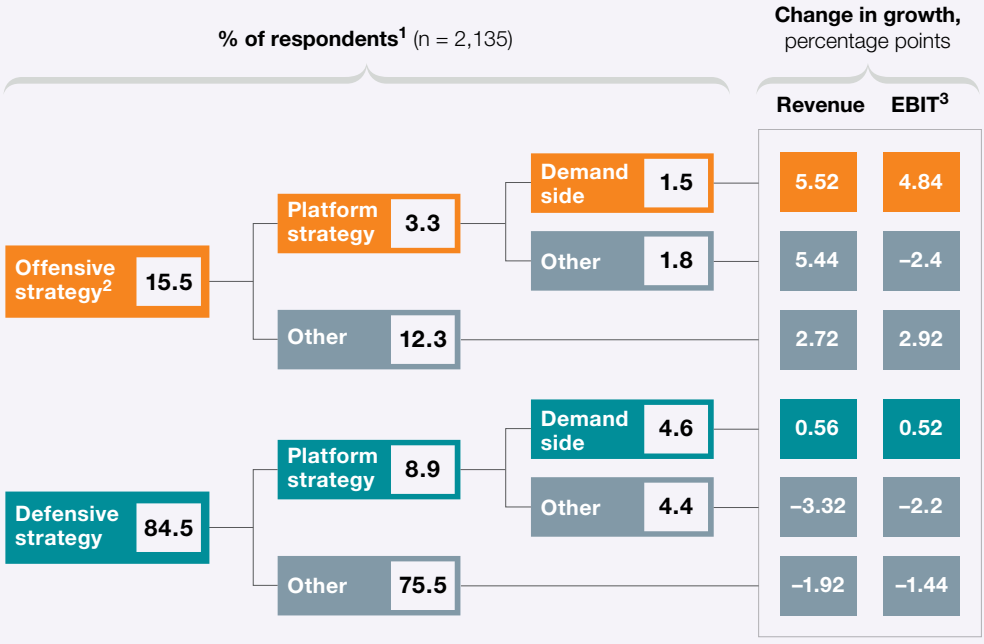
Platform play. Such online exchanges, or platforms, are a growing feature of digital competition, and the favored operating model of most of the largest Internet companies.[3] Few incumbents, however, are responding with platform moves of their own. The exhibit maps the strategic responses of the 2,100–plus companies[4] and highlights the 15 percent of them reporting "offensive" corporate-strategy moves. Their revenue and earnings over the last three years, on average, are superior to those describing their strategic reaction as "defensive."

A significant finding is the correlation between recent financial performance and the 12 percent of companies in the sample that have chosen to create new platforms.[5] The biggest impact appears to be on the one in five platform companies that pursued the "offensive" option. They did much better than one in ten defensive companies that chose a platform strategy.

Connecting customers. Another critical finding is that the nature of the chosen platform matters. The experience of successful platform players indicates that benefits increase when platforms redefine value propositions for customers, reshaping the demand side of the market. Many companies do so by enriching their products or services with information, social content, or connectivity, providing an easier experience for customers. Indeed, demand-driven platform plays, when combined with an offensive digital corporate strategy, are strongly correlated with superior financial performance—about six to more than seven percentage points in earnings before interest and taxes (EBIT) and revenues—relative to the

Exhibit

Companies pursuing 'offensive' platform strategies achieve a better payoff in both revenue and growth.



[1]Figures may not sum to totals, because of rounding.
[2]Specifically, strategies that place incumbents' revenue streams at risk with new digital offerings that reshuffle activities and current business models, and also strategies that signicantly overinvest in digital technology relative to competition.
[3]Earnings before interest and taxes.

Source: Digital McKinsey survey, 2016

nonplatform, defensive players.[6] It is noteworthy that the revenues and EBIT of the latter group declined, suggesting that some companies will face greater competitive pressures ahead.

Why are so many incumbent companies slow to respond more aggressively and to leverage platform models? One answer is that implementation requires incumbents to overhaul legacy IT systems while overcoming cultural and strategic constraints. Many are reluctant to disrupt today's business model for an uncertain digital future. Most companies worry that they may open up the value pool to competitors if they cede power to customers via new platforms. Our research shows that this reluctance may be shortsighted.

[1] Jacques Bughin and Nicolas van Zeebroeck, "The right response to digital disruption," *MIT Sloan Management Review*, April 6, 2017, sloanreview.mit.edu.

[2] For the full range of research results, see Jacques Bughin and Nicolas van Zeebroeck, "Platform play among incumbent firms: The wrong focus?," iCite Working Paper #2017-023, April 2017, ideas.repec.org.

[3] In most basic form, Google operates a marketplace that connects advertisers and searchers; Amazon connects online buyers and merchants; Uber matches drivers and those in need of a ride.

[4] Data based on a McKinsey survey of global executives. For this research, we used responses about the digital intensity of incumbents' overall corporate strategy and whether they had adopted a platform strategy. Platform strategies were those where a company operates digital exchanges that either tap better ways to supply markets or provide new ways of satisfying customer demand.

[5] This finding is confirmed by other research. See Peter C. Evans and Annabelle Gawer, "The rise of the platform enterprise: A global survey," the Center for Global Enterprise, January 2016, http://thecge.net.

[6] The platform research is based on a range of regression techniques linking firm performance with strategic posture and digital models and controlling for factors such as company size and sector. Significant at the 5 percent probability level.

Jacques Bughin is a director of the McKinsey Global Institute and a senior partner in McKinsey's Brussels office. **Nicolas van Zeebroeck** is a professor of innovation and digital business at the Solvay Brussels School of Economics and Management, Université libre de Bruxelles.

WHAT'S MISSING IN LEADERSHIP DEVELOPMENT?

Only a few actions matter, and they require the CEO's attention.

by Claudio Feser, Nicolai Nielsen, and Michael Rennie

Organizations have always needed leaders who are good at recognizing emerging challenges and inspiring organizational responses. That need is intensifying today as leaders confront, among other things, digitization, the surging power of data as a competitive weapon, and the ability of artificial intelligence to automate the workplace and enhance business performance. These technology-driven shifts create an imperative for most organizations to change, which in turn demands more and better leaders up and down the line.

Unfortunately, there is overwhelming evidence that the plethora of services, books, articles, seminars, conferences, and TED-like talks purporting to have the answers—a global industry estimated to be worth more than $50 billion—are delivering disappointing results. According to a recent *Fortune* survey, only 7 percent of CEOs believe their companies are building effective global leaders, and just 10 percent said that their leadership-development initiatives have a clear business impact. Our latest research has a similar message: only 11 percent of more than 500 executives we polled around the globe strongly agreed with the statement that their leadership-development interventions achieve and sustain the desired results.

In our survey, we asked executives to tell us about the circumstances in which their leadership-development programs were effective and when they were not.

We found that much needs to happen for leadership development to work at scale, and there is no "silver bullet" that will singlehandedly make the difference between success and failure (Exhibit 1).

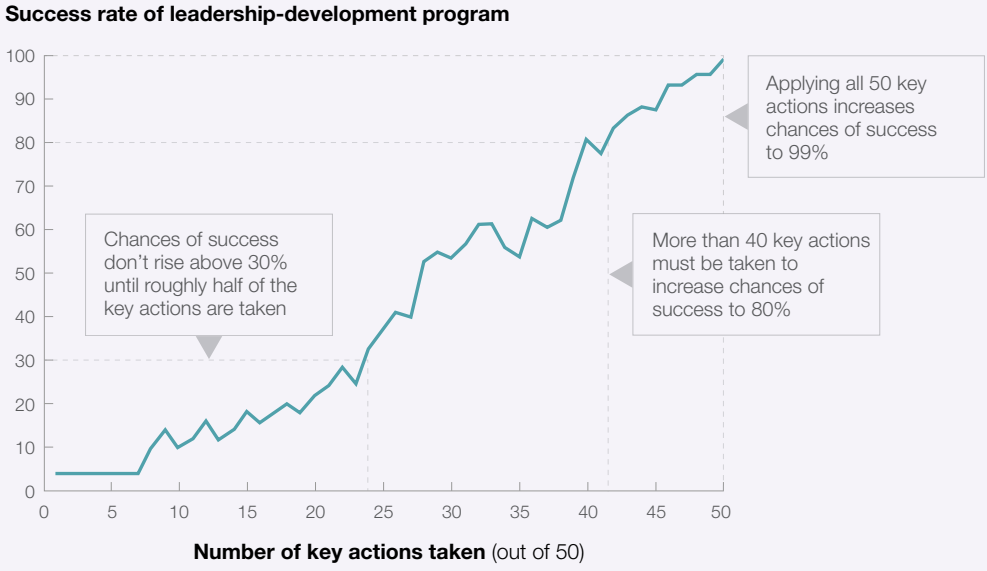
That said, statistically speaking, four sets of interventions appear to matter most: contextualizing the program based on the organization's position and strategy, ensuring sufficient reach across the organization, designing the program for the transfer of learning, and using system reinforcement to lock in change (Exhibit 2). This is the first time we have amassed systematic data on the interventions that seem to drive effective leadership-development programs. Interestingly, the priorities identified by our research are to a large extent mirror images of the most common mistakes that businesses make when trying to improve the capabilities of their managers.[1] Collectively, they also help emphasize the central role of technology today in necessitating and enabling strong leadership development.

Focus on the shifts that matter

In our survey, executives told us that their organizations often fail to translate their company's strategy into a leadership model specific to their needs (whether it is, say, to support a turnaround, a program of acquisitions, or a period of organic growth). Conversely, organizations with successful leadership-development programs were eight times more likely than those with unsuccessful ones to have focused on leadership behavior that

Exhibit 1

There is no silver bullet for successfully developing leaders—more than 40 key actions must be taken to increase chances of success to 80 percent.



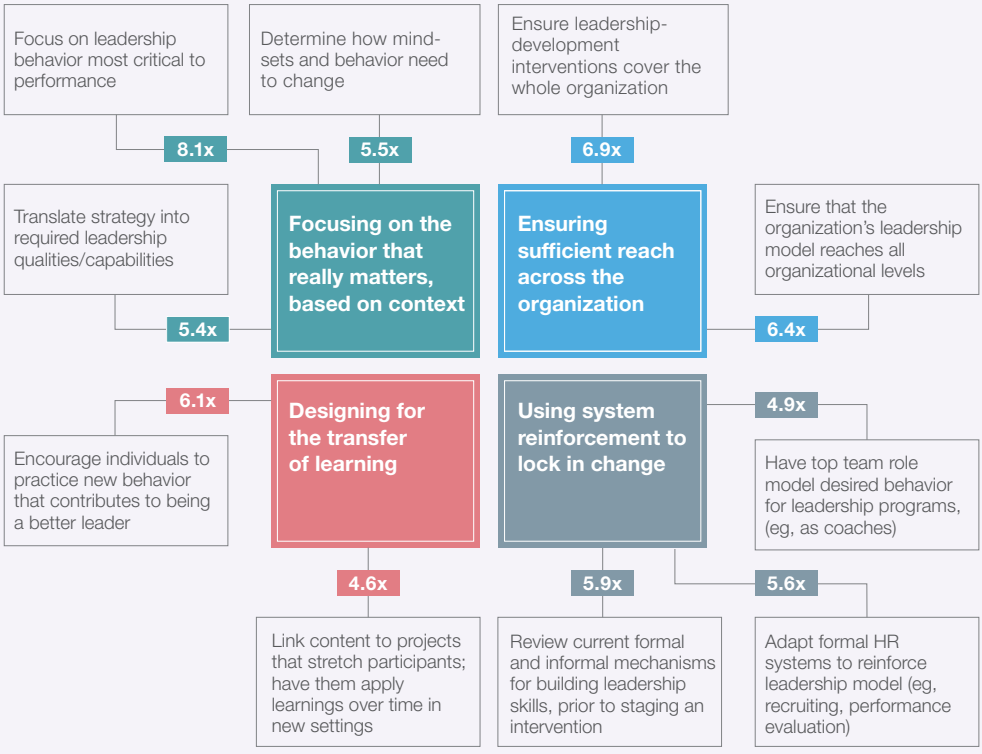
Note: Leadership-development programs that were "somewhat" or "very" successful on both performance and health dimensions; moving average of 5 actions.

Source: McKinsey leadership-development survey of 510 executives, 2016

Exhibit 2

Our research confirmed that some actions matter more than others, with four key themes emerging.

Increase in organization's overall success rate, adopters vs nonadopters of specific interventions[1]



[1] Other important factors included individual fieldwork between forums (3.6x), being strengths based (3.4x), coaching (3.2x), and addressing mind-sets (2.9x).

Source: McKinsey leadership-development survey of 510 executives, 2016

executives believed were critical drivers of business performance.[2]

The implications are clear for organizations seeking to master today's environment of accelerating disruption: leadership-development efforts must be animated by those new strategic imperatives, translating them into growth priorities for individual managers, with empathy for the degree of change required. An important piece of the puzzle is enhancing the ability of leaders to adapt to different situations and adjust their behavior (something that requires a high degree of self-awareness and a learning mind-set). Leaders with these attributes are four times more prepared to lead amidst change.

Make it an organizational journey, not cohort specific

Ensuring sufficient reach across the organization has always been important to the success of leadership-development efforts. Organizations with successful

programs were six to seven times more likely than their less successful peers to pursue interventions covering the whole organization, and to design programs in the context of a broader leadership-development strategy. The same went for companies whose leadership strategy and model reached all levels of the organization.

Achieving sufficient reach amidst today's rapid change is challenging: most leadership-development programs are typically of short duration (a few weeks to several months), sporadic, and piecemeal—making it difficult for the program to keep up with changes in the organization's priorities, much less develop a critical mass of leaders ready to pursue them. Fortunately, technology isn't just stimulating the need for change; it's also enabling faster, more flexible, large-scale learning on digital platforms that can host tailored leadership development, prompt leaders to work on specific kinds of behavior, and create supportive communities of practice, among other possibilities.

Design for the transfer of learning

Technology can also help companies break out of the "teacher and classroom" (facilitator and workshop) model that so many still rely on, maximizing the value and organizational impact of what is taught and learned. Fast-paced digital learning is easier to embed in the day-to-day work flows of managers. Every successful leader tells stories of how he or she developed leadership capabilities by dealing with a real problem in a specific context, and our survey provides supporting evidence for these anecdotes: companies with successful leadership-development programs were four to five times more likely to require participants to apply their learnings in new settings over an extended period and to practice them in their job.

This is just one of several modern adult-learning principles grounded in neuro-science that companies can employ to speed the behavior and mind-set shifts leaders need to thrive in today's fast-changing environment. Others include learning through a positive frame (successful leadership developers were around three times more likely to allow participants to build on a strength rather than correcting a development area), and providing coaching that encourages introspection and self-discovery (which also was three times more prevalent among successful leadership developers).

Embedding change

Leadership-development efforts have always foundered when participants learn new things, but then return to a rigid organization that disregards their efforts for change or even actively works against them. Given the pace of change today, adapting systems, processes, and culture that can support change-enabling leadership development is critically important. Technology can support organizational interventions that accelerate the process. For example, blogs, video messages, and social-media platforms help leaders engage with many more people as they seek to foster understanding, create conviction, and act as role models for the desired leadership behavior and competencies.

Also critical are formal mechanisms (such as the performance-management system, the talent-review system, and shifts in organizational structure) for reinforcing the required changes in competencies.[3] In our latest research, we found that successful leadership-development programs were roughly five to six times more likely to involve senior leaders acting as project sponsors, mentors, and coaches and to encompass adaptations to HR systems aimed at reinforcing the new leadership model. Data-enabled talent-management systems—popularized by Google and often referred to as people analytics—can increase the number of people meaningfully evaluated against new competencies and boost the precision of that evaluation.

Most CEOs have gotten religion about the impact of accelerating disruption and the need to adapt in response. Time and again, though, we see those same CEOs forgetting about the need to translate strategy into specific organizational capabilities, paying lip service to their talent ambitions, and delegating responsibility to the head of learning with a flourish of fine words, only for that individual to complain later about lack of support from above. To be fair, CEOs are pulled in many directions, and they note that leadership development often doesn't make an impact on performance in the short run.

At the same time, we see many heads of learning confronting CEOs with a set of complex interwoven interventions, not always focusing on what matters most.

But as the pace of change for strategies and business models increases, so does the cost of lagging leadership development. If CEOs and their top teams are serious about long-term performance, they need to commit themselves to the success of corporate leadership-development efforts now. Chief human-resource officers and heads of learning need to simplify their programs, focusing on what really matters. Q

---

[1] Pierre Gurdjian, Thomas Halbeisen, and Kevin Lane, "Why leadership-development programs fail," *McKinsey Quarterly*, January 2014, McKinsey.com.

[2] Successful leadership-development programs were defined as those that achieved and sustained the desired objectives of the program.

[3] The influence model is based on a truly extensive review of more than 130 sources and has stood the test of time for more than ten years. See Tessa Basford and Bill Schaninger, "Winning hearts and minds in the 21st century," *McKinsey Quarterly*, April 2016, McKinsey.com.

Claudio Feser is a senior partner in McKinsey's Zurich office; **Nicolai Nielsen** is an associate partner in the Dubai office, where **Michael Rennie** is a senior partner.

HIDDEN SOURCES OF BETTER SUPPLY-CHAIN PERFORMANCE

High-level benchmarks often obscure paths to operations improvements. New data and metrics that tap underlying performance dynamics offer better visibility.

by Per-Magnus Karlsson, Shruti Lal, and Daniel Rexhausen

Consumers want more variety, convenience, and service, increasing pressure on supply-chain executives to generate savings that fund the added costs of complexity and enhanced customer demands. We find that many companies are taking similar actions to improve productivity, with the result a convergence in supply-chain performance, by commonly used benchmarks. Put simply, companies seem to have hit the wall.

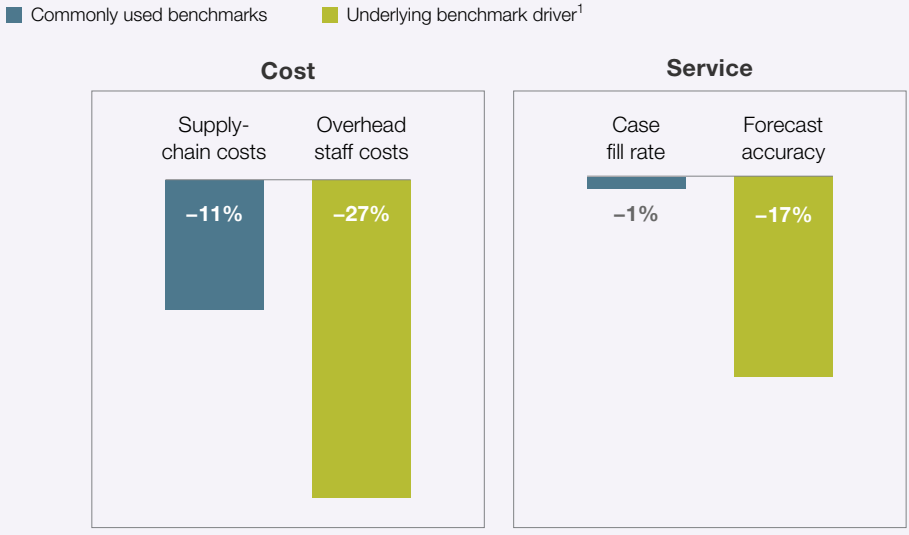
Appearances can be deceiving, however. Our work with global consumer-products players across several hundred supply-chain projects shows that when companies mine deeper veins of operational data to create more precise metrics, new paths to improvements appear. Exhibit 1 shows an 11 percent difference between median and top-quartile companies when commonly used cost benchmarks are used. Some of the difference arises from structural factors, such as costs attributable to product variations and demand volatility, and is therefore outside companies' control. A closer analysis, however—one that filters out these structural differences and uses more granular data to quantify second-level cost components, such as labor staff or transport charges per pallet—shows a much greater potential for improvement. We found similar opportunities for supply-chain services when broad benchmarks, such as case fill rates (indicating order-fulfillment levels), are broken down with more granular data and key performance indicators, such as forecast accuracy.

How to capture the potential gains from more precise data and a better analysis of the underlying drivers? Exhibit 2 digs deeper into one application involving service improvements. High levels of demand volatility weigh on how well a consumer-packaged-goods company fulfills customer orders. Poor management of order flow leads either to items being out of stock or to costly "safety stock" investments. When we looked at a set of companies with relatively low volatility levels (less than 40 percent of total demand), we found that there was still a significant gap in service levels between top and bottom quartiles, indicating that some of the performance differences stem from how well a company manages the variation. Two benchmarks drawn from a deeper cut of operations data showed that to be the case: one a measure of the accuracy of demand forecasts

Exhibit 1

Commonly used benchmarks indicate a convergence in supply-chain performance, but more granular metrics such as overhead staff costs and forecast accuracy reveal room to improve.

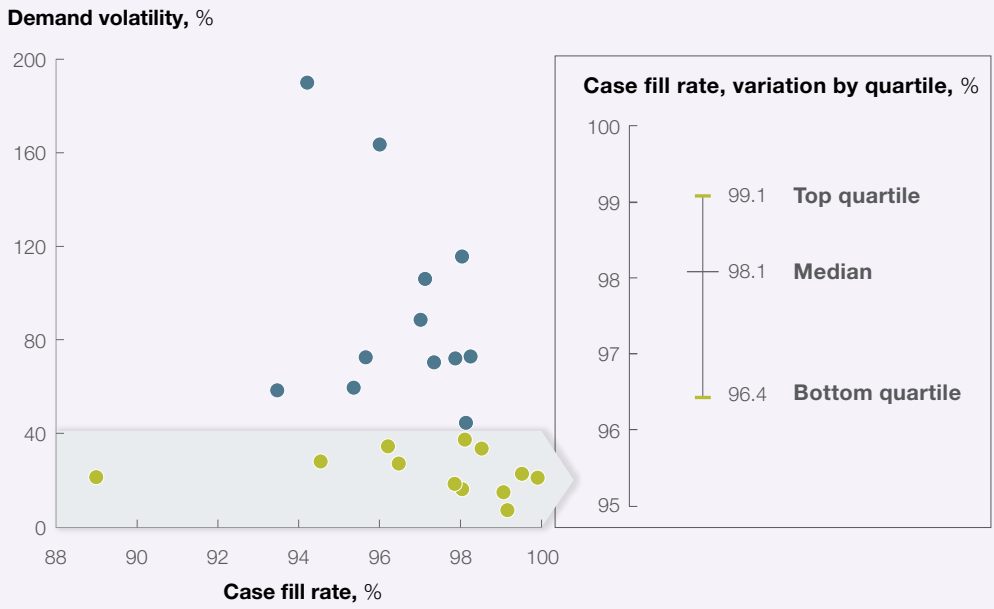
Gap between median and top-quartile companies



[1] Overhead staff costs and forecast accuracy are examples of the underlying drivers companies can employ.

Exhibit 2

Even among companies with lower levels of volatility, the gap between top- and bottom-quartile performers is significant.



and the other a measure of the flexibility of production processes. We found that more accurate forecasts of sales volatility resulting from promotional campaigns (levers under management control) accounted for 70 percent of the service differences. More agile production processes allowing companies to adjust rapidly to volatile SKUs explained the remainder of the performance gap.

Three principles should guide companies' actions as executives seek to sharpen their competitive advantage through better data:

- *See costs as only one lever.* The bigger picture also includes service levels, inventory, product quality, productivity, and flexibility.

- *Make apples-to-apples comparisons.* Benchmarking the performance of a warehouse in Latin America that receives large and small orders with a European facility delivering mostly big ones (even for the same product) will miss differences in labor intensity and operational complexity.

- *Dig deeper.* High-level metrics, while helpful, can obscure deeper insights that emerge from scrutinizing individual steps in the value chain. More granularity, granted, may require more alignment among top management, supply-chain leaders, and plant managers on the relevant variables and how to measure them, but the financial gains will be worth the effort. Q

Per-Magnus Karlsson is a senior expert in McKinsey's Stockholm office, **Shruti Lal** is a senior expert in the Chicago office, and **Daniel Rexhausen** is a partner in the Stuttgart office.

