

2017 Number 1

McKinsey Quarterly



Reinventing the core

What the advancing forces of digital mean for corporate performance—and how companies can respond

McKinsey&Company

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THIS QUARTER

The forces of digitization are advancing fast—and so is the case for digital reinvention. This issue’s lead article presents new research showing just how pressing it’s become to shake up your core and seize new digital business opportunities. Through a combination of survey data, sophisticated statistical analysis, and modeling, McKinsey’s Jacques Bughin and his coauthors show that in many sectors, digital’s reach hasn’t extended as far as we might think. As it continues to advance, the gap between digital leaders and laggards is poised to expand, along with new opportunities for digital differentiation in areas such as supply chains that aren’t yet a top priority for many companies.

Also presented here are several views from the front lines of digital reinvention. The CEO of LEO Pharma, Gitte Aabo, describes the work of a new innovation lab developing digital solutions for patients. Citigroup’s Head of Technology and Operations explains what it takes to mobilize change, as do the CIO and former COO of ING Netherlands, which has reorganized itself to be more agile. Complementing these perspectives are snapshots of McKinsey research on the pace and nature of digital change in the banking, food-retail, and pharmaceutical sectors, as well as a framework for structuring digital transformation through discovery, design, delivery of digital capabilities, and de-risking of the change process.

The need for digital reinvention throughout the organization is underscored by two other articles. In “The new battleground for marketing-led growth,” our colleagues David Court and Dave Elzinga revisit the consumer decision journey framework they presented first in the *Quarterly* back in 2009. Their

latest research reveals that the often irregular paths followed by consumers as they move from brand awareness through to purchase and loyalty have become more “front loaded” because digitization makes it so much easier for consumers to shop around. Stimulating initial consideration, with all the tools that marketers have at their disposal, is therefore growing in importance. Those tools have been changing rapidly with digitization, and there’s much more on the way, say the authors of “A smart home is where the bot is.” In the near future, they suggest, marketers will need to target robots and algorithms that increasingly will be stitching together our homes and serving as a focal point for purchase decisions.

To keep up with the pace of change, companies need full leadership capacity at the ready. Too often, though, say the authors of “Finding hidden leaders,” companies focus on the “usual suspects” when they’re trying to match people with corporate priorities. New techniques, some technology-enabled, can help companies “hunt” for the leaders they need. Also critical is a commitment to diversity. McKinsey’s Celia Huber and Sara O’Rourke describe how leading companies are making good on such commitment as they raise the number of women on their boards. For many other companies, a new playbook is needed to achieve greater gender diversity, say Dominic Barton, McKinsey’s global managing partner, and Lareina Yee, a senior partner. We hope this issue of the *Quarterly* helps you enhance your own playbook and stay ahead of your biggest challenges. [Q](#)



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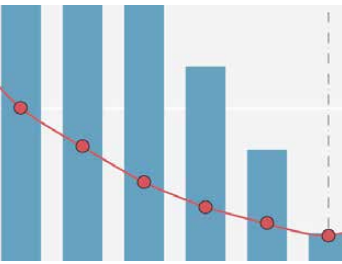
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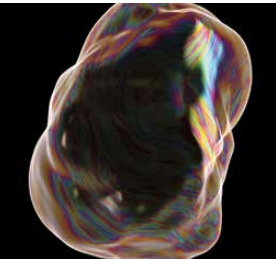
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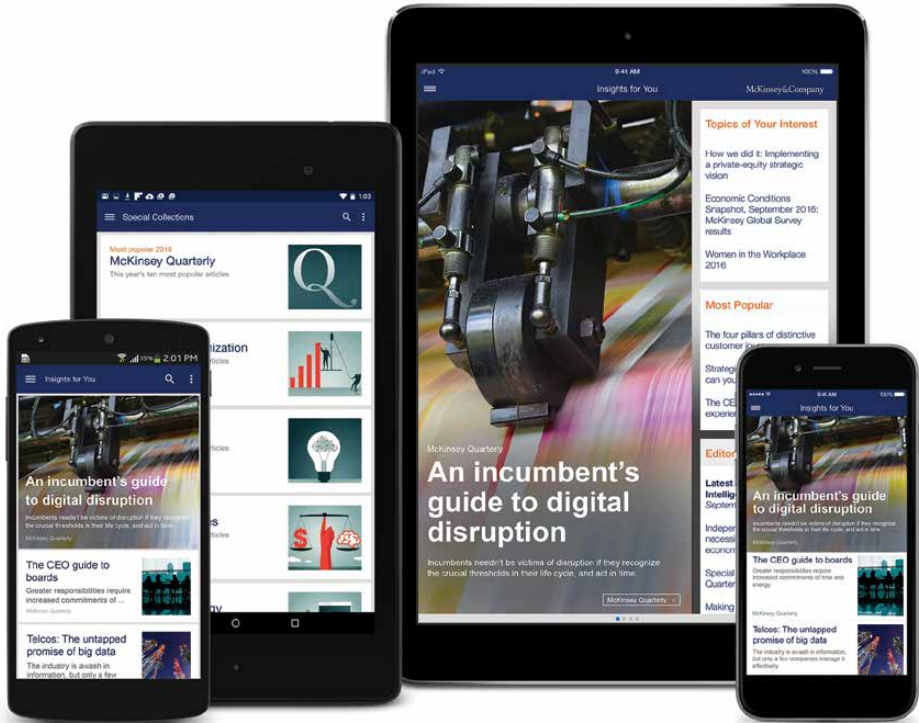
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MEASURING B2B'S DIGITAL GAP

B2B companies fall short of their B2C counterparts in key areas of our Digital Quotient assessment.

by Liz Harrison, Candace Lun Plotkin, and Jennifer Stanley

The need to invest operations and processes with digital capabilities touches every company and industry. B2B companies, however, face added challenges. Their customers increasingly gravitate toward digital tools to research and buy products—after all, they use Amazon at home just like everyone else does. Yet B2B buying and selling is often more complex. There are more decision makers and influencers involved in final purchasing decisions, often higher price points, an array of products and specifications, and many competing sales channels, both traditional and digital. B2B customers can also have different needs at different stages of the customer decision journey, requiring a balanced approach across channels that includes, at times, digital-only interactions.

To get a better portrait of the digital readiness of B2B companies to respond to this changing landscape, we mined our database of Digital Quotient (DQ) assessments. Over the past three years, we have built a perspective on the most important digital characteristics needed to improve financial performance.¹ We have found that strong scores across management dimensions of strategy, culture, organization, and capabilities correlate strongly with higher margins and shareholder returns. For the first time, we compared the DQ of B2B companies with those of B2C players to get a benchmark of B2B's digital strength. As the exhibit shows, B2B companies significantly trail B2C, and that's true across all but one of the four dimensions we measure. This gap is important, since B2B

companies (like their B2C counterparts) are in a digital footrace. They face shrinking shelf lives for products, more acute customer demands for price transparency, and better experiences. Getting digital tools into the hands of legacy-minded sales reps is also a must. There's plenty of upside for adopting best practices. The top quartile of B2B companies we studied had demonstrably higher revenue growth, operating profits, and returns to shareholders.

Breaking it down

We looked at B2B versus B2C Digital Quotient scores across the four dimensions and also peered into the

survey data for details on underlying practices for each dimension.

Strategy—attention deficit. B2B companies are behind B2C companies in how they use digital tools and data to set strategy. They often treat overall strategy and digital strategy differently. Only 10 percent see digital as one of their top three investment priorities, about half the average for B2C companies. As a result, digital strategies are often fragmented rather than adopted coherently and fluidly across the enterprise. Revealingly, fewer than 24 percent of executives understand how their industries are being disrupted by digital. And in the critical customer-facing area of mobile, only 6 percent of

Exhibit

B2B companies trail their B2C counterparts in progress toward digitization.

Digital Quotient (DQ) score¹
on a scale of 0 to 100



¹ DQ score is an average across 4 equally weighted dimensions: culture, strategy, capabilities, and organization.

² Sample for 2016 includes 47 B2B and 128 B2C companies and reflects an update from previously published versions.

B2B customers can have different needs at different stages of the customer decision journey, requiring a balanced approach across channels that includes, at times, digital-only interactions.

B2B companies have a mobile strategy, compared with 30 percent of B2C companies.

Organization—beyond legacy structures. Most B2B players haven't taken concrete steps to mobilize the organization around digital tools and data. The average DQ score for organizational maturity was 27 (versus 35 for B2C companies), in the range of laggard companies across our global sample, signaling a struggle to push digital initiatives. Only one in four companies said their leadership communicates digital strategy clearly, and most said there is confusion about digital roles as well as ownership of digital initiatives. One reason for the fuzziness: we found efforts to define metrics associated with the effectiveness of digital initiatives were below the levels of B2C companies.

Capabilities—skills deficit. With lower levels of strategic focus and organizational discipline, it's not surprising that B2B companies are behind those in the B2C sector in digital capabilities. They aren't using social media or digital-

content creation as effectively in their outreach to customers. They are also behind in their use of data and advanced analytics. That shows up in their inability to offer satisfying experiences to customers across channels. This failure is especially acute when customers voice a preference for digital interactions. The data-analytics gap also shows up in B2B companies' ability to automate decisions. B2C companies were able to automate, and thus better optimize, customer interactions across purchasing journeys, as well as automate their marketing decisions. B2B companies have applied digital automation largely to internal processes rather than to those that are customer facing.

Culture—a firm base. On average, across cultural DQ measures, B2B companies aren't far behind their average B2C counterparts in core areas such as trust and internal and external agility. Deep-seated cultural barriers, in other words, shouldn't hold back B2B digitization. There's a big gap between leaders and laggards, though, and some pain points that stand out. We found that fewer than

15 percent of companies had adopted test-and-learn approaches to new digital business initiatives, and for a third of B2B companies, it takes more than a year to bring a new digital idea to implementation. Many fewer B2C companies require that much delivery time.

As the “consumerization” of B2B proceeds, pressure will grow on leaders to accelerate their digitization efforts. Doing so should help boost effectiveness across the board, and it holds particular promise for companies seeking to raise their omnichannel game by putting better tools in the hands of sales teams and striking the right balance between new and traditional channels. Our research suggests that as senior leaders elevate digital as a strategic priority, they can look to B2C companies and industries for inspiration. 

¹ Over the past three years, McKinsey has measured the Digital Quotient of approximately 200 B2C and B2B companies around the world by evaluating the 18 management practices related to digital strategy, capabilities, culture, and organization that correlate most strongly with growth and profitability.

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THE HIDDEN TOLL OF WORKPLACE INCIVILITY

Research shows that hurtful workplace behavior can depress performance, increase employee turnover, and even mar customer relationships.

by Christine Porath

As the workplace becomes faster-paced, more technologically complex, and culturally diverse, civility matters. Among other things, it helps dampen potential tensions and furthers information sharing and team building.

Yet workplace incivility is rampant and on the rise. The accumulation of thoughtless actions that leave employees feeling disrespected—intentionally ignored, undermined by colleagues, or publicly belittled by an insensitive manager—can create lasting damage that should worry any organization. In research over the past 18 years, I have polled tens of thousands of workers worldwide about how they're treated at work. Nearly half of those surveyed in 1998 reported they were treated rudely at least once a month, a figure that rose to 55 percent in 2011 and 62 percent in 2016 (exhibit). There's no single reason for the trend. Workplace relationships may be fraying as fewer employees work in the office and feel more isolated and less respected. Some studies point to growing narcissism among younger workers.¹ Globalization may be causing cultural clashes that bubble beneath the surface. And in the digital age, messages are prone to communication gaps and

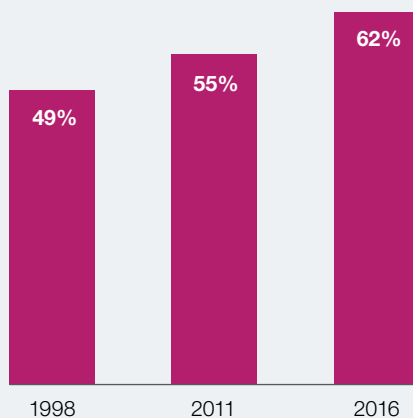
misunderstanding—and put-downs, unfortunately, are more easily delivered when not done face to face.

Whatever the underlying causes, the costs of incivility rise as employee stress levels increase. Among the problem areas are the following:

- *Workplace performance.* Nearly everybody who experiences workplace incivility somehow settles the score—with their offender and the organization. Of the nearly 800 managers and employees across 17 industries that I polled with Christine Pearson, a professor at the Thunderbird School of Global Management, those who didn't feel respected performed worse. Forty-seven percent of those who were treated poorly deliberately decreased their time spent at work, and 38 percent said they intentionally decreased the quality of their work. Not surprisingly, 66 percent admitted their performance declined, and 78 percent said their commitment to the organization had declined. Part of the performance penalty is related to how employees internalize stress levels. Eighty percent lost work time

Exhibit

The share of employees who report being treated rudely by colleagues at least once a month has risen by 13 percentage points since 1998.



Source: Christine Porath, *Cycle to civility*, Georgetown University working paper, 2016

worrying about the incident, and 63 percent lost work time in their effort to avoid the offender.

- **Employee turnover.** Many losses go undetected when employees leave the organization. Typically those who quit in response to an experience of bad behavior don't tell their employers why. Turnover costs add up quickly: an estimated twice an employee's annual salary in the case of high-level employees.² In our survey, of those treated poorly 12 percent said they had left their job because of the uncivil treatment.
- **Customer experience.** Incivility may take a toll on customer relationships. My research with Valerie Folkes and Debbie MacInnis at the University

of Southern California's Marshall School of Business shows that many consumers are less likely to buy anything from a company they perceive as uncivil, whether the rudeness is directed at them or other employees. Witnessing one quick negative interaction leads to generalizations about other employees, the organization, and even the brand. In my survey with Pearson, 25 percent of those experiencing uncivil behavior admitted to taking their frustrations out on customers.

- **Collaboration.** When people feel disrespected, it eats away at them—and their potential. Engagement, teamwork, knowledge sharing, innovation, and contributions wane

even among those who choose to work around the slights. In short, incivility kills helpfulness and collaboration. In experiments, I've found that when employees are exposed to rudeness, they are three times less likely to help others and their willingness to share drops by more than half. Civility, on the other hand, enhances individual contributions and team performance by increasing the feeling of "psychological safety." Team environments become trusting, respectful, and safe places to take risks. In one test, psychological safety increased by 35 percent when people were offered a suggestion civilly rather than uncivilly—for example, in an interaction marked by inconsiderate interruption.

To be sure, the magnitude of the costs and disruptions will depend upon the degree of incivility. Abusive behaviors, for example, will cause deeper damage to the organization than milder forms such as slights. Companies will need to adjust their remedies accordingly.

Some practical steps

My research with Alexandra Gerbasi of the University of Surrey and Andrew Parker of the University of Kentucky³ shows that de-energizing relationships—those that are negative or draining—have a four to seven times stronger negative impact on performance than the positive effects of relationships that are energizing (defined as leaving employees feeling enthused or upbeat). Where possible, weed out toxic people before they join

your organization. Interview for civility, using structured interviews with behavioral questions. Check references thoroughly, but also go beyond provided references, chasing down leads and hunches.


Make it clear to employees that they need to hold their managers and colleagues accountable for living up to your norms of civility. When asked why they were uncivil, more than 25 percent of those I surveyed blamed their organization for not providing them with the basic skills they needed. To teach employees these skills, you might offer training on giving and receiving feedback (positive and corrective), working across cultural differences, and dealing with difficult people. Coaching on negotiation, stress management, crucial conversations, and mindfulness can help as well. Develop a set of civility metrics to assure that change is sustained.

Leadership is crucial. In my research, the number-one attribute that garnered commitment and engagement from employees was respect from their leaders. In fact, no other leadership behavior had a bigger effect on employees across the outcomes measured. Being treated with respect was more important to employees than recognition and appreciation, communicating an inspiring vision, providing useful feedback, or even providing opportunities for learning, growth, and development.

The research found that those getting respect from their leaders reported much higher levels of health and well-being; derived greater enjoyment, satisfaction, and meaning from their jobs; and had

better focus and a greater ability to prioritize. Those feeling respected were also much more likely to engage with work tasks and more likely to stay with their organizations.

While these interventions and changes in leadership mind-sets can help rebalance an already uncivil environment, it's also important to note that promoting organizational health more broadly may be the best way to keep the early shoots of incivility from taking hold. Organizations that neglect values, role model inappropriate behavior, fail to instill meaning at work, or don't take collaboration seriously will be fertile soil for problem behavior. When organizations address these issues systematically, more civility will follow.

A final thought: in a period of continuous corporate change, injecting more civility can help companies navigate the uncertainty and volatility. My research suggests that employees who feel that they're being treated respectfully are also much more motivated to embrace and drive change. 

¹ See Jeffrey Zaslow, "The most-praised generation goes to work," *Wall Street Journal*, April 20, 2007, wsj.com.

² See John Boudreau and Wayne Cascio, *Investing in People: Financial Impact of Human Resources Initiatives*, Indianapolis: FT Press, 2008.

³ See Andrew Parker, Alexandra Gerbasi, and Christine Porath, "The effects of de-energizing ties in organizations and how to manage them," *Organizational Dynamics*, 2013, Volume 42, pp. 110–18.

Christine Porath is an associate professor at the McDonough School of Business at Georgetown University and is the author of *Mastering Civility* (Grand Central Publishing, 2016).

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DIGITAL MUSIC'S ASIAN BEAT

The heady growth of new music-streaming services in the region may contain lessons for other industries.

by Tycen Bundgaard, Axel Karlsson, and Alan Lau

The digital music industry's future is likely to have a distinctly Asian beat. Innovative, regionally based music-streaming platforms have recently grabbed a significant share of Asia's fast-growing markets and are now striving to forge a revenue model that will be sustainable in the years ahead. Other industries seeking to ride Asia's digital updraft may learn from their experiences.¹

Asian consumers have switched from downloading to streaming far quicker than their Western counterparts. Fifty-six percent of digital music revenue in the region comes from streaming, up from very low rates of streaming penetration only two years ago. By contrast, in the United States, revenue from streaming for 2015 was around 34 percent. Although global heavyweights like Spotify were among the first into the Asian market, regional players such as JOOX have since captured a huge share of music-streaming downloads (exhibit). They play a home-field advantage, deploying localized editorial teams and user interfaces, and amp up music content from across the region.