The authors wish to thank Sebastian Gatzer, Volodymyr Opanasenko, and Frank Sänger for their contributions to this article.

For the complete findings, see "My supply chain is better than yours—or is it?," on McKinsey.com.

THE TWO FACES OF FASHION-INDUSTRY PERFORMANCE

Top-quintile companies are the engines of value creation. Digitization and better in-store experiences will drive future gains.

by Achim Berg, Saskia Hedrich, and Johnattan Leon

Fashion is one of the world's largest and most fragmented industries, divided into multiple product segments and categories, housed in many different types of organizations, and widely dispersed across geographies. We've recently put the spotlight on value creation, measured as economic profit,[1] and found, as in so many other sectors, a striking and contrasting tale of winners and losers. As the exhibit shows, 20 percent of fashion players created 100 percent of economic profit over the past decade, while the bottom 20 percent of companies went backward.

Economic-profit growth of 8 percent outpaced sales growth over the same period, with a handful of companies (Adidas, Chow Tai Fook, and H&M, among others) taking advantage of the winner-takes-all market dynamics. They did so by hammering down costs, investing efficiently, and executing better than competitors. The losers were midmarket players, which struggled in the slow-growth environment of the past five years, experiencing sharp declines in margins and wide variations in operating performance.

Looking ahead, the bifurcation seems set to continue. McKinsey research and our recent survey of industry executives,[2] for example, suggest some segments of the market, such as affordable luxury and premium brands, should grow much faster than top-of-the-line luxury or discount products. All players, regardless of focus, will need to step up their digital efforts, with better omnichannel distribution and in-store experiences at the top of the list, accompanied by investments in customer-relationship-management systems. Q

[1] Economic profit is a measure of value creation taking into account explicit and opportunity costs. It is defined as invested capital times the spread companies make on that capital (the return on invested capital minus the weighted average cost of capital).

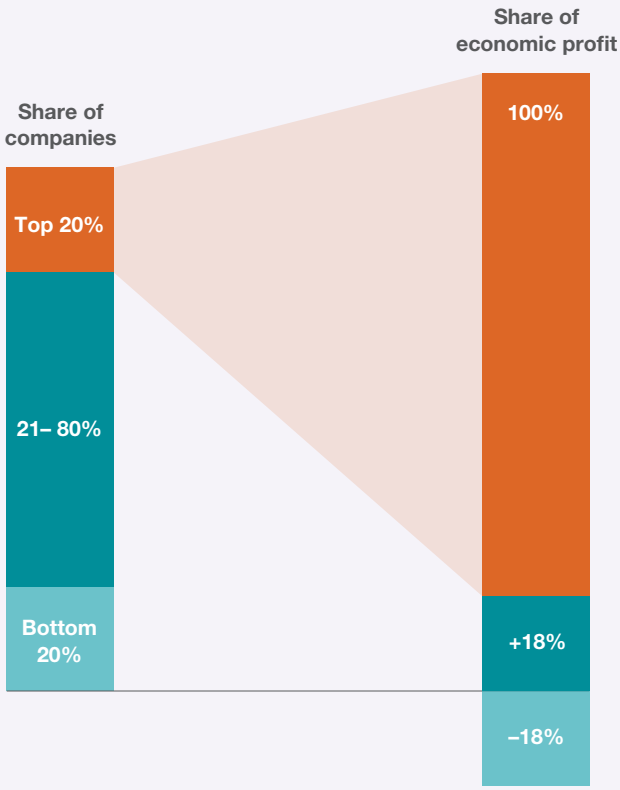
[2] In our broader research effort, we partnered with *The Business of Fashion*, a leading digital resource that provides daily business intelligence on technology, brands, and designers for industry executives and creative talent worldwide.

Achim Berg is a senior partner in McKinsey's Frankfurt office, **Saskia Hedrich** is a senior expert in the Munich office, and **Johnattan Leon** is a consultant in the London office.

For a complete analysis of the industry's prospects, see *The state of fashion 2017*, on McKinsey.com.

Exhibit

Fashion is a winner-takes-all industry.



Source: McKinsey Global Fashion Index, 2016

FIGHTING COMMODITIZATION IN CHEMICALS WITH A BETTER COMMERCIAL MODEL

Windfalls on feedstocks and emerging-market growth have masked the margin damage from increasing commoditization.

by Jochen Böringer and Theo Jan Simons

A rising tide raises all boats, and the chemical industry over the past 15 years has had the good fortune to ride not one but two rising tides. Companies have been able to cash in not only on the availability of attractively priced gas feedstocks in the Middle East and the United States, but also on strong emerging-market growth. These value-creating trends have obscured, however, the margin erosion caused by product commoditization across much of the industry. This in turn has been driven by freer availability of production technology, proliferation of producers, and overexpansion of capacity in many product areas (exhibit).

While chemical companies have worked to protect margins with better manufacturing performance, their traditional service-heavy marketing and sales operating models in many cases remain untouched. Indeed, our research shows that average sales, general, and administrative costs as a percent of revenues have risen, by as much as ten percentage points over the past decade.

Matching the commercial model to the degree of commoditization could provide relief. Where margins remain substantial and product development with higher-end customers can create value, a service-intensive approach will still be a strength. For the next tier of businesses, a lower-cost backbone might offer essential services, with the possibility of charging for additional ones such as on-demand technical support. A low-cost digital channel that unbundles service from sales would target customers no longer willing to pay for service. Companies should set up a stand-alone commodity-focused business unit where competitive pressures are so intense that adopting the lowest-possible-cost model becomes essential for survival.

Executives across industries can learn from the chemical experience. If they ride similar macroeconomic trends and updrafts while neglecting the inner dynamics of their business, they risk losing a lot of value. Recapturing that value will require creative solutions.

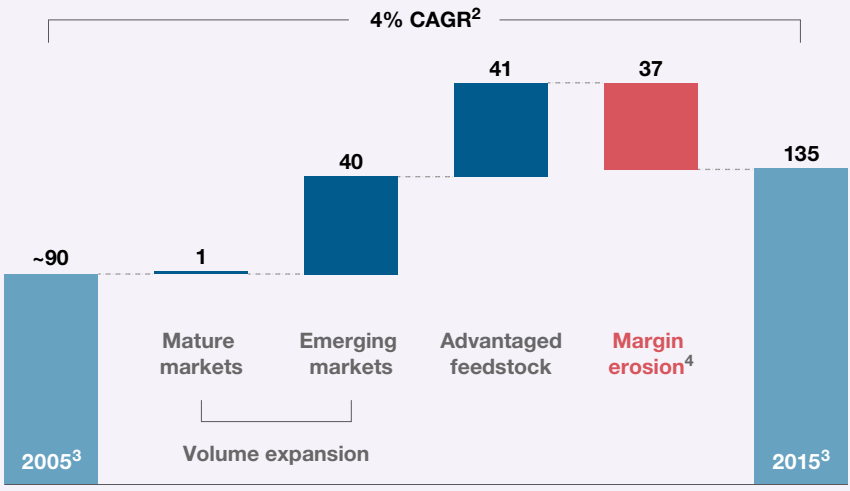
Jochen Böringer is a partner in McKinsey's Düsseldorf office, and **Theo Jan Simons** is a partner in the Cologne office.

For the full article on which this article is based, see "Commoditization in chemicals: Time for a marketing and sales response," on McKinsey.com.

Exhibit

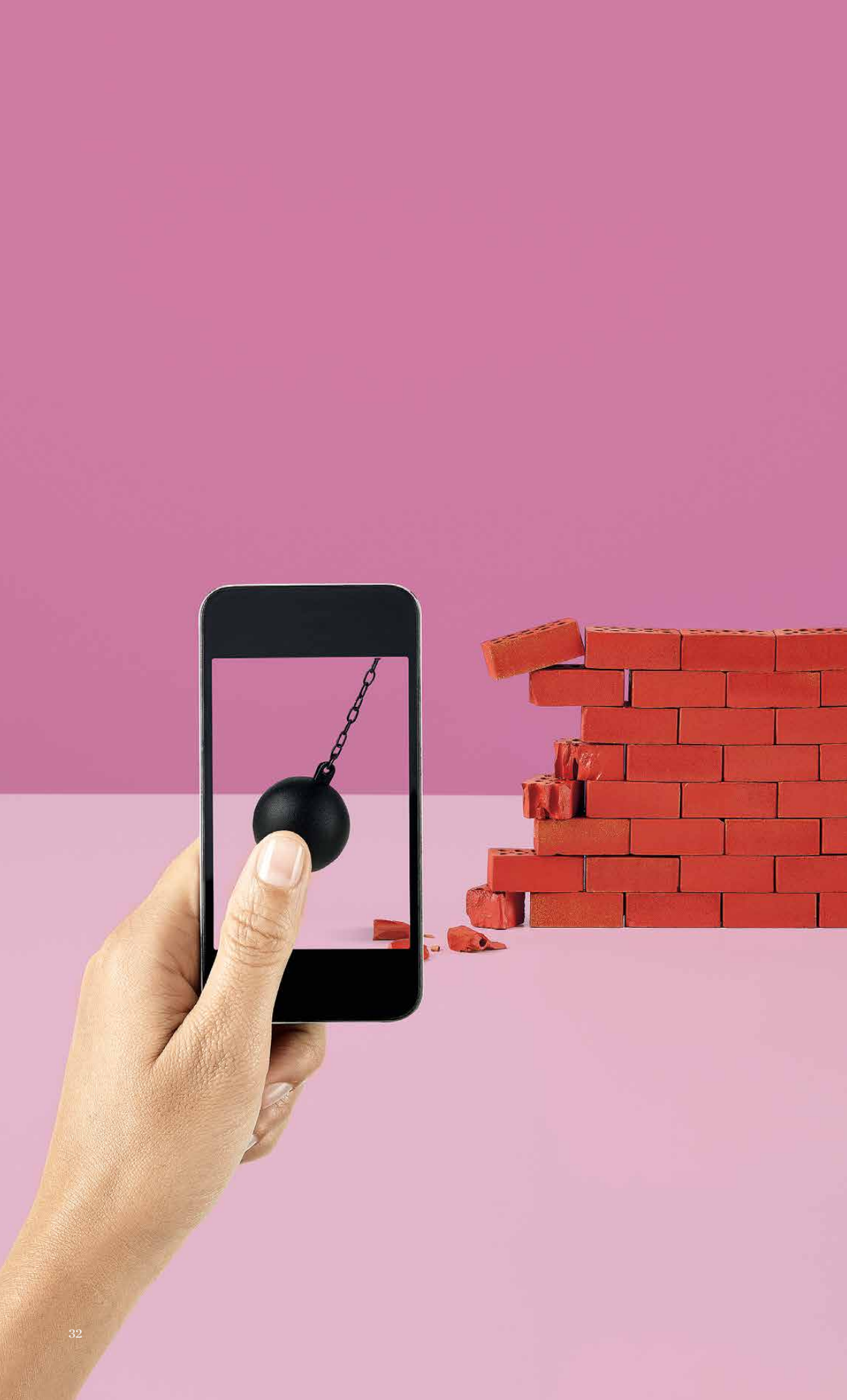
Margin erosion has dampened gains from volume growth and attractive feedstock prices.

Chemical-industry value pool, EBITDA,[1] $ billion



[1] Value pool covers 90 products; EBITDA = earnings before interest, taxes, depreciation, and amortization.
[2] Compound annual growth rate.
[3] 3-year trailing average.
[4] Primarily margin erosion through product commoditization (especially Asia); netted for >$4 billion margin improvement in Western Europe.

Source: ICIS Supply and Demand; IHS; McKinsey analysis



Competing in a world of sectors without borders

Digitization is causing a radical reordering of traditional industry boundaries. What will it take to play offense and defense in tomorrow's ecosystems?

by Venkat Atluri, Miklos Dietz, and Nicolaus Henke

Rakuten Ichiba is Japan's single largest online retail marketplace. It also provides loyalty points and e-money usable at hundreds of thousands of stores, virtual and real. It issues credit cards to tens of millions of members. It offers financial products and services that range from mortgages to securities brokerage. And the company runs one of Japan's largest online travel portals—plus an instant-messaging app, Viber, which has some 800 million users worldwide. Retailer? Financial company? Rakuten Ichiba is all that and more—just as Amazon and China's Tencent are tough to categorize as the former engages in e-commerce, cloud-computing, logistics, and consumer electronics, while the latter provides services ranging from social media to gaming to finance and beyond.

Organizations such as these—digital natives that are not defined or constrained by any one industry—may seem like outliers. How applicable to traditional industries is the notion of simultaneously competing in multiple sectors, let alone reimagining sector boundaries? We would be the first to acknowledge that opportunities to attack and to win across sectors vary considerably and that industry definitions have always been fluid: technological developments cause sectors to appear, disappear, and merge. Banking, for example, was born from the merger of money exchange, merchant banking, savings

banking, and safety-deposit services, among others. Supermarkets unified previously separate retail subsectors into one big "grocery" category. Changes such as these created new competitors, shifted vast amounts of wealth, and reshaped significant parts of the economy. Before the term was in vogue, one could even say the shifts were "disruptive."

Yet there does appear to be something new happening here. The ongoing digital revolution, which has been reducing frictional, transactional costs for years, has accelerated recently with tremendous increases in electronic data, the ubiquity of mobile interfaces, and the growing power of artificial intelligence. Together, these forces are reshaping customer expectations and creating the potential for virtually every sector with a distribution component to have its borders redrawn or redefined, at a more rapid pace than we have previously experienced.

Consider first how customer expectations are shifting. As Steve Jobs famously observed, "A lot of times, people don't know what they want until you show it to them." By creating a customer-centric, unified value proposition that extends beyond what end users could previously obtain (or, at least, could obtain almost instantly from one interface), digital pioneers are bridging the openings along the value chain, reducing customers' costs, providing them with new experiences, and whetting their appetites for more.

We've all experienced businesses that once seemed disconnected fitting together seamlessly and unleashing surprising synergies: look no farther than the phone in your pocket, your music and video in the cloud, the smart watch on your wrist, and the TV in your living room. Or consider the 89 million customers now accessing Ping An Good Doctor, where on a single platform run by the trusted Ping An insurance company they can connect with doctors not only for online bookings but to receive diagnoses and suggested treatments, often by exchanging pictures and videos. What used to take many weeks and multiple providers can now be done in minutes on one app.

Now nondigital natives are starting to think seriously about their cross-sector opportunities and existential threats that may lurk across boundaries. One example: We recently interviewed 300 CEOs worldwide, across 37 sectors, about advanced data analytics. Fully one-third of them had cross-sector dynamics at top of mind. Many worried, for instance, that "companies from other industries have clearer insight into my customers than I do." We've also seen conglomerates that until recently had thought of themselves as little more than holding companies taking the first steps to set up enterprise-wide consumer data lakes, integrate databases, and optimize the products, services,

and insights they provide to their customers. Although these companies must of course abide by privacy laws—and even more, meet their users' expectations of trust—data sets and sources are becoming great unifiers and creating new, cross-sectoral competitive dynamics.

Do these dynamics portend a sea change for every company? Of course not. People will still stroll impromptu into neighborhood stores, heavy industry (with the benefit of technological advances, to be sure) will go on extracting and processing the materials essential to our daily lives, and countless other enterprises beyond the digital space will continue to channel the ingenuity of their founders and employees to serve a world of incredibly varied preferences and needs. It's obvious that digital will not—and cannot—change everything.

But it's just as apparent that its effects on the competitive landscape are already profound and that the stakes are getting higher. As boundaries between industry sectors continue to blur, CEOs—many of whose companies have long commanded large revenue pools within traditional industry lines—will face off against companies and industries they never previously viewed as competitors. This new environment will play out by new rules, require different capabilities, and rely to an extraordinary extent upon data. Defending your position will be mission critical, but so too will be attacking and capturing the opportunities across sectors before others get there first. To put it another way: within a decade, companies will define their business models not by how they play against traditional industry peers but by how effective they are in competing within rapidly emerging "ecosystems," comprising a variety of businesses from dimensionally different sectors.

A WORLD OF DIGITAL ECOSYSTEMS

As the approaching contest plays out, we believe an increasing number of industries will converge under newer, broader, and more dynamic alignments: digital ecosystems. A world of ecosystems will be a highly customer-centric model, where users can enjoy an end-to-end experience for a wide range of products and services through a single access gateway, without leaving the ecosystem. Ecosystems will comprise diverse players who provide digitally accessed, multi-industry solutions. The relationship among these participants will be commercial and contractual, and the contracts (whether written, digital, or both) will formally regulate the payments or other considerations trading hands, the services provided, and the rules governing the provision of and access to ecosystem data.

Beyond just defining relationships among ecosystem participants, the digitization of many such arrangements is changing the boundaries of the

company by reducing frictional costs associated with activities such as trading, measurement, and maintaining trust. More than 80 years ago, Nobel laureate Ronald Coase argued that companies establish their boundaries on the basis of transaction costs like these: when the cost of transacting for a product or service on the open market exceeds the cost of managing and coordinating the incremental activity needed to create that product or service internally, the company will perform the activity in-house. As digitization reduces transaction costs, it becomes economic for companies to contract out more activities, and a richer set of more specialized ecosystem relationships is facilitated.

Rising expectations

Those ecosystem relationships, in turn, are making it possible to better meet rising customer expectations. The mobile Internet, the data-crunching power of advanced analytics, and the maturation of artificial intelligence (AI) have led consumers to expect fully personalized solutions, delivered in milliseconds. Ecosystem orchestrators use data to connect the dots—by, for example, linking all possible producers with all possible customers, and, increasingly, by predicting the needs of customers before they are articulated. The more a company knows about its customers, the better able it is to offer a truly integrated, end-to-end digital experience and the more services in its ecosystem it can connect to those customers, learning ever more in the process. Amazon, among digital natives, and Centrica, the British utility whose Hive offering seeks to become a digital hub for controlling the home from any device, are early examples of how pivotal players can become embedded in the everyday life of customers.

For all of the speed with which sector boundaries will shift and even disappear, courting deep customer relationships is not a one-step dance. Becoming part of an individual's day-to-day experience takes time and, because digitization lowers switching costs and heightens price transparency, sustaining trust takes even longer. Over that time frame, significant surplus may shift to consumers—a phenomenon already underway, as digital players are destroying billions to create millions. It's also a process that will require deploying newer tools and technologies, such as using bots in multidevice environments and exploiting AI to build machine-to-machine capabilities. Paradoxically, sustaining customer relationships will depend as well on factors that defy analytical formulae: the power of a brand, the tone of one's message, and the emotions your products and services can inspire.

Strategic moves

The growing importance of customer-centricity and the appreciation that consumers will expect a more seamless user experience are reflected in the flurry of recent strategic moves of leading companies across the world. Witness Apple Pay; Tencent's and Alibaba's service expansions; Amazon's decisions to (among other things) launch Amazon Go, acquire Whole Foods, and provide online vehicle searches in Europe; and the wave of announcements from other digital leaders heralding service expansion across emerging ecosystems. Innovative financial players such as CBA (housing and B2B services), mBank (B2C marketplace), and Ping An (for health, housing, and autos) are mobilizing. So are telcos, including Telstra and Telus (each playing in the health ecosystem), and retailers such as Starbucks (with digital content, as well as seamless mobile payments and pre-ordering). Not to be left out are industrial companies such as GE (seeking to make analytics the new "core to the company") and Ford (which has started to redefine itself as "a mobility company and not just as a car and truck manufacturer").[1] We've also seen ecosystem-minded combinations such as Google's acquisition of Waze and Microsoft's purchase of LinkedIn. Many of these initiatives will seem like baby steps when we look back a decade from now, but they reveal the significance placed by corporate strategists on the emergence of a new world.

While it might be tempting to conclude as a governing principle that aggressively buying your way into new sectors is the secret spice for ecosystem success, massive combinations can also be recipes for massive value destruction. To keep your bearings in this new world, focus on what matters most—your core value propositions, your distinct competitive advantages, fundamental human and organizational needs, and the data and technologies available to tie them all together. That calls for thinking strategically about what you can provide your customers within a logically connected network of goods and services: critical building blocks of an ecosystem, as we've noted above.

Value at stake

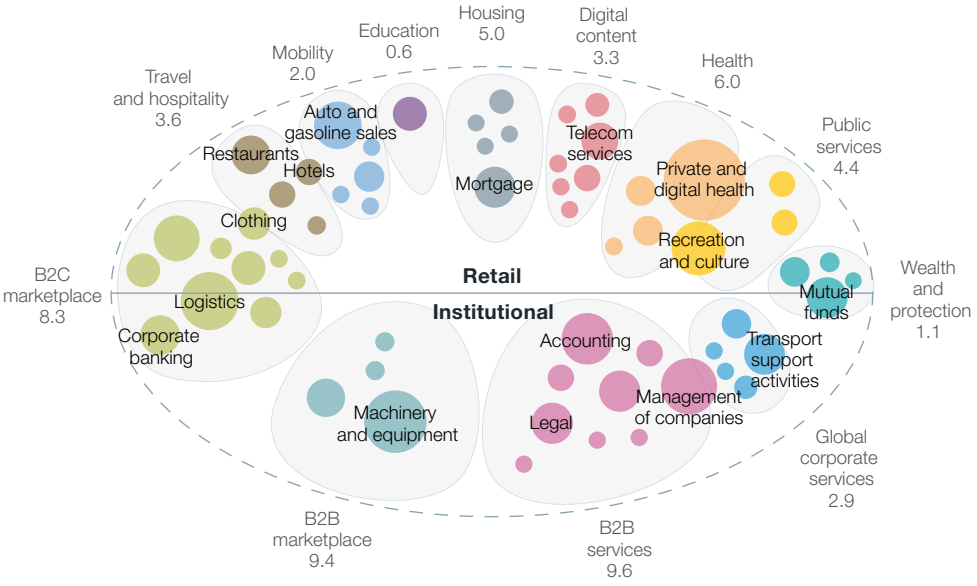
Based on current trends, observable economic trajectories, and existing regulatory frameworks, we expect that within about a decade 12 large ecosystems will emerge in retail and institutional spaces. Their final shape is far from certain, but we suspect they could take something like the form presented in Exhibit 1.

[1] See Nicolaus Henke, Ari Libarikian, and Bill Wiseman, "Straight talk about big data," *McKinsey Quarterly*, October 2016; and "Bill Ford charts a course for the future," *McKinsey Quarterly*, October 2014, both available on McKinsey.com.

Exhibit 1

New ecosystems are likely to emerge in place of many traditional industries by 2025.

Ecosystem illustration, estimated total sales in 2025,[1] $ trillion



[1] Circle sizes show approximate revenue pool sizes. Additional ecosystems are expected to emerge in addition to the those depicted; not all industries or subcategories are shown.

Source: IHS World Industry Service; Panorama by McKinsey; McKinsey analysis

The actual shape and composition of these ecosystems will vary by country and region, both because of the effects of regulations and as a result of more subtle, cultural customs and tastes. We already see in China, for example, how a large base of young, tech-savvy consumers, a wide amalgam of low-efficiency traditional industries, and, not least, a powerful regulator have converged to give rise to leviathans such as Alibaba and Tencent—ideal for the Chinese market but not (at least, not yet) able to capture significant share in other geographies (see sidebar, "China by the numbers").

The value at stake is enormous. The World Bank projects the combined revenue of global businesses will be more than $190 trillion within a decade. If digital distribution (combining B2B and B2C commerce) represents about one-half of the nonproduction portion of the global economy by that time, the revenues that could, theoretically, be redistributed across traditional sectoral borders in 2025 would exceed $60 trillion—about 30 percent of world revenue pools that year. Under standard margin assumptions, this would translate to some $11 trillion in global profits, which, once we subtract

approximately $10 trillion for cost of equity, amounts to $1 trillion in total economic profit.[2]

SNAPSHOTS OF THE FUTURE

Again, it's uncertain how much of this value will be reapportioned between businesses and consumers, let alone among industries, sectors, and individual companies, or whether and to what extent governments will take steps to weigh in. To a significant degree, many of the steps that companies are taking and contemplating are defensive in nature—fending off newer entrants, by using data and customer relationships to shore up their core. As incumbents and digital natives alike seek to secure their positions while building new ones, ecosystems are sure to evolve in ways that surprise us. Here is a quick look at developments underway in three of them.