As they have gained scale and reach, these new services have attracted interest from brand advertisers eager to

target Asia's youthful audiences. Mobile operators, meanwhile, have bundled music-streaming packages as part of their data-plan offerings.

Even with a mushrooming user base, however, players are still shaping a business model suited for the long haul. Lower incomes in many markets mean subscription revenues per user and advertising rates on streaming platforms are lower than in the West. Asia accounts for just 14 percent of global digital music revenues. Relatively high mobile data fees are also a burden.

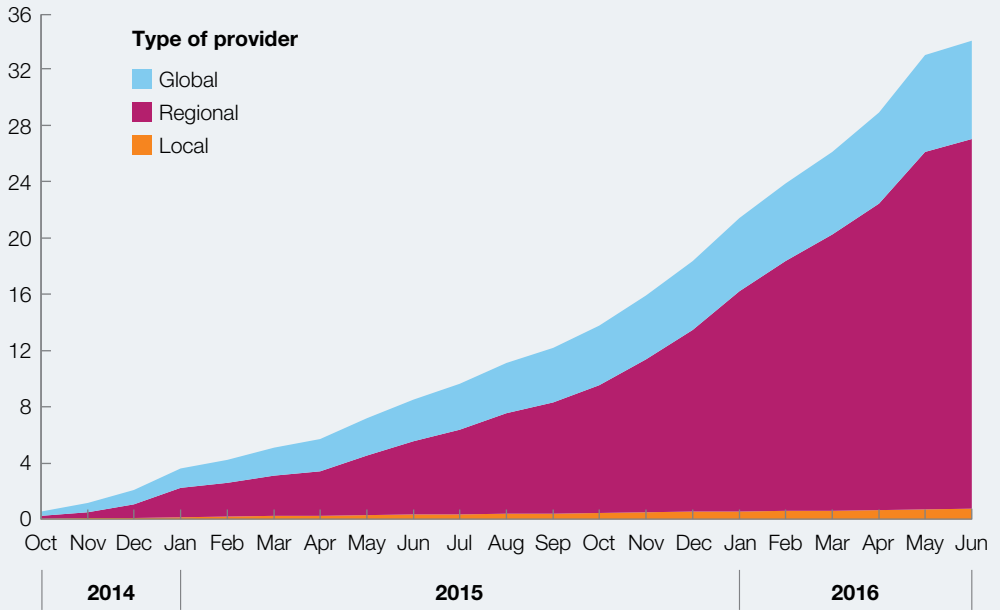
Our analysis shows that for a hypothetical leading streaming service (with a 15–20 percent market share) to cover its content costs, it would need to either get 60 percent of its users to buy a premium subscription or attract 30 percent more advertising revenue than the total regional streaming industry achieved in 2015.

New music-streaming services are eyeing fresh, innovative ways to tap Asia's huge potential, born of rapid growth in Internet penetration and smartphone usage, particularly among young people. These new players are using big data, for example, to deliver more targeted advertising and marketing messages,

Exhibit

Regionally based music-streaming platforms have gained a significant share of Asia's fast-growing markets.

New monthly downloads, cumulative in millions¹



¹ Represents iOS and Android downloads from October 2014 to June 2016.

Source: Priori Data


augmenting their effectiveness as a marketing platform for brands. They are teaming up with music-rights holders to produce original content and experiment with live concerts online. And they are working to develop customized music-streaming content that will help telcos lure new mobile customers.

Those music streamers that crack the code could offer a road map for other digital products and industries hoping to navigate Asia's burgeoning digital markets. 

¹ Our analysis covered only Asian growth markets under \$30 million: Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, Taiwan, and Thailand.

Tycen Bundgaard is a partner in McKinsey's Singapore office; **Alan Lau** is an alumnus of the Hong Kong office, where **Axel Karlsson** is a senior partner.

The authors wish to thank Roy Liu and Andrew Pereira for their contributions to this article.

 Download the full report on which this article is based, *The beat of progress: The rise of music streaming in Asia*, on [McKinsey.com](https://www.mckinsey.com).

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THE BRIGHTENING ECONOMICS OF ENERGY STORAGE


Costs are falling as battery technologies advance, and research shows that utilities can already provide storage profitably for many customers.

by Paolo D'Aprile, John Newman, and Dickon Pinner

Storing electric power cheaply and effectively has long offered tantalizing benefits. Storage opens the door to harnessing intermittent wind and solar power, would allow utilities to better manage peak loads and reduce capital costs, and may be key to unlocking the potential of electric vehicles. Promise aside, storage remains a very small factor in today's energy markets. However, improved battery technologies and falling prices offer room for optimism. Our research suggests that even in today's markets, there is considerable potential for utilities to increase their storage investments and turn a profit.


Using data on utility production and consumption, the price and performance of batteries, and electricity tariffs, we modeled more than a thousand power-usage profiles for customers in six cities. We found that in many instances, utilities offer storage services profitably. The exhibit shows a range of potential returns, as well as the amount of storage required for each. Interestingly, even identical buildings next door to one another may have different profitability profiles, depending on patterns of electricity use.

Underlying these findings are the improving economics of storage

provision. We found that by investing in storage, utilities could cut the operating costs of expensive production facilities during peak periods. Some of those savings could be passed along to consumers through lower peak-usage charges. Investment in storage systems would also allow utilities to better manage the rising costly imbalances that challenge power grids as millions of new electronic devices are turned on and off in an uncorrelated way. It would permit power companies to store today's excess wind and solar generation for later sale. In the meantime, more storage could increase the benefits utility customers could reap by investing in small-scale solar installations and stocking surplus power for use during peak periods, when tariffs are higher. 

Paolo D'Aprile is an associate partner in McKinsey's Rome office; **John Newman** is an alumnus of the San Francisco office, where **Dickon Pinner** is a senior partner.

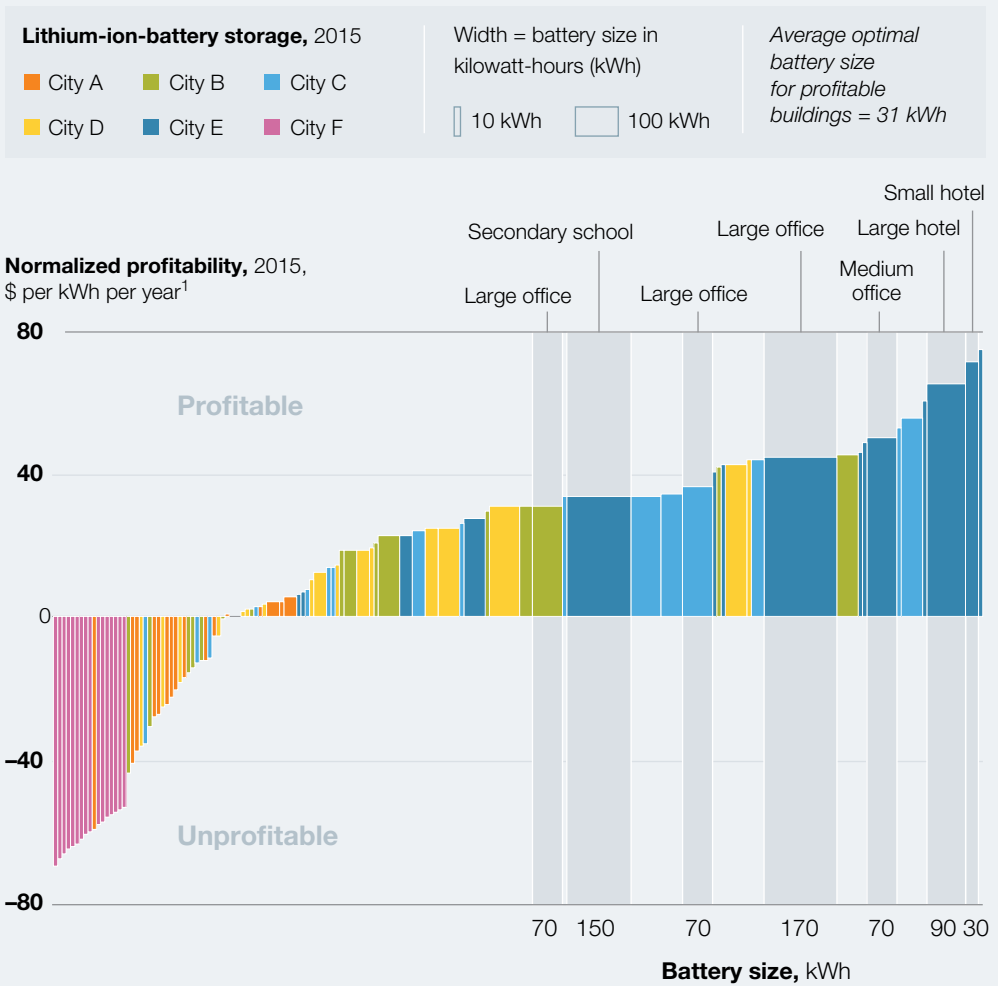
The authors wish to thank Hussein Abdelhalim and Benedikt Battke for their contributions to this article.

 For additional insights, see "The new economics of energy storage," on [McKinsey.com](https://www.mckinsey.com).

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Exhibit

Storage is profitable across a number of cities and building types.



¹ Assumes 4% weighted average cost of capital.


RETHINKING THE OIL AND GAS ORGANIZATION

Organizational choices made during a time of resource scarcity need reexamination when the cycle turns.

by Christopher Handscomb, Scott Sharabura, and Jannik Woxhoth

When business cycles turn, cyclical industries can struggle to retool their organizations for the new environment. For instance, today's oil and gas companies were developed in a time of resource scarcity. To get at those hard-to-find, difficult-to-develop resources, companies greatly expanded the role of their central functions—mandating them to set common standards, make technical design decisions, track company-wide metrics, and disseminate best practices. This worked well during a decade of high growth and high prices but created complexity that added costs, stifled innovation, and slowed down decision making. As these central teams expanded, general and administrative costs grew fivefold, hitting nearly \$5 per barrel (exhibit), with the biggest increases coming from technical functions such as engineering, geosciences, and health and safety.

With prices now below \$50 a barrel, that organizational blueprint is no longer sustainable. While companies have cut their support functions since 2014, the overall organizations supported by these functions are also smaller. This suggests further reductions in corporate functions will be needed, as well as new organizational models.

A more agile organization, with fluid teams and looser hierarchies, can lower costs and create greater responsiveness to today's vastly different markets—ranging from megaprojects to less asset-heavy unconventional shale-oil and renewable-asset plays. Technologies such as networked sensors that generate and share data can help optimize production processes, while digitally enabled automation of routine manual activity can reduce human risk and spur productivity. Critically, the structures built to manage scarce talent and large-scale megaprojects will need to be fundamentally redesigned. We see two models arising: for lower-risk assets such as tight oil, a very lean corporate center with highly autonomous asset teams will suffice, while higher-risk, more capital-intensive assets will need a comparatively stronger center with deeper functional and risk-management capabilities. 

Christopher Handscomb is a partner in McKinsey's London office, **Scott Sharabura** is an associate partner in the Calgary office, and **Jannik Woxhoth** is a consultant in the Oslo office.

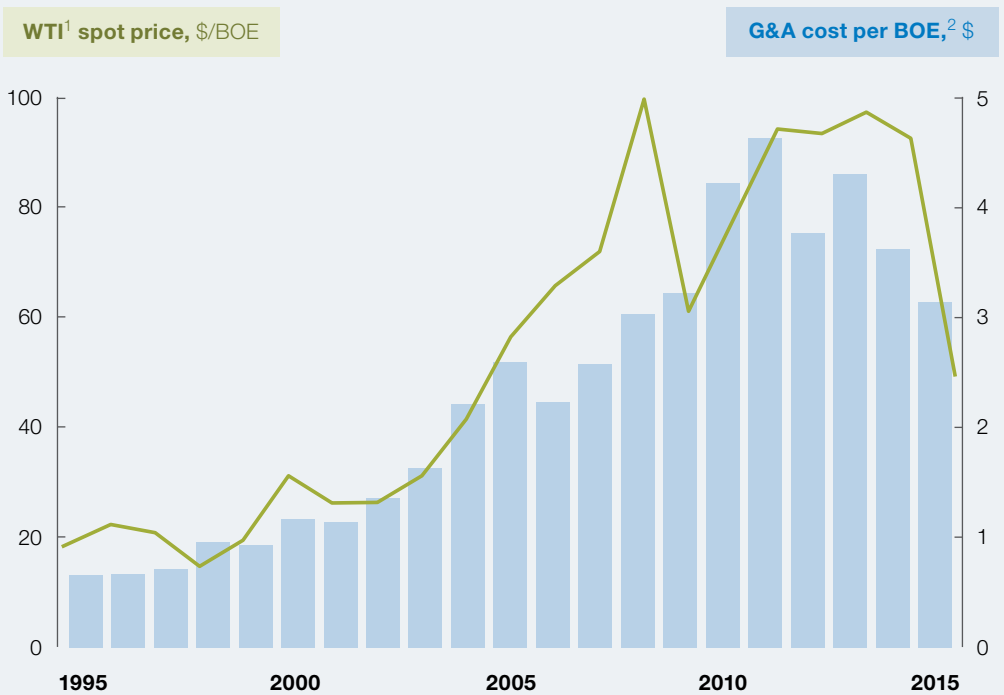


For additional insights, see "The oil and gas organization of the future," on McKinsey.com.

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Exhibit

Oil companies have cut support functions since 2014 but must consider more radical organizational changes as prices remain weak.



¹ WTI = West Texas Intermediate.

² G&A = general and administrative; BOE = barrel of oil equivalent. Data represent -130 North American exploration and production players.

OMNICHANNEL, NOT OMNISHAMBLES

Providing an omnichannel customer experience requires companies to become more flexible and responsive.

by Raffaella Bianchi, Michal Cermak, and Ondrej Dusek


Although consumers have quickly adopted digital channels for both service and sales, they aren't abandoning traditional retail stores and call centers in their interactions with companies. Increasingly, customers expect "omnichannel" convenience that allows them to start a journey in one channel (say, a mobile app) and end it in another (by picking up the purchase in a store).

For companies, the challenge is to provide high-quality service from end to end, regardless of where the ends might be. That was the case for a regional bank that sensed that too many customers were falling into gaps between channels.


Mapping its customers' journeys confirmed the suspicions (exhibit). Four out of five potential loan customers visited the bank's website, but from there, their paths diverged as they sought different ways to have their questions answered. About 20 percent stayed online, another 20 percent phoned a call center, and 15 percent visited a branch, with the remainder leaving the process.

The channels' differing performance pointed to specific problems. Ultimately, more than one-fifth of customers who visited a branch ended up getting loans.

But in the online channel, less than 1 percent got a loan after almost 80 percent dropped out rather than fill in a registration form. Finally, in call centers, a mere one-tenth of 1 percent of customers received a loan—perhaps not surprising, since only 2 percent even requested an offer.

To integrate digital and traditional channels more effectively, the bank had to become more agile, with the understanding that its one-size-fits-most processes would no longer work. Complex registration forms were simplified and tailored to different types of customers. Revised policies clarified which channel took the lead when customers moved between channels. And new links between the website and the call centers enabled agents to follow up when online customers left a form incomplete. Together, these types of changes helped increase sales of current-account and personal-loan products by more than 25 percent across all channels. 

Raffaella Bianchi is an alumna of McKinsey's Milan office, **Michal Cermak** is a partner in the Prague office, and **Ondrej Dusek** is a partner in the San Francisco office.

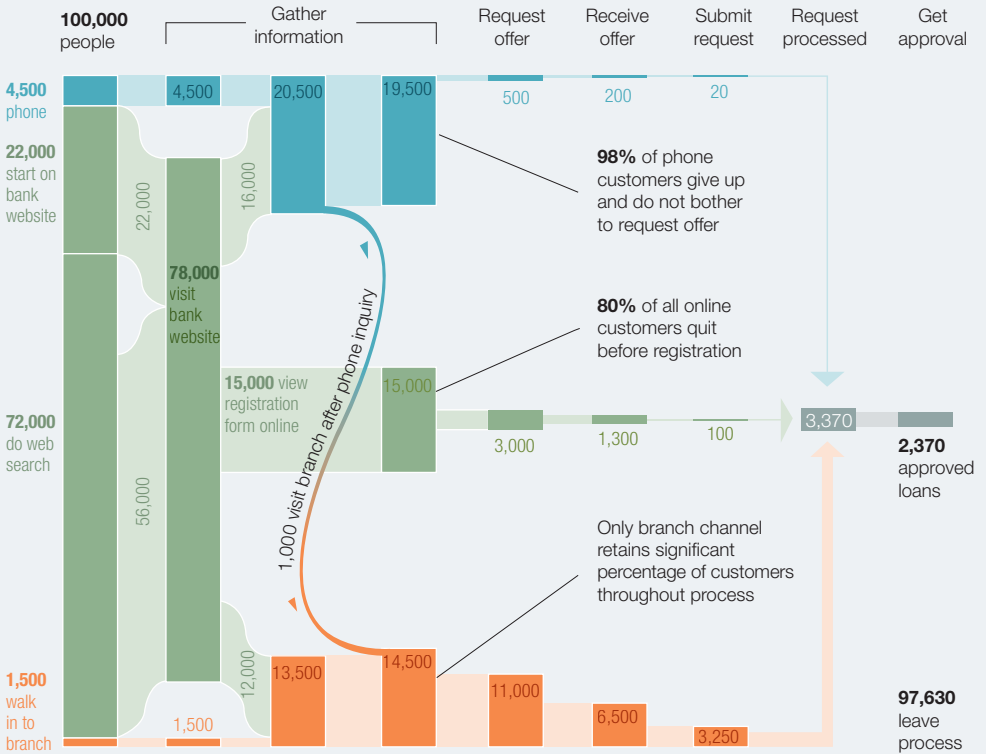
 For additional insights, see "More than digital plus traditional: A truly omnichannel customer experience," on [McKinsey.com](#).