Consumer marketplaces

By now, purchasing and selling on sites such as Alibaba, Amazon, and eBay is almost instinctive; retail has already been changed forever. But we expect that the very concept of a clearly demarcated retail sector will be radically altered within a decade. Three critical, related factors are at work.

First, the frame of reference: what we think of now as one-off purchases will more properly be understood as part of a consumer's passage through time—the accumulation of purchases made from day to day, month to month, year to year, and ultimately the way those interact over a lifetime. Income and wealth certainly have predictive value for future purchases, but behavior matters even more. Choices to eat more healthily, for example, correlate with a likelihood for higher consumption of physical-fitness gear and services, and also with a more attractive profile for health and life insurers, which should result in more affordable coverage.

The second major factor, reinforcing the first, is the growing ability of data and analytics to transform disparate pieces of information about a consumer's immediate desires and behavior into insight about the consumer's broader needs. That requires a combination of capturing innumerable data points and turning them, within milliseconds, into predictive, actionable opportunities for both sellers and buyers. Advances in big data analytics, processing power, and AI are already making such connections possible.

[2] Our conclusions, which we arrived at by analyzing 2025 profit pools from a number of different perspectives, are based upon several base expectations about the coming integrated network economy, including average profit margin and return on equity (for each, we used the world's top 800 businesses today, excluding manufacturing initiatives), as well as the cost of equity (which we derived from more than 35,000 global companies based upon their costs of equity in January 2017).

CHINA BY THE NUMBERS

China has unique regulatory, demographic, and developmental features—particularly the simultaneity with which its economy has modernized and digitized—that are accelerating the blurring of sector borders. Still, the numbers speak for themselves and help suggest both the scale that digital ecosystems can quickly reach and the patterns likely to take hold elsewhere as ecosystem orchestrators in other countries stretch into roles approximating those played by Alibaba, Baidu, Ping An, and Tencent.

Alibaba

$120 billion
in assets under management by Yu'E Bao[1]

175 million
total Alipay transactions in one day[2]

44%
of global mobile-wallet spending, achieved by Alipay[3]

Baidu

346 million
online users

130 million
users of Ping An Good Doctor[4]

25 million
unique visitors daily to autohome.com.cn

Tencent

889 million
WeChat users[5]

70 minutes
spent every day by average WeChat user[6]

61%
of users open WeChat more than ten times every day[7]

46 billion
"red packets" sent via WeChat for the Lunar New Year[8]

[1] As of September 2016.
[2] As of August 2016.
[3] In 2016; see *Global Payments Report 2016*, Worldpay, November 8, 2016, worldpay.com.
[4] As of March 2017.
[5] As of Q4 2016.
[6] As of March 2016.
[7] As of June 2016.
[8] For Lunar New Year falling in 2017; see "WeChat users send 46 billion digital red packets over Lunar New Year—Xinhua," Reuters, February 6, 2017, reuters.com.

Large Chinese players have expanded their digital presence by 'land grabbing.'

[1] Formed by merger of Didi Dache (backed by Tencent) and Kuaidi Dache (backed by Alibaba) and acquisition of Uber (backed by Baidu).

This all generates a highly robust "network factor"—the third major force behind emerging consumer marketplaces. In a world of digital networks, consumer lenders, food and beverage providers, and telecom players will simultaneously coexist, actively partner, and aggressively move to capture share from one another. And while digitization may offer the sizzle, traditional industries still have their share of the steak. These businesses not only provide the core goods and services that end users demand, but often also have developed relationships with other businesses along the value chain and, most important, with the end users themselves. Succeeding in digital marketplaces will require these companies to stretch beyond their core capabilities, to be sure, but if they understand the essentials of what's happening and take the right steps to secure and expand their relationships, nondigital businesses can still hold high ground when the waves of change arrive.

B2B services

The administrative burdens of medium, small, and microsize companies are both cumbersome and costly. In addition to managing their own products and services, these businesses (like their larger peers) must navigate a slew of necessary functions including human resources, tax planning, legal services, accounting, finance, and insurance.

Today, each of these fields exists as an independent sector, but it's easy to imagine them converging within a decade on shared, cloud-based platforms that will serve as one-stop shops. With so many service providers available at the ease of a click, all with greater transparency on price, performance, and reputation, competition will ramp up and established players can anticipate more challengers from different directions. At the same time, it's likely that something approaching a genuine community will develop, with businesses being able to create partnerships and tap far more sophisticated services than they can at present—including cash-planning tools, instant credit lines, and tailored insurance.

Already, we can glimpse such innovations starting to flourish in a range of creative solutions. Idea Bank in Poland, for example, offers "idea hubs" and applications such as e-invoicing and online factoring. ING's commercial platform stretches beyond traditional banking services to include (among other things) a digital loyalty program and crowdfunding. And Lloyds Bank's Business Toolbox includes legal assistance, online backup, and email hosting. As other businesses join in, we expect the scope and utility of this space to grow dramatically.

Mobility

Finally, consider personal mobility, which encompasses vehicle purchase and maintenance management, ridesharing, carpooling, traffic management, vehicle connectivity, and much more. The individual pieces of the mobility puzzle are starting to become familiar, but it's their cumulative impact that truly shows the degree to which industry borders are blurring (Exhibit 2).

EMERGING PRIORITIES FOR THE BORDERLESS ECONOMY

These glimpses of the future are rooted in the here and now, and they are emblematic of shifts underway in most sectors of the economy—including, more likely than not, yours. We hope this article is a useful starting point for identifying potential industry shifts that could be coming your way. Recognition is the first step, and then you need a game plan for a world of sectors without borders. The following four priorities are critical:

- *Adopt an ecosystem mind-set.* The landscape described in this article differs significantly from the one that still dominates most companies' business planning and operating approaches. Job one for many companies is to broaden their view of competitors and opportunities so that it is truly multisectoral, defines the ecosystems and industries where change will be fastest, and identifies the critical new sources of value most meaningful for an expanding consumer base. In essence, you must refine your "self vision" by asking yourself, and your top team, questions such as: "What surprising, disruptive boundary shifts can we imagine—and try to get ahead of?" and "How can we turn our physical assets and long-established customer relationships into genuine consumer insights to secure what we have and stake out an advantage over our competitors—including the digital giants?" That shift will necessarily involve an important organizational component, and leaders should expect some measure of internal resistance, particularly when existing business goals, incentives, and performance-management principles do not accord with new strategic priorities. It will also, of course, require competitive targeting beyond the four walls of your company. But resist the impulse to just open up your acquisition checkbook. The combinations that make good sense will be part of a rational answer to perennial strategic questions about where and how your company needs to compete—playing out on an expanding field.

- *Follow the data.* In our borderless world, data are the coins of the realm. Competing effectively means both collecting large amounts of data, and developing capabilities for storing, processing, and translating the data

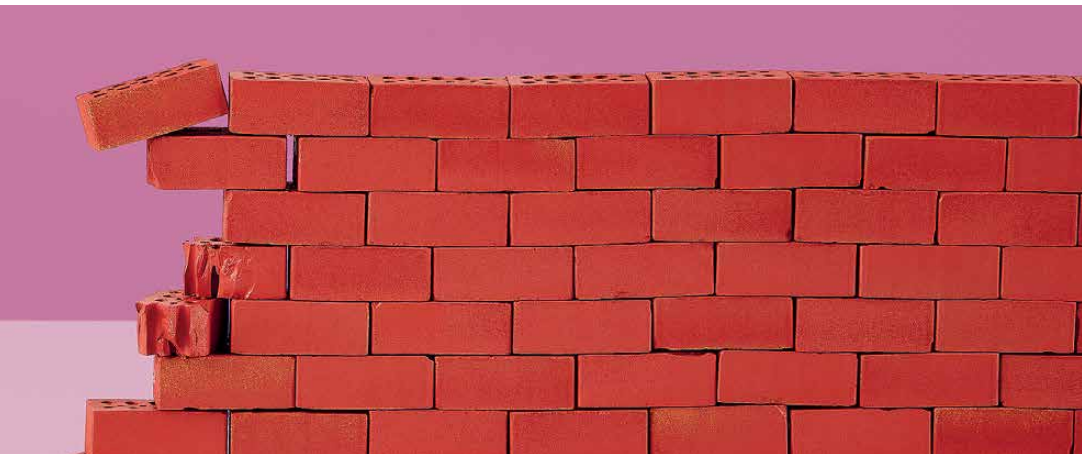
Exhibit 2

Different sectors come into play at every stage of the mobility ecosystem.

Source: Panorama by McKinsey

into actionable business insights. A critical goal for most companies is data diversity—achieved, in part, through partnerships—which will enable you to pursue ever-finer microsegmentation and create more value in more ecosystems. Information from telecommunications-services players, for example, can help banks to engage their customers and make a variety of commercial decisions more effectively. Deeper data insights are finally beginning to take ideas that had always seemed good but too often fell short of their potential to turn into winning models. Consider loyalty cards: by understanding customers better, card providers such as Nectar, the largest loyalty program in the United Kingdom, and Plenti, a rewards programs introduced by American Express, can connect hundreds of companies of all sizes and across multiple industries to provide significant savings for consumers and new growth opportunities for the businesses that serve them. Meanwhile, the cost of sharing data is falling as cloud-based data stores proliferate and AI makes it easier to link data sets to individual customers or segments. Better data can also support analytically driven scenario planning to inform how ecosystems will evolve, at which points along the value chain your data can create value, and whether or where you can identify potential "Holy Grail" data assets. What data points and sources are critical to your business? How many do you have? What can you do to acquire or gain access to the rest? You should be asking your organization questions like these regularly.

- *Build emotional ties to customers.* If blurring sector boundaries are turning data into currency, customer ownership is becoming the ultimate prize. Companies that lack strong customer connections run the risk of disintermediation and perhaps of becoming "white-label back offices" (or production centers), with limited headroom to create or retain economic surplus. Data (to customize offerings), content (to capture the attention of customers), and digital engagement models (to create seamless customer journeys that solve customer pain points) can all help you build emotional connections with customers and occupy attractive roles in critical ecosystems. You should continually be asking your organization, "What's our plan for using data, content, and digital-engagement tools to connect emotionally with customers?" and "What else can we provide, with simplicity and speed, to strengthen our consumer bond?" After all, Google's launch of initiatives such as Chrome and Gmail, and Alibaba's introduction of enterprises such as Alipay and the financial platform Yu'E Bao, weren't executed merely because they already had a huge customer base and wanted to capture new sources of revenue (although they did succeed in doing so). They took action to help ensure they would keep—and expand—that huge customer base.



- *Change your partnership paradigm.* Given the opportunities for specialization created by an ecosystem economy, companies need more and different kinds of partners. In at least a dozen markets worldwide—including Brazil, Turkey, and several countries in Asia, where in many respects data are currently less robust than they are in other regions—we're seeing a new wave of partnership energy aimed at making the whole greater than the sum of its parts. Regardless of your base geography, core industry, and state of data readiness, start by asking what white spaces you need to fill, what partners can best help with those gaps, and what "gives" and "gets" might be mutually beneficial. You'll also need to think about how to create an infrastructural and operational framework that invites a steady exchange with outside entities of data, ideas, and services to fuel innovation. Don't forget about the implications for your information architecture, including the application programming interfaces (APIs) that will enable critical external linkages, and don't neglect the possibility that you may need to enlist a more natural integrator from across your partnerships, which could include a company more appropriate for the role, such as a telco, or a third-party provider that can more effectively connect nondigital natives. And don't assume that if you were to acquire a potential partner, you'd necessarily be adding and sustaining their revenues on a dollar-for-dollar basis over the long term.

No one can precisely peg the future. But when we study the details already available to us and think more expansively about how fundamental human needs and powerful technologies are likely to converge going forward, it is difficult to conclude that tomorrow's industries and sector borders will look like today's. Massive, multi-industry ecosystems are on the rise, and enormous amounts of value will be on the move. Companies that have long operated with relative insularity in traditional industries may be most open to cross-boundary attack. Yet with the right strategy and approach, leaders can exploit new openings to go on offense, as well. Now is the time to take stock and to start shaping nascent opportunities.

Venkat Atluri is a senior partner in McKinsey's Chicago office, **Miklos Dietz** is a senior partner in the Vancouver office, and **Nicolaus Henke** is a senior partner in the London office.

The authors wish to thank Miklos Radnai, Global Head of McKinsey's Ecosystems Working Group, and McKinsey's Tamas Kabay, Somesh Khanna, and Istvan Rab for their contributions to this article.

Cracks in the ridesharing market—and how to fill them

For all of its remarkable growth, ridesharing is still far from ubiquitous. To boost miles traveled, the industry will need new solutions, including smarter design.

by Russell Hensley, Asutosh Padhi, and Jeff Salazar

Quick quiz: What percent of 2016 vehicle miles traveled (VMT) in the United States came from ridesharing? Given the hype, it would be reasonable if your estimate were higher than the right answer—1 percent. Currently, ridesharing does not apply in any significant way to the overwhelming majority of practical use cases. Car ownership is still more economical and convenient for most car owners and users, and for all of the buzz and excitement, when we count VMT in absolute terms, ridesharing's share is almost a rounding error.

That's not meant to belittle ridesharing's impressive growth to date. In December 2013, Lyft and Uber combined for approximately 30 million VMT per month in the United States. Three years later, the two had reached 500 million US VMT per month—a compound annual growth rate of more than 150 percent, which resulted in over $10 billion in revenues for 2016.

But ridesharing is approaching a fork in the road. While more and more of the customers who could easily be served by the industry *are* being served by the industry, the growth ceiling for this current ridesharing model—a model

that serves primarily adult, metropolitan-area riders traveling alone or in small groups—is relatively fixed. Add to that the heavy turnover in ridesharing drivers, which further strains leading players who often fall short of double-digit margins, and the challenges for significant advancement become even clearer.

What we're witnessing now, we believe, is merely "Ridesharing 1.0." Absent change, a near-term plateau is inevitable. The cracks in the growth model, however, need not turn into craters. Our research suggests that a number of advances, particularly smarter design, improved user experience, and the application of advanced analytics, can create more purpose-built solutions and more favorable economics. These changes (Ridesharing 2.0 and 3.0, if you will) would encourage a broader population to use ridesharing in a wider range of circumstances and help the industry attract and keep more drivers, which would improve the business' economics significantly. In this article, we'll explain—and show, in a range of forward-looking images that address primarily the design factor of the growth equation—how things could play out.

RIDESHARING: GROWTH AND CONSTRAINTS

While lower prices have contributed to the initial popularity of ridesharing, market share isn't simply being "stolen" from providers such as taxis or black-car companies; the market as a whole is expanding. In one large North American city, for example, a single rideshare company was able to grow monthly fare revenues by more than 12 percent from mid-2013 to mid-2016. And taxi services may be just the tip of the iceberg. Deeper forces that support ridesharing are at work, and they could run into economic limits.

Deeper forces

There is a massive shift underway in how people perceive automobile travel, and the transformation could affect not just ridesharing but the automotive industry, public transit, and even choices of how we work, shop, and socialize. The more consumers integrate ridesharing into their daily lives, the more evident the benefits become, including reduced stress, "found time" in being able to do other things while en route, and elimination of parking hassles. Conversely, however, the more consumers settle into ridesharing as just a niche application for a limited group of use cases, the more ridesharing is at risk for missing out on broader opportunities ahead. Which begs a deeper question: Why *do* people rideshare?

Our research reveals that 83 percent of US rideshare consumers report convenience, not price, to be the primary reason for choosing a provider such as Lyft or Uber over traditional taxi options. To paint a richer picture of

what matters to ride sharers, we tapped digital diaries of 115 rideshare users in order to capture over 500 "mobility moments" and conducted ride-alongs with 25 rideshare users in four cities across the United States. We found that ridesharing's appeal lies in large measure in the consumer's positive sense of experience. Half of surveyed passengers enjoy ride shares for social outings. More than half of riders reported that they love the conversations they have with drivers. And elderly users enjoyed a new sense of freedom, reporting that they have come to use ridesharing for doctor appointments, errands, and visits to friends without having to rely on family or caregivers for transportation.

Economic limits

Yet there is a reason ridesharing has so far penetrated only about one-third of passenger use cases by VMT: not all of those untapped categories present realistic opportunities at the moment. The rural market, for example, comprises 25 percent of underserved use cases, and customers far outside of cities are likely to remain beyond ridesharing's core for a while.

In fact, for the overwhelming majority of American drivers, using ridesharing for all of one's trips is more expensive than owning and driving one's own personal car. In the United States, the consumer break-even point is about 3,500 miles per year. Drive more—as some 90 to 95 percent of US car owners do—and buying one's own vehicle becomes the cheaper option. Of course, consumers who own a car can also benefit from ridesharing; many already do. But it remains to be seen how far ridesharing can go in making itself sufficiently attractive to capture additional use cases.

DESIGNING A RIDE FOR THE SHARERS

Our findings on the importance of experience to riders suggest that smarter, more user-friendly interior design that makes the ridesharing experience more attractive could be one powerful means of increasing rideshare penetration. The solutions relevant for solo trips and small groups of travelers (such as shoppers and families, which together comprise 18 percent of underserved US VMT) can be implemented almost immediately and address several of the most common instances in which people use an automobile. While these solutions would require more than a retrofit, the design changes can be adapted relatively easily to existing models of many OEMs and could reach the market very quickly. Transportation concepts for larger groups of passengers, particularly those who could use ridesharing for social events or traveling to and from work, are likely to require a slightly longer horizon for implementation. But the payoff will be substantial, affecting use categories

comprising about 20 percent of underserved US VMT. Here is how design improvements and features could improve ridesharing for four groups of riders: shoppers, families, commuters, and friends socializing.

Shoppers

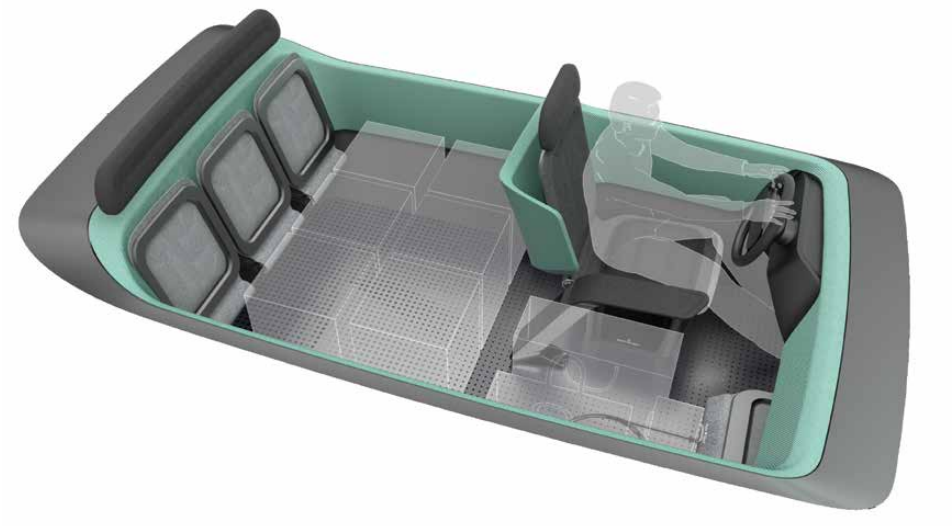
There's no elegant way to say it: shoppers carry a lot of stuff. About 75 percent of rideshare passengers already travel with some belongings, including purses and backpacks. Shoppers carry more. It's important, then, to maximize storage options and get the most out of a vehicle's interior space. Such changes would feature modular, foldable seats to accommodate multiple bags of various sizes, including drivers' packages for cases when people are using rideshare vehicles to order deliveries (Exhibit 1).

Families

We've also found that parents or childcare givers—among the most frequent shoppers, with children in tow—are apprehensive about using rideshare services with children for a number of reasons, including concerns about cleanliness, the fuss and disorder of getting younger kids onboard, and the dearth of well-fitting car seats. In our experience, once a couple decides to have children, their entire perspective about mobility transforms. So we don't expect ridesharing to capture all of the traveling-with-small-children segment overnight. But that doesn't mean there is no opportunity.

Exhibit 1

Design improvements help maximize space for shopping and deliveries.



A practical first step would be to build in integrated, adaptable infant car seats and more user-friendly child booster seats. The objective, after all, is to make ridesharing a more convenient and efficient way to travel with children and to start making such trips a more familiar part of family life (Exhibit 2).

Commuters

Our research indicates that a seating capacity of six to eight passengers is ideal for working commutes, which represent fully 13 percent of underserved US VMT. In its current form, a shared commute can feel uncomfortable for passengers, who often find themselves packed next to strangers in a single, standard automobile. But thoughtful design can bring dramatic change. We envisage adjustable swivel seats that would allow passengers to be social or private; ample workspace, with Wi-Fi and power outlets ideal for working; and sound isolation, independent lighting, and other environmental controls that can adapt to one's individual preference (Exhibit 3).

Big data analytics will also play a major role. Efficient and effective ride-sharing depends on the ability of an operating system to predict supply and meet demand, and calls for a mass of data for a city or part of a city to be collected, analyzed, and utilized. But by recognizing clustered commuting patterns across numerous cities, shared commutes can become much more convenient, allowing providers to pinpoint common origins and destinations in both residential and working areas. Additional data points, including proprietary information sourced from employers, employees, and

Exhibit 2

Ridesharing can adapt for multiple passengers, including small children.

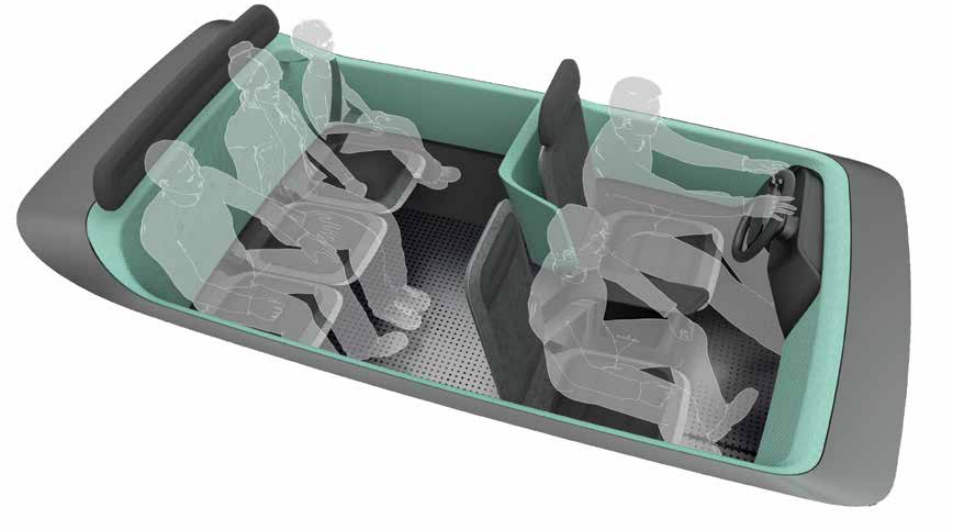


Exhibit 3

Smarter design adapts for private, social, or business needs.

automotive, GPS, and mapping companies, can be added to make the clustering even more precise. As McKinsey research has recently shown, large segments of consumers are very willing to provide individual riding information if they realize tangible benefits in return. That can add up to a virtuous cycle of sharper data, increased use, and higher demand. Applying those effects to commuter use cases, we estimate that a sophisticated group transit solution could reach over one-third of addressable rider populations in a number of cities, where the passenger journey can include short walks to and from optimally located ridesharing stations.

Friends socializing

A vehicle interior that can accommodate six to eight passengers also is well-suited to social-event travel, which occurs when groups of passengers, who often know one another, ride to sporting events, concerts, dinners, and other outings. So far, these potential customers have had difficulty finding a convenient travel option that is flexible in its pickups and routes, especially during off hours. Largely underserved by the ridesharing industry, this group represents a sizeable market—about 7 percent of US VMT—and can use the same six- to eight-passenger model that commuters do.

WHAT ABOUT THE DRIVERS?

At least before autonomous vehicles arrive (and about that, more later), it's hard to underestimate the importance of attracting and sustaining a ride-sharing company's pool of drivers. At present, rideshare drivers turn over almost completely about every two years. That strains margins for a host of reasons, including ramp-up time, driver quality, and customer loyalty. Simply put, it's vital to make a driver feel at ease on the road.

Here, too, smarter design can help. Inflexible interiors currently make it harder to toggle between use cases—for example, food delivery for one trip, driving a parent and child for the next. But the differences can be solved for, such as by having a front passenger seat that is easily removable or collapsible. Our research also shows that many drivers, especially female ones, are highly concerned with safety at night. That calls for a number of important design changes to increase visibility and security, including better sight lines between driver and passenger, cameras to cover the inside and outside of a vehicle, and integrated dash display to incorporate ride-share platforms, evaluate riders, present an easy-to-read GPS, and more, all in order to simplify information, reduce cognitive load, and make for a safer ridesharing experience (Exhibit 4).

All that presupposes, of course, that the cars in question have human drivers. The potential opportunities we've identified here exclude the quantum-leap improvements that are likely in store as vehicles become fully autonomous.

Exhibit 4

Ridesharing can become more convenient for drivers.

Shifting to self-driving cars provides a compelling incentive to fuel the ridesharing disruption. Despite the added vehicle content costs associated with autonomy, we estimate that the net cost-reduction potential for a single autonomous vehicle would be approximately $75,000 per year. If we assume vehicles last about four years (even while operating 24/7), that would translate to some $300,000 in savings over the lifetime of a vehicle. To the extent that those savings were passed on to consumers, the number of ridesharing use cases, including deliveries, shipping, and personal travel, could surge with the introduction of autonomous vehicles. Drivers would obviously lose out, though the second-order effects of this transition are difficult to predict since more than half of those who drive a ridesharing vehicle do so in order to up their pay from some other form of primary income. This transition is in any event a ways off—self-driving cars are unlikely to become pervasive in most cities for at least a decade.

In the meantime, the industry will need new solutions in order to boost VMT. After all, Ridesharing 1.0 can only go so far. Improving design, we're convinced, will be one key element. But a range of measures is necessary to make ridesharing more convenient, more practical, more attractive to a wider range of users, and more profitable—not only to fill in the cracks but to power the industry's trajectory to the next growth horizon and beyond. Q

Russell Hensley is a partner in McKinsey's Detroit office, **Asutosh Padhi** is a senior partner in the Chicago office, and **Jeff Salazar** is a partner in LUNAR, a McKinsey affiliate based in San Francisco.

The authors wish to thank Troy Baltic and David McGaw for their contributions to this article.

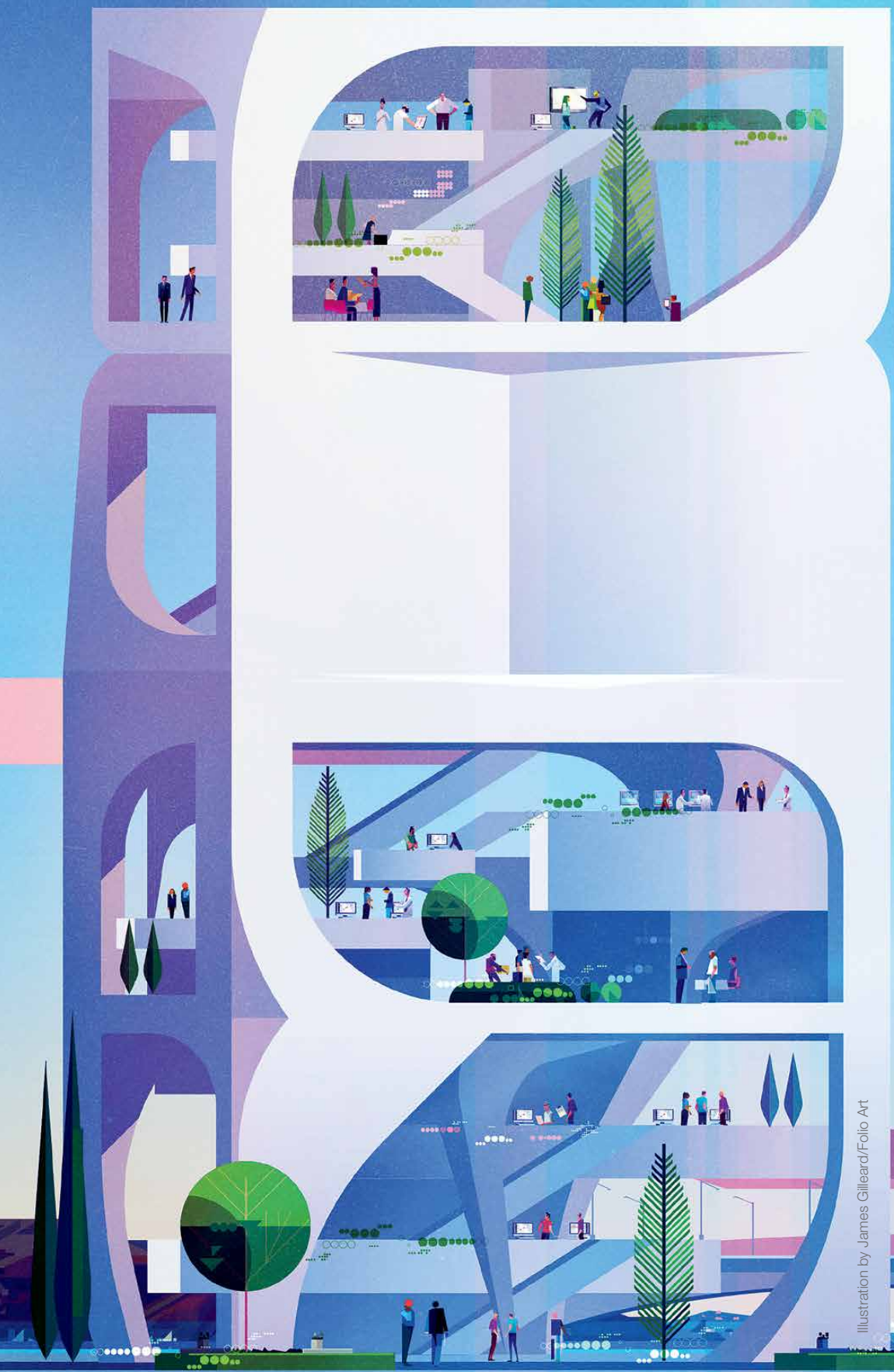


Illustration by James Gilleard/Folio Art

Culture for a digital age

Risk aversion, weak customer focus, and siloed mind-sets have long bedeviled organizations. In a digital world, solving these cultural problems is no longer optional.

by Julie Goran, Laura LaBerge, and Ramesh Srinivasan

Shortcomings in organizational culture are one of the main barriers to company success in the digital age. That is a central finding from McKinsey's recent survey of global executives (Exhibit 1), which highlighted three digital-culture deficiencies: functional and departmental silos, a fear of taking risks, and difficulty forming and acting on a single view of the customer.

Each obstacle is a long-standing difficulty that has become more costly in the digital age. When risk aversion holds sway, underinvestment in strategic opportunities and sluggish responses to quick-changing customer needs and market dynamics can be the result.[1] When a unified understanding of customers is lacking, companies struggle to mobilize employees around integrated touchpoints, journeys, and consistent experiences, while often failing to discern where to best place their bets as digital broadens customer choice and the actions companies can take in response. And when silos characterize the organization, responses to rapidly evolving customer needs are often too narrow, with key signals missed or acted upon too slowly, simply because they were seen by the wrong part of the company.

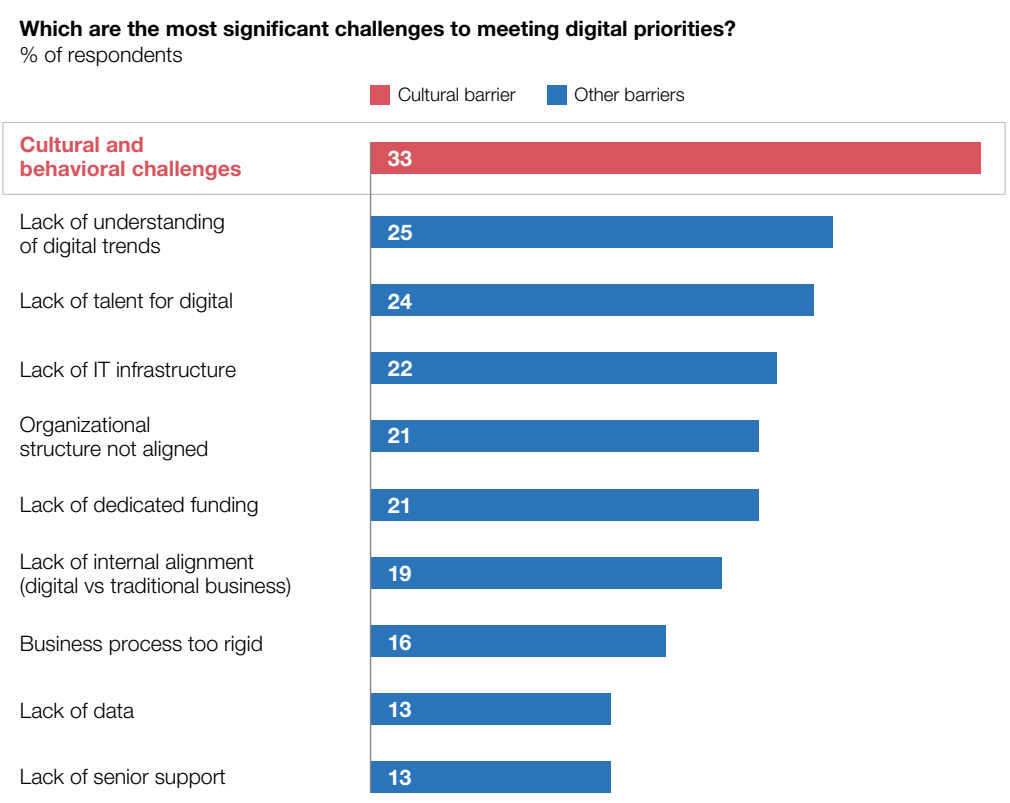
Can fixes to culture be made directly? Or does cultural change emerge as a matter of course as executives work to update strategy or improve processes?[2]

[1] See Tim Koller, Dan Lovallo, and Zane Williams, "Overcoming a bias against risk," August 2012, McKinsey.com.

[2] Jay W. Lorsch and Emily McTague argue for culture emerging indirectly in "Culture is not the culprit," *Harvard Business Review*, April 2016, Volume 94, Number 4, pp. 96–105, hbr.org.

Exhibit 1

Culture is the most significant self-reported barrier to digital effectiveness.



Source: 2016 Digital McKinsey survey of 2,135 respondents

In our experience, executives who wait for organizational cultures to change organically will move too slowly as digital penetration grows, blurs the boundaries between sectors (see "Competing in a world of sectors without borders," on page 32), and boosts competitive intensity. Our research, which shows that cultural obstacles correlate clearly with negative economic performance (Exhibit 2), supports this view. So do the experiences of leading players such as BBVA, GE, and Nordstrom, which have shown what it looks like when companies support their digital strategies and investments with deliberate efforts to make their cultures more responsive to customers, more willing to take risks, and better connected across functions.

Executives must be proactive in shaping and measuring culture, approaching it with the same rigor and discipline with which they tackle operational transformations. This includes changing structural and tactical elements in an organization that run counter to the culture change they are trying to achieve. The critical cultural intervention points identified by respondents

to our 2016 digital survey—risk aversion, customer focus, and silos—are a valuable road map for leaders seeking to persevere in reshaping their organization's culture. The remainder of this article discusses each of these challenges in turn, spelling out a focused set of reinforcing practices to jumpstart change.

CALCULATED RISKS

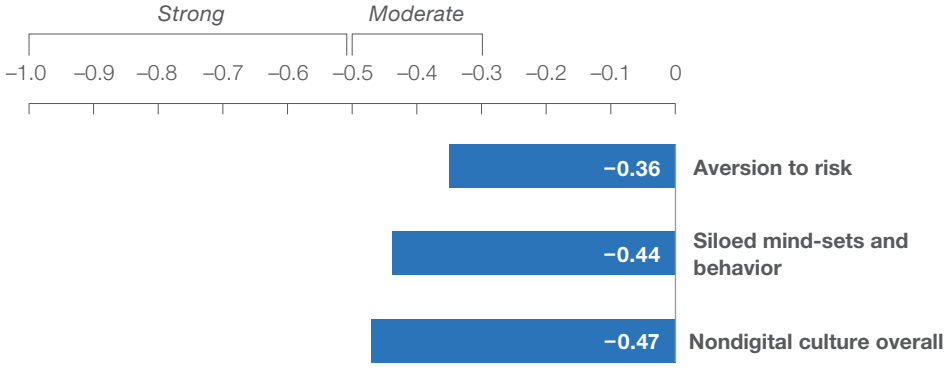
Too often, management writers talk about risk in broad-brush terms, suggesting that if executives simply encourage experimentation and don't punish failure, everything will take care of itself. But risk and failure profoundly challenge us as human beings. As Ed Catmull of Pixar said in a 2016 *McKinsey Quarterly* interview, "One of the things about failure is that it's asymmetrical with respect to time. When you look back and see failure, you say, 'It made me what I am!' But looking forward, you think, 'I don't know what is going to happen and I don't want to fail.' The difficulty is that when you're running an experiment, it's forward looking. We have to try extra hard to make it safe to fail."[3]

The balancing act Catmull described applies to companies, perhaps even more than to individuals. Capital markets have typically been averse to investments that are hard to understand, that underperform, or that take a long time to reach fruition. And the digital era has complicated matters: On the

[3] See "Staying one step ahead at Pixar: An interview with Ed Catmull," *McKinsey Quarterly*, March 2016, McKinsey.com.

Exhibit 2

Cultural obstacles correlate clearly with negative economic performance.



Source: 2016 Digital McKinsey survey of 2,135 respondents

one hand, willingness to experiment, adapt, and to invest in new, potentially risky areas has become critically important. On the other, taking risks has become more frightening because transparency is greater, competitive advantage is less durable, and the cost of failure is high, given the prevalence of winner-takes-all dynamics.[4]

Leaders hoping to strike the right balance have two critical priorities that are mutually reinforcing at a time when fast-follower strategies have become less safe. One is to embed a mind-set of risk taking and innovation through all ranks of the enterprise. The second is for executives themselves to act boldly once they have decided on a specific digital play—which may well require changing mind-sets about risk, and inspiring key executives and boards to think more like venture capitalists.

An appetite for risk

Building a culture where people feel comfortable trying things that might fail starts with senior leaders' attitudes and role modeling. They must break the status quo of hierarchical decision making, overcome a focus on optimizing rather than innovating, and celebrate learning from failure. It helps considerably when executives make it clear through actions that they trust the front lines to make meaningful decisions. ING and several other companies have tackled this imperative head-on, providing agile coaches to help management learn how to get out of the way after setting overall direction for objectives, budgets, and timing.[5]

However, delegating authority only works if the employees have the skills, mind-sets, and information access to make good on it. Outside hires from start-ups or established digital natives can help inject disruptive thinking that is a source of innovative energy and empowerment. Starbucks, for example, has launched a digital-ventures team, hiring vice presidents from Google, Microsoft, and Razorfish to help drive outside thinking.

Also empowering for frontline workers (and risk dampening for organizations) is information itself. For example, equipping call-center employees with real-time analysis on account profiles, or data on usage and profitability, helps them take small-scale risks as they modify offers and adjust targeting in real time. In the retail and hospitality industries, companies are giving frontline employees both the information (such as segment and purchase

[4] See Jacques Bughin, Laura LaBerge, and Anette Mellbye, "The case for digital reinvention," *McKinsey Quarterly*, February 2017, McKinsey.com.

[5] See "ING's agile transformation," *McKinsey Quarterly*, January 2017, McKinsey.com.

history) and the decision authority they need to resolve customer issues on the spot, without having to escalate to management. Such information helps connect the front line to the company's strategic vision, which provides a compass for decision making on things such as what sort of discount or incentive to offer in resolving a conflict or what "next product to buy" to tee up. Benefits include improvements in the customer experiences (due to faster resolution) and greater consistency across the business in spotting and resolving problems. This lowers cost at the same time it improves customer satisfaction. In addition, frontline risk taking enables more rapid innovation by speeding up iterations and decision making to support nimbler, test-and-learn approaches. These same dynamics prevail in manufacturing, with new algorithms enabling predictive maintenance that no longer requires sign-off from higher-level managers.

Regardless of industry, the critical question for executives concerned with their organization's risk appetite is whether they are trusting their employees, at all levels, to make big enough bets without subjecting them to red tape. Many CFOs have decided to shift all but the largest investment decisions into the business units to speed up the process. The CFO at one global 500 consumer-goods company now signs off only on expenditures above $250,000. Until recently, any spend decision over $1,000 required the CFO's approval.

Making bold bets

At the same time they are letting go of some decisions, senior leaders also are responsible for driving bold, decisive actions that enable the business to pivot rapidly, sometimes at very large scale. Such moves require risk taking, including aggressive goal setting and nimble resource reallocation.

A culture of digital aspirations. Goals should reflect the pace of disruption in a company's industry. The *New York Times* set the aspiration to double its digital revenues within five years, enabled in part by the launch of T Brand Studio as a new business model. In the face of Amazon, Nordstrom committed more than $1.4 billion in technology capital investments to enable rich cross-channel experiences. The Irish bank AIB decided customers should be able to open an account in under ten minutes (90 percent faster than the norm prevailing at the time). AIB invested to achieve this goal and saw a 25 percent lift in accounts opened, along with a 20 percent drop in costs. In many industries facing digital disruption, this is the pace and scale at which executives need to be willing to play.

Embracing resource reallocation. Nimble resource reallocation is typically needed to back up such goals. In many incumbents, though, M&A and capital-expenditure decisions are too slow, with too many roadblocks in the way. They need to be retooled to take on more of a venture-capitalist approach to rapid sizing, testing, investing, and disinvesting. The top teams at a large global financial-services player and an IT-services company have been reevaluating all of their businesses with a five- to ten-year time horizon, determining which ones they will need to exit, where they need to invest, and where they can stay the course. Such moves tax the risk capacity of executives; but when the moves are made, they also shake things up and move the needle on a company's risk culture.

The financial markets are double-edged swords when it comes to bold moves. While they remain preoccupied with short-term earnings, they are also cognizant of cautionary tales such as Blockbuster's 2010 bankruptcy, just three years after the launch of Netflix's streaming-video business. Companies like GE have nonetheless plunged ahead with long-term, digitally oriented strategies. In aggressively shedding some of its traditional business units, investing significantly to build out its Predix platform, and launching GE Digital, its first new business unit in 75 years, with more than $1 billion invested in 2016, GE's top team has embraced disciplined risk taking while building for the future.

CUSTOMERS, CUSTOMERS, CUSTOMERS

Although companies have long declared their intention to get close to their customers, the digital age is forcing them to actually do it, as well as providing them with better means to do so. Accustomed to best-in-class user experiences both on- and off-line with companies such as Amazon and Apple, customers increasingly expect companies to respond swiftly to inquiries, to customize products and services seamlessly, and to provide easy access to the information customers need, when they need it.

A customer-centric organizational culture, in other words, is more than merely a good thing—it's becoming a matter of survival. The good news is that getting closer to your customers can help reduce the risk of experimentation (as customers help cocreate products through open innovation) and support fast-paced change. Rather than having to guess what's working in a given product or service before launching it—and then waiting to see if your guess is right after the launch takes place—companies can now make adjustments nearly real-time by developing product and service features with direct input from end users. This is already taking place in products

from Legos to aircraft engines. The process not only helps derisk product development, it tightens the relationship between companies and their customers, often providing valuable proprietary data and insights about how customers think about and use the products or services being created.

Data and tools

Underlying the new customer-centricity are diverse tools and data. Connecting the right data to the right decisions can help build a common understanding of customer needs into an organizational culture, fostering a virtuous cycle that reinforces customer-centricity. Amazon's ability to use customers' previous purchases to offer them additional items in which they might be interested is a significant element in its success. The virtuous circle they've created includes customer reviews (to reassure and reinforce other shoppers), along with the algorithms that share "what customers who looked at this item also bought." Of course, Amazon has also invested heavily in automated warehouses and a sophisticated distribution model. But even those were tied to the customer desire to receive merchandise faster.

A unifying force

At its best, customer-centricity extends far beyond marketing and product design to become a unifying cultural element that drives all core decisions across all areas of the business. That includes operations, where in many organizations it's often the furthest from view, and strategy, which must be regularly refreshed if it is to serve as a reliable guide in today's rapidly changing environment. Customer-centric cultures anticipate emerging patterns in the behavior of customers and tailor relevant interactions with them by dynamically integrating structured data, such as demographics and purchase history, with unstructured data, such as social media and voice analytics.

Connecting the right data to the right decisions can help build a common understanding of customer needs into an organizational culture, fostering a virtuous cycle that reinforces customer-centricity.

The insurance company Progressive illustrates the unifying role played by strong customer focus. Progressive's ability to persuade customers to install the company's Snapshot device to monitor driving behavior is revolutionizing the insurance space, and not just as a marketing tool. Snapshot helps attract the good drivers who are the most profitable customers, since those individuals are the ones most likely to be attracted by the offer of better discounts based on driving behavior. It also gives the company's underwriters actual data in place of models and guesswork. This new technology is one that Progressive can monetize into a business unit to serve other insurers as well.

BUSTING SILOS

Some observers might consider organizational silos—so named for parallel parts of the org chart that don't intersect—a structural issue rather than a cultural one. But silos are more than just lines and boxes. The narrow, parochial mentality of workers who hesitate to share information or collaborate across functions and departments can be corrosive to organizational culture.

Silos are a perennial problem that have become more costly because, in the words of Cognizant CEO Francisco D'Souza, "the interdisciplinary requirement of digital continues to grow. The possibilities created by combining data science, design, and human science underscore the importance both of working cross-functionally and of driving customer-centricity into the everyday operations of the business. Many organizations have yet to unlock that potential."[6] The executives we surveyed appeared to agree, ranking siloed thinking and behavior number one among obstacles to a healthy digital culture.

How can you tell if your own organization is too siloed? Discussions with CEOs who have led old-line companies through successful digital transformations indicate two primary symptoms: inadequate information, and insufficient accountability or coordination on enterprise-wide initiatives.

Getting informed

Digital information breakdowns echo the familiar story of the blind men and the elephant. When employees lack insight into the broader context in which a business competes, they are less likely to recognize the threat of disruption or digital opportunity when they see it and to know when the rest of the organization should be alerted. They can only interpret what they encounter through the lens of their own narrow area of endeavor.

[6] Francisco D'Souza in discussion with the authors, July 2016.

The corollary to this is that every part of the organization reaches different conclusions about their digital priorities, based on incomplete or simply different information. This contributes to breaks in strategic and operating consistency that consumers are fast to spot. There isn't the luxury of time in today's digital world for each division to discover the same insight; a digital attacker or more agile incumbent is likely to swoop in before the siloed organization even knows it should be mounting a response. So the first imperative for companies looking to break out of a siloed mentality is to inspire within employees a common sense of the overall direction and purpose of the company. Data and thoughtful management rotation often play a role.