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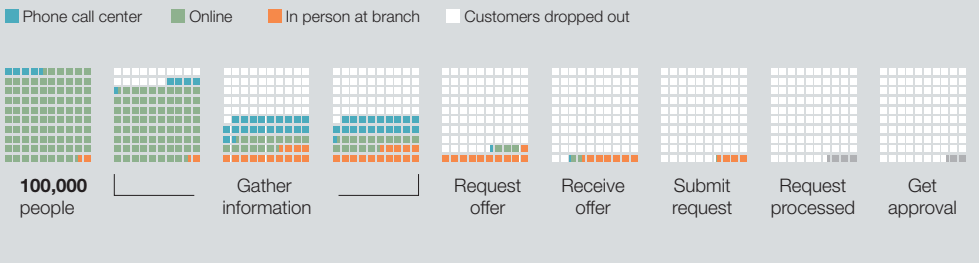
Exhibit

Mapping customer flows highlights pain points.

Average monthly customer flows for loan products by channel,¹ indexed to 100,000



Where loan customers are lost



¹ Preapproved loans excluded.

Source: Call-center data; Google Analytics; interviews; McKinsey analysis

AN 'UBER' FOR CHINESE E-COMMERCE

Logistics companies are struggling to match delivery capacity to fluctuating demand. A new digital platform could help.


by Lambert Bu, Yuanpeng Li, and Min Shao

In Europe and the United States, major online retail players, such as Germany's Otto Group and Amazon, dominate the e-commerce market and oversee highly efficient distribution chains. In China, by contrast, the e-commerce sector is fragmented, and as a result the country's logistics players struggle to keep up not only with the dizzying rates of e-shopping growth (50 percent and more) but also with the wide variability in demand. During slack periods, trucks are often loaded to only 30 to 40 percent of their capacity, raising costs. At peak times, such as the buildup to China's Singles' Day (when shipments run five to ten times higher than usual), merchants complain that orders are lost because of delivery delays.

About 50 companies have been testing a new app-based approach to managing demand swings that uses digital and social technologies. An Uber-like shipping platform links merchants with multiple logistics companies' trucking fleets and drivers, enabling the companies to share capacity when they have room to do so.

The app, furthermore, serves to mobilize an on-demand pool of thousands of independent urban Chinese delivery drivers. The service provides dynamic

profiles of drivers, their delivery records, and their capabilities—such as whether they do unpacking or installation work. It also enables users to rate drivers, thereby encouraging merchants to turn to competing logistics services (beyond their contracted vendor) or to the many independents they might previously have considered unreliable (exhibit).

The app offers pricing information, a detailed trip planner, and route maps that help drivers better navigate traffic and improve delivery times. It provides a sequence of suggested pickup sites and optimizes loads for the size of the vehicle. The app has allowed established players to reduce fleet costs by 30 percent in some cases and to avoid cancelled orders. Independents have gained a valuable new tool to maximize revenues. 

Lambert Bu and **Min Shao** are partners in McKinsey's Shanghai office, where **Yuanpeng Li** is an associate partner.

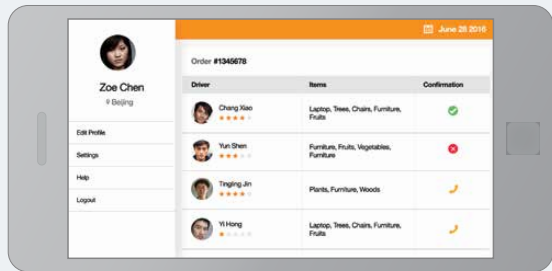
The authors wish to thank Flora Feng for her contribution to this article.

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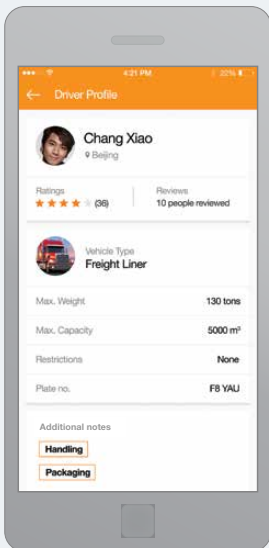
Exhibit

Chinese logistics companies are testing an Uber-like app to manage demand swings.

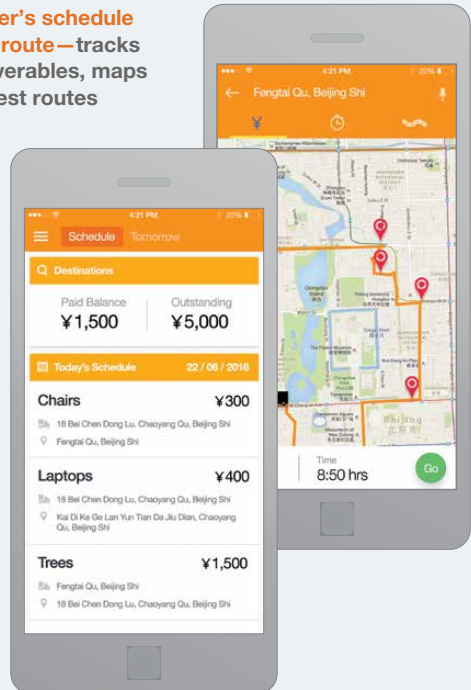
Shipper's review—
displays order items
and drivers' status



Driver's profile—
provides shippers with
driver's vehicle
capacity and ratings



**Driver's schedule
and route—**tracks
deliverables, maps
fastest routes





The case for digital reinvention

Digital technology, despite its seeming ubiquity, has only begun to penetrate industries. As it continues its advance, the implications for revenues, profits, and opportunities will be dramatic.

by Jacques Bughin, Laura LaBerge, and Anette Mellbye

As new markets emerge, profit pools shift, and digital technologies pervade more of everyday life, it's easy to assume that the economy's digitization is already far advanced. According to our latest research, however, the forces of digital have yet to become fully mainstream. On average, industries are less than 40 percent digitized, despite the relatively deep penetration of these technologies in media, retail, and high tech.

As digitization penetrates more fully, it will dampen revenue and profit growth for some, particularly the bottom quartile of companies, according to our research, while the top quartile captures disproportionate gains. Bold, tightly integrated digital strategies will be the biggest differentiator between companies that win and companies that don't, and the biggest payouts will go to those that initiate digital disruptions. Fast-followers with operational excellence and superior organizational health won't be far behind.

These findings emerged from a research effort to understand the nature, extent, and top-management implications of the progress of digitization. We tailored our efforts to examine its effects along multiple dimensions: products and services, marketing and distribution channels, business processes,

supply chains, and new entrants at the ecosystem level (for details, see sidebar “About the research”). We sought to understand how economic performance will change as digitization continues its advance along these different dimensions. What are the best-performing companies doing in the face of rising pressure? Which approach is more important as digitization progresses: a great strategy with average execution or an average strategy with great execution?

The research-survey findings, taken together, amount to a clear mandate to act decisively, whether through the creation of new digital businesses or by reinventing the core of today’s strategic, operational, and organizational approaches.

MORE DIGITIZATION—AND PERFORMANCE PRESSURE—AHEAD

According to our research, digitization has only begun to transform many industries (Exhibit 1). Its impact on the economic performance of companies, while already significant, is far from complete.

This finding confirms what many executives may already suspect: by reducing economic friction, digitization enables competition that pressures revenue and profit growth. Current levels of digitization have already taken out, on average, up to six points of annual revenue and 4.5 points of growth in earnings before interest and taxes (EBIT). And there’s more pressure ahead, our research suggests, as digital penetration deepens (Exhibit 2).

While the prospect of declining growth rates is hardly encouraging, executives should bear in mind that these are *average* declines across *all* industries. Beyond the averages, we find that performance is distributed unequally, as digital further separates the high performers from the also-rans. This finding is consistent with a separate McKinsey research stream, which also shows that economic performance is extremely unequal. Strongly performing industries, according to that research, are three times more likely than others to generate market-beating economic profit. Poorly performing companies probably won’t thrive no matter which industry they compete in.¹

At the current level of digitization, median companies, which secure three additional points of revenue and EBIT growth, do better than average ones, presumably because the long tail of companies hit hard by digitization pulls down the mean. But our survey results suggest that as digital increases

¹ Chris Bradley, Angus Dawson, and Sven Smit, “The strategic yardstick you can’t afford to ignore,” *McKinsey Quarterly*, October 2013, McKinsey.com.

economic pressure, all companies, no matter what their position on the performance curve may be, will be affected.

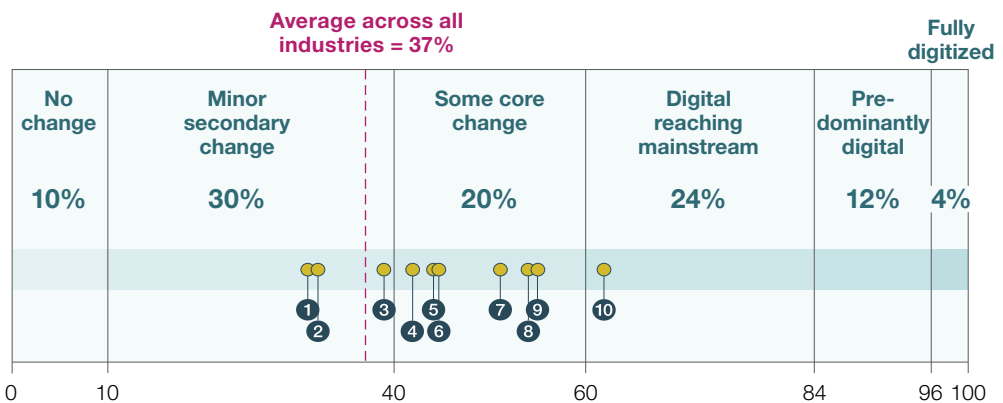
UNEVEN RETURNS ON INVESTMENT

That economic pressure will make it increasingly critical for executives to pay careful heed to where—and not just how—they compete and to monitor closely the return on their digital investments. So far, the results are uneven. Exhibit 3 shows returns distributed unequally: some players in every industry are earning outsized returns, while many others in the same industries are experiencing returns below the cost of capital.

Exhibit 1

Digital is penetrating all sectors, but to varying degrees.

Perception of digital penetration by industry,¹ % of respondents



Selected industries²

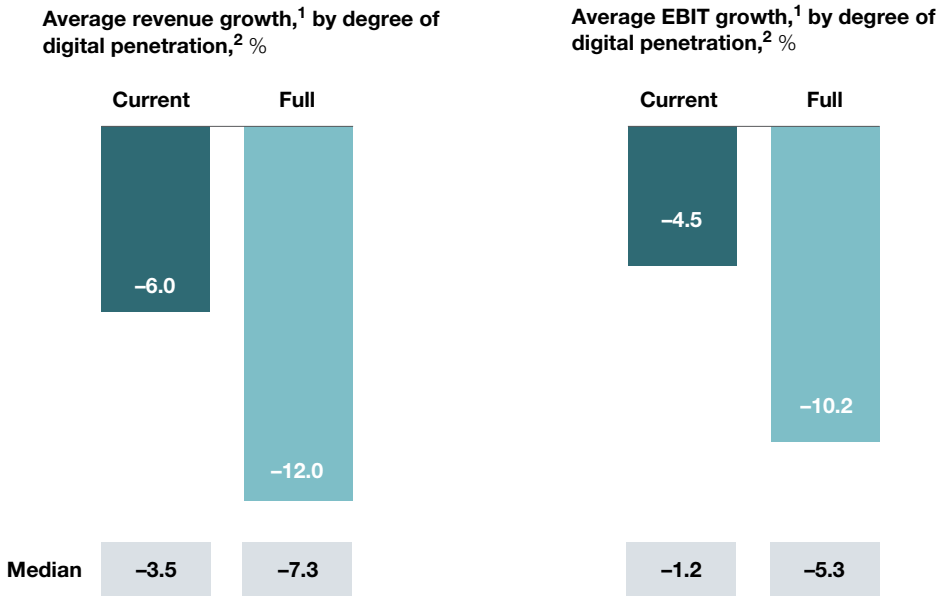
- | | |
|---------------------------------|--|
| ① Consumer packaged goods (31%) | ⑥ Travel, transport, and logistics (44%) |
| ② Automotive and assembly (32%) | ⑦ Healthcare systems and services (51%) |
| ③ Financial services (39%) | ⑧ High tech (54%) |
| ④ Professional services (42%) | ⑨ Retail (55%) |
| ⑤ Telecom (44%) | ⑩ Media and entertainment (62%) |

¹ Data reflect average of respondents' ratings on degree of change in the past three years within each industry across 5 dimensions (products, marketing and distribution, processes, supply chains, and new entrants at the ecosystem level).

² For consumer packaged goods, n = 85; automotive and assembly, n = 112; financial services, n = 310; professional services, n = 307; telecom, n = 55; travel, transport, and logistics, n = 103; healthcare systems and services, n = 78; high tech, n = 348; retail, n = 89; and media and entertainment, n = 86.

Exhibit 2

Digitization is putting pressure on revenue and profit growth.



¹ We based our model of average growth in revenues and earnings before interest and taxes (EBIT) at current and full digitization on survey respondents' perceptions of their companies' responses to digitization, postulating causal links, and calculating their magnitude through both linear- and probit-regression techniques.

² Digital penetration estimated using survey responses; average digital penetration across industries currently = 37%.

These findings suggest that some companies are investing in the wrong places or investing too much (or too little) in the right ones—or simply that their returns on digital investments are being competed away or transferred to consumers. On the other hand, the fact that high performers exist in every industry (as we'll discuss further in a moment) indicates that some companies are getting it right—benefiting, for example, from cross-industry transfers, as when technology companies capture value in the media sector.

WHERE TO MAKE YOUR DIGITAL INVESTMENTS

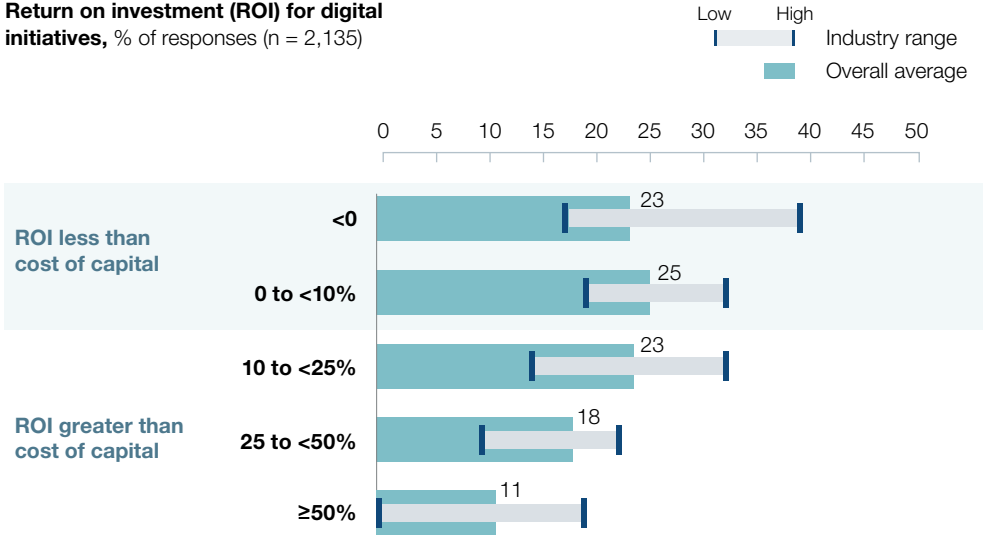
Improving the ROI of digital investments requires precise targeting along the dimensions where digitization is proceeding. Digital has widely expanded the number of available investment options, and simply spreading the same amount of resources across them is a losing proposition. In our research, we measured five separate dimensions of digitization's advance into industries: products and services, marketing and distribution channels, business processes, supply chains, and new entrants acting in ecosystems.

How fully each of these dimensions has advanced, and the actions companies are taking in response, differ according to the dimension in question. And

Exhibit 3

Some digital initiatives generate attractive returns, while others don't return their cost of capital.

Return on investment (ROI) for digital initiatives, % of responses (n = 2,135)



there appear to be mismatches between opportunities and investments. Those mismatches reflect advancing digitization's uneven effect on revenue and profit growth, because of differences among dimensions as well as among industries. Exhibit 4 describes the rate of change in revenue and EBIT growth that appears to be occurring as industries progress toward full digitization. This picture, combining the data for all of the industries we studied, reveals that today's average level of digitization, shown by the dotted vertical line, differs for each dimension. Products and services are more digitized, supply chains less so.

To model the potential effects of full digitization on economic performance, we linked the revenue and EBIT growth of companies to a given dimension's digitization rate, leaving everything else equal. The results confirm that digitization's effects depend on where you look. Some dimensions take a bigger bite out of revenue and profit growth, while others are digitizing faster. This makes intuitive sense. As platforms transform industry ecosystems, for example, revenues grow—even as platform-based competitors put pressure on profits. As companies digitize business processes, profits increase, even though little momentum in top-line growth accompanies them.