Data-driven transparency. Data can help solve the blind-men-and-the-elephant problem. A social-services company, for instance, created a customer-engagement group to better understand how customers interact with the company's products and brands across silos—and where customers were running into difficulty. Among other things, this required close examination of how the company collected, analyzed, and distributed data across silos. The team discovered, for example, that some customers were cancelling their memberships because of the deluge of marketing outreaches they were receiving from the company. To address this, the team combined customer databases and propensity models across silos to create visibility and centralized access rights with regard to who could reach out to members and when. Among other achievements, this team:

- created segment-specific trainings that offered an integrated view of each segment's suite of needs and offerings that would meet them
- drew on information from different parts of the organization to give a more developed picture on engagement, retention, and the total number of touches associated with various segments and customers
- showed the net effect of the entire organization's activities through the customer's eyes
- embedded this information into key processes to ensure information was accessible in a cross-disciplinary way—breaking siloed viewpoints and narrow understandings of the overall business model

Management rotation. Another way to achieve better alignment on the company's direction is to rotate executives between siloed functions and business units. At the luxury retailer Nordstrom, for example, two key executives exchanged roles in 2014: Erik Nordstrom, formerly president of the company's brick-and-mortar stores, became president of Nordstrom Direct, the company's online store, while Jamie Nordstrom, formerly president of Nordstrom Direct, became president of the brick-and-mortar stores. This type of rotation can be done at different levels in an organization and helps create a more consistent understanding between different business units regarding the company's aspirations and capabilities, as well as helping create informal networks as employees build relationships in different departments.

Instilling accountability

The second distinctive symptom of a siloed culture is the tendency for employees to believe a given problem or issue is someone else's responsibility, not their own. Companies can counter this by institutionalizing mechanisms to help support cross-functional collaboration through flexibly deployed teams. That was the case at ING, which, because it identifies more as a technology company than a financial-services company, has turned to tech firms for inspiration, not banks. Spotify, in particular, has provided a much-talked-about model of multidisciplinary teams, or squads, made up of a mix of employees from diverse functions, including marketers, engineers, product developers, and commercial specialists. All are united by a shared view of the customer and a common definition of success. These squads roll up into bigger groups called tribes, which focus on end-to-end business outcomes, forcing a broader picture on all team members. The team members are also held mutually accountable for the outcome, eliminating the "not my job" mind-set that so many other organizations find themselves trapped in. While this model works best in IT functions, it is slowly making its way into other areas of the business. Key elements of the model (such as end-to-end outcome ownership) are also being mapped into more traditional teams to try to bring at least pieces of this mind-set into more traditional companies.

Start by finding mechanisms, whether digital, structural, or process, that help build a shared understanding of business priorities and why they matter. Change happens fast and from unpredictable places, and the more context you give your employees, the better they will be able to make the right decisions

when it does. To achieve this, organizations must remove the barriers that keep people from collaborating, and build new mechanisms for cutting through (or eliminating altogether) the red tape and bureaucracy that many incumbents have built up over time.

Cultural changes within corporate institutions will always be slower and more complex than the technological changes that necessitate them. That makes it even more critical for executives to take a proactive stance on culture. Leaders won't achieve the speed and agility they need unless they build organizational cultures that perform well across functions and business units, embrace risk, and focus obsessively on customers. Q

Julie Goran is a partner in McKinsey's New York office, where **Ramesh Srinivasan** is a senior partner; **Laura LaBerge** is a senior practice manager of Digital McKinsey and is based in the Stamford office.

The authors wish to thank Jacques Bughin, Prashant Gandhi, and Tiffany Vogel for their contributions to this article.

Illustrations by Eva Vázquez

Untangling your organization's decision making

Any organization can improve the speed and quality of its decisions by paying more attention to what it's deciding.

by Aaron De Smet, Gerald Lackey, and Leigh M. Weiss

It's the best and worst of times for decision makers. Swelling stockpiles of data, advanced analytics, and intelligent algorithms are providing organizations with powerful new inputs and methods for making all manner of decisions. Corporate leaders also are much more aware today than they were 20 years ago of the cognitive biases—anchoring, loss aversion, confirmation bias, and many more—that undermine decision making without our knowing it. Some have already created formal processes—checklists, devil's advocates, competing analytic teams, and the like—to shake up the debate and create healthier decision-making dynamics.

Now for the bad news. In many large global companies, growing organizational complexity, anchored in strong product, functional, and regional axes, has clouded accountabilities. That means leaders are less able to delegate decisions cleanly, and the number of decision makers has risen. The reduced cost of communications brought on by the digital age has compounded matters by bringing more people into the flow via email, Slack, and internal knowledge-sharing platforms, without clarifying decision-making authority. The result is too many meetings and email threads with too little high-quality dialogue as

executives ricochet between boredom and disengagement (because they've seen too many versions of the same presentation), paralysis (because they're awash in too much data from all corners of the company), and anxiety (because the stakes are high in an age of rapid disruption). All this is a recipe for poor decisions: 72 percent of senior-executive respondents to a McKinsey survey said they thought bad strategic decisions either were about as frequent as good ones or were the prevailing norm in their organization.

The ultimate solution for many organizations looking to untangle their decision making is to become flatter and more agile, with decision authority and accountability going hand in hand. High-flying technology companies such as Google and Spotify are frequently the poster children for this approach, but it has also been adapted by more traditional ones such as ING (for more, see our recent *McKinsey Quarterly* interview "ING's agile transformation," on McKinsey.com). As we've described elsewhere,[1] agile organization models get decision making into the right hands, are faster in reacting to (or anticipating) shifts in the business environment, and often become magnets for top talent, who prefer working at companies with fewer layers of management and greater empowerment.

As we've worked with organizations seeking to become more agile, we've found that it's possible to accelerate the improvement of decision making through the simple steps of categorizing the type of decision that's being made and tailoring your approach accordingly. In our work, we've observed four types of decisions (Exhibit 1):

- Big-bet decisions. These infrequent and high-risk decisions have the potential to shape the future of the company.

- Cross-cutting decisions. In these frequent and high-risk decisions, a series of small, interconnected decisions are made by different groups as part of a collaborative, end-to-end decision process.

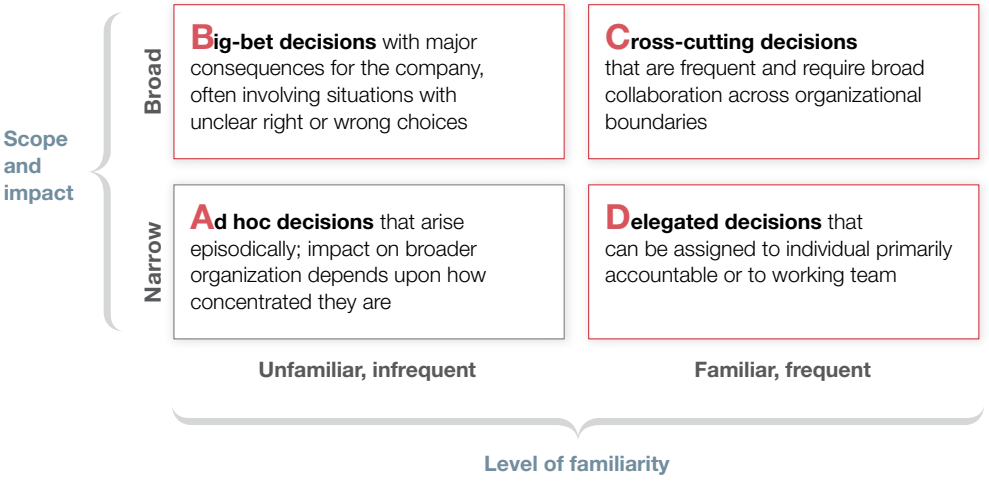
- Delegated decisions. These frequent and low-risk decisions are effectively handled by an individual or working team, with limited input from others.

- Ad hoc decisions. The organization's infrequent, low-stakes decisions are deliberately ignored in this article, in order to sharpen our focus on the other three areas, where organizational ambiguity is most likely to undermine decision-making effectiveness.

[1] See Wouter Aghina, Aaron De Smet, and Kirsten Weerda, "Agility: It rhymes with stability," *McKinsey Quarterly*, December 2015, McKinsey.com.

Exhibit 1

The ABCDs of categorizing decisions.



These decision categories often get overlooked, in our experience, because organizational complexity, murky accountabilities, and information overload have conspired to create messy decision-making processes in many companies. In this article, we'll describe how to vary your decision-making methods according to the circumstances. We'll also offer some tools that individuals can use to pinpoint problems in the moment and to take corrective action that should improve both the decision in question and, over time, the organization's decision-making norms.

Before we begin, we should emphasize that even though the examples we describe focus on enterprise-level decisions, the application of this framework will depend on the reader's perspective and location in the organization. For example, what might be a delegated decision for the enterprise as a whole could be a big-bet decision for an individual business unit. Regardless, any fundamental change in decision-making culture needs to involve the senior leaders in the organization or business unit. The top team will decide what decisions are big bets, where to appoint process leaders for cross-cutting decisions, and to whom to delegate. Senior executives also serve the critical functions of role-modeling a culture of collaboration and of making sure junior leaders take ownership of the delegated decisions.

BIG BETS

Bet-the-company decisions—from major acquisitions to game-changing capital investments—are inherently the most risky. Efforts to mitigate the

impact of cognitive biases on decision making have, rightly, often focused on big bets. And that's not the only special attention big bets need. In our experience, steps such as these are invaluable for big bets:

- Appoint an executive sponsor. Each initiative should have a sponsor, who will work with a project lead to frame the important decisions for senior leaders to weigh in on—starting with a clear, one-sentence problem statement.

- Break things down, and connect them up. Large, complex decisions often have multiple parts; you should explicitly break them down into bite-size chunks, with decision meetings at each stage. Big bets also frequently have interdependencies with other decisions. To avoid unintended consequences, step back to connect the dots.

- Deploy a standard decision-making approach. The most important way to get big-bet decisions right is to have the right kind of interaction and discussion, including quality debate, competing scenarios, and devil's advocates. Critical requirements are to create a clear agenda that focuses on debating the solution (instead of endlessly elaborating the problem), to require robust prework, and to assemble the right people, with diverse perspectives.

- Move faster without losing commitment. Fast-but-good decision making also requires bringing the available facts to the table and committing to the outcome of the decision. Executives have to get comfortable living with imperfect data and being clear about what "good enough" looks like. Then, once a decision is made, they have to be willing to commit to it and take a gamble, even if they were opposed during the debate. Make sure, at the conclusion of every meeting, that it is clear who will communicate the decision and who owns the actions to begin carrying it out.

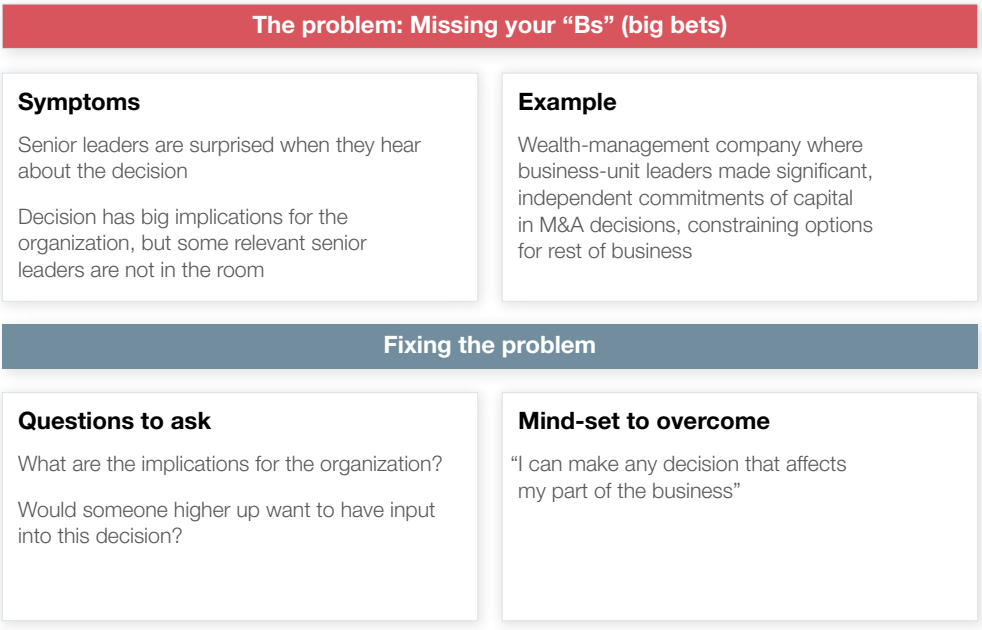
An example of a company that does much of this really well is a semiconductor company that believes so much in the importance of getting big bets right that it built a whole management system around decision making. The company never has more than one person accountable for decisions, and it has a standard set of facts that need to be brought into any meeting where a decision is to be made (such as a problem statement, recommendation, net present value, risks, and alternatives). If this information isn't provided, then a discussion is not even entertained. The CEO leads by example, and to date, the company has a very good track record of investment performance and industry-changing moves.

It's also important to develop tracking and feedback mechanisms to judge the success of decisions and, as needed, to course correct for both the decision and the decision-making process. One technique a regional energy provider uses is to create a one-page self-evaluation tool that allows each member of the team to assess how effectively decisions are being made and how well the team is adhering to its norms. Members of key decision-making bodies complete such evaluations at regular intervals (after every fifth or tenth meeting). Decision makers also agree, before leaving a meeting where a decision has been made, how they will track project success, and they set a follow-up date to review progress against expectations.

Big-bet decisions often are easy to recognize, but not always (Exhibit 2). Sometimes a series of decisions that might appear small in isolation represent a big bet when taken as a whole. A global technology company we know missed several opportunities that it could have seized through big-bet investments, because it was making technology-development decisions independently across each of its product lines, which reduced its ability to recognize far-reaching shifts in the industry. The solution can be as simple as a mechanism for periodically categorizing important decisions that are being made across the organization, looking for patterns, and then deciding whether it's worthwhile to convene a big-bet-style process with executive

Exhibit 2

A belated heads-up means you are not recognizing big bets.



sponsorship. None of this is possible, though, if companies aren't in the habit of isolating major bets and paying them special attention.

CROSS-CUTTING DECISIONS

Far more frequent than big-bet decisions are cross-cutting ones—think pricing, sales, and operations planning processes or new-product launches—that demand input from a wide range of constituents. Collaborative efforts such as these are not actually single-point decisions, but instead comprise a series of decisions made over time by different groups as part of an end-to-end process. The challenge is not the decisions themselves but rather the choreography needed to bring multiple parties together to provide the right input, at the right time, without breeding bureaucracy that slows down the process and can diminish the decision quality. This is why the common advice to focus on "who has the decision" (or, "the D") isn't the right starting point; you should worry more about where the key points of collaboration and coordination are.

It's easy to err by having too little or too much choreography. For an example of the former, consider the global pension fund that found itself in a major cash crunch because of uncoordinated decision making and limited transparency across its various business units. A perfect storm erupted when different business units' decisions simultaneously increased the demand for cash while reducing its supply. In contrast, a specialty-chemicals company experienced the pain of excess choreography when it opened membership on each of its six governance committees to all senior leaders without clarifying the actual decision makers. All participants felt they had a right (and the need) to express an opinion on everything, even where they had little knowledge or expertise. The purpose of the meetings morphed into information sharing and unstructured debate, which stymied productive action (Exhibit 3).

Whichever end of the spectrum a company is on with cross-cutting decisions, the solution is likely to be similar: defining roles and decision rights along each step of the process. That's what the specialty-chemicals company did. Similarly, the pension fund identified its CFO as the key decision maker in a host of cash-focused decisions, and then it mapped out the decision rights and steps in each of the contributing processes. For most companies seeking enhanced coordination, priorities include:

- Map out the decision-making process, and then pressure-test it. Identify decisions that involve a cross-cutting group of leaders, and work with the stakeholders of each to agree on what the main steps in the process entail. Lay out a simple, plain-English playbook for the process to define

Exhibit 3

Too many cooks get involved in the absence of processes for cross-cutting decisions.

The problem: Treating a "C" (cross-cutting decision) as a "B" (big bet)

Symptoms

Decisions have major implications for parts of business whose stakeholders aren't involved, resulting in poor decisions

Important decisions get slowed down by largely unnecessary committee meetings and approvals

Example

Specialty-chemicals company where every R&D stage-gate decision went to executive team for review, though the team lacked the expertise to make a reasoned call

Fixing the problem

Questions to ask

Are we making this same type of decision on a regular basis?

Do we have the relevant stakeholders with expertise to inform the decision involved?

Mind-set to overcome

"This is an important decision that can't be made without senior-most approval, even though we make these decisions regularly"

the calendar, cadence, handoffs, and decisions. Too often, companies find themselves building complex process diagrams that are rarely read or used beyond the team that created them. Keep it simple.

- Run water through the pipes. Then work through a set of real-life scenarios to pressure-test the system in collaboration with the people who will be running the process. We call this process "running water through the pipes," because the first several times you do it, you will find where the "leaks" are. Then you can improve the process, train people to work within (and, when necessary, around) it, and confront, when the stakes are relatively low, leadership tensions or stresses in organizational dynamics.

- Establish governance and decision-making bodies. Limit the number of decision-making bodies, and clarify for each its mandate, standing membership, roles (decision makers or critical "informers"), decision-making protocols, key points of collaboration, and standing agenda. Emphasize to the members that committees are not meetings but decision-making bodies, and they can make decisions outside of their standard meeting times. Encourage them to be flexible about when and where they make decisions, and to focus always on accelerating action.

- Create shared objectives, metrics, and collaboration targets. These will help the persons involved feel responsible not just for their individual contributions in the process, but also for the process's overall effectiveness. Team members should be encouraged to regularly seek improvements in the underlying process that is giving rise to their decisions.

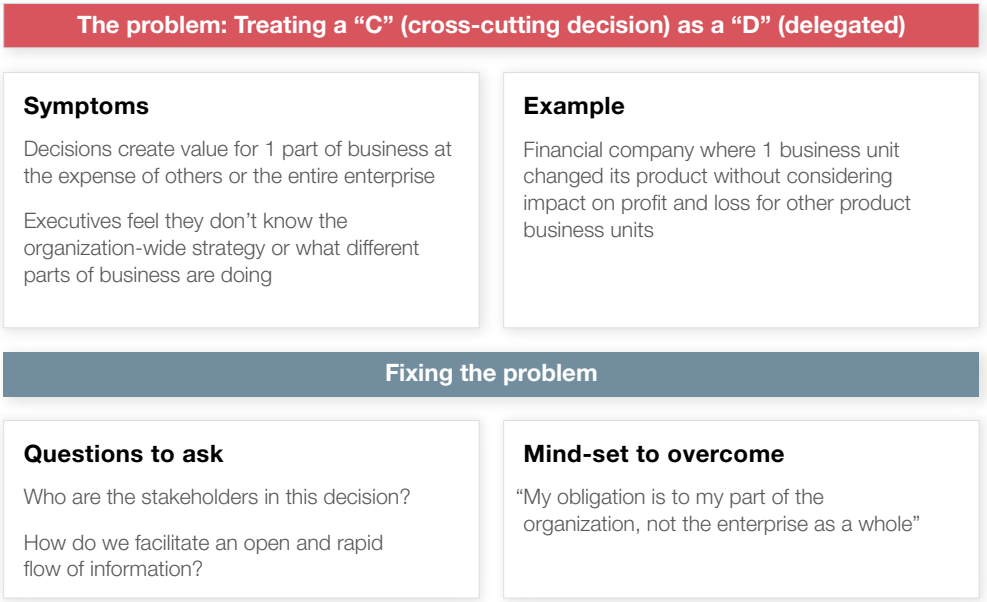
Getting effective at cross-cutting decision making can be a great way to tackle other organizational problems, such as siloed working (Exhibit 4). Take, for example, a global finance company with a matrix of operations across markets and regions that struggled with cross-business-unit decision making. Product launches often cannibalized the products of other market groups. When the revenue shifts associated with one such decision caught the attention of senior management, company leaders formalized a new council for senior executives to come together and make several types of cross-cutting decisions, which yielded significant benefits.

DELEGATED DECISIONS

Delegated decisions are far narrower in scope than big-bet decisions or cross-cutting ones. They are frequent and relatively routine elements of day-to-day

Exhibit 4

When you are locked in silos, you are unlikely to collaborate effectively on cross-cutting decisions.



management, typically in areas such as hiring, marketing, and purchasing. The value at stake for delegated decisions is in the multiplier effect they can have because of the frequency of their occurrence across the organization. Placing the responsibility for these decisions in the hands of those closest to the work typically delivers faster, better, and more efficiently executed decisions, while also enhancing engagement and accountability at all levels of the organization.

In today's world, there is the added complexity that many decisions (or parts of them) can be "delegated" to smart algorithms enabled by artificial intelligence. Identifying the parts of your decisions that can be entrusted to intelligent machines will speed up decisions and create greater consistency and transparency, but it requires setting clear thresholds for when those systems should escalate to a person, as well as being clear with people about how to leverage the tools effectively.

It's essential to establish clarity around roles and responsibilities in order to craft a smooth-running system of delegated decision making (Exhibit 5). A renewable-energy company we know took this task seriously when

Exhibit 5

Drawn-out and complicated processes often mean more delegating is needed.

The problem: Treating a "D" (delegated decision) as a "C" (cross-cutting)

Symptoms	Example
Decisions that should be quick seem to take forever and involve more alignment than needed Decisions become unnecessarily complex because of efforts to incorporate all stakeholder input	Energy company where changes to HR or finance policies were governed by executive committee instead of delegated to head of HR or CFO

Fixing the problem

Questions to ask	Mind-set to overcome
Is there a single role that could make this decision (eg, it's part of the job description)? Who needs to provide input but has no "vote"?	"Delegating is risky; we don't just let people collect input from others and then decide whatever they want"

undergoing a major reorganization that streamlined its senior management and drove decisions further down in the organization. The company developed a 30-minute "role card" conversation for each manager to have with his or her direct reports. As part of this conversation, managers explicitly laid out the decision rights and accountability metrics for each direct report. This approach allowed the company's leaders to decentralize their decision making while also ensuring that accountability and transparency were in place. Such role clarity enables easier navigation, speeds up decision making, and makes it more customer focused. Companies may find it useful to take some of the following steps to reorganize decision-making power and establish transparency in their organization:

- Delegate more decisions. To start delegating decisions today, make a list of the top 20 regularly occurring decisions. Take the first decision and ask three questions: (1) Is this a reversible decision? (2) Does one of my direct reports have the capability to make this decision? (3) Can I hold that person accountable for making the decision? If the answer to these questions is yes, then delegate the decision. Continue down your list of decisions until you are only making decisions for which there is one shot to get it right and you alone possess the capabilities or accountability. The role-modeling of senior leaders is invaluable, but they may be reluctant. Reassure them (and yourself) by creating transparency through good performance dashboards, scorecards, and key performance indicators (KPIs), and by linking metrics back to individual performance reviews.

- Avoid overlap of decision rights. Doubling up decision responsibility across management levels or dimensions of the reporting matrix only leads to confusion and stalemates. Employees perform better when they have explicit authority and receive the necessary training to tackle problems on their own. Although it may feel awkward, leaders should be explicit with their teams about when decisions are being fully delegated and when the leaders want input but need to maintain final decision rights.

- Establish a clear escalation path. Set thresholds for decisions that require approval (for example, spending above a certain amount), and lay out a specific protocol for the rare occasion when a decision must be kicked up the ladder. This helps mitigate risk and keeps things moving briskly.

- Don't let people abdicate. One of the key challenges in delegating decisions is actually getting people to take ownership of the decisions. People will often succumb to escalating decisions to avoid personal risk; leaders

need to play a strong role in encouraging personal ownership, even (and especially) when a bad call is made.

This last point deserves elaboration: although greater efficiency comes with delegated decision making, companies can never completely eliminate mistakes, and it's inevitable that a decision here or there will end badly. What executives must avoid in this situation is succumbing to the temptation to yank back control (Exhibit 6). One CEO at a Fortune 100 company learned this lesson the hard way. For many years, her company had worked under a decentralized decision-making framework where business-unit leaders could sign off on many large and small deals, including M&A. Financial underperformance and the looming risk of going out of business during a severe market downturn led the CEO to pull back control and centralize virtually all decision making. The result was better cost control at the expense of swift decision making. After several big M&A deals came and went because the organization was too slow to act, the CEO decided she had to decentralize decisions again. This time, she reinforced the decentralized system with greater leadership accountability and transparency.

Instead of pulling back decision power after a slipup, hold people accountable for the decision, and coach them to avoid repeating the misstep. Similarly,

Exhibit 6

Top-heavy processes often mean more delegating is needed.

The problem: Treating a "D" (delegated decision) as a "B" (big bet)

Symptoms

Senior executives (want to) control decisions that should rightfully be made lower in the organization

Escalation of decisions to top of organization is common

Example

High-tech company that required CEO to sign off on all new hires at any level of the organization

Fixing the problem

Questions to ask

What is the lowest level of accountability at which this decision could be made?

What skills and capabilities are needed to make this decision?

Mind-sets to overcome

"I need to be involved in all decisions" (senior executive)

"I can't make a decision on my own, because that's not how we do things here"

in all but the rarest of cases, leaders should resist weighing in on a decision kicked up to them during a logjam. From the start, senior leaders should collectively agree on escalation protocols and stick with them to create consistency throughout the organization. This means, when necessary, that leaders must vigilantly reinforce the structure by sending decisions back with clear guidance on where the leader expects the decision to be made and by whom. If signs of congestion or dysfunction appear, leaders should reexamine the decision-making structure to make sure alignment, processes, and accountability are optimally arranged.

None of this is rocket science. Indeed, the first decision-making step Peter Drucker advanced in "The effective decision," a 1967 *Harvard Business Review* article, was "classifying the problem." Yet we're struck, again and again, by how few large organizations have simple systems in place to make sure decisions are categorized so that they can be made by the right people in the right way at the right time. Interestingly, Drucker's classification system focused on how generic or exceptional the problem was, as opposed to questions about the decision's magnitude, potential for delegation, or cross-cutting nature. That's not because Drucker was blind to these issues; in other writing, he strongly advocated decentralizing and delegating decision making to the degree possible. We'd argue, though, that today's organizational complexity and rapid-fire digital communications have created considerably more ambiguity about decision-making authority than was prevalent 50 years ago. Organizations haven't kept up. That's why the path to better decision making need not be long and complicated. It's simply a matter of untangling the crossed web of accountability, one decision at a time. Q

Aaron De Smet is a senior partner in McKinsey's Houston office, **Gerald Lackey** is an expert in the Washington, DC, office, and **Leigh Weiss** is a senior expert in the Boston office.

High-performing teams: A timeless leadership topic

CEOs and senior executives can employ proven techniques to create top-team performance.

by Scott Keller and Mary Meaney

The value of a high-performing team has long been recognized. It's why savvy investors in start-ups often value the quality of the team and the interaction of the founding members more than the idea itself. It's why 90 percent of investors think the quality of the management team is the single most important nonfinancial factor when evaluating an IPO. And it's why there is a 1.9 times increased likelihood of having above-median financial performance when the top team is working together toward a common vision.[1] "No matter how brilliant your mind or strategy, if you're playing a solo game, you'll always lose out to a team," is the way Reid Hoffman, LinkedIn cofounder, sums it up. Basketball legend Michael Jordan slam dunks the same point: "Talent wins games, but teamwork and intelligence win championships."

The topic's importance is not about to diminish as digital technology reshapes the notion of the workplace and how work gets done. On the contrary, the leadership role becomes increasingly demanding as more work is conducted remotely, traditional company boundaries become more porous, freelancers more commonplace, and partnerships more necessary. And while technology will solve a number of the resulting operational issues, technological capabilities soon become commoditized.

[1] Scott Keller and Mary Meaney, *Leading Organization: Ten Timeless Truths*, New York, NY: Bloomsbury, 2017.

Building a team remains as tough as ever. Energetic, ambitious, and capable people are always a plus, but they often represent different functions, products, lines of business, or geographies and can vie for influence, resources, and promotion. Not surprisingly then, top-team performance is a timeless business preoccupation. (See sidebar "Cutting through the clutter of management advice," which lists top-team performance as one of the top ten business topics of the past 40 years, as discussed in our book, *Leading Organizations: Ten Timeless Truths*.)

Amid the myriad sources of advice on how to build a top team, here are some ideas around team composition and team dynamics that, in our experience, have long proved their worth.

TEAM COMPOSITION

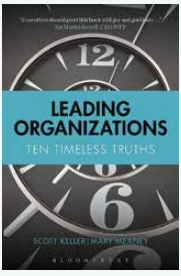
Team composition is the starting point. The team needs to be kept small—but not too small—and it's important that the structure of the organization doesn't dictate the team's membership. A small top team—fewer than six, say—is likely to result in poorer decisions because of a lack of diversity, and slower decision making because of a lack of bandwidth. A small team also hampers succession planning, as there are fewer people to choose from and arguably more internal competition. Research also suggests that the team's effectiveness starts to diminish if there are more than ten people on it. Subteams start to form, encouraging divisive behavior. Although a congenial, "here for the team" face is presented in team meetings, outside of them there will likely be much maneuvering. Bigger teams also undermine ownership of group decisions, as there isn't time for everyone to be heard.

Beyond team size, CEOs should consider what complementary skills and attitudes each team member brings to the table. Do they recognize the improvement opportunities? Do they feel accountable for the entire company's success, not just their own business area? Do they have the energy to persevere if the going gets tough? Are they good role models? When CEOs ask these questions, they often realize how they've allowed themselves to be held hostage by individual stars who aren't team players, how they've become overly inclusive to avoid conflict, or how they've been saddled with team members who once were good enough but now don't make the grade. Slighting some senior executives who aren't selected may be unavoidable if the goal is better, faster decisions, executed with commitment.

Of course, large organizations often can't limit the top team to just ten or fewer members. There is too much complexity to manage and too much work to be done. The CEO of a global insurance company found himself with

CUTTING THROUGH THE CLUTTER OF MANAGEMENT ADVICE

Every year, more than 10,000 business books are published, and that's before you add in hundreds of thousands of articles, blogs, and video lectures. The demand for good advice is clear, but how can senior executives identify what really matters in this mountain of guidance? Our book, *Leading Organizations: Ten Timeless Truths*, seeks to answer this question by addressing a set of timeless corporate leadership topics—those with which every leader has grappled in the past and will do so in the future. One of the lenses we used to determine this was to look at all the articles published in the *Harvard Business Review* between 1976 and 2016 on different aspects of organizational leadership, and how the amount of coverage of each varied. Top teams was number eight on a list dominated by talent, decision making and design, and culture and change—topics that reflect our own experience of what leaders struggle with, judging by McKinsey's client-engagement records dating back some 70 years.



Top teams rank high among the organizational-leadership topics covered most consistently by the *Harvard Business Review* from 1976 to 2016.

The "timeless" top ten

1 **Decision making**	8 **High-performing leadership teams**	15 Managing uncertainty
2 **Attracting and retaining talent**	9 **Overhead costs**	16 Leading oneself
3 **Managing performance**	10 **Transformational change**	17 Globalization
4 **Transitions**	11 Influences	18 Knowledge management
5 **Reorganizing**	12 Gender	19 Project management
6 **Developing employee skills**	13 Diversity	20 Leading others
7 **Culture**	14 Joint ventures	

Source: Scott Keller and Mary Meaney, *Leading Organizations: Ten Timeless Truths*, New York, NY: Bloomsbury, 2017

18 direct reports spread around the globe who, on their videoconference meetings, could rarely discuss any single subject for more than 30 minutes because of the size of the agenda. He therefore formed three top teams, one that focused on strategy and the long-term health of the company, another that handled shorter-term performance and operational issues, and a third that tended to a number of governance, policy, and people-related issues. Some executives, including the CEO, sat on each. Others were only on one. And some team members chosen weren't even direct reports but from the next level of management down, as the CEO recognized the importance of having the right expertise in the room, introducing new people with new ideas, and coaching the next generation of leaders.

TEAM DYNAMICS

It's one thing to get the right team composition. But only when people start working together does the character of the team itself begin to be revealed, shaped by team dynamics that enable it to achieve either great things or, more commonly, mediocrity.

Consider the 1992 roster of the US men's Olympic basketball team, which had some of the greatest players in the history of the sport, among them Charles Barkley, Larry Bird, Patrick Ewing, Magic Johnson, Michael Jordan, Karl Malone, and Scottie Pippen. Merely bringing together these players didn't guarantee success. During their first month of practice, indeed, the "Dream Team" lost to a group of college players by eight points in a scrimmage. "We didn't know how to play with each other," Scottie Pippen said after the defeat. They adjusted, and the rest is history. The team not only won the 1992 Olympic gold but also dominated the competition, scoring over 100 points in every game.

What is it that makes the difference between a team of all stars and an all-star team? Over the past decade, we've asked more than 5,000 executives to think about their "peak experience" as a team member and to write down the word or words that describe that environment. The results are remarkably consistent and reveal three key dimensions of great teamwork. The first is alignment on direction, where there is a shared belief about what the company is striving toward and the role of the team in getting there. The second is high-quality interaction, characterized by trust, open communication, and a willingness to embrace conflict. The third is a strong sense of renewal, meaning an environment in which team members are energized because they feel they can take risks, innovate, learn from outside ideas, and achieve something that matters—often against the odds.

So the next question is, how can you re-create these same conditions in every top team?

Getting started

The starting point is to gauge where the team stands on these three dimensions, typically through a combination of surveys and interviews with the team, those who report to it, and other relevant stakeholders. Such objectivity is critical because team members often fail to recognize the role they themselves might be playing in a dysfunctional team.

While some teams have more work to do than others, most will benefit from a program that purposefully mixes offsite workshops with on-the-job practice. Offsite workshops typically take place over two or more days. They build the team first by doing real work together and making important business decisions, then taking the time to reflect on team dynamics.

The choice of which problems to tackle is important. One of the most common complaints voiced by members of low-performing teams is that too much time is spent in meetings. In our experience, however, the real issue is not the time but the content of meetings. Top-team meetings should address only those topics that need the team's collective, cross-boundary expertise, such as corporate strategy, enterprise-resource allocation, or how to capture synergies across business units. They need to steer clear of anything that can be handled by individual businesses or functions, not only to use the top team's time well but to foster a sense of purpose too.

The reflective sessions concentrate not on the business problem per se, but on how the team worked together to address it. For example, did team members feel aligned on what they were trying to achieve? Did they feel excited about the conclusions reached? If not, why? Did they feel as if they brought out the best in one another? Trust deepens regardless of the answers. It is the openness that matters. Team members often become aware of the unintended consequences of their behavior. And appreciation builds of each team member's value to the team, and of how diversity of opinion need not end in conflict. Rather, it can lead to better decisions.

Many teams benefit from having an impartial observer in their initial sessions to help identify and improve team dynamics. An observer can, for example, point out when discussion in the working session strays into low-value territory. We've seen top teams spend more time deciding what should be served for breakfast at an upcoming conference than the real substance of the agenda (see sidebar "The 'bike-shed effect,' a common pitfall for team effectiveness"). One CEO, speaking for five times longer than other team members, was shocked to be told he was blocking discussion. And one team of nine that professed to being aligned with the company's top 3 priorities listed no fewer than 15 between them when challenged to write them down.

THE 'BIKE-SHED EFFECT,' A COMMON PITFALL FOR TEAM EFFECTIVENESS

The tendency of teams to give a disproportionate amount of attention to trivial issues and details was made famous by C. Northcote Parkinson in his 1958 book, *Parkinson's Law: Or The Pursuit of Progress*. As the story goes, a finance committee has three investment decisions to make. First, it discusses a £10 million investment in a nuclear-power plant. The investment is approved in two-and-a-half minutes. Second, it has to decide what color to paint a bike shed—total cost about £350. A 45-minute discussion cracks the problem. Third, the committee addresses the need for a new staff coffee machine, which will cost about £21. After an hour's discussion, it decides to postpone the decision. Parkinson called this phenomenon the law of triviality (also known as the bike-shed effect). Everyone is happy to proffer an opinion on something as simple as a bike shed. But when it comes to making a complex decision such as whether or not to invest in a nuclear reactor, the average person is out of his or her depth, has little to contribute, and will presume the experts know what they are doing.

Back in the office

Periodic offsite sessions will not permanently reset a team's dynamics. Rather, they help build the mind-sets and habits that team members need to first observe then to regulate their behavior when back in the office. Committing to a handful of practices can help. For example, one Latin American mining company we know agreed to the following:

- A "yellow card," which everyone carried and which could be produced to safely call out one another on unproductive behavior and provide constructive feedback, for example, if someone was putting the needs of his or her business unit over those of the company, or if dialogue was being shut down. Some team members feared the system would become annoying, but soon recognized its power to check unhelpful behavior.

- An electronic polling system during discussions to gauge the pulse of the room efficiently (or, as one team member put it, "to let us all speak at once"), and to avoid group thinking. It also proved useful in halting overly detailed conversations and refocusing the group on the decision at hand.

- A rule that no more than three PowerPoint slides could be shared in the room so as to maximize discussion time. (Brief pre-reads were permitted.)

After a few months of consciously practicing the new behavior in the workplace, a team typically reconvenes offsite to hold another round of work and

reflection sessions. The format and content will differ depending on progress made. For example, one North American industrial company that felt it was lacking a sense of renewal convened its second offsite in Silicon Valley, where the team immersed itself in learning about innovation from start-ups and other cutting-edge companies. How frequently these offsites are needed will differ from team to team. But over time, the new behavior will take root, and team members will become aware of team dynamics in their everyday work and address them as required.

In our experience, those who make a concerted effort to build a high-performing team can do so well within a year, even when starting from a low base. The initial assessment of team dynamics at an Australian bank revealed that team members had resorted to avoiding one another as much as possible to avoid confrontation, though unsurprisingly the consequences of the unspoken friction were highly visible. Other employees perceived team members as insecure, sometimes even encouraging a view that their division was under siege. Nine months later, team dynamics were unrecognizable. "We've come light years in a matter of months. I can't imaging going back to the way things were," was the CEO's verdict. The biggest difference? "We now speak with one voice."

Hard as you might try at the outset to compose the best team with the right mix of skills and attitudes, creating an environment in which the team can excel will likely mean changes in composition as the dynamics of the team develop. CEOs and other senior executives may find that some of those they felt were sure bets at the beginning are those who have to go. Other less certain candidates might blossom during the journey.

There is no avoiding the time and energy required to build a high-performing team. Yet our research suggests that executives are five times more productive when working in one than they are in an average one. CEOs and other senior executives should feel reassured, therefore, that the investment will be worth the effort. The business case for building a dream team is strong, and the techniques for building one proven. Q

Scott Keller is a senior partner in McKinsey's Southern California office, and **Mary Meaney** is a senior partner in the Paris office.

A CEO action plan for workplace automation

Senior executives need to understand the tactical as well as strategic opportunities, redesign their organizations, and commit to helping shape the debate about the future of work.

by Michael Chui, Katy George, and Mehdi Miremadi

We are on the cusp of a new age of automation. Robots have long been familiar on the factory floor, and software routinely outperforms humans when used by delivery companies to optimize routes or by banks to process transactions. But rapid strides being made in artificial intelligence (AI) and robotics mean machines are now encroaching on activities previously assumed to require human judgment and experience.

For instance, researchers at Oxford University, collaborating with Google's DeepMind division, created a deep-learning system that can read lips more accurately than human lip readers—by training it, using BBC closed-captioned news video. Similarly, robot "skin" is able to "feel" textures and find objects by touch, and robots are becoming more adept at physical tasks (such as tying a shoelace) that require fine motor skills. There are still limitations. Machines lack common sense, can't always pick up on social and emotional cues, and still struggle to understand and generate natural language. Yet the pace of

technological progress, propelled by massive increases in computing power and cloud storage, suggests the next frontier will soon be crossed.

Senior executives have two critical priorities in this world. First is to gain an appreciation for what automation can do in the workplace. While cost reduction, mainly through the elimination of labor, attracts most of the headlines and generates considerable angst, our research shows that automation can deliver significant value that is unassociated with labor substitution.[1] In this article, we describe a wide range of business opportunities that automation is creating: for example, helping companies get closer to customers, improve their industrial operations, optimize knowledge work, better understand Mother Nature, and increase the scale and speed of discovery in areas such as R&D.

As leaders consider this wide range of possibilities, they have a second priority, which is to develop an action plan. That plan should include a view of both tactical and strategic opportunities for their companies, a blueprint for building an organization in which people work much more closely with machines, and a commitment to helping shape the important, ongoing debate about automation and the future of work.

WHAT AUTOMATION CAN DO

To gauge the business-performance benefits that automation could deliver beyond labor-cost savings, we asked experts to consider how it could transform working practices in a range of settings—a hospital emergency department, aircraft maintenance, an oil and gas operation, a grocery store, and a mortgage brokerage. The results, though hypothetical, are striking. Measured as a percentage of operating costs, the changes deliver benefits ranging from 15 percent in a hospital emergency department, to 25 percent for aircraft maintenance, and over 90 percent for mortgage origination.

While labor substitution accounts for some of this value, additional performance benefits are considerable in all cases, and sometimes greater than the value of labor-cost reductions. In oil and gas operations, for example, performance gains in the form of higher throughput, higher productivity, and higher safety—all unrelated to labor substitution—account for fully 85 percent of

[1] For more information, see "Harnessing automation for a future that works," McKinsey Global Institute, January 2017, on McKinsey.com.

the potential value unlocked by automation. And that's just one example. Automation is enabling companies to make the following far-reaching set of moves:

- Get closer to customers. Affectiva, a Boston-based company, uses advanced facial analysis to monitor emotional responses to advertisements and other digital-media content, via a webcam. Citibank works with Persado, a start-up that uses AI to suggest the best language for triggering a response from email campaigns. The results are a purported 70 percent increase in open rates and a 114 percent increase in click-through rates. And Kraft used an AI-enabled big data platform to reinvent its Philadelphia Cream Cheese brand by better understanding the preferences of different consumer segments.

- Improve industrial operations. GE uses machine-learning predictive-maintenance tools to halve the cost of operations and maintenance in certain mining activities and so extend the life of its existing capital. Rio Tinto has deployed automated haul trucks and drilling machines at its mines in Pilbara, Australia, where it says it has seen a 10 to 20 percent increase in utilization in addition to lower energy consumption and better employee safety.

- Optimize knowledge work. It's becoming more common for a software robot to receive a user ID, just like a person, and then to perform rules-based tasks such as accessing email, performing calculations, creating documents and reports, and checking files. Besides scalability and higher throughput and accuracy, the results include built-in documentation of transactions for audit, compliance, and root-cause analyses. Meanwhile, numerous financial institutions and other companies deploy robotic process automation to collect and process data.[2]

- Harness the power of nature. Land O'Lakes' WinField United compiles data on US crops to help farmers make key decisions throughout the year, including which seeds to purchase, soil and nutrient requirements, and yield potential. Meanwhile, the Coca-Cola Company's Black Book model uses algorithms to predict weather patterns and expected crop yields to inform procurement plans for their Simply Orange juice brand, so that no matter what the quality and quantity of the crops, they can be blended to replicate the desired taste. The model also enables the company to overhaul its plans within minutes if weather conditions threaten to damage crops.

[2] See Federico Berruti, Graeme Nixon, Giambattista Taglioni, and Rob Whiteman, "Intelligent process automation: The engine at the core of the next-generation operating model," March 2017, McKinsey.com.

- Increase scale and speed. The potential for AI-enabled automation to create scale, boost throughput, and eliminate errors creates a range of opportunities for discovery in R&D. For example, GlaxoSmithKline's machine-learning-enabled model-selection process helps the company analyze many times more models in a matter of weeks as it could in several months using traditional processes. In the automotive industry, Nissan has cut in half the time it takes to move from final product design to production, thanks to digital and automation. And BMW has reduced machine down-time significantly in some of its plants through AI-enabled condition-based maintenance, effectively generating fresh economies of scale with minimal investment.

AN AUTOMATION AGENDA FOR THE CEO

This dizzying array of possibilities makes it critical for today's CEO to develop an automation action plan. A good one will include the three following components.

A tactical and strategic view of the opportunities

As leaders seek to plan and prioritize what they might achieve with automation, they must grapple with two imperatives. First is to examine their current business systems to identify which components will benefit not just from labor savings but from improvements in speed, quality, flexibility, and service. Developing a comprehensive heat map that examines each activity in every business line to identify where automation potential is high is a helpful first step. Activities involving data collection or processing, as well as physical activities in predictable environments, are likely to be the first automation candidates.

However, extracting value from automation often entails redesigning entire processes, not just automating individual components of the process.[3] Take mortgage origination. We estimate automation could cut the current process time in the United States from an average 37 days to less than 1, which not only cuts costs but eliminates errors, reduces defaults, raises customer satisfaction, and lowers drop-out rates. But accomplishing this would mean a transformation of the approval process. As machines take over a great majority of the routine work, mortgage advisers would devote more of their time to client support and handling exceptions. Risk underwriters too would only handle exception cases and focus instead on improving the overall risk framework, controls, and models, while data scientists would work on improving risk models.

[3] See Alex Edlich and Vik Sohoni, "Burned by the bots: Why robotic automation is stumbling," May 2017, McKinsey.com.

The second imperative is for leaders to look beyond their current business processes and start imagining how automation will enable them, and others, to make bolder moves. The question to ask: How could a disruptive competitor or a player along the value chain use automation to upend your business model? In sectors as varied as transportation, hospitality, and retail, data assets and analytics capabilities have helped companies circumvent traditional barriers to entry (such as physical capital investments) and erect new ones (digital platforms with powerful network effects), rapidly building scale in the process.[4] Add automation to the mix and the opportunity—or threat—becomes greater still. Uber, for example, which expanded rapidly without owning a car fleet, uses automation to boost the power of human management, with just one manger coordinating 1,000 drivers compared with a typical limousine company that has about one manager for every 20 to 30 drivers. And Google's DeepMind is blurring traditional sector boundaries. Having analyzed energy usage in Google's data centers and cut consumption by 40 percent, DeepMind went on to enter discussions with a grid operator in the United Kingdom to help them balance electricity supply and demand. No wonder that the titan who takes on your company in the future may come out of left field (see "Competing in a world of sectors without borders," on page 32).

A plan for integrating automation into the workplace

Almost every occupation has partial automation potential, though few can as yet be entirely automated.[5] Take the job of a salesperson in a clothing store. Machines can manage store inventory well by detecting patterns in sales. But no robot can listen to a customer's story about a looming, stressful family event, recommend an outfit for it, and give the customer an empathetic thumbs up after he or she emerges from the dressing room.

Future automation advances will depend upon more than technical progress. The cost of development and deployment relative to the benefits, regulation, and social acceptance are just some of the factors that will dictate the pace of change. Our research suggests it may take more than three decades for just half of all work activities (not entire jobs) to be automated. The takeaway is that the workplace norm for years to come will be people working alongside machines, with profound implications for the way the workforce is structured and organized.

[4] For more information, see "The age of analytics: Competing in a data-driven world," McKinsey Global Institute, December 2016, on McKinsey.com.

[5] See Michael Chui, James Manyika, and Mehdi Miremadi, "Where machines could replace humans—and where they can't (yet)," *McKinsey Quarterly*, July 2016, McKinsey.com.

Companies will of course have to recruit automation-savvy talent, from experts in sensory or pattern-recognition technologies or natural language processing, to data scientists able to interpret and integrate massive amounts of information, to roboticists who can build, train, and repair intelligent machines. Simultaneously, however, many workers will need retraining to acquire new skills, focusing on those activities that machines have yet to master, and learning to work more closely with machines. Until recently, powerful manufacturing robots that can lift or weld have been kept well away from humans, often in cages, because of the risk of accidents. But today's robots can work intelligently and safely alongside humans. At BMW, for example, people continue to play a critical role in car-door assembly, but robots assist in close proximity with the fitting of door seals, which require precision, force, and constant contact pressure.

Frequent redeployment, with people shifting to new roles and tasks, will also be a feature of the workplace as automation gathers pace and processes are transformed. Companies will require a strategy—and considerable management talent—to navigate this transition to the new age of automation.