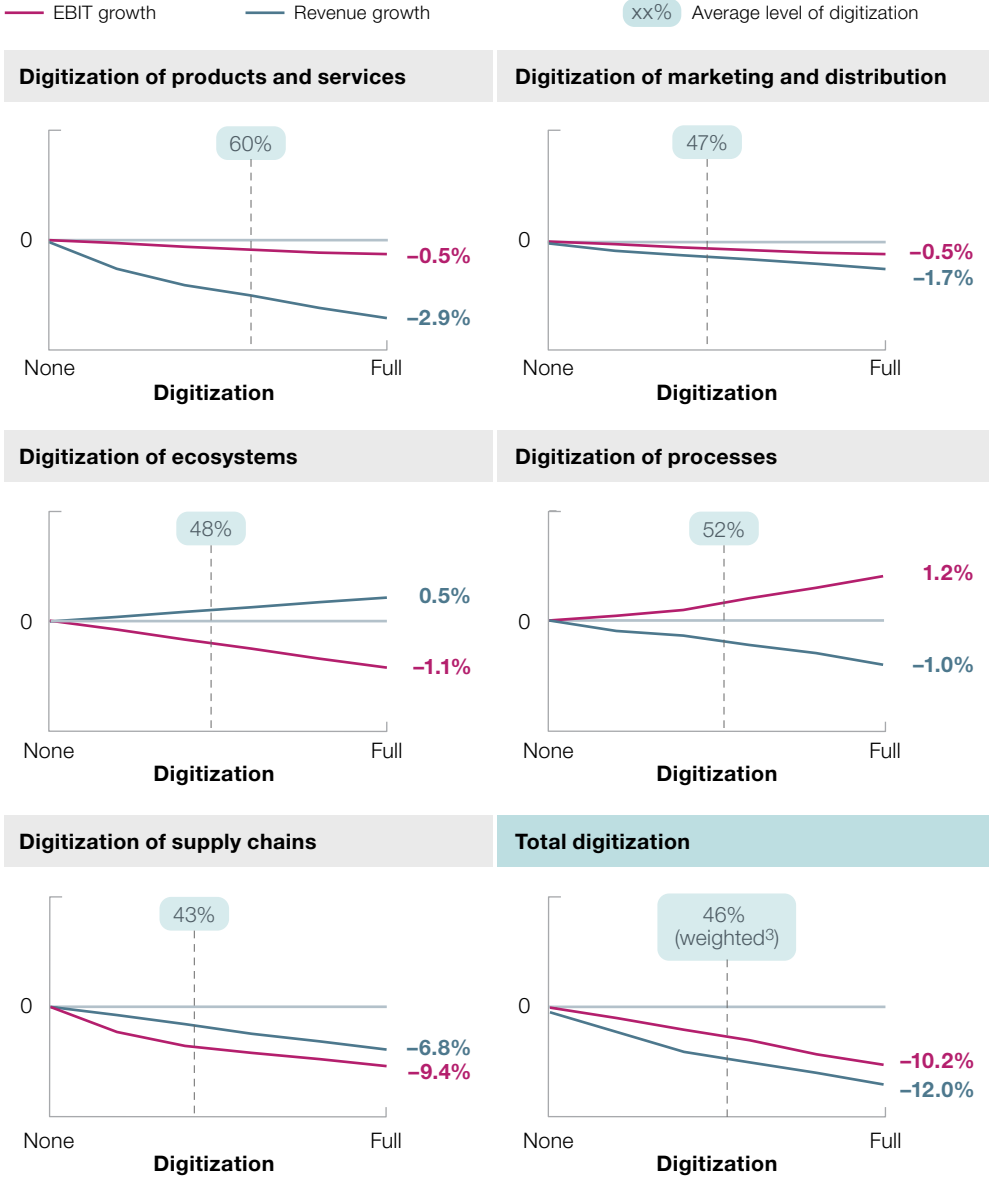
The biggest future impact on revenue and EBIT growth, as Exhibit 4 shows, is set to occur through the digitization of supply chains. In this dimension, full digitization contributes two-thirds (6.8 percentage points of 10.2 percent)

Exhibit 4

Products are more digitized, while supply chains are less so.

Effect of digitization on EBIT¹ and revenue relative to current growth trajectory (represented as 0),² % difference

Note: y axes scale to different values



¹EBIT = earnings before interest and taxes.

²We based our model of average growth in revenue and EBIT at current and full digitization on survey respondents' perceptions of their companies' responses to digitization, postulating causal links, and calculating their magnitude through both linear- and probit-regression techniques.

³Weighted average for industries whose respondents replied on each of the 5 dimensions, reflecting a subset of total respondents surveyed. Unweighted average level of digitization across industries for all respondents = 37%.

of the total projected hit to annual revenue growth and more than 75 percent (9.4 out of 12 percent) to annual EBIT growth.

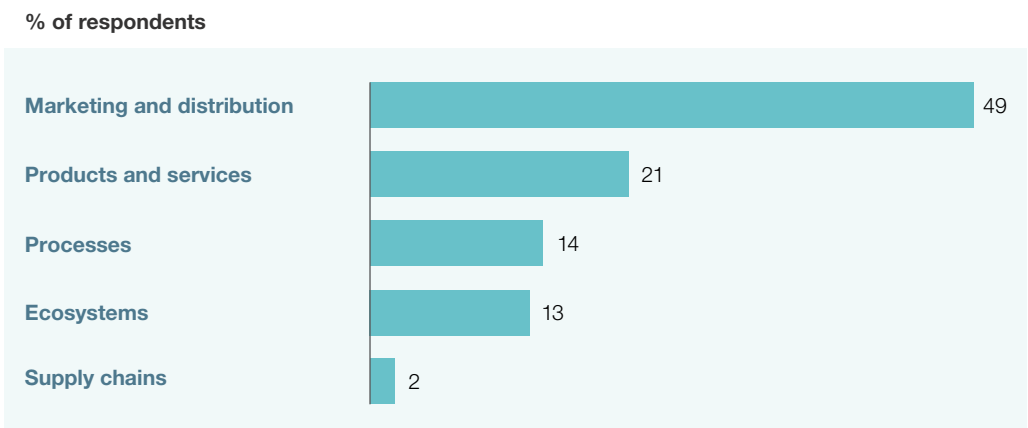
Despite the supply chain’s potential impact on the growth of revenues and profits, survey respondents say that their companies aren’t yet investing heavily in this dimension. Only 2 percent, in fact, report that supply chains are the focus of their forward-looking digital strategies (Exhibit 5), though headlining examples such as Airbnb and Uber demonstrate the power of tapping previously inaccessible sources of supply (sharing rides or rooms, respectively) and bringing them to market. Similarly, there is little investment in the ecosystems dimension, where hyperscale businesses such as Alibaba, Amazon, Google, and Tencent are pushing digitization most radically, often entering one industry and leveraging platforms to create collateral damage in others.²

Instead, the survey indicates that distribution channels and marketing are the primary focus of digital strategies (and thus investments) at 49 percent of companies. That focus is sensible, given the extraordinary impact digitization has already had on customer interactions and the power of digital tools to target marketing investments precisely. By now, in fact, this critical dimension has become “table stakes” for staying in the game. Standing pat is not an option.

² For more about the supply-and-demand vectors through which disruptive threats and opportunities emerge, see Angus Dawson, Martin Hirt, and Jay Scanlan, “The economic essentials of digital strategy,” *McKinsey Quarterly*, March 2016, McKinsey.com.

Exhibit 5

Where are companies focusing their forward-looking digital strategies?



STRUCTURING YOUR DIGITAL REINVENTION

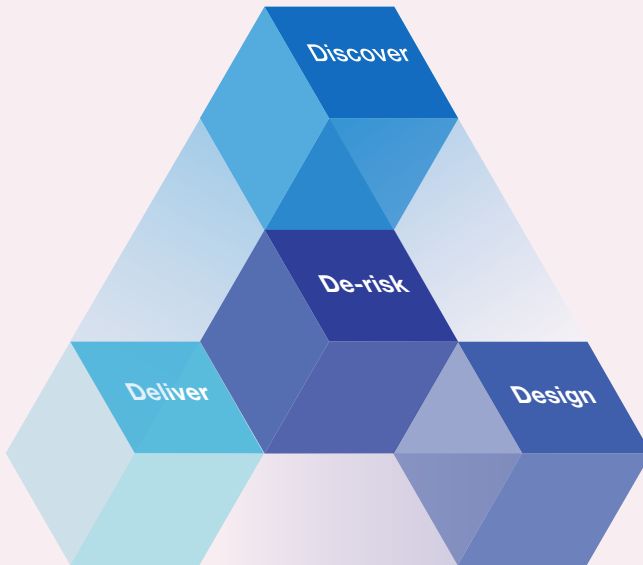
Leading companies invest more boldly in digital than their less well-performing counterparts do, according to McKinsey's 2016 digital survey. They also invest more *broadly* by targeting each dimension in which digitization is rapidly advancing: products and distribution, business processes, supply chains, and ecosystems. As executives look to deepen and broaden the digital reinvention of their own companies, they may benefit from a structured process grouped around discovering, designing, delivering, and de-risking their digital investments (exhibit). Let's look at each of these in turn.

average economic profit, according to McKinsey analysis, executives must *discover* the industry-level insights needed to identify sources of disruption as markets evolve. By grounding their insights in supply-and-demand shifts, they can more clearly recognize the vectors where disruption originates.¹ This reinvention phase also requires companies to assess the capabilities they must have to realize their strategic aspirations so that they can identify critical needs: cloud-based solutions, personalization and analytics, agile techniques, performance optimization, or something else.

Since industry effects account for two-thirds of a company's variation from

Given the broad scope of the investment required, digital reinventions mandate an

Exhibit



Discover:
Shape digital ambition, strategy, and business case based on industry-level insights

Design:
Reinvent and prototype new capabilities and breakthrough journeys as part of a program

Deliver:
Activate an ecosystem of external partners to rapidly deliver at scale

De-risk:
Structure the change program, resources, and commercial model to reduce operational and financial risk

end-to-end *design* of business processes, with close attention to customer use cases, IT requirements, and organizational elements (such as structure, talent, incentives, and culture). The output of this work is a digital blueprint to address capability gaps and to recruit, develop, provide incentives for, and retain the necessary talent. The resulting implementation plan prioritizes the initiatives that generate the greatest economic value.

With these essentials in place, a digital reinvention must now *deliver* the capabilities needed to meet a company's strategic goals. No organization will have all the capabilities it needs within its own walls. Executives must therefore develop an ecosystem of external teams, partners, suppliers, and customers, including a mix of platform players, delivery specialists, and niche outfits with specific industry expertise and capabilities. The reinvention team must not only play "air traffic

controller" for the project's numerous moving parts but also have the credibility and skill to solve problems along the many facets of the business.

Across all of these stages, executives can structure the process to minimize risk. Cybersecurity is one obvious area of focus. Companies can further *de-risk* their reinventions by embracing DevOps, in which teams learn to automate tests for software, establish systems that roll back failures in seconds, and make fixes without putting significant parts of the business at risk.²

¹ Angus Dawson, Martin Hirt, and Jay Scanlan, "The economic essentials of digital strategy," *McKinsey Quarterly*, March 2016, McKinsey.com.

² For more about integrating DevOps into the core of your business, see Satty Bhens, Ling Lau, and Shahar Markovitch, "Finding the speed to innovate," April 2015, McKinsey.com.

Peter Dahlström is a senior partner in McKinsey's London office, where **Liz Ericson** is a partner.

The question, it seems, looking at exhibits 4 and 5 in combination, is whether companies are overlooking emerging opportunities, such as those in supply chains, that are likely to have a major influence on future revenues and profits. That may call for resource reallocation. In general, companies that strategically shift resources create more value and deliver higher returns to shareholders.³ This general finding could be even more true as digitization progresses.

ON THE FRONT FOOT

Our survey results also suggest companies are not sufficiently bold in the magnitude and scope of their investments (see sidebar "Structuring your digital reinvention"). Our research (Exhibit 6) suggests that the more aggressively they respond to the digitization of their industries—up to and including initiating digital disruption—the better the effect on their projected revenue and profit growth. The one exception is the ecosystem

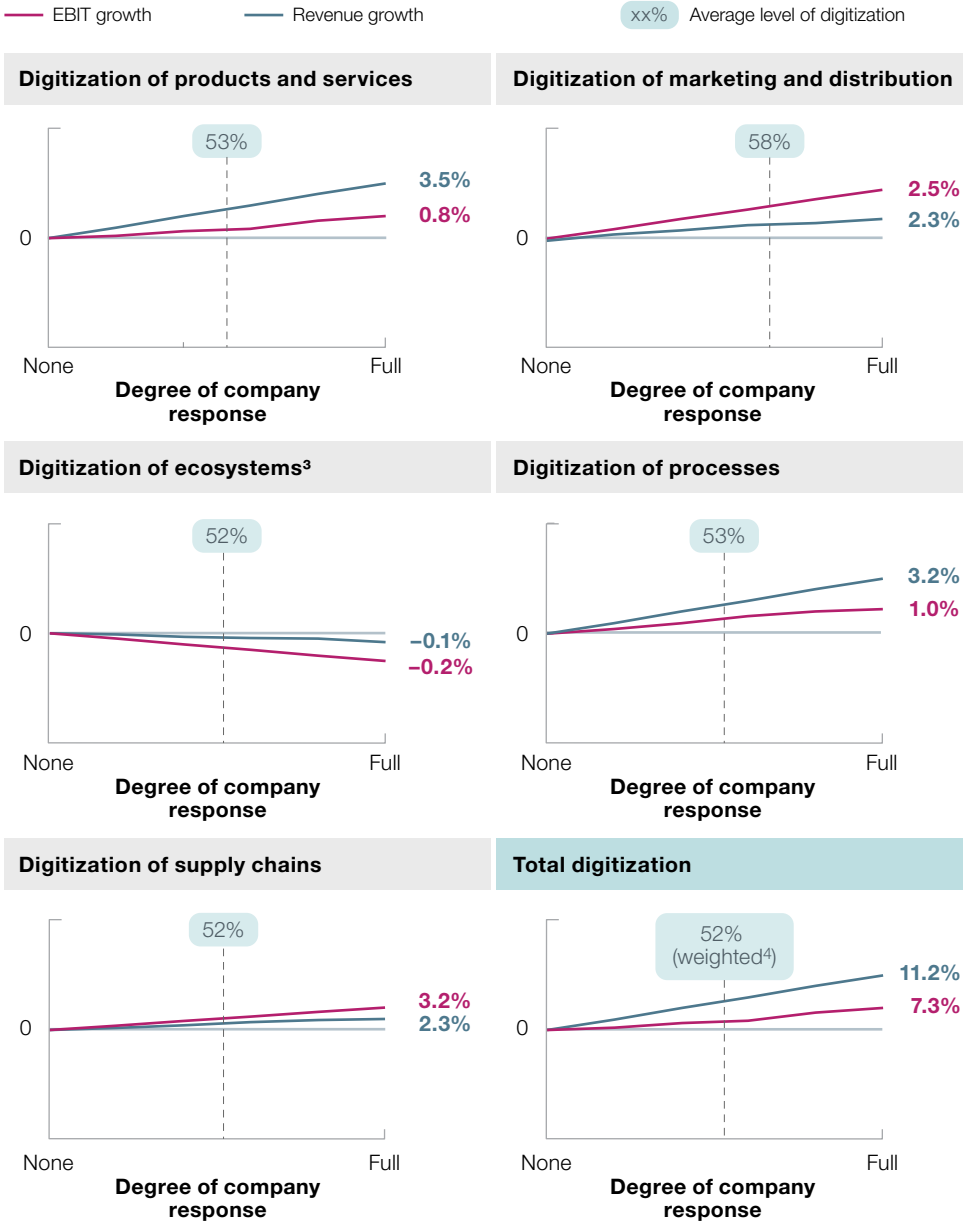
³ Stephen Hall, Dan Lovallo, and Reinier Musters, "How to put your money where your strategy is," *McKinsey Quarterly*, March 2012, McKinsey.com.

Exhibit 6

When companies respond to digitization assertively and across multiple dimensions, they improve their performance.

Effect of company response to digitization on EBIT¹ and revenue relative to current growth trajectory (represented as 0),² % difference

Note: y axes scale to different values



¹EBIT = earnings before interest and taxes.

²We based our model of average growth in revenue and EBIT at current and full digitization on survey respondents' perceptions of their companies' responses to digitization, postulating causal links, and calculating their magnitude through both linear- and probit-regression techniques.

³Overactive response to new competitors in ecosystems can actually lower projected growth.

⁴Weighted average for industries whose respondents replied on each of the 5 dimensions, reflecting a subset of total respondents surveyed. Unweighted average level of digitization across industries for all respondents = 37%.

dimension: an overactive response to new hyperscale competitors actually lowers projected growth, perhaps because many incumbents lack the assets and capabilities necessary for platform strategies.

As executives assess the scope of their investments, they should ask themselves if they have taken only a few steps forward in a given dimension—by digitizing their existing customer touchpoints, say. Others might find that they have acted more significantly by digitizing nearly all of their business processes and introducing new ones, where needed, to connect suppliers and users.

To that end, it may be useful to take a closer look at Exhibit 6, which comprises six smaller charts. The last of them totals up actions companies take in each dimension of digitization. Here we can see that the most assertive players will be able to restore more than 11 percent of the 12 percent loss in projected revenue growth, as well as 7.3 percent of the 10.4 percent reduction in profit growth. Such results will require action across all dimensions, not just one or two—a tall order for any management team, even those at today's digital leaders.

LOOKING AT THE DIGITAL WINNERS

To understand what today's leaders are doing, we identified the companies in our survey that achieved top-quartile rankings in each of three measures: revenue growth, EBIT growth, and return on digital investment.

We found that more than twice as many leading companies closely tie their digital and corporate strategies than don't. What's more, winners tend to respond to digitization by changing their corporate strategies significantly. This makes intuitive sense: many digital disruptions require fundamental changes to business models. Further, 49 percent of leading companies are investing in digital more than their counterparts do, compared with only 5 percent of the laggards, 90 percent of which invest less than their counterparts. It's unclear which way the causation runs, of course, but it does appear that heavy digital investment is a differentiator.

Leading companies not only invested more but also did so across *all* of the dimensions we studied. In other words, winners exceed laggards in both the *magnitude* and the *scope* of their digital investments (Exhibit 7). This is a critical element of success, given the different rates at which these dimensions are digitizing and their varying effect on economic performance.

Strengths in organizational culture underpin these bolder actions. Winners were less likely to be hindered by siloed mind-sets and behavior or by a fragmented view of their customers. A strong organizational culture is

important for several reasons: it enhances the ability to perceive digital threats and opportunities, bolsters the scope of actions companies can take in response to digitization, and supports the coordinated execution of those actions across functions, departments, and business units.

BOLD STRATEGIES WIN

So we found a mismatch between today’s digital investments and the dimensions in which digitization is most significantly affecting revenue and profit growth. We also confirmed that winners invest more, and more broadly and boldly, than other companies do. Then we tested two paths to growth as industries reach full digitization.

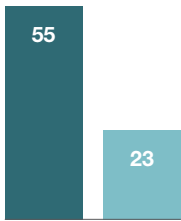
Exhibit 7

What leading companies do differently from the rest

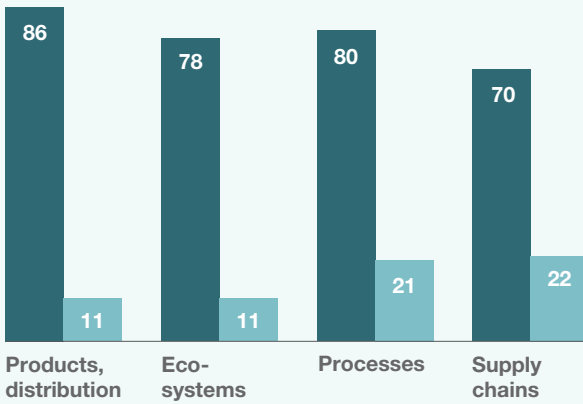
% of respondents¹
(n = 2,135)

■ Winners ■ Others

Ensure digital strategy is aligned with corporate strategy

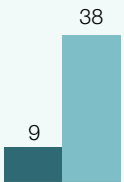


Exercise high level of strategic response to digital change in:

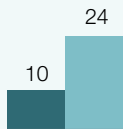


Avoid pitfalls in organization and culture

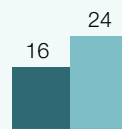
Have siloed mind-sets and behavior



Lack a common culture across business units



Lack a common view of their customers across the organization



The first path emphasizes strategies that change a business’s scope, including the kind of pure-play disruptions the hyperscale businesses discussed earlier generate. As Exhibit 8 shows, a great strategy can by itself retrieve all of the revenue growth lost, on average, to full digitization—at least in the aggregate industry view. Combining this kind of superior strategy with median performance in the nonstrategy dimensions of McKinsey’s digital-quotient framework—including agile operations, organization, culture, and talent—yields total projected growth of 4.3 percent in annual revenues. (For more about how we arrived at these conclusions, see sidebar “About the research.”)

Most executives would fancy the kind of ecosystem play that Alibaba, Amazon, Google, and Tencent have made on their respective platforms. Yet many recognize that few companies can mount disruptive strategies, at least at the ecosystem level. With that in mind, we tested a second path to revenue growth (Exhibit 9).

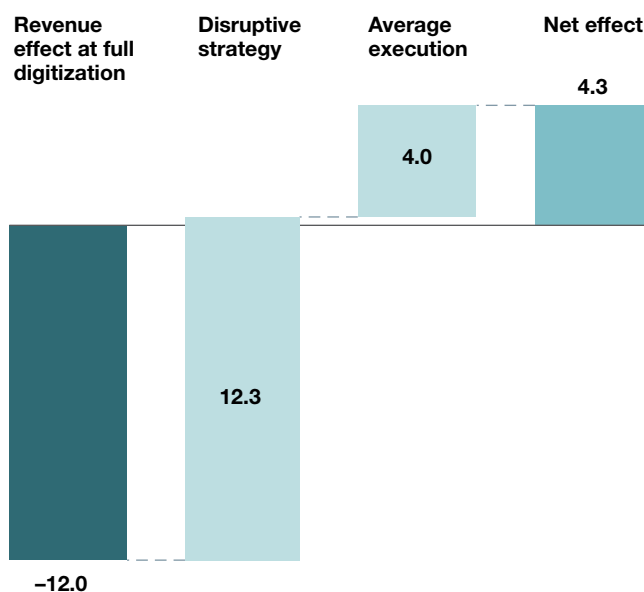
Companies in this profile lack a disruptive strategic posture but compensate by being in the top 25 percent for all the other elements of digital maturity.⁴ This fast-follower profile allows more room for strategic error—you don’t have to place your bets quite so precisely. It also increases the premium on how

⁴ For more about digital maturity, see Tanguy Catlin, Jay Scanlan, and Paul Willmott, “Raising your digital quotient,” *McKinsey Quarterly*, June 2015, McKinsey.com.

Exhibit 8

Disruptive strategies are a powerful response to intense digitization.

Revenue-growth profile, %



ABOUT THE RESEARCH

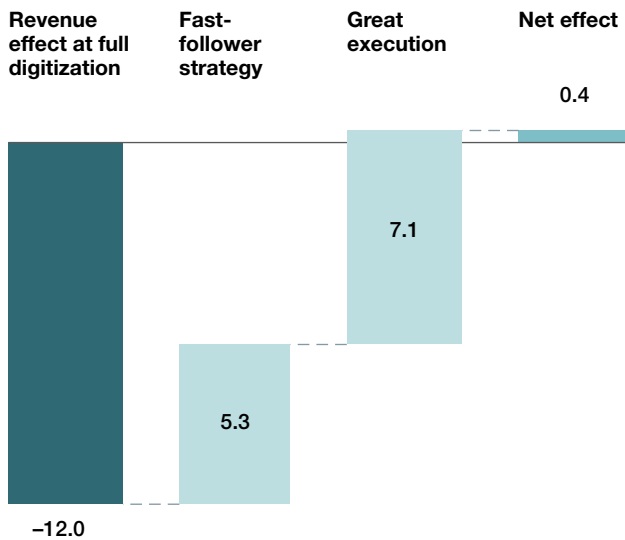
To go beyond the descriptive statistics that limit the relevance of so much survey research, we built a causal model of digital performance. The model's first input, from the survey itself, conveyed the current level of digitization (as reported by companies) in each of five dimensions: products and services, marketing and distribution channels, business processes, supply chains, and new entrants at the ecosystem level. The second input from the survey was the level of response companies had taken, and planned to take, on those dimensions, as well as their core enabling strategic and organizational capabilities.

We then modeled average growth in revenue and earnings before interest and taxes (EBIT) for all companies in the sample at current and full digitization, based on survey respondents' perceptions of their companies' responses to digitization, postulating causal links, and calculating their magnitude through both linear- and probit-regression techniques, controlling for industry, company size, geography, and type of customer segment (B2B or B2C).


Exhibit 9

Fast-following and great execution are the next best thing to disruption.

Revenue-growth profile, %



well you execute. The size of the win is just slightly positive at 0.4 percent in annual revenue growth: 5.3 percent from good (but not best-in-class disruptive) strategy and an additional 7.1 percent through top-quartile digital maturity. This is probably good news for incumbents, since many of them are carefully watching tech start-ups (such as those in fintech) to identify the winning plays and then imitating them at their own bigger scale. That approach, to be sure, demands cutting-edge agility to excel on all the operational and organizational aspects of digital maturity.

In the quest for coherent responses to a digitizing world, companies must assess how far digitization has progressed along multiple dimensions in their industries and the impact that this evolution is having—and will have—on economic performance. And they must act on each of these dimensions with bold, tightly integrated strategies. Only then will their investments match the context in which they compete. 

Jacques Bughin is a director of the McKinsey Global Institute and a senior partner in McKinsey's Brussels office; **Laura LaBerge** is a senior practice manager of Digital McKinsey and is based in the Stamford office; and **Anette Mellbye** is an associate partner in the London office.

The authors wish to thank Dan Lovallo, Soyoko Umeno, and Nicolas van Zeebroeck for their contributions to this article.

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ING's agile transformation

Two senior executives from the global bank describe their recent journey.

Established businesses around the world and across a range of sectors are striving to emulate the speed, dynamism, and customer centricity of digital players. In the summer of 2015, the Dutch banking group ING embarked on such a journey, shifting its traditional organization to an “agile” model inspired by companies such as Google, Netflix, and Spotify. Comprising about 350 nine-person “squads” in 13 so-called tribes, the new approach at ING has already improved time to market, boosted employee engagement, and increased productivity. In this interview with McKinsey’s Deepak Mahadevan, ING Netherlands chief information officer Peter Jacobs and Bart Schlatmann, who, until recently, was the chief operating officer of ING Netherlands, explain why the bank needed to change, how it manages without the old reporting lines, and how it measures the impact of its efforts.

The Quarterly: *What prompted ING to introduce this new way of working?*

Bart Schlatmann: We have been on a transformation journey for around ten years now, but there can be no let up. Transformation is not just moving an organization from A to B, because once you hit B, you need to move to C, and when you arrive at C, you probably have to start thinking about D.

In our case, when we introduced an agile way of working in June 2015, there was no particular financial imperative, since the company was performing well, and interest rates were still at a decent level. Customer behavior, however, was rapidly changing in response to new digital distribution channels,

and customer expectations were being shaped by digital leaders in other industries, not just banking. We needed to stop thinking traditionally about product marketing and start understanding customer journeys in this new omnichannel environment. It's imperative for us to provide a seamless and consistently high-quality service so that customers can start their journey through one channel and continue it through another—for example, going to a branch in person for investment advice and then calling or going online to make an actual investment. An agile way of working was the necessary means to deliver that strategy.

The Quarterly: *How do you define agility?*

Bart Schlatmann: Agility is about flexibility and the ability of an organization to rapidly adapt and steer itself in a new direction. It's about minimizing handovers and bureaucracy, and empowering people. The aim is to build stronger, more rounded professionals out of all our people. Being agile is not just about changing the IT department or any other function on its own. The key has been adhering to the “end-to-end principle” and working in multidisciplinary teams, or squads, that comprise a mix of marketing specialists, product and commercial specialists, user-experience designers, data analysts, and IT engineers—all focused on solving the client's needs and united by a common definition of success. This model [see exhibit on following page] was inspired by what we saw at various technology companies, which we then adapted to our own business.

The Quarterly: *What were the most important elements of the transformation?*

Peter Jacobs: Looking back, I think there were four big pillars. Number one was the agile way of working itself. Today, our IT and commercial colleagues sit together in the same buildings, divided into squads, constantly testing what they might offer our customers, in an environment where there are no managers controlling the handovers and slowing down collaboration.

Number two is having the appropriate organizational structure and clarity around the new roles and governance. As long as you continue to have different departments, steering committees, project managers, and project directors, you will continue to have silos—and that hinders agility.

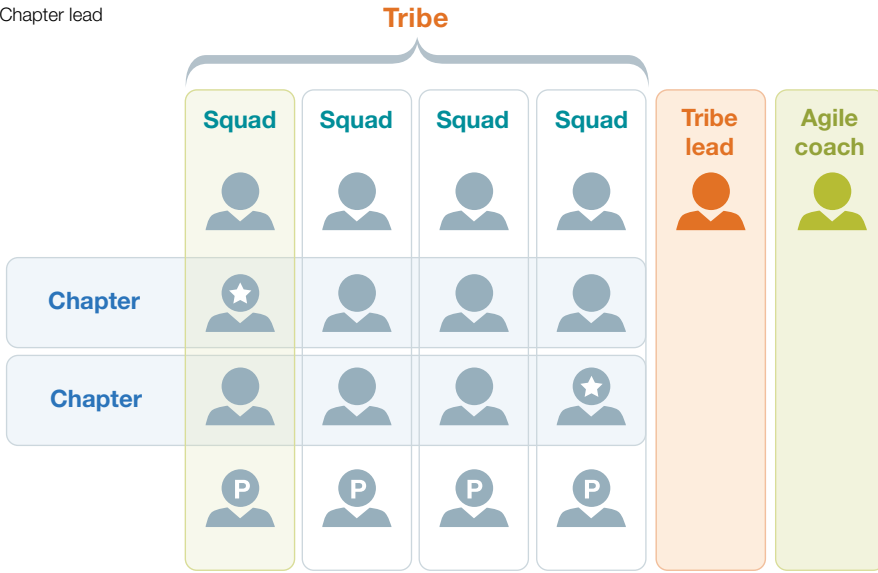
The third big component is our approach to DevOps¹ and continuous delivery in IT. Our aspiration is to go live with new software releases on a much more

¹ The integration of product development with IT operations.

Exhibit

ING’s new agile organizational model has no fixed structure— it constantly evolves.

P Product owner
 ★ Chapter lead



Tribe

(collection of squads with interconnected missions)

- includes on average 150 people
- empowers **tribe lead** to establish priorities, allocate budgets, and form interface with other tribes to ensure knowledge/insights are shared

Agile coach

- coaches individuals and squads to create high-performing teams

Squad

(basis of new agile organization)

- includes no more than 9 people; is self-steering and autonomous
- comprises representatives of different functions working in single location
- has end-to-end responsibility for achieving client-related objective
- can change functional composition as mission evolves
- is dismantled as soon as mission is executed

Product owner

(squad member, not its leader)

- is responsible for coordinating squad activities
- manages backlog, to-do lists, and priority setting

Chapter

(develops expertise and knowledge across squads)

Chapter lead

- is responsible for one chapter
- represents hierarchy for squad members (re: personal development, coaching, staffing, and performance management)

Source: ING

frequent basis—every two weeks rather than having five to six “big launches” a year as we did in the past. The integration of product development and IT operations has enabled us to develop innovative new product features and position ourselves as the number-one mobile bank in the Netherlands.

Finally, there is our new people model. In the old organization, a manager’s status and salary were based on the size of the projects he or she was responsible for and on the number of employees on his or her team. In an agile performance-management model, there are no projects as such; what matters is how people deal with knowledge. A big part of the transformation has been about ensuring there is a good mix between different layers of knowledge and expertise.

The Quarterly: *What was the scope of this transformation? Where did you start, and how long did it take?*

Bart Schlatmann: Our initial focus was on the 3,500 staff members at group headquarters. We started with these teams—comprising previous departments such as marketing, product management, channel management, and IT development—because we believed we had to start at the core and that this would set a good example for the rest of the organization.

BART SCHLATMANN



Vital statistics

Born October 18, 1969, in Bloemendaal, Netherlands

Education

Holds a master’s degree in economic science from Erasmus University Rotterdam

Career highlights

ING
(1995–2017)

ING Netherlands
(2007–17)
Chief operating officer

Fast facts

Board member of Bruna, Dutch Payments Association, and WestlandUtrecht Bank

Member of the supervisory board of Interhyp Germany

We originally left out the support functions—such as HR, finance, and risk—the branches, the call centers, operations, and IT infrastructure when shifting to tribes and squads. But it doesn't mean they are not agile; they adopt agility in a different way. For example, we introduced self-steering teams in operations and call centers based on what we saw working at the shoe-retailer Zappos. These teams take more responsibility than they used to and have less oversight from management than previously. Meanwhile, we have been encouraging the sales force and branch network to embrace agility through daily team stand-ups and other tactics. Functions such as legal, finance, and operational risk are not part of a squad *per se*, as they need to be independent, but a squad can call on them to help out and give objective advice.

It took about eight or nine months from the moment we had written the strategy and vision, in late 2014, to the point where the new organization and way of working had been implemented across the entire headquarters. It started with painting the vision and getting inspiration from different tech leaders. We spent two months and five board off-sites developing the target organization with its new “nervous system.” In parallel, we set up five or six pilot squads and used the lessons to adapt the setup, working environment, and overall design. After that, we were able to concentrate

PETER JACOBS



Vital statistics

Born May 8, 1975, in Heerlen, Netherlands

Career highlights

ING Netherlands
(2013–present)
Chief information officer

ING
(2010–13)
Director application management

McKinsey & Company
(2005–09)
Associate partner and consultant

Education

Holds a PhD in systems engineering from Delft University of Technology

Fast facts

(2015–present)
Member of the supervisory board of Equens, a European payment processor

(2015, 2014)
Appeared in the Goudhaantjes top 100, a list of Dutch management talent under 45

on implementation—selecting and getting the right people on board and revamping the offices, for example.

The Quarterly: *Was agility within IT a prerequisite for broader organizational change?*

Peter Jacobs: Agility within IT is not a prerequisite for a broader transformation, but it certainly helps. At ING, we introduced a more agile way of working within IT a few years ago, but it was not organization-wide agility as we understand it today, because it did not involve the business. You can certainly start in IT and gradually move to the business side, the advantage of this being that the IT teams can test and develop the concept before the company rolls it out more widely. But I think you could equally start with one value stream, let's say mortgages, and roll it out simultaneously in the business and in IT. Either model can work.

What you can't do—and that is what I see many people do in other companies—is start to cherry pick from the different building blocks. For example, some people formally embrace the agile way of working but do not let go of their existing organizational structure and governance. That defeats the whole purpose and only creates more frustration.

The Quarterly: *How important was it to try to change the ING culture as part of this transformation?*

Bart Schlatmann: Culture is perhaps the most important element of this sort of change effort. It is not something, though, that can be addressed in a program on its own. We have spent an enormous amount of energy and leadership time trying to role model the sort of behavior—ownership, empowerment, customer centricity—that is appropriate in an agile culture. Culture needs to be reflected and rooted in anything and everything that we undertake as an organization and as individuals.

For instance, one important initiative has been a new three-week onboarding program, also inspired by Zappos, that involves every employee spending at least one full week at the new Customer Loyalty Team operations call center taking customer calls. As they move around the key areas of the bank, new employees quickly establish their own informal networks and gain a deeper understanding of the business.

We have also adopted the peer-to-peer hiring approach used by Google. For example, my colleagues on the board selected the 14 people who report to me.

All I have is a right of veto if they choose someone I really can't cope with. After thousands of hires made by teams using this approach at every level in the organization, I have never heard of a single veto being exercised—a sure sign that the system is working well. It's interesting to note, too, that teams are now better diversified by gender, character, and skill set than they were previously. We definitely have a more balanced organization.

A lot is also down to the new way we communicate and to the new office configuration: we invested in tearing down walls in buildings to create more open spaces and to allow more informal interaction between employees. We have a very small number of formal meetings; most are informal. The whole atmosphere of the organization is much more that of a tech campus than an old-style traditional bank where people were locked away behind closed doors.