A commitment to participating in a broader dialog on the future of work

The benefits of automation enjoyed by individual firms will feed into the global economy. We estimate automation could raise productivity growth by between 0.8 and 1.4 percent annually, giving a welcome boost to economic growth at a time when demographic trends threaten to dampen it. There are broader societal benefits too, as automation can help tackle some of our most pressing challenges such as climate change and disease. Researchers at McMaster University and Vanderbilt University, for example, have used computers to exceed the human standard in predicting the most effective treatment for major depressive disorders and eventual outcomes of breast-cancer patients.

Yet for all the positive effects, many questions about the impact of automation on society remain unanswered, particularly regarding employment and incomes. In the past, technological progress has not resulted in long-term mass unemployment, because it also has created additional, and new, types of work. Between 1900 and 1970, the percentage of people employed in agriculture in the United States dropped from around 40 percent to less than 2 percent, but labor was redeployed into other sectors, including manufacturing. During this time, incomes for most of the population increased along with productivity. More recently, one-third of new jobs

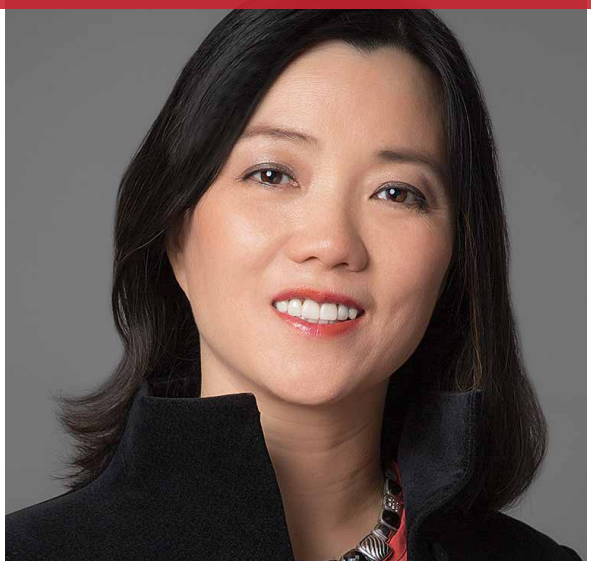
created in the United States in the past 25 years were types that did not previously exist, or barely existed.

We cannot know for sure whether these historical precedents will be repeated. But we do know that business leaders will be at the forefront of what is afoot as they move to embrace automation. They will be drafting the blueprints of the automated workplace, the first to understand which new skill sets will be needed, which old workplace orthodoxies will be obsolete, and how machines and humans will work together. It falls to them, therefore, to take what they have learned beyond their corporate walls and engage in a broader dialogue to help shape the future.

That may mean pressing home to policy makers the urgency of investing more, not less, in human capital at the very time that machines are taking on more activities. It may mean working alongside educators to pinpoint skill gaps and help establish priorities, as well as funding mechanisms, for lifelong-learning programs that address the needs of workers changing employers more frequently. It may even mean helping to assess the need for new mechanisms that support transitions between employers, and help workers whose wage levels are threatened by automation. The point is, executives' vantage point gives them an important voice in the future-of-work debate that needs to be heard if the value of automation is to be captured at the same time as its challenges are addressed. Q

Michael Chui is a partner at the McKinsey Global Institute and is based in McKinsey's San Francisco office, **Katy George** is a senior partner in the New Jersey office, and **Mehdi Miremadi** is a partner in the Chicago office.

The authors wish to thank Federico Berruti, James Manyika, and Rob Whiteman for their contributions to this article.



A machine-learning approach to venture capital

Hone Capital managing partner Veronica Wu describes how her team uses a data-analytics model to make better investment decisions in early-stage start-ups.

Veronica Wu has been in on the ground floor for many of the dramatic technology shifts that have defined the past 20 years. Beijing-born and US-educated, Wu has worked in top strategy roles at a string of major US tech companies—Apple, Motorola, and Tesla—in their Chinese operations. In 2015, she was brought on as a managing partner to lead Hone Capital (formerly CSC Venture Capital), the Silicon Valley–based arm of one of the largest venture-capital and private-equity firms in China, CSC Group. She has quickly established Hone Capital as an active player in the Valley, most notably with a $400 million commitment to invest in start-ups that raise funding on AngelList, a technology platform for seed-stage investing. In this interview, conducted by McKinsey's Chandra Gnanasambandam, Wu explains the differences between the tech-investment landscape in China and the United States and describes how Hone Capital has developed a data-driven approach to analyzing potential seed deals, with promising early results.

The *Quarterly*: *Tell us a little bit about the challenges you faced in the early days of Hone Capital and how you came upon AngelList.*

Veronica Wu: When CSC Group's CEO, Xiangshuang Shan, told me he wanted to build an international operation, I had never done venture capital before.

I just knew what they did and how hard it is to get into the VC space in Silicon Valley. There have been very few examples of outside capital that successfully entered the Valley. It's partly an issue of credibility. If you're an entrepreneur who's trying to build your business, how do you know a foreign firm will be there in the next round, whereas people here in the Valley have already built a track record of trust.

The question for us became, "How do we access the top deals so that we can build that network of trust?" I was very fortunate that an ex-McKinsey colleague of mine told me about a platform called AngelList that might be an interesting hack into the VC scene. I soon learned more about how they were building an online ecosystem of top angel investors and a steady flow of vetted seed deals. The platform provided access to a unique network of superconnected people—we would not have known how to reach many of them, and some would not even have considered working with us for a very long time, until we were more established. So we saw AngelList as an opportunity to immediately access the VC community.

We also saw the huge potential of the data that AngelList had. There's not a lot of visibility into early seed deals, and it's difficult to get information about them. I saw it as a gold mine of data that we could dig into. So we decided to make a bet—to partner with AngelList and see if it really could accelerate our access to top-quality deals. And so far, so good; we're very pleased. We've seen tremendous growth in the number of deals. So when we started, we'd see about 10 deals a week, and now it's close to 20. On average, though, I'd say we just look at 80 percent of those deals and say no. But the diversity of deals that AngelList's team has built is pretty incredible.

The *Quarterly*: *How did you construct your machine-learning model? What are some interesting insights that the data have provided?*

Veronica Wu: We created a machine-learning model from a database of more than 30,000 deals from the last decade that draws from many sources, including Crunchbase, Mattermark, and PitchBook Data. For each deal in our historical database, we looked at whether a team made it to a series-A round, and explored 400 characteristics for each deal. From this analysis, we've identified 20 characteristics for seed deals as most predictive of future success.

Based on the data, our model generates an investment recommendation for each deal we review, considering factors such as investors' historical conversion rates, total money raised, the founding team's background, and the syndicate lead's area of expertise.

One of the insights we uncovered is that start-ups that failed to advance to series A had an average seed investment of $0.5 million, and the average investment for start-ups that advanced to series A was $1.5 million. So if a team has received a low investment below that $1.5 million threshold, it suggests that their idea didn't garner enough interest from investors, and it's probably not worth our time, or that it's a good idea, but one that needs more funding to succeed. Another example insight came from analyzing the background of founders, which suggests that a deal with two founders from different universities is twice as likely to succeed as those with founders from the same university. This backs up the idea that diverse perspectives are a strength.

The *Quarterly*: *Have you ever had a deal that your team was inclined to pass on, but the data signaled potential that made you reexamine your initial conclusions?*

Veronica Wu: We actually just recently had a case where our analytics was saying that there was a 70 or 80 percent probability of success. But when we had originally looked at it, the business model just didn't make sense. On paper, it didn't look like it could be profitable, and there were many regulatory constraints. Nevertheless, the metrics looked amazing. So I said to the lead investor, "Tell me more about this deal and how it works."

He explained that these guys had figured out a clever way to overcome the regulatory constraints and build a unique model, with almost zero customer-acquisition cost. So, we combined machine learning, which produces insights we would otherwise miss, with our human intuition and judgment. We have to learn to trust the data model more, but not rely on it completely. It's really about a combination of people and tools.

The *Quarterly*: *What has your early performance looked like, using your machine-learning model?*

Veronica Wu: Since we've only been operating for just over a year, the performance metric we look at is whether a portfolio company goes on to raise a follow-on round of funding, from seed stage to series A. We believe this is a key early indicator of a company's future success, as the vast majority of start-up companies die out and do not raise follow-on funding. We did a

postmortem analysis on the 2015 cohort of seed-stage companies. We found that about 16 percent of all seed-stage companies backed by VCs went on to raise series-A funding within 15 months. By comparison, 40 percent of the companies that our machine-learning model recommended for investment raised a follow-on round of funding—2.5 times the industry average—remarkably similar to the follow-on rate of companies selected by our investment team without using the model. However, we found that the best performance, nearly 3.5 times the industry average, would result from integrating the recommendations of the humans on our investment team and the machine-learning model. This shows what I strongly believe—that decision making augmented by machine learning represents a major advancement for venture-capital investing.

VERONICA WU

Vital Statistics
Born in 1970 in Beijing, China

Education
Received an MS and a PhD in industrial engineering and operations research from the University of California, Berkeley; earned a BS in applied mathematics from Yale University

Career highlights
Hone Capital (part of CSC Group)
(2015–present) Copresident and managing partner

Tesla
(2013–15)
Vice president, China

Apple
(2010–13)
Managing director, education and enterprise, Greater China

(2009–10)
General manger, education and enterprise, Asia

(2006–09)
Director, education marketing and channel strategy

Motorola
(2005–06)
Director of ecosystem development

(2002–05)
Director of strategy

McKinsey & Company
(1997–2002)
Associate partner

The *Quarterly*: *What advice would you give to other Chinese firms trying to build a presence in Silicon Valley?*

Veronica Wu: I would say success very much depends on delegating authority to your local management team. I see Chinese funds all the time that are slow in their decision making because they have to wait for headquarters. It makes them bad partners for a start-up, because, as you know, in the Valley the good start-ups get picked up very quickly. You can't wait two months for decisions from overseas. They'll just close the round without you because they don't need your money. Some people coming to the Valley fall prey to the fallacy of thinking, "Oh, I have lots of money. I'm going to come in and snap up deals." But the Valley already has lots of money. Good entrepreneurs are very discerning about where their money comes from and whether or not a potential investor is a good partner. If you can't work with them in the manner they expect you to, then you're going to be left out.

The *Quarterly*: *What advice would you give to US-based founders trying to work with Chinese VC firms?*

Veronica Wu: Founders should be careful not to accept Chinese money before they understand the trade-offs. Chinese investors tend to want to own a big part of the company, to be on the board, and to have a say in the company. And it might not be good for a company to give up that kind of power, because it could dramatically affect the direction of the company, for good or bad. It's smart to insist on keeping your freedom.

That said, Chinese investors do know China well. Founders should be open to the advice of their Chinese investors, because it is a different market. Consumer behavior in China is very different, and that is why big foreign consumer companies often fail when they try to enter the country. One example is Match.com here in the United States. They have a model that's done pretty well here, but it didn't work so well in China. A Chinese start-up did the same thing, but they changed the business model. They made it so that you can find information about the people you're interested in, but you have to pay, maybe 3 or 5 renminbi, if you want to know more. Now, Chinese consumers don't like not knowing what they're paying for, but they're actually much more spontaneous spenders when they see what they're going to get immediately. It's a very small amount of money, so they become incredibly insensitive to cost, and they don't realize how often they're logging in and how much money they're spending. When you look at the average revenue per user for the Chinese company, it was actually higher than Match.com's. So it's

about understanding that you're going to need to translate your model to fit the consumer preferences and behavior in China, and working with a firm that has firsthand knowledge of that market can be very helpful.

The *Quarterly*: *How would you say the tech-investment scene in China differs from Silicon Valley?*

Veronica Wu: Venture capital is a very new thing for China, while the US has a much more mature model. So that means the talent pool isn't yet well developed in China. Early on, what you saw was a lot of these Chinese

RAPID REFLECTIONS
FROM VERONICA WU

1 WHAT IS A TECH SERVICE OR PRODUCT—NOT YET INVENTED—THAT YOU'D LOVE TO SEE HIT THE MARKET?

I'm most fascinated with the potential for a future technology that could magnify our brain waves to interpret our mind. We still have not figured out exactly how these powerful computing systems of ours work, and I would love to find out.

2 IN YOUR EXPERIENCE, WHAT PIECE OF COMMON CAREER ADVICE IS WRONG OR MISLEADING?

A lot of people think it's about deciding *what* to do. But I have made serious moves in my life because I realized what I did *not* want to do. And the best balance is when one finds something they can be passionate about and cannot stop doing it.

3 WHAT BOOK HAS SIGNIFICANTLY INFLUENCED YOU?

I don't read a lot of books these days. I use meditation to give myself time to process the overwhelming information that I am exposed to. But I think the best book of all time is the *Tao Te Ching*. In Tao, it is said, the truest "way of life" is simple. I believe that, so I am more of a minimalist. Rather than focus on the outside world, I prefer to listen to my inside voice and observe the patterns of change in my life. In this way, one can know how to move with the world at the right time and do the right things—then everything seems like flowing water, smooth and natural.

private-equity firms looking at the metrics, seeing that a company was going to do well, and using their relationship and access to secure the deal and take the company public, getting three to five times their investment. In that decade from 2000 to 2010, there was a proliferation of deals based on that model. But most of the Chinese firms didn't fully understand venture capital, and many of the great deals from 2005 to 2010 got gobbled up by US venture firms. Alibaba and Tencent, for instance, are US funded. Almost every early good deal went to a conglomerate of foreign venture capitalists.

I think people in China are still learning. Two years ago, everyone wanted to go into venture capital, but they really didn't have the skills to do it. So start-ups were valued at ridiculous prices. The bubble was punctured a little bit last year because people realized you can't just bet on everything—not every Internet story is a good opportunity.

The *Quarterly*: *Venture capital has unleashed great forces of disruption—so why has its own operating model remained largely unchanged?*

Veronica Wu: It's the typical innovator's dilemma—the idea that what makes you successful is what makes you fail. When I was at Motorola, the most important thing about our phone was voice quality, avoiding dropped calls. At the time, antenna engineers were the most important engineers at any phone company. In 2005, one of our best antenna engineers was poached by Apple. But he came back to Motorola after only three months. He said, "Those guys don't know how to do a phone." At Motorola, if an antenna engineer said that you needed to do this or that to optimize the antenna, the designer would change the product to fit the antenna. Of course, at Apple, it was exactly the opposite. The designer would say, "Build an antenna to fit this design." The iPhone did have antenna issues—but nobody cared about that anymore. The definition of a good phone had changed. In the venture-capital world, success has historically been driven by a relatively small group of individuals who have access to the best deals. However, we're betting on a paradigm shift in venture capital where new platforms provide greater access to deal flow, and investment decision making is driven by integrating human insight with machine-learning-based models. Q

Veronica Wu is managing partner of Hone Capital, the US-based arm of CSC Group, where she is also copresident. This interview was conducted by **Chandra Gnanasambandam,** a senior partner in McKinsey's Silicon Valley office.

Illustrations by Bill Butcher

The CEO's guide to competing through HR

Technological tools provide a new opportunity for the function to reach its potential and drive real business value.

by Frank Bafaro, Diana Ellsworth, and Neel Gandhi

A leading US healthcare company was struggling recently to recruit more nurses and stem high staff turnover. Patients were suffering, and the crisis was beginning to hit revenues.

Instead of just continuing to "firefight," however, the company's human-resources department responded by launching an in-depth analysis of the tenures in the group's nursing population, noting in its study some surprising correlations between length of service, compensation, and performance.

HR leaders quickly saw the source of the problem—as well as a solution. They raised the minimum rewards for those early in their tenure and tweaked the total rewards for those with longer career paths, with the result being that the company retained more early-tenure, high-performing nurses. When the company rolled out the plan more widely, employee engagement increased and productivity jumped by around $100 million.

The story shows what can happen when HR steps out of its traditional silo and embraces a strategic role, explicitly using talent to drive value rather than just responding passively to the routine needs of businesses. That's a transformation many companies have been striving to make in recent years as corporate leaders seek to put into practice the mantra that their people are their biggest asset.

Some companies are making progress. The best HR departments are creating centers of excellence (COEs) in strategic areas such as organizational development, talent acquisition, and talent management. They are also providing better support to line managers via strategic HR business partners, and gaining points for pulling up from administrative minutiae to work on the long-term health of the business.

But there is still a long way to go. We hear continued frustration from business and HR leaders alike that the value of the much touted "strategic" approach remains at best unquantified, at worst ill-defined and poorly understood. Too many HR organizations still fail to make a hard and convincing connection between talent decisions and value.

This article sets out an agenda for renewed action. We believe the time is right to accelerate the reinvention of HR as a hard-edged function capable of understanding the drivers of strategy and deploying talent in support of it—most importantly as a result of the availability of new technological tools that unleash the power of data analytics.

To advance the agenda, we believe businesses need to concentrate on four things: rethinking the role of business partner to enable a better understanding of the vital link with strategy, using people analytics to identify the talent actions that will drive the value, fixing HR operations so they are not a distraction from HR's higher mission, and focusing HR resources in more agile ways so as to support these fresh priorities. Companies that take these steps will move toward a next generation of HR that's data driven, not experience driven; systematic, not ad hoc; and consistent, not hit and miss. (For more, see sidebar, "The new HR—at a glance.")

RETHINK THE ROLE OF THE BUSINESS PARTNER

The starting point is for HR business partners—those senior HR individuals who counsel managers on talent issues—to stop acting as generalists and show that they really own the critical talent asset. This is a big enough change that it calls for a change in roles: replacing the business-partner role entirely with a new talent value leader (TVL), who would not only help business leaders connect talent decisions to value-creating outcomes but would also be held fully accountable for the performance of the talent.

The talent value leader

A TVL should have real authority over hiring and firing, even if actual decision rights remain with managers in the way actual spending decisions are taken by budget owners rather than being dictated by the finance function. Think

of the manager of a European football team who is responsible for allocating resources using acquisition, compensation, evaluation, development, motivation, and other levers to maximize the players' collective performance.

Unlike the typical HR business partner of today, TVLs should be held to account using metrics that capture year-to-year skills development, capability gaps, engagement, and attrition. And to the maximum extent possible, they should be disconnected from the day-to-day concerns of operational HR so as not to get pulled back into dealing with employee issues—that means eliminating the HR liaison role that so many HR business partners play today.

TVLs, however, won't succeed without being able to deliver analytically driven talent insights to business managers systematically. This is a substantial change from today; while many HR business partners are resourceful and smart advisers to managers, few possess a data and analytical mind-set or the appropriate problem-solving tool kit.

THE NEW HR—AT A GLANCE

New roles
Short of rewriting job descriptions and changing roles right away, companies should launch a tailored training program for the best HR business partners—the ones who show the potential to become truly strategic talent value leaders (TVLs). Additionally, launching targeted and rotational career-development opportunities that move HR leaders into business roles, and vice versa, can jumpstart the development of TVLs.

People analytics
The first step for companies is to assess data readiness—how personnel data can enable analytics insights that add value to HR. Sustained progress will require a dedicated analytics capability, including roles, capabilities, and data governance.

HR operations
Most companies are already standardizing and centralizing key work flows. Next-generation automation technologies—robotics, cognitive agents, and natural-language processing, for example—will accelerate efficiency.

Resources
Making HR more agile requires companies to establish a rigorous strategic-planning process that lays out which initiatives HR will pursue each year to drive value and which ones it will not.

When adopted, the expanded HR role we are describing starts to be taken seriously, as some companies are beginning to discover. A leading global materials company, for example, has been moving in this direction, specifying competencies for its HR leaders that now include the ability to "use analytics to diagnose and prescribe talent actions," to "translate talent decisions into profit-and-loss impact," and to "measure talent outcomes and their impact on value while holding managers accountable." The results have been significant. After an adjustment period, internal surveys show managers are substantially more satisfied with the support they receive from HR. Anecdotally, we also hear that more business leaders are scripting a role for their talent advisers during the strategic business-planning processes.

Broader leaders for a bigger role

A key challenge, of course, is where to find appropriate candidates to fill these bigger HR shoes. Many business partners, after all, have grown up in traditional HR roles with an operational-service culture. HR departments should therefore start a cohort-based, high-potential program that balances rotations in and out of HR with dedicated time for skill building. Companies can also reward executives from other functions for stints in HR, and potential HR leaders should experience line and other functional-leadership roles—in finance, for example—in order to build better business-strategy capabilities. Eileen Naughton recently stepped in to run people operations at Google from her role as managing director and vice president of sales and operations in the United Kingdom and Ireland. And Pepsico has begun to fill some HR roles with people from engineering, technology, or process-oriented backgrounds: leaders at the soft-drink giant say that engaging the business with data is critical to expanding the strategic role of HR.

PUT PEOPLE ANALYTICS AT THE CORE

Many organizations have already built extensive analytics capabilities, typically housed in centers of excellence with some combination of data-science, statistical, systems-knowledge, and coding expertise. Such COEs often provide fresh insights into talent performance, but companies still complain that analytics teams are simple reporting groups—and even more often that they fail to turn their results into lasting value. What's missing, as a majority of North American CEOs indicated in a recent poll,[1] is the ability to embed data analytics into day-to-day HR processes consistently and to use their predictive power to drive better decision making.

[1] Based on responses of participants at a McKinsey roundtable of 45 chief human-resources officers in the autumn of 2016.

In today's typical HR organization, most talent functions either implicitly or explicitly follow a process map; some steps are completed by business partners or generalists, others by HR shared services, and still others by COE specialists. Many of these steps require a recommendation or decision by a human being—for example, the evaluation of an employee's performance or the designation of a successor to a specific role.

Embedded analytics, by contrast, either inform or replace these steps with algorithms that leverage the data to drive fact-based insights, which are then directly linked to the deployment steps in the process. For example, many companies now use HR analytics to address attrition, allowing managers to predict which employees are most likely to leave and highlighting turnover problems in a region or country before the problem surfaces. By making the development and delivery of insights systematic, HR will start to drive strategic talent value in a more consistent way, rather than episodically and piecemeal as at present.

To understand more concretely the role of people analytics in an HR organization's journey toward a more strategic role, let's look closely at a single process—succession planning—and then assess the potential business impact of a broader suite of initiatives.

Analytics in action: Succession planning

A standard approach starts with a talent-management or organizational-development COE laying out the process for the organization, designing the tools or templates, and training key stakeholders in what to do. Managers might then sit down with their HR partners and discuss potential succession candidates for key roles—ideally taking skills, competencies, and development pathways into account (in practice, of course, there may be a bit of "gut feel"). A traditional best-practice process would then create individual development plans for potential successors, based on the gap between that person and the potential role. As vacancies occur, these potential successors may or may not be tapped, much depending on whether the manager (or his or her HR partner) bothers to refer back to those plans.

An analytics-driven succession-planning process looks and feels very different. First, machine-learning algorithms might review years of succession data so as to understand success factors in a given role. Using that insight, the company might then derive the top five internal candidates for that role, accompanied by customized development plans (that is, what courses to take, what skills to build) based on their individual competencies. Such information

would support subsequent strategic decisions, consultations between managers and strategic HR partners, and cross-functional assessments of enterprise bench strength.

Business impact

The real prize is for those that can use data analytics not just to improve a single process, like recruitment or retention, but also to drive business performance—as has happened at a leading global quick-service restaurant business. The company mined data on employee personality traits, leadership styles, and working patterns and introduced changes that have improved customer service and had a tangible impact on financial performance (see "Using people analytics to drive business performance: A case study," on page 114).

To achieve such impact across the board, leaders will have to make significant investments in analytics skills and capabilities—but the returns should be commensurate. Based on a study of a range of industries with diverse workforces, operating models, and financial features, the McKinsey Global Institute estimates that companies using a portfolio of HR-analytics solutions could realize an increase of 275 basis points in profit margins, on average, by 2025. These increases will likely come about through productivity gains among front- and middle-office workers (which can translate into revenues or other increased-output opportunities) and through savings in recruiting, interviewing time, training, onboarding, and attrition costs.