The Quarterly: *Was a traditional IT culture an impediment to the transformation?*

Peter Jacobs: In IT, one of the big changes was to bring back an engineering culture, so there's now the sense that it's good to be an engineer and to make code. Somehow over the years, success in IT had become a question of being a good manager and orchestrating others to write code. When we visited a Google IO conference in California, we were utterly amazed by what we saw and heard: young people talking animatedly about technology and excitedly discussing the possibilities of Android, Google Maps, and the like. They were proud of their engineering skills and achievements. We asked ourselves, "Why don't we have this kind of engineering culture at ING? Why is it that large enterprises in Holland and Western Europe typically just coordinate IT rather than being truly inspired by it?" We consciously encouraged people to go back to writing code—I did it myself—and have made it clear that engineering skills and IT craftsmanship are what drive a successful career at ING.

The Quarterly: *Can you say more about the companies that inspired you?*

Peter Jacobs: We came to the realization that, ultimately, we are a technology company operating in the financial-services business. So we asked ourselves where we could learn about being a best-in-class technology company. The answer was not other banks, but real tech firms.

If you ask talented young people to name their dream company from an employment perspective, they'll almost always cite the likes of Facebook, Google, Netflix, Spotify, and Uber. The interesting thing is that none of these companies operate in the same industry or share a common purpose.

One is a media company, another is search-engine based, and another one is in the transport business. What they all have in common is a particular way of working and a distinctive people culture. They work in small teams that are united in a common purpose, follow an agile “manifesto,” interact closely with customers, and are constantly able to reshape what they are working on.

Spotify, for example, was an inspiration on how to get people to collaborate and work across silos—silos still being a huge obstacle in most traditional companies. We went to visit them in Sweden a few times so as to better understand their model, and what started as a one-way exchange has now become a two-way exchange. They now come to us to discuss their growth challenges and, with it, topics like recruitment and remuneration.

The Quarterly: *Without traditional reporting lines, what’s the glue that holds the organization together?*

Bart Schlatmann: Our new way of working starts with the squad. One of the first things each squad has to do is write down the purpose of what it is working on. The second thing is to agree on a way of measuring the impact it has on clients. It also decides on how to manage its daily activities.

Squads are part of tribes, which have additional mechanisms such as scrums, portfolio wall planning, and daily stand-ups to ensure that product owners are aligned and that there is a real sense of belonging. Another important feature is the QBR [quarterly business review], an idea we borrowed from Google and Netflix. During this exercise, each tribe writes down what it achieved over the last quarter and its biggest learning, celebrating both successes and failures and articulating what it aims to achieve over the next quarter—and, in that context, which other tribe or squad it will need to link up with. The QBR documents are available openly for all tribes: we stimulate them to offer input and feedback, and this is shared transparently across the bank. So far, we have done four QBRs and, while we are improving, we still have to make them work better.

In the beginning, I think the regulators were at times worried that agile meant freedom and chaos; that’s absolutely not the case. Everything we do is managed on a daily basis and transparent on walls around our offices.

The Quarterly: *Can traditional companies with legacy IT systems really embrace the sort of agile transformation ING has been through?*

Peter Jacobs: I believe that any way of working is independent of what technology you apply. I see no reason why an agile way of working would be affected by the age of your technology or the size of your organization. Google and ING show that this has nothing to do with size, or even the state of your technology. Leadership and determination are the keys to making it happen.

The Quarterly: *Are some people better suited to agile operating approaches than others?*

Bart Schlatmann: Selecting the right people is crucial. I still remember January of 2015 when we announced that all employees at headquarters were put on “mobility,” effectively meaning they were without a job. We requested everyone to reapply for a position in the new organization. This selection process was intense, with a higher weighting for culture and mind-sets than knowledge or experience. We chose each of the 2,500 employees in our organization as it is today—and nearly 40 percent are in a different position to the job they were in previously. Of course, we lost a lot of people who had good knowledge but lacked the right mind-set; but knowledge can be easily regained if people have the intrinsic capability.

Peter Jacobs: We noticed that age was not such an important differentiator. In fact, many whom you may have expected to be the “old guards” adapted even more quickly and more readily than the younger generation. It’s important to keep an open mind.

The Quarterly: *How would you quantify the impact of what has been done in the past 15 months?*

Bart Schlatmann: Our objectives were to be quicker to market, increase employee engagement, reduce impediments and handovers, and, most important, improve client experience. We are progressing well on each of these. In addition, we are doing software releases on a two- to three-week basis rather than five to six times a year, and our Net Promoter Score² and employee-engagement scores are up multiple points. We are also working with INSEAD, the international business school, to measure some of these metrics as a neutral outsider.

The Quarterly: *Do you see any risks in this agile model?*

Peter Jacobs: I see two main risks. First, agility in our case has been extremely focused on getting software to production and on making sure that people

² The Net Promoter Score is a standard industry measure of customer satisfaction.

respond to the new version of what they get. If you are not careful, all innovations end up being incremental. You therefore have to organize yourself for a more disruptive type of innovation—and you can't always expect it to come out of an individual team.

Second, our agile way of working gives product owners a lot of autonomy to collect feedback from end users and improve the product with each new release. There is a risk that people will go in different directions if you don't align squads, say, every quarter or six months. You have to organize in such a way that teams are aligned and mindful of the company's strategic priorities.

The Quarterly: *What advice would you give leaders of other companies contemplating a similar approach?*

Bart Schlatmann: Any organization can become agile, but agility is not a purpose in itself; it's the means to a broader purpose. The first question you have to ask yourself is, "Why agile? What's the broader purpose?" Make sure there is a clear and compelling reason that everyone recognizes, because you have to go all in—backed up by the entire leadership team—to make such a transformation a success. The second question is, "What are you willing to give up?" It requires sacrifices and a willingness to give up fundamental parts of your current way of working—starting with the leaders. We gave up traditional hierarchy, formal meetings, overengineering, detailed planning, and excessive "input steering" in exchange for empowered teams, informal networks, and "output steering." You need to look beyond your own industry and allow yourself to make mistakes and learn. The prize will be an organization ready to face any challenge. (Q)

Peter Jacobs is the chief information officer of ING Netherlands; **Bart Schlatmann**, who left ING in January 2017 after 22 years with the group, is the former chief operating officer of ING Netherlands. This interview was conducted in October 2016 by **Deepak Mahadevan**, a partner in McKinsey's Brussels office.

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Three snapshots of digital transformation

Financial services, food retailing, and pharma are reinventing themselves in different ways.

As companies grapple with the different dimensions of digitization highlighted in McKinsey's latest research (see "The case for digital reinvention," on page 26), here are snapshots of three industries in the eye of the storm: financial services, food retailing, and pharma.

The exhibit on the opposite page highlights the impact of new digital entrants on products and services in banking; incumbents will either need to compete head on or use their financial muscle to move into adjacent markets. The next spread offers an example of how retailers can use digital means to increase efficiency in the supply chain, thereby buying time before taking more radical action to deal with disruptors. And on the following spread, new research in pharma highlights the importance of digital self-awareness and the scope to improve performance by better connecting digitally with patients and physicians.

FINTECH: THE WIDENING SCOPE OF PRODUCTS AND SERVICES

Over the past decade, fintech companies—technology firms that focus on financial products and services—have forced incumbents to rethink their core business models and embrace digital innovations. Now fintechs themselves are maturing and entering a period of rapid change.

Where once these companies focused on payment applications, lending, and money transfers, for instance, the industry's reach has extended into more than 30 areas (Exhibit 1). The shift brings fintechs away from a focus on

frontline activities to a broad engagement throughout the value chain. The new offerings cut across a wide swath of financial services: retail, wealth management, small and midsize enterprises (SMEs), corporate and investment banking, and insurance.

Technologies vary from robo-advisory systems that provide automated recommendations with little human input to the more experimental blockchain systems that track and store an expanding series of transactions to help reduce infrastructure costs. Fintechs, meanwhile, are also moving beyond addressing a customer’s financial needs to offering a wider range of services, blurring the industry’s boundaries. Holvi Payment Services, a Finnish start-up acquired by Spanish financial group Banco Bilbao Vizcaya Argentaria in 2016, began by offering banking services to SMEs and expanded to provide complementary offerings, such as an online-sales platform, bookkeeping services, expense-claims systems, and a cash-flow tracker.

Exhibit 1

We see more than 30 tech-enabled areas emerging as new norms in banking.

Retail

- Next-generation personal financial management
- Peer-to-peer lending and investment
- New digital lending
- Aggregator comparison engine

Wealth management

- Robo-advisory
- Social investing
- Crowdfunding
- Investment across regions engine

Insurance

- Telematics
- Social integration
- Internet of Things and connected devices
- Prevention

Payments

- Mobile payments
- International remittances
- Mobile point-of-sale devices
- Other payment processing

Operations and infrastructure

- Blockchain
- Application programming interface ecosystem
- Payment infrastructure
- Big data base risk assessment
- Anti-money laundering and know your customer
- Artificial intelligence and machine learning
- Cybersecurity

Capital markets, investment banking

- Next-generation trade finance
- Trading
- Next-generation collateral management
- Trade analytics

Small and midsize enterprises

- One-stop shop for businesses
- Peer-to-peer corporate lending and investment
- Next-generation lending to small and midsize enterprises
- Digital cash management

Beyond banking

- Digital for the unbanked
- Digital model reinventors
- Next generation digital marketing
- Virtual marketplace
- Retail value chain and coupons

Source: Panorama by McKinsey



For the full article, see Miklos Dietz, Vinayak HV, and Gillian Lee, “Bracing for seven critical changes as fintech matures,” on [McKinsey.com](https://www.mckinsey.com).

FOOD RETAILING: DISTINCTIVENESS IN THE SUPPLY CHAIN

Fresh food is becoming a challenging battleground in grocery retail as discounters, convenience-store chains, and online players recognize the power of fresh-food categories to drive store visits, basket size, and customer loyalty. Retailers constantly have to make difficult trade-offs in the supply chain: order too much, and the food goes to waste; order too little, and they lose sales and erode customer loyalty. With demand fluctuating daily, how can they know the right amount to order?

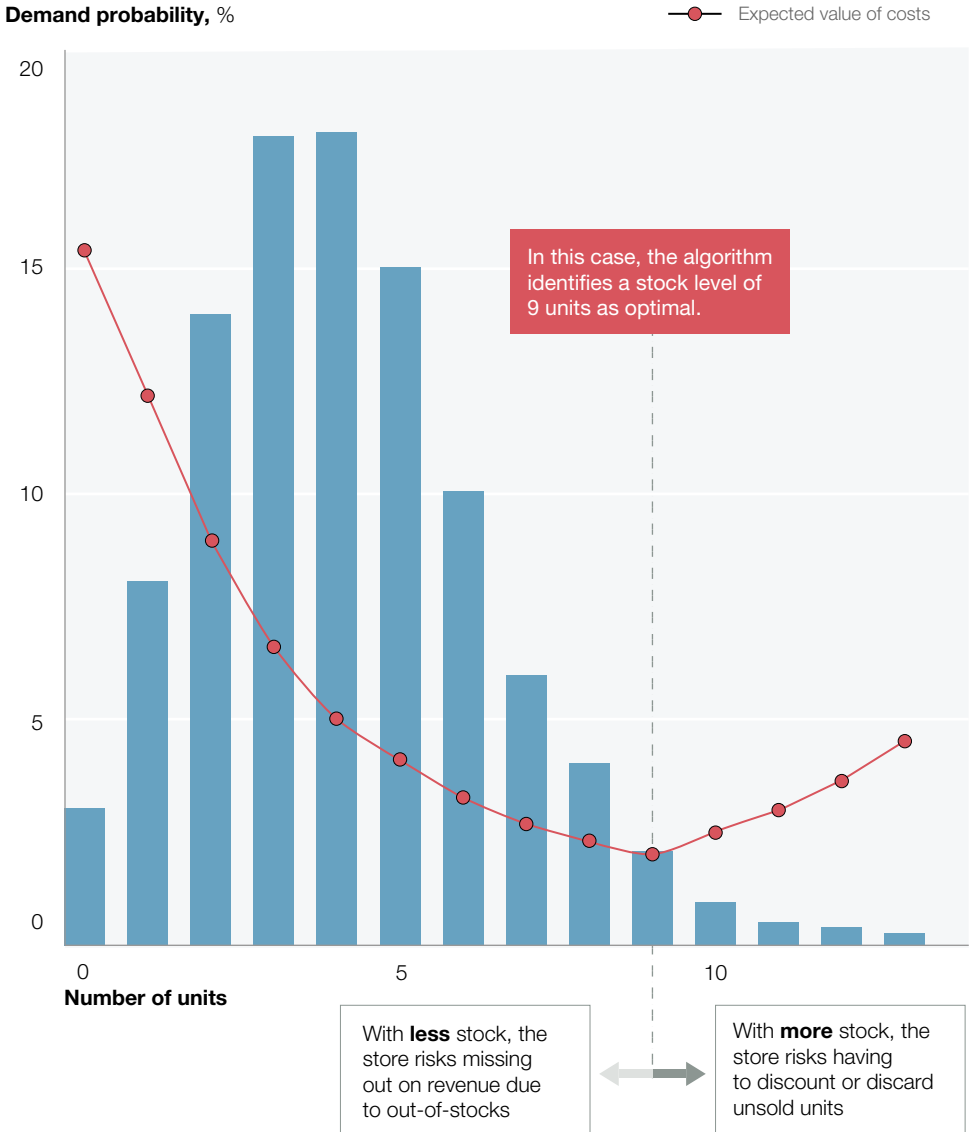
A number of leading players are now revolutionizing their planning through machine learning. Based on algorithms that allow computers to “learn” from data even without rules-based programming, machine learning allows retailers to automate formerly manual processes and dramatically improve the accuracy of forecasts and orders. Retailers that use machine-learning technology for replenishment have seen its impact in many ways—for instance, reductions of up to 80 percent in out-of-stock rates, declines of more than 10 percent in write-offs and days of inventory on hand, and gross-margin increases of up to 9 percent.

The histogram in Exhibit 2 shows the demand probability for a specific SKU-store-date combination, in this case, pineapples in Store #123 on June 10. The vertical bars show that stocking four pineapples in that store on that day will probably be enough to meet demand; the store will likely sell most or all of them, so the risk of having rotten pineapples in the store is small. But what if a customer wants to buy a fifth or sixth pineapple that day? The store would lose out on revenue because pineapples would be out of stock. The green curve on the exhibit represents the expected value of costs for each stock level, taking into account potential loss of revenue due to out-of-stocks, as well as potential markdowns and waste. In this case, the algorithm identifies a stock level of nine units as optimal.

The system can align individual ordering decisions with the retailer’s strategic goals and key performance indicators (KPIs). For instance, if the retailer is more concerned about margins than revenues, the algorithm will adjust decisions accordingly. It can also work toward improving several KPIs at the same time.

Exhibit 2

Machine-learning algorithms help retailers determine optimal stock levels, taking into account both waste and lost sales.



For the full article, see Christoph Glatzel, Matt Hopkins, Tim Lange, and Uwe Weiss, "The secret to smarter fresh-food replenishment? Machine learning," on McKinsey.com.

PHARMA: BETTER CONNECTIONS TO THE CUSTOMER

Healthcare is no exception to the way digital technology is transforming business. Nearly 70 percent of US consumers use an online channel to manage health and wellness, more than 50 percent of US healthcare providers use three or more connected devices professionally, and one in five of the top pharma companies now has a chief digital officer or equivalent. That said, the pharma sector is dramatically lagging behind other industries in digital performance.

McKinsey's Digital Quotient (DQ) assessment tool measures maturity across four categories (strategy, culture, organization, and capabilities) and 18 management practices ranging from agility and customer focus to governance and connectivity. Using a 100-point scale, the exhibit shows pharma's score of 27 lags behind the average of 33 across all sectors. It even trails other highly regulated businesses, such as banking (32) and insurance (31) and is closer to those of sectors that historically have been digital laggards, including the public and social sectors (Exhibit 3).

When pharma companies look to create a digitally savvy organization, many will focus on building digital and data-analytics capabilities and seeking partnerships to deliver new services or insights. Indeed, many industry leaders believe that this analytics gap is what holds them back in realizing their digital strategy. In fact, our assessment shows that specific elements of their strategy, culture, and organization will likely need addressing.


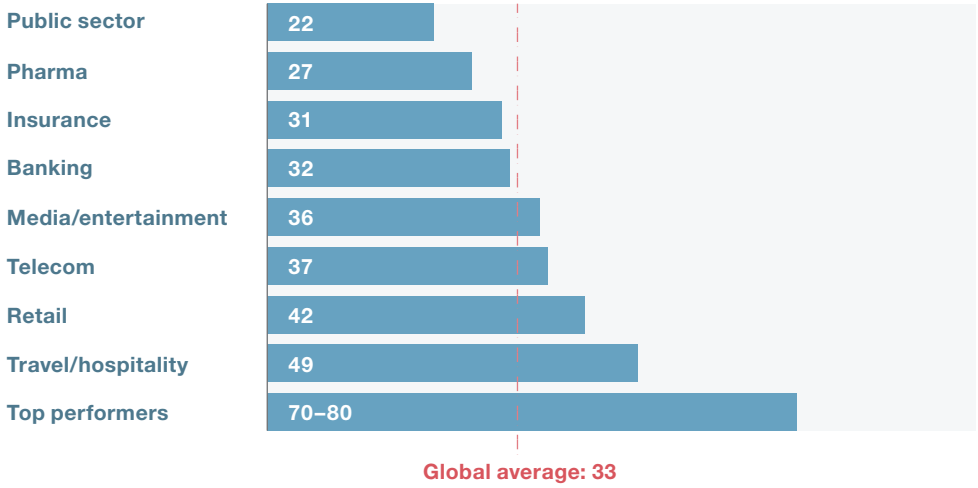
For example, pharma's DQ scores revealed a consistent lack of a customer orientation, indicating that companies pay too little attention to the customer decision journeys that patients and healthcare providers undertake to access, interact with, and benefit from their products; we call these CareFlows. Nearly 40 percent of pharma companies admit they do not understand these journeys well enough to map digital touchpoints and align them with their digital strategy. Organization tends to be a much larger barrier in pharma than in other sectors: indeed, pharmacos are twice as likely as other companies to score lowest on organizational dimensions. Specific issues include understanding digital trends at leadership level, clarity in roles and responsibilities, transparency of digital spending, and alignment of organizational structures with digital strategy. 

Exhibit 3

Digital maturity varies significantly by sector.

Distribution of Digital Quotient (DQ) score¹ by industry (global), points, out of 100



¹ DQ score is an average across 4 equally weighted dimensions: culture, strategy, capabilities, and organization.



For the full article, see Brian Fox, Amit Paley, Michelle Prevost, and Nisha Subramanian, “Closing the digital gap in pharma,” on McKinsey.com.

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Rewiring Citi for the digital age

Citigroup's Head of Operations and Technology describes the bank's efforts to accelerate its digital transition, as well as the importance of having the right talent and agility to pull it off.

Citi's legendary chairman Walter Wriston noted years ago that information about money has become almost as important as money itself. The bank's Head of Operations and Technology, Don Callahan, believes that today, in the digital age, Wriston would surely drop the qualifier to his famous observation, noting: "Information simply is as important as money."

This is apparent as Callahan surveys the 21st-century banking terrain: digital competitors are massing on every front—from fintech start-ups to new divisions of global institutions—while the speed of every banking process and customer interaction accelerates daily. All this change requires a focus on agility, Callahan says, which in turn demands a cultural rewiring.

At the helm of Citi's digital transformation, Callahan is helping drive new thinking across the bank. He points to Citi's digital lab for start-up innovations, powerful new apps for customer smartphones, and, internally, a push to expand capabilities across cloud computing and big data and analytics that enable automation and machine learning. In an interview with McKinsey's James Kaplan and Asheet Mehta, Callahan describes what it takes to mobilize digital change at one of the world's leading financial institutions.

The Quarterly: What are the top-of-mind risks for you as you continue Citi's transition to a digital bank?

Don Callahan: I think the biggest risk for the industry is whether it will be able to move fast enough. Are we going to be able to think and execute swiftly? A lot of people talk about being agile. Agility is a lot more than how our developers approach an issue. "Agile" now is a group of subject-matter experts coming together from each walk of life—someone who is a true developer collaborating with someone who is a product manager who knows how to listen to the customer or the client. And then the real test is whether they take that, put it together as an idea, and bring that story to life. In addition, if it is not right, can they move on and come up with the next version fast enough?

The Quarterly: So, give us an example of agility at work.

Don Callahan: An example right now is work that Stephen Bird, CEO of Global Consumer Banking, is leading. We know we have to be mobile first, and we are doing a lot there. In order to be all-in on mobile, we have set up a "lean team" in our Long Island City office, with about 100 people who are operating in a very agile way.

It doesn't operate like a traditional bank; it is much more like a creative team. They are incorporating feedback, putting up designs on a wall, and testing directly with customers. They are experimenting and coding. I'm seeing the speed, the curiosity, and the execution at levels I've never seen before.

The Quarterly: And this is helping you step up the pace?

Don Callahan: Yes. On the consumer-banking side, one of the most exciting projects for us was how fast we were able to come up with a product offering for the Apple Watch. I received a phone call on the day IBM and Apple made the announcement that they were going to work together. And someone from our consumer business asked me if we could be the first financial-services app on the Apple Watch. We worked with a senior team at Apple, with IBM, and at Citi to develop the first banking app for the watch. We did it all in 120 days.

The Quarterly: If you think about the opportunity to create digital financial services—you are a 204-year-old bank with all the resources and capabilities that implies. In some cases, you may be competing against much newer, smaller, nimbler start-ups. What does that imply?

Don Callahan: The competition has changed. It's not just the peer bank down the road or across the ocean. Today, it can be a start-up in Silicon Valley or Silicon Alley. We welcome that kind of competition. It makes us stronger and that much faster. I also think there is plenty we can learn from them, and there are opportunities for us to all work together.

The common denominator most start-ups have, including ones I have had the chance to visit, is they truly have a blank slate. Because of that, they are able to take the art of the possible and bring it swiftly to market. For some companies, that is going to require fresh thinking, including welcoming change and embracing new ideas.

The Quarterly: *In terms of digital transformation, how do you think the culture and the skills of the IT organization at Citi will evolve over the course of the next five years?*

Don Callahan: As technology changes, we are going to have to adapt accordingly. Over the last five years, we have continued to enhance our capabilities at Citi. We have changed all of our significant platforms globally, as well as our core hardware and architecture. In the process, we have also been able to achieve dramatic savings. As a result, we have state-of-the-art technology across Citi and are running at an optimum cost structure.

Looking forward to the next five years, we are going to have to continue to build upon those efforts. For example, we are going to have to become very comfortable embracing the cloud, our private cloud, our multitenant cloud, and our public cloud. We must get comfortable with the idea of true automation—robotics, machine to machine, cognitive, and so much more.

The question becomes how do you actually apply that within Citi? So, the culture and the curiosity of our tech team and our operations team will need to look at opportunities for change.

I will give you an example that I find particularly important. As we looked at accounts payable, we realized it is repeatable work and fairly predictable. That is a perfect situation to place a “bot” on it. This enables people who are doing those jobs, whether it is in Budapest, Tampa, or Costa Rica, to perform functions that are even more valuable, deliver more results, and provide better career-growth opportunities.

The last part of the culture I think we need to change is embracing data throughout the industry. Data is truly the lifeblood of an organization, in my

mind. We are seeing the value being created for our clients and our customers by being able to help them at all stages. I believe big data is absolutely going to be an area in which there will be more focus and opportunity to drive value for clients. Of course, we will be careful to do all of this in a way that is secure and privacy protective.

The Quarterly: Is that starting to happen?

Don Callahan: Yes. For example, we are able to look at the supply chain for a very large manufacturer. Because we have the data and the permission to look at it, we could examine every aspect of the supply chain down to country by country, almost by subsupplier and then sub-subsupplier. And what you could see are opportunities for synergies, as well as for cost savings and rationalization. You could also look at opportunities for M&A and then take those insights to develop strategic ideas for our clients. It allows a different dialogue with the CEO and the CFO. It was one of the first great examples where I could see such great complexity presented in an easy interface. You could identify the graphical insights that were present and then turn those into business ideas. For me, it is a foreshadowing of what is to come.

The Quarterly: Digital multiplies the security risks. What's your strategy in this area?

Don Callahan: The challenge we face today, regardless of which industry you are in, is that the goal posts are moving every day. And it is extraordinarily

DON CALLAHAN

Career highlights

Citigroup
(2007–present)
Head of Operations
and Technology

Fast facts

Serves as the executive
chair of Citi's Chief
Information Officer
Council and leads the
bank's Digital
Governance Office

Prior to joining Citi, in
2007, held executive
positions at Credit
Suisse Group, IBM, and
Morgan Stanley

Serves on the board of
the American National
Red Cross of Greater
New York

Is a member of the
Business Committee of
the Metropolitan
Museum of Art and a
fellow at the Foreign
Policy Association

“We need to continue to be aggressive about the talent we are hiring—people with the necessary digital awareness and the ability to think and act in an agile way.”

sophisticated. At the same time, the access point to be able to do harm to an organization is actually lowering. The cost of entry, to provide real disruptive capabilities, is dropping. The capabilities of the individual attacker are increasing.

At Citi, we have transformed our overall strategy around information security, and we now have what we call an intelligence-lead model. So it is no longer just looking at trying to secure the gate, or to wrap it with firewalls. We are now trying to make sure that we can look at what threat factors are coming in and that we have critical understanding of where those threats will manifest themselves around different client subsegments. We take privacy of client information very seriously and make sure that our data collection, use, and sharing is done in a manner that meets client and customer expectations and complies with law and regulation.

The Quarterly: *You have talked about a very different model inside IT—a very different model for the business, too, as you become digital. What is it going to take for Citi to get the required talent?*


Don Callahan: Talent is such a critical area of focus for us, and, in particular, for me in the technology space. I probably spent over four hours today on talent alone—on interviewing talent, trying to attract talent, and working with my team on the overall talent agenda. Right below us is the Borough of Manhattan Community College. It has about 26,000 students, and what we are finding within those halls are people who love computer science. They are from diverse backgrounds and from all parts of the globe. It is a wealth of opportunity.

Another thing that we are doing is working closely with universities all across the world, from Oxford to Cornell. We are working with Cornell right now as

they are building out the new tech campus here in New York to help build a discipline around information security. And then, we are bringing in teams for special projects on information security and looking to see if they are the right fit for someone at Citi.

***The Quarterly:** What's needed on the talent front to compete with start-ups and with fintech companies?*

Don Callahan: I think to compete with start-ups, we have to make it exciting and we have to be purpose driven. I haven't run into one person at a start-up who is there simply to do a job. It is the passion about building a business that we need to tap into.

The insights we are getting from the teams we are hiring now is so impressive. We need to continue to be aggressive about the talent we are hiring—people with the necessary digital awareness and the ability to think and act in an agile way. 

Don Callahan is Head of Operations and Technology at Citigroup. This interview was conducted by **James Kaplan**, a partner in McKinsey's New York office, and **Asheet Mehta**, a senior partner in the New York office.

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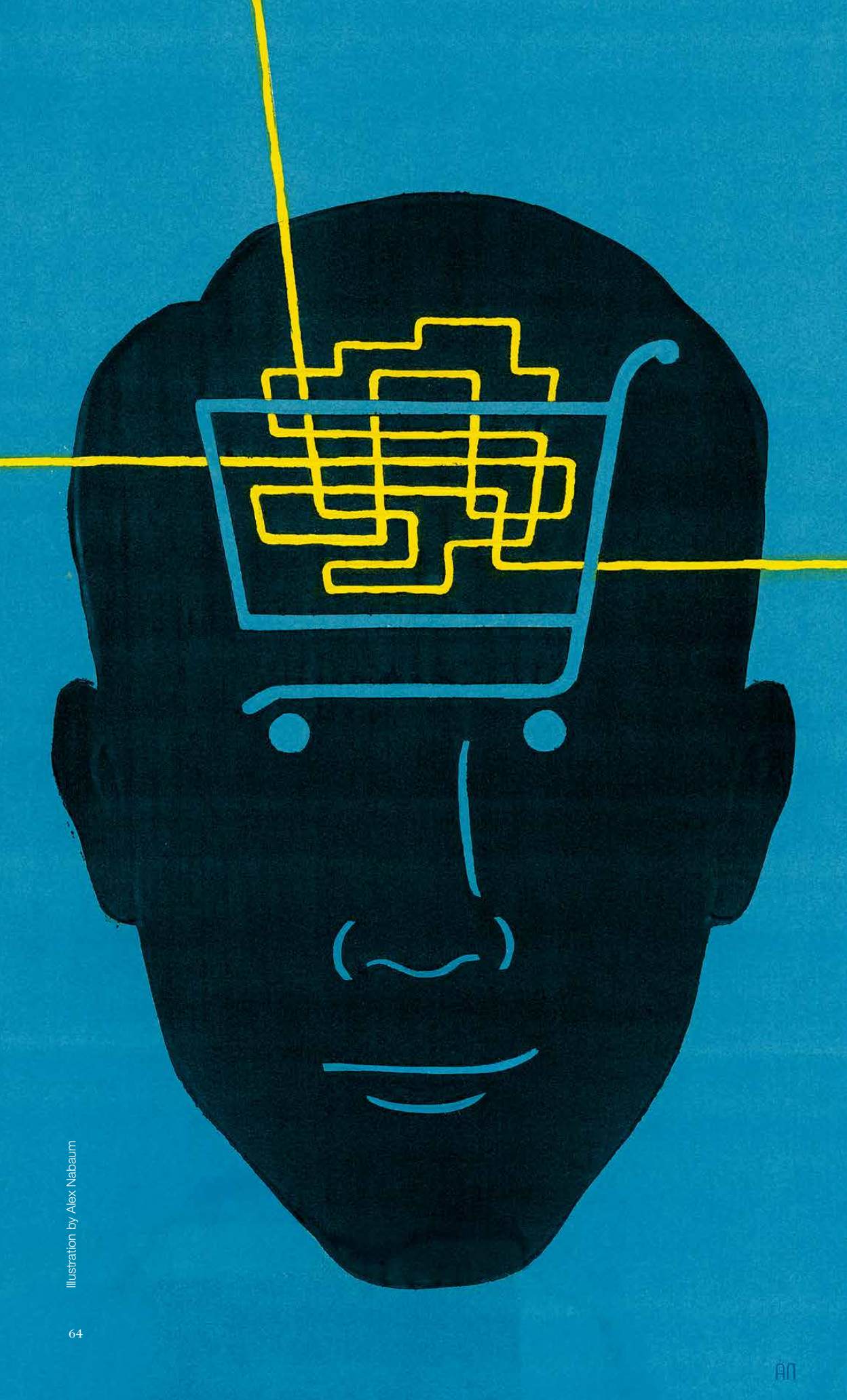


Illustration by Alex Nabaum

The new battleground for marketing-led growth

In the digital age, consumers are always shopping around. New research shows that hooking them early is the strongest path to growth.

by David Court, Dave Elzinga, Bo Finneman, and Jesko Perrey

The CEO of a branded apparel company was troubled and began putting some tough questions to the marketing department. The company had spent substantially on promotions and loyalty-rewards programs to drive much-needed growth based on studies showing that targeting current consumers with marketing investments offered the highest return. Yet sales results were disappointing, and an alarming number of customers were drifting away after their initial purchases. They were often going to a rival with a different marketing approach, one that deployed social media to lure shoppers to its website, where—even the chief marketing officer had to admit—creative interactions were attracting new consumers to consider the rival’s brand.

If you’re the CEO of, say, a consumer-products company—or one in banking, travel, autos, or other categories where it’s easy for your consumers to compare products—you may be finding yourself similarly perplexed, and with reason. Powerful new currents are disrupting established patterns of behavior. And consumers, including those you may have thought loyal, are considering someone else’s offerings more often than you realize. With top-line growth at the top of every CEO’s agenda, cracking the code of consumer behavior is more critical than ever.

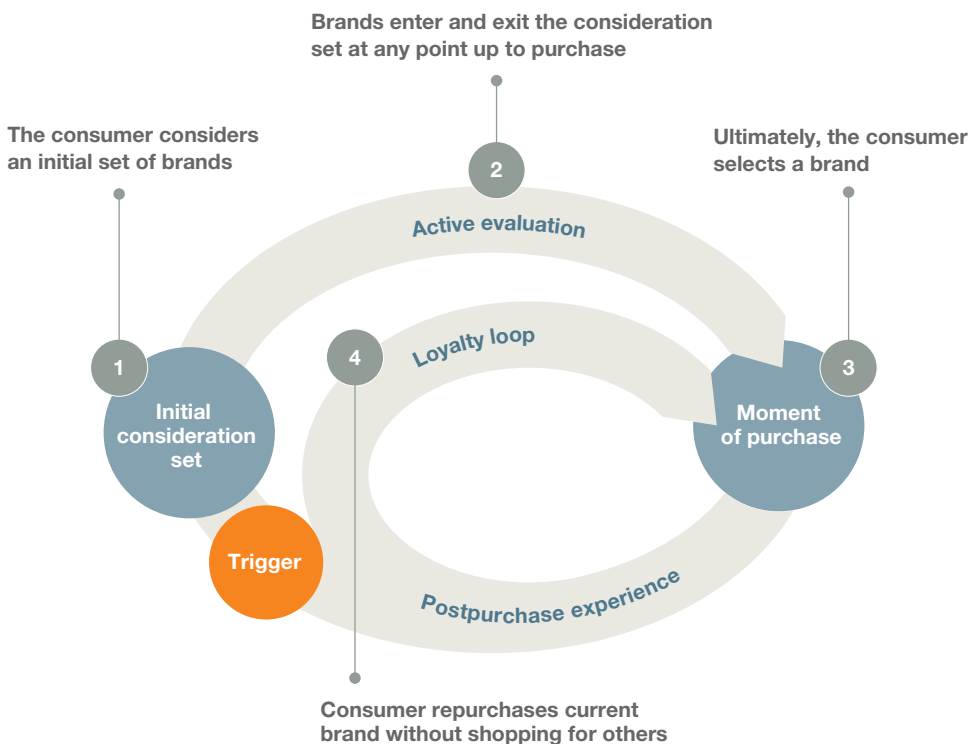
Since 2009, McKinsey has studied the emergence of consumer decision journeys (CDJs)—the often irregular paths consumers take as they move from brand awareness through to purchase and loyalty—as a critical lever to driving top-line growth (Exhibit 1). Like the apparel company described above, many have responded to nonlinear consumer behavior by doubling down on customer-retention and loyalty programs. Selling more to consumers who are already buying seems a dependable, low-risk, and potentially quick way to boost sales growth. Recent research shows a 26 percent increase in loyalty-program memberships between 2013 and 2015.¹

Evidence has begun emerging, however, that consumer bonds with many brands is simultaneously slipping, with active engagement in those same loyalty programs falling by two percentage points and 58 percent of loyalty members not using the programs for which they are signed up. We see such

¹ See “U.S. customer loyalty program memberships top 3 billion for first time, 2015 Colloquy census shows,” Colloquy, February 9, 2015, colloquy.com.

Exhibit 1

The consumer decision journey has four key battlegrounds.



data as an important signal that new technologies and greater choice are changing how consumers are thinking and acting across their consumer journeys. As one executive puts it, “In the digital world, your consumers can’t help but shop around.” The past few years have seen exponential growth in tools that have made researching and purchasing products online vastly easier. An explosion of mobile shopping apps that showcase options, simplify pricing, compare product specifications, and facilitate peer reviews is making it possible to size up brands effortlessly. In addition, social media lets consumers know exactly what their friends are buying and what they like and don’t like about those purchases. The sheer weight of all this encourages even your best consumers to shop around and changes paradigms that marketers have counted on for years.

To better understand the magnitude of change in consumer behavior, we turned to our CDJ database, which now covers more than 125,000 consumers, shopping for more than 350 brands. The numbers tell a startling story. Of the 30 categories we researched, only 3 were loyalty driven, with consumers predominantly making the same brand choices from one purchase to the next rather than shopping around. In the other 27 categories, consumers exhibited strong shopping tendencies (Exhibit 2).

The elusiveness of loyalty suggests marketers need to place more emphasis on the moments when consumers are initially considering which products or services to buy. They’ll need a fine-tuned understanding of who those increasingly fickle consumers are, what triggers them to shop, and how best to enter what’s known as the initial consideration set. And of course, once a brand is in a consumer’s consideration set, marketers will still need to fend off competitors as they attempt to dislodge it during a round of active evaluation, thus increasing the odds of converting shoppers at the moment of purchase.

YOUR NEW ‘SHOP-AROUND’ CONSUMERS

We sought further to understand the extent to which shopping led to either a repurchase or, alternatively, a switch to another brand. Within the 27 categories where shopping around was dominant, we divided consumers into three groups based on what the data said about their buying behavior. Loyalists were those who remained faithful to the last brand they purchased without considering other choices. Vulnerable repurchasers gave in to the urge to shop around and considered other brands at least briefly, but ended up returning to the fold. Switchers took the next step and purchased another brand.

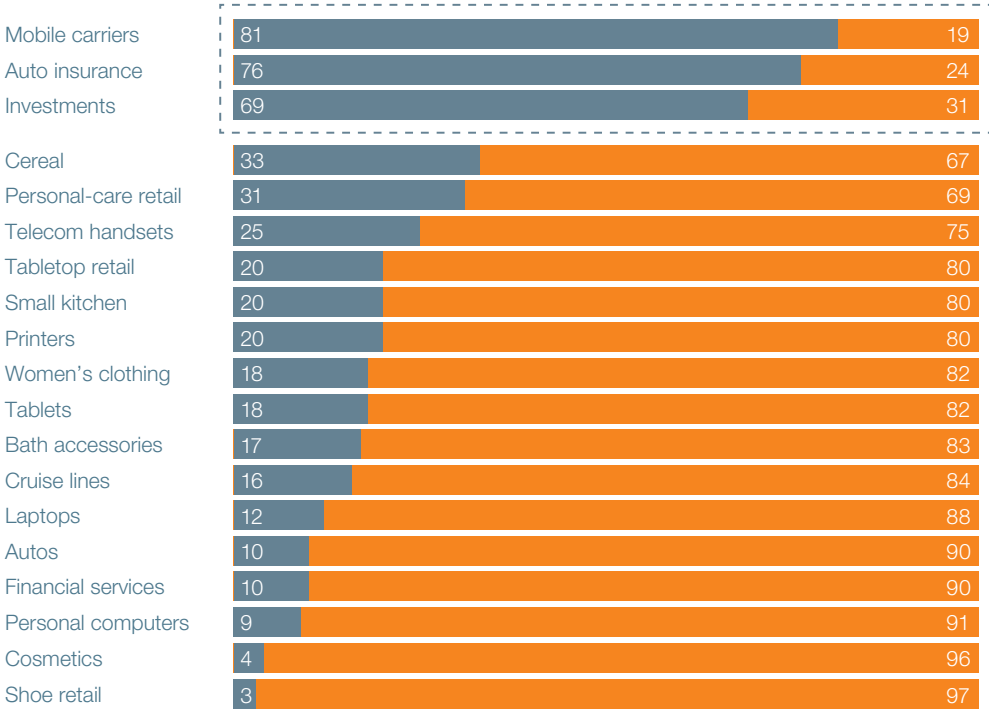
What surprised us was not only how ephemeral loyalty is, but also how often consumers switched brands once they decided to shop. In the categories

Exhibit 2

Purchases in most categories are driven more by shopping than by loyalty.

Share of purchases that are loyalty driven vs shopping driven, selected categories, %

■ Loyalty □ Loyalty-driven categories
 ■ Shopping



where we examined purchase behavior, only 13 percent of consumers were loyalists. A full 87 percent of consumers, in other words, were shopping around. A portion of this group—the vulnerable repurchasers, who represented 29 percent of all consumers studied—ultimately didn’t change brands. But the remainder, comprising 58 percent of our sample, became switchers. Incumbent brands held their own just 42 percent of the time (Exhibit 3).

Digging deeper, we discovered just how vital it is to be included in the set of brands that first come to a consumer’s mind when he or she is triggered to make a purchase decision. These brands in the initial consideration set were more than two times as likely to be purchased as were brands considered only later in the decision journey. (Downstream consideration might take place, for example, when a buyer performs a more thorough comparison of products using online tools or evaluates products like televisions in a retail store.) Overall, 69 percent of the brands purchased by consumers

who switched brands were part of their initial consideration set when they started shopping.

We're not suggesting that marketers ignore other parts of the consumer decision journey. Providing quality and service, or rewarding your most loyal customers during the postpurchase experience, remains important. After all, as we have noted, 42 percent of purchases are still made by consumers who return to their incumbent brand and are responsive to repurchasing incentives.

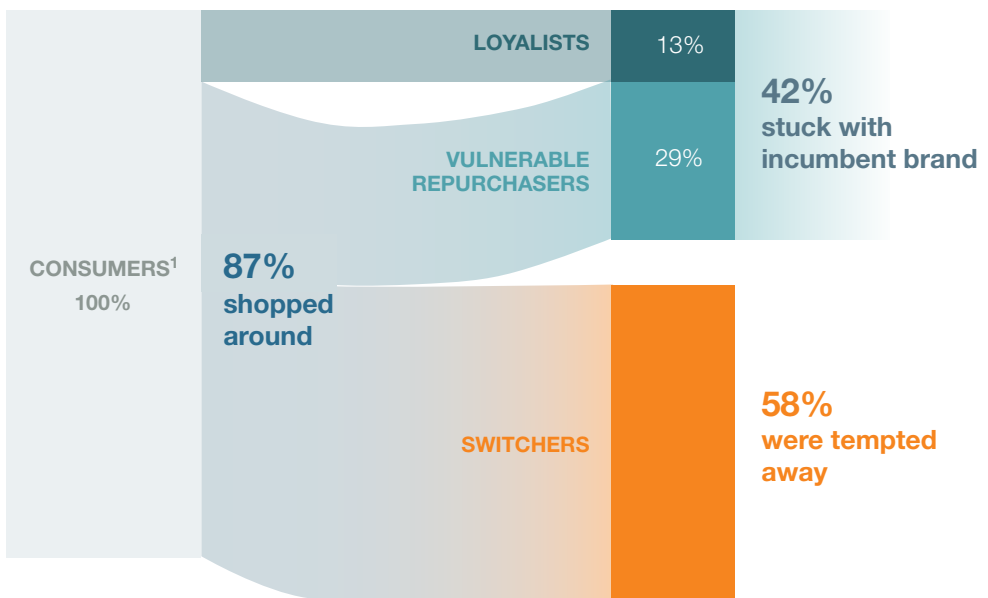
But investing too much of your marketing dollars in loyalty is risky when today's shop-around environment means it's easy to lose consumers faster than you add new ones. Instead, companies that hope to move the growth needle need more focus on innovative programs for the 87 percent of consumers out there who are likely to look beyond their current brand.

THE LINK BETWEEN INITIAL CONSIDERATION AND GROWTH

In a world where most categories are shopping driven, consideration and growth should be strongly correlated—and they are. We used our survey data to identify how frequently a consumer put a given brand in his or her initial

Exhibit 3

Loyalty is elusive in today's market.



¹ Excludes consumers in categories characterized by loyalty: auto insurance, investments, and mobile carriers.

consideration set versus other brands in the category. We then divided that consideration measure by the brand's market share and multiplied it by 100.

This metric, which we call the customer growth indicator (CGI), takes into account the consideration a brand is able to command, as well as the fact that as a brand's share grows, greater consideration is needed to keep up the pace of growth.

For most categories in our research, CGI explains a full 60 to 80 percent of the variation in sales growth from one purchase to the next (Exhibit 4). The tight linkage between CGI and growth underscores the importance of initial consideration to a company's brand strategy and suggests the new metric should be a useful benchmark for assessing brand health.

In fact, we would suggest that companies augment current metrics to include the CGI as a way to better understand their potential growth relative to competitors. Today's recommendation metrics are a valuable means of understanding whether marketing programs are delivering loyalty and customer satisfaction, but research has found they can explain only 20–60 percent of variations in growth.

Further evidence for the rising importance of engaging shoppers early came when we tested the relationship between growth and total consideration, which includes those brands considered at the initial shopping trigger point, as well as those added throughout the full shopping process. We found that initial consideration, isolated as a factor, is generally much better than total consideration at explaining the variance in near term (within one year) growth. That explanatory power confirms the need for marketers to win attention for their brands at the very beginning of a shopper's journey.²

MARKETING TO INCREASE CONSIDERATION

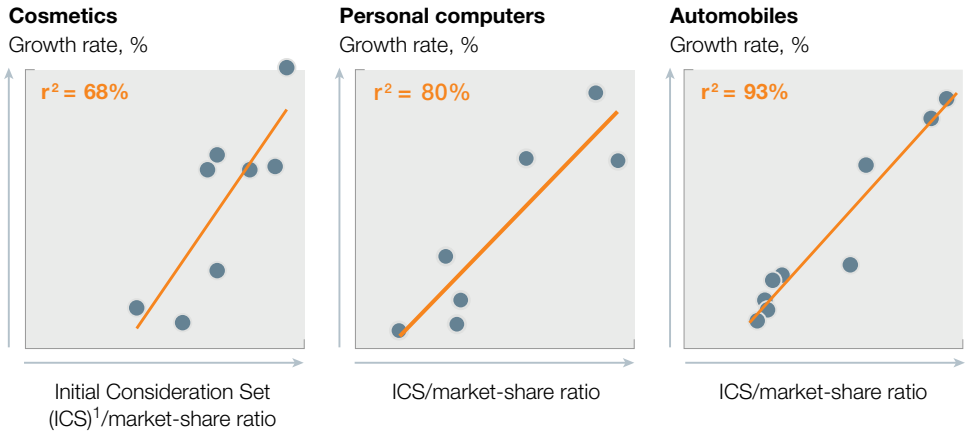
Earning initial consideration goes well beyond getting shoppers to be aware of your brand name. They also need to have a clear enough sense of its unique benefits and value to include it among products they plan to evaluate as they begin their journey toward a purchase. While traditionally, this would have prompted companies to increase spending on television advertising, today many additional avenues are open to drive shoppers to brands. We'll focus here on three proactive moves companies can take to boost initial

² As an example, in personal computers, the r-squared value is stronger (80) when using initial consideration than when using total consideration (37).

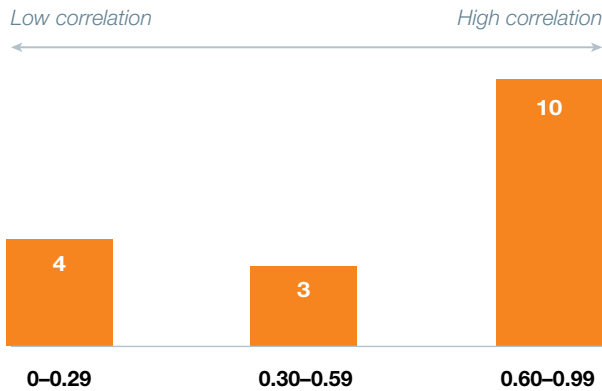
Exhibit 4

In most shopping-driven categories, the ratio of initial consideration to market share explains more than 60 percent of the variance in growth.

Selected industry examples



Distribution of r^2 values, number of industries²



Note: r^2 is the proportion or percentage of variance explained by a regression.

¹ The brands a consumer thinks of when first deciding to make a purchase.

² Calculated as growth to ICS/market-share ratio; includes 17 shopping-driven categories; excludes 3 loyalty-driven categories and 10 shopping-driven categories for which data were unavailable.

consideration, drawing some lessons from companies that have category-leading CGIs.

Resegment the consumers you don't target

Loyalty-based marketing doubles down on a narrow selection of high-value consumers and then spends on incentives to retain them. By contrast, marketing geared to growing initial consideration will exploit a more diverse and wider set of consumer segments, many with limited or perhaps even no

experience with the brand. The name of the game is expanding your window for growth potential, which is likely to demand quite different approaches for shoppers who have and have not previously engaged with the brand.

Consider first consumers who have had a positive experience with the brand in the past but have stopped buying. These “lapsed” customers may hold high potential: our research shows the most important touchpoint for driving initial consideration is previous interaction with a brand, even if the interaction happened several years before. So marketers need to look hard at the reasons behind consumers’ “no repurchase” decisions. In some cases, a better offer may have stolen away a lapsed customer; in others, lifestyles or habits have changed. Some consumers may never have connected emotionally to your brand. The task of rekindling initial consideration is likely to look quite different across consumer groups like these.

For consumers who have had no experience with the brand, the underlying issues can be even more complex. The consumers in question may not understand the brand, often have never considered it, and sometimes even harbor feelings that the entire category just isn’t for them. Take vacation cruises, which some consumers reject out of hand because of preconceived notions about the cost or nature of the cruising experience. Disney, though, has built on its well-known brand in entertainment to expand into the vacation-cruise category. With a sharp focus on creating unique experiences, Disney has attracted consumers who ordinarily would not have considered a cruise vacation. Disney led its category in our CGI measure and has experienced above-average growth compared to other cruise providers.

Rebalance marketing budgets, giving more weight to what counts most

While the importance of consideration is hardly a new concept, the need to elevate initial consideration requires new focus. The basic playbook for driving more of it is straightforward: deemphasize lower returning marketing investments, many of which may ignore initial consideration, and spend more to encourage it.

Prune spending on closing the sale and loyalty. Although many marketers emphasize sales incentives and rewards for loyalty, such initiatives are poor at driving consideration and also can run into diminishing returns. Airlines, for instance, have been cutting back their loyalty programs and raising the requirements to achieve elite status for several years because the programs, while effective, simply became too expensive. Many consumer marketers including packaged-goods, automotive, and financial-services companies

are also taking a deeper look at the true return on spending from short-term sales incentives and finding significant opportunities to reduce spending. Actions like these that shift budgets away from lower-productivity spending are critical since they free up resources for initiatives that drive initial consideration among promising segments. For example, during the recession that started in 2008, rather than just follow the usual auto-industry playbook by trying to stop the bleeding with short-term sales incentives, Hyundai used an innovative marketing campaign to build consideration. It promised to take back cars from customers who had lost their jobs to drive up consideration among consumers financially unsettled by the recession. Hyundai had an impressive CGI score, and it also was one of the very few auto companies to grow at a time when the industry was widely losing ground—a signal of the importance of initial consideration not only in up markets, but also in tough environments.

Encourage consideration. With funding freed up, you need to begin expanding initial consideration across two horizons of marketing engagement. First, you'll need new ways of boosting broad awareness of your products, services, and brand—likely using major media or social channels—that give consumers a reason for learning more about your brand. Second, you'll need an innovative approach for translating traffic beyond simple awareness to real brand consideration, often on your website, where there's an opportunity to convey a fuller picture of the brand's value through creative interactions.

Cosmetics firm L'Oreal and financial-services player Charles Schwab suggest how this can be done. Both used social media and display ads to drive a wide cross section of consumers to their websites, where they offered them user-friendly tools that encouraged brand interactions. For L'Oreal, it was teaching consumers the right way to apply makeup; for Charles Schwab, it was a tool to help learn the basics of financial planning. Gilt Groupe, the online luxury-goods site, took a different approach. It used broad-reach banners ads, each of which highlighted very low prices for designer brands. Once the consumer followed the link to the website, he or she learned of the brand's innovative business model and value proposition—an inside track on great deals. The goal in each case has been to use the broad reach of social and digital channels to highlight a unique offer that persuades consumers to learn more about the brand, thereby building consideration.


Build a pipeline of innovative product, service, and brand news

Creating more innovative and exciting products or variations can grow consideration organically. News about a brand often is a powerful trigger for new consumers to add it to their initial consideration set. It also keeps

current customers engaged. While the news must of course be relevant, it can range from announcements about new products or features to messages that position products creatively to new types of consumers who don't have the brand in their consideration set. Credit-card marketers, for instance, often design new product offerings that spur current and new consumers to reevaluate preferences. For example, Bank of America's BankAmericard Better Balance Rewards credit card, Capital One's Quicksilver card, Citi's Double Cash card, and the Discover It card have all promoted innovations that increase the likelihood of consideration by rewarding consumers for card usage in new and differentiated ways.

The CGI leaders in our database have a tradition of building buzz with brand news as part of an integrated plan. Consider Apple, which earns high CGI scores and has outgrown competitors by offering product innovation and a differentiated consumer experience. It has long used product news on innovations to stoke the interest of shoppers who then place the brand in their initial consideration set.

Every company we know is sweating out efforts to increase revenue from their brands. Earning a spot in consumer' highly valuable initial consideration sets has never been more crucial. Measures like the initial consideration index can help companies understand how their brands stack up against those of competitors while offering a way to track progress as they encourage consumers to consider their brands first.

None of this, of course, diminishes the need for a well-orchestrated program across the consumer decision journey, including staying in the mix during active evaluation, converting sales at the moment of purchase, and ensuring loyalty and retention. Yet in a world where market noise will inevitably increase, initial consideration has emerged as marketing's most critical battleground. 

David Court is a senior partner emeritus of McKinsey's Dallas office, **Dave Elzinga** is a partner in the Chicago office, **Bo Finneman** is an associate partner in the Miami office, and **Jesko Perrey** is a senior partner in the Düsseldorf office.

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Being customer-centric in a digitizing world

Gitte Aabo, president and CEO of LEO Pharma, describes her company's strong patient focus and determined digital drive.

From company headquarters, in the suburbs of Copenhagen, LEO Pharma has been stepping up its strategy to become the world's leading company for people with skin diseases. McKinsey senior partner Martin Møller recently talked with LEO Pharma's president and CEO, Gitte Aabo, about the group's efforts to better understand the needs of patients and about its recent investment in LEO Innovation Lab, a stand-alone unit designed to develop digital solutions for patients.

The Quarterly: *At LEO Pharma, everything seems to be about the patient. What exactly does patient-centricity mean—and to what extent is this idea new?*

Gitte Aabo: Clearly