FIX HR OPERATIONS

The current reality of HR, as many business partners will attest, is that of the function routinely being pulled into operational issues and distracted from its core strategic mission. McKinsey research, indeed, shows that typical HR departments still spend close to 60 percent of their time and resources on transactional and operational HR, despite decades of pushing work out to

There are three critical operational priorities for the HR organization of the future: continuous process improvement, next-generation automation technology, and user-experience-focused service improvement.

shared services; the best-performing HR departments spend less than 40 percent of their time and resources on these transactional activities.

As part of its continuing transformation, HR must therefore raise service levels and improve the employee experience, using next-generation automation tools and standardized processes to drive higher productivity. There are three critical operational priorities for the HR organization of the future: continuous process improvement, next-generation automation technology, and user-experience-focused service improvement.

Continuous process improvement

Based on our work with companies, we see several ways to make HR operations more efficient—including finding further things that individuals and managers can do more easily themselves—notably by providing direct access to information or transactions online, introducing simpler processes, and ensuring clearer decision making. It's also worth considering more geographically diverse sourcing of work and talent, as a leading agricultural company did when it found deep pockets of high-end instructional design talent in several Indian cities. These people, it turned out, not only were less costly but proved themselves capable of delivering equal or better service than the relatively well-compensated instructional designers who had served the businesses previously, mostly from the United States and Western Europe. There is always scope for smarter sourcing of external vendors, whether through insourcing or outsourcing: one US insurance company, for example, improved its reliability and cut the overall cost of its payroll process in half by bringing it back in-house.

Next-generation automation technology

New automation technologies will soon reshape a number of HR processes, building on core human-resource-management-system platforms (both on premises and in the cloud). Robotic process automation (RPA), smart work flows, cognitive agents, and natural-language processing, for example, will automate HR tasks previously carried out by people. The case of a leading global automotive-component manufacturer that was struggling with its employee-onboarding process is instructive. Thanks to the cross-functional complexity of the work flow, with different HR people needed to complete steps such as employee paperwork and scheduling orientation—and with IT, facilities, and security people needed to complete others—onboarding used to take weeks. RPA solved the problem with a bot that can access multiple systems, follow an intelligent work flow, and initiate communications. Onboarding time, on average, has been reduced by more than two-thirds,

many errors created by manual tasks have been eliminated, and the journey has become more compelling for the individual.

For operational HR, the new frontier of technology is cognitive agents, especially when paired with natural-language processing. The former have developed to the point where in many cases employees can't tell that they're interacting with a piece of software. Natural-language processing may not yet offer seamless unstructured voice conversations for an HR setting—but leading HR-service organizations already leverage chat as a communication channel to answer most questions, "learn" from past interactions, and conduct "warm" handoffs when needed. One major international food and beverage company believes these automated technologies can reduce its costs by 20 percent while maintaining or increasing service levels (for instance, by enabling 24/7 immediate response).

User experience

Operational effectiveness is a critical part of employee satisfaction with HR. But whether it's understanding the customer decision journey in marketing or understanding user needs as the foundation to driving digital user experience, other areas of the business have sought to improve customer satisfaction in ways that most HR departments generally have not. The HR department at the Orlando International Airport is a notable exception. It found that staff employed by about 60 organizations based at the airport, ranging from airlines and security to retail and janitorial, faced a common set of challenges. These challenges were both undermining the employees' job satisfaction and affecting the quality of services they were providing for passengers and other customers. An overhaul of the staff experience tackled both problems. The airport revamped its shuttle-bus schedules, reducing commuting time for workers using the employee parking lots, which had a tangible effect on morale at the start of the day. The airport also made it easier for employees to find their way through its buildings and facilities. Finally, it took an entirely new approach to onboarding employees, providing them with updated weekly information so that everyone, regardless of their role, could help customers with queries about directions, the availability of services, or events taking place in other parts of the airport.

FOCUS HR RESOURCES IN MORE AGILE WAYS

The changes discussed not only require the HR organization to recruit a new cadre of TVLs and to use people analytics to drive business value—they also demand a new type of agile organizational structure. Applying agility to the organization of HR will be critical to HR's ability to deliver a harder link between talent decisions and value.

Agile HR: A case study

It's easiest to understand HR agility through an example. A leading European bank implemented an agile HR model aligned to this vision, with great results. Previously siloed HR resources responded to opportunities or issues slowly and inefficiently, their work dominated by transactional and operational tasks. Morale was low as a result of a lack of role clarity and a surfeit of meetings aimed at engaging every conceivable HR stakeholder. In response, the bank's HR leaders implemented an agile "flow to the work" organizational model: there are a limited number of deep specialists and talent value leaders in a few global roles, and they are supported by strong shared-service centers and a pool of multiskilled HR professionals—people with capabilities to perform most HR actions and who are responsible for much of the talent work.

The model reduced the HR budget by 25 percent in its first year of implementation, the goal being 40 percent within three years. Just as important, the HR organization is working with renewed purpose, implementing key talent initiatives faster and substantially accelerating HR's response to opportunities and issues. Now fewer in number, the bank's HR business partners (TVLs in all but name) and COE leaders are devoting much more of their time to connecting talent to business strategy.

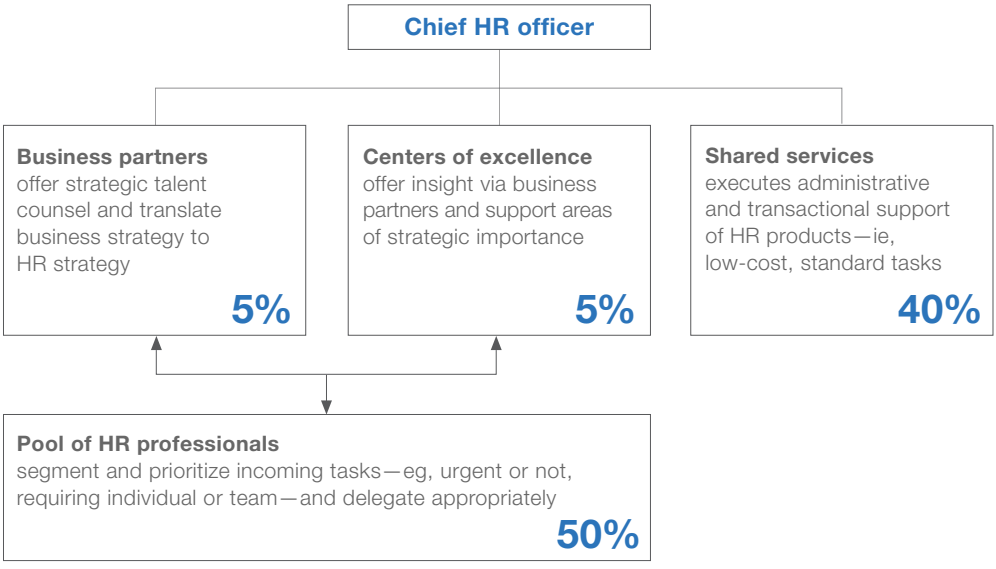
Agility, operations, and structure

As this example suggests, the move toward a more agile HR organizational model has both operational and structural implications. Operationally, HR functions need to be able to create a solid backbone of core processes that either eliminate the clutter or camouflage the complexity to the business, all while delivering the basics (such as payroll, benefits, recruiting, and simple employee and manager transactions) without error or delay.

Exhibit

An agile operating model for HR increases business focus, efficiency, and effectiveness.

Share of HR resources, %



Agility, combined with analytics, also suggests structural change, particularly for centers of excellence. With more automation of insight generation, and especially the mass customization and delivery of those insights through technology, HR COEs will probably be a much smaller group in the HR organization of the future. Shorn of transactional resources and unburdened by operational responsibilities, these pools of talent will be able to work across disciplines (talent management, learning and development, and organizational design), supporting the new talent value leaders and business as a whole (exhibit).

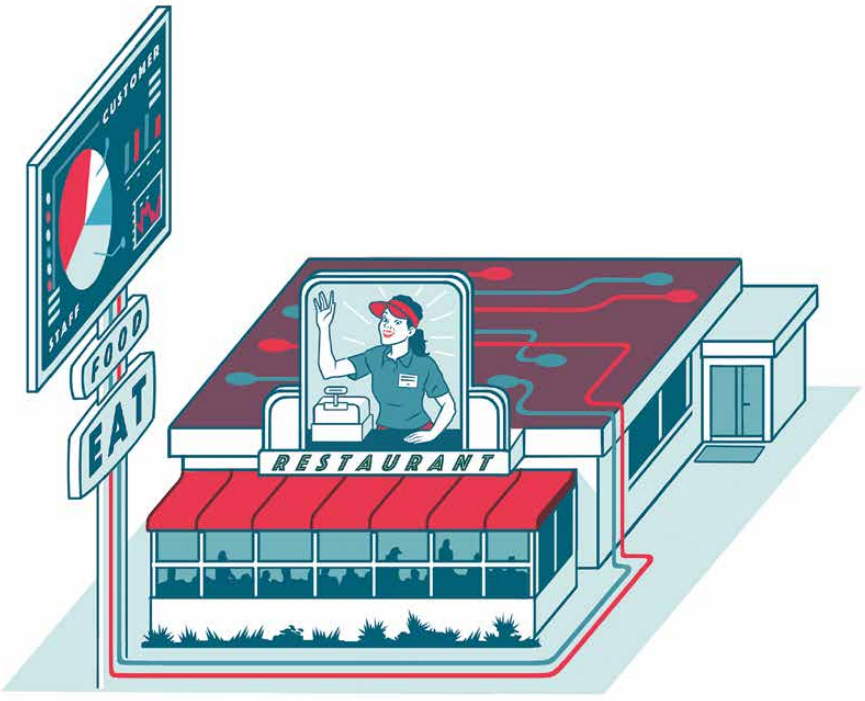
Calls for a more assertive and strategic role for HR are not new. The idea that the CHRO (controller of human capital) should be part of a C-suite triumvirate that includes the CEO (principal owner of strategy) and the CFO (owner of financial capital) has been championed by our colleague Dominic Barton, among others.[2] But if HR leaders are to finally achieve the promise of being strategic—the sustained delivery of talent insights and actions that

[2] See Dominic Barton, Dennis Carey, and Ram Charan, "People before strategy: A new role for the CHRO," *Harvard Business Review*, July 2015, hbr.org.

drive real business value—they will need to transform their own function to provide a foundation. By changing the way HR interacts with the business on strategic questions, notably through the creation of new talent value leaders, HR can gain responsibility and accountability for driving talent-linked value. By deploying data-driven insights and solutions in a systematic way, HR can dramatically ramp up the level of talent insight it delivers to the business. By driving continuous improvement in operational performance, HR can create the space for its leading thinkers to drive strategic talent insight and solutions. And by adopting a more agile approach to its resources, HR can drive significant productivity and focus execution and investments on the core initiatives each year that are proven to link to value. Q

Frank Bafaro is a consultant in McKinsey's Southern California office; **Diana Ellsworth** is an associate partner in the Atlanta office, where **Neel Gandhi** is a partner.

The authors wish to thank Gregg LeStage for his contributions to this article.



Using people analytics to drive business performance: A case study

A quick-service restaurant chain with thousands of outlets around the world is using data to drive a successful turnaround, increase customer satisfaction, and grow revenues.

by Carla Arellano, Alexander DiLeonardo, and Ignacio Felix

People analytics—the application of advanced analytics and large data sets to talent management—is going mainstream. Five years ago, it was the provenance of a few leading companies, such as Google (whose former senior vice president of people operations wrote a book about it[1]). Now a growing number of businesses are applying analytics to processes such as recruiting and retention, uncovering surprising sources of talent and counterintuitive insights about what drives employee performance.

Much of the work to date has focused on specialized talent (a natural by-product of the types of companies that pioneered people analytics) and on individual HR processes. That makes the recent experience of a global quick-service restaurant chain instructive. The company focused the power

[1] See Laszlo Bock, *Work Rules!: Insights from Inside Google That Will Transform How You Live and Lead*, New York, NY: Hachette Book Group, 2015.

of people analytics on its frontline staff—with an eye toward improving overall business performance—and achieved dramatic improvements in customer satisfaction, service performance, and overall business results, including a 5 percent increase in group sales in its pilot market. Here is its story.

THE CHALLENGE: COLLECTING DATA TO MAP THE TALENT VALUE CHAIN

The company had already exhausted most traditional strategic options and was looking for new opportunities to improve the customer experience. Operating a mix of franchised outlets, as well as corporate-owned restaurants, the company was suffering from annual employee turnover significantly above that of its peers. Business leaders believed closing this turnover gap could be a key to improving the customer experience and increasing revenues, and that their best chance at boosting retention lay in understanding their people better. The starting point was to define the goals for the effort and then translate the full range of frontline employee behavior and experience into data that the company could model against actual outcomes.

Define what matters. Agreeing in advance on the outcomes that matter is a critical step in any people-analytics project—one that's often overlooked and can involve a significant investment of time. In this case, it required rigorous data exploration and discussion among senior leaders to align on three target metrics: revenue growth per store, average customer satisfaction, and average speed of service (the last two measured by shift to ensure that the people driving those results were tracked). This exercise highlighted a few performance metrics that worked together and others that "pulled" in opposite directions in certain contexts.

Fill data gaps. Internal sources provided some relevant data, and it was possible to derive other variables, such as commute distance. The company needed to supplement its existing data, however, notably in three areas (Exhibit 1):

- First was selection and onboarding ("*who gets hired* and what their traits are"). There was little data on personality traits, which some leaders thought might be a significant factor in explaining differences in the performance of the various outlets and shifts. In association with a specialist in psychometric assessments, the company ran a series of online games allowing data scientists to build a picture of individual employees' personalities and cognitive skills.

- Second was day-to-day management ("*how we manage* our people and their environment"). Measuring management quality is never easy, and the company did not have a culture or engagement survey. To provide

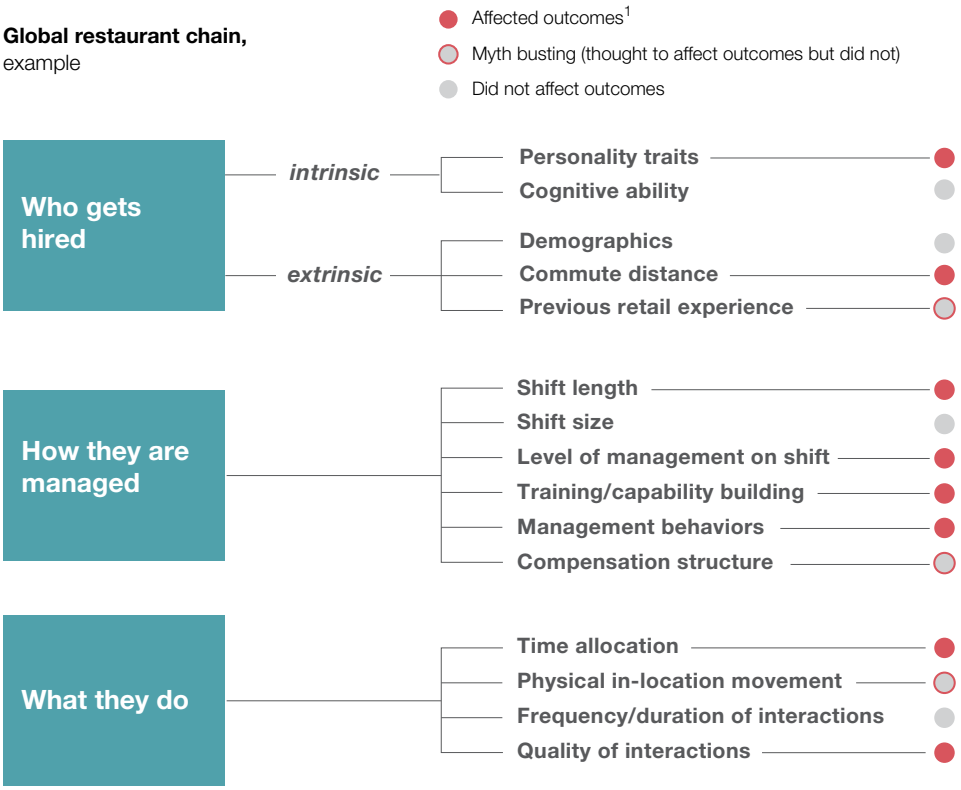
insight into management practices, the company deployed McKinsey's Organizational Health Index (OHI), an instrument through which we've pinpointed 37 management practices that contribute most to organizational health and long-term performance. With the OHI, the company sought improved understanding of such practices and the impact that leadership actions were having on the front line.

- Third was behavior and interactions ("*what employees do* in the restaurants"). Employee behavior and collaboration was monitored over time by sensors that tracked the intensity of physical interactions among colleagues. The sensors captured the extent to which employees physically moved around the restaurant, the tone of their conversations, and the amount of time spent talking versus listening to colleagues and customers.

Exhibit 1

Analysis identified which employee features correlated to the desired outcomes.

Global restaurant chain, example



[1] Targeted outcomes were customer-satisfaction scores by shift, revenue growth by store, and speed of service by shift.

THE INSIGHTS: CHALLENGING CONVENTIONAL WISDOM

Armed with these new and existing data sources—six in all, beyond the traditional HR profile, and comprising more than 10,000 data points spanning individuals, shifts, and restaurants across four US markets, and including the financial and operational performance of each outlet—the company set out to find which variables corresponded most closely to store success. It used the data to build a series of logistic-regression and unsupervised-learning models that could help determine the relationship between drivers and desired outcomes (customer satisfaction and speed of service by shift, and revenue growth by store).

Then it began testing more than 100 hypotheses, many of which had been strongly championed by senior managers based on their observations and instincts from years of experience. This part of the exercise proved to be especially powerful, confronting senior individuals with evidence that in some cases contradicted deeply held and often conflicting instincts about what drives success. Four insights emerged from the analysis that have begun informing how the company manages its people day to day.

Personality counts. In the retail business at least, certain personality traits have higher impact on desired outcomes. Through the analysis, the company identified four clusters or archetypes of frontline employees who were working each day: one group, "potential leaders," exhibited many characteristics similar to store managers; another group, "socializers," were friendly and had high emotional intelligence; and there were two different groups of "taskmasters," who focused on job execution (Exhibit 2). Counterintuitively, though, the hypothesis that socializers—and hiring for friendliness—would maximize performance was not supported by the data. There was a closer correlation between performance and the ability of employees to focus on their work and minimize distractions, in essence getting things done.

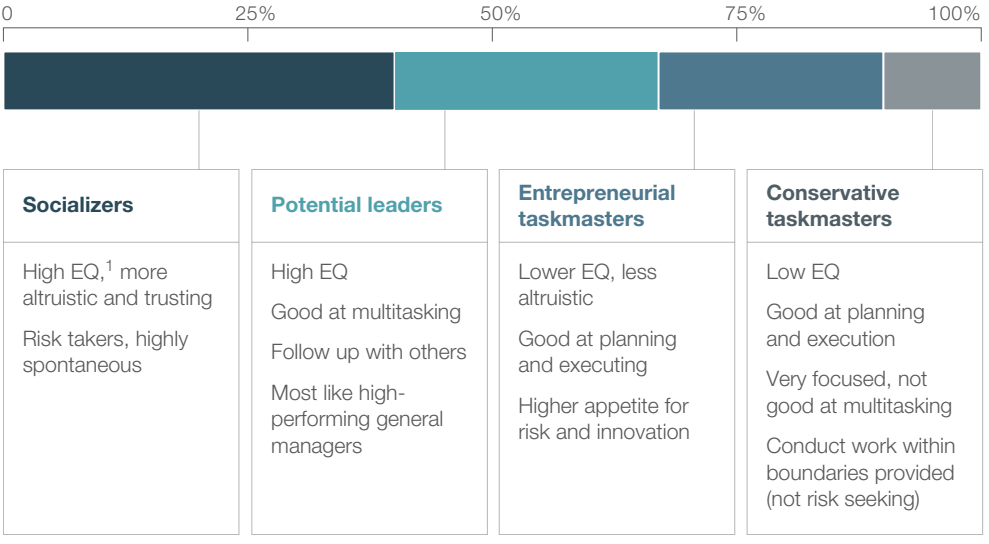
Careers are key. The company found that variable compensation, a lever the organization used frequently to motivate store managers and employees, had been largely ineffective: the data suggested that higher and more frequent variable financial incentives (awards that were material to the company but not significant at the individual level) were not strongly correlated with stronger store or individual performance. Conversely, career development and cultural norms had a stronger impact on outcomes.

Management is a contact sport. One group of executives had been convinced that managerial tenure was a key variable, yet the data did not

Exhibit 2

Frontline employees fell into four personality archetypes.

Distribution of employees at a global restaurant chain



[1] Emotional quotient, a measure of self-awareness and sensitivity to others.

show that. There was no correlation to length of service or personality type. This insight encouraged the company to identify more precisely what its "good" store managers were doing, after which it was able to train their assistants and other local leaders to act and behave in the same way (through, for example, empowering and inspiring staff, recognizing achievement, and creating a stronger team environment).

Shifts differ. Performance was markedly weaker during shifts of eight to ten hours. Such shifts were inconsistent both with demand patterns and with the stamina of employees, whose energy fell significantly after six hours at work. Longer shifts, it seems, had become the norm in many restaurants to ease commutes and simplify scheduling (fewer days of work in the week, with more hours of work each day). Analysis of the data demonstrated to managers that while this policy simplified managerial responsibilities, it was actually hurting productivity.

THE RESULTS (SO FAR)

Four months into a pilot in the first market in which the findings are being implemented, the results are encouraging. Customer satisfaction scores have increased by more than 100 percent, speed of service (as measured by the time between order and transaction completion) has improved by 30 seconds, attrition of new joiners has decreased substantially, and sales are up by 5 percent.

We'd caution, of course, against concluding that instinct has no role to play in the recruiting, development, management, and retention of employees—or in identifying the combination of people skills that drives great performance. Still, results like these, in an industry like retail—which in the United States alone employs more than 16 million people and, depending on the year and season, may hire three-quarters of a million seasonal employees—point to much broader potential for people analytics. It appears that executives who can complement experience-based wisdom with analytically driven insight stand a much better chance of linking their talent efforts to business value. Q

Carla Arellano is a vice president of, and **Alexander DiLeonardo** is a senior expert at, People Analytics, a McKinsey Solution—both are based in McKinsey's New York office; **Ignacio Felix** is a partner in the Miami office.

The authors wish to thank Val Rastorguev, Dan Martin, and Ryan Smith for their contributions to this article.

RECIPES FOR POOR DECISIONS

In many large global companies, growing organizational complexity has clouded accountabilities. Leaders are less able to delegate decisions cleanly, and the number of decision makers has risen. Digital communications bring more people into the flow without clarifying decision-making authority. With too many meetings and emails and too little high-quality dialogue, executives risk becoming disengaged, paralyzed, or anxious.

Disengagement

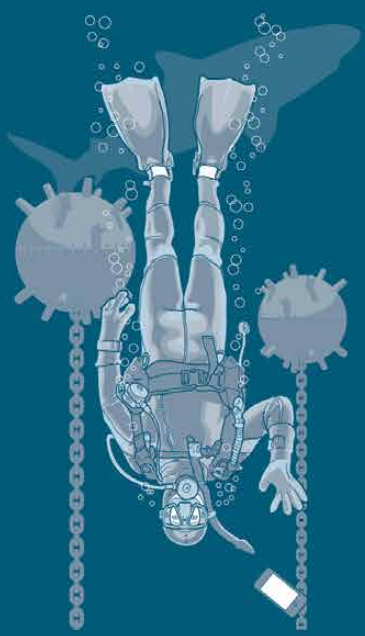
Hearing a presentation for the hundredth time

Paralysis

Stymied by too much data

Anxiety

The stakes are too high



For more on how leaders can avoid organizational complexity and make better decisions, see “Untangling your organization’s decision making,” on page 68.

Highlights

Competing in a world of sectors without borders

Building the effective organization: How to ditch your decision-making dysfunction, plus tips for creating top teams

Going on the offensive with your digital strategy

An AI agenda for today's CEO

The culture you need for the digital age

Transforming the HR function, plus people analytics in action

Surefire paths to standout growth

When B2B buyers want to go digital—and when they don't

Ridesharing's new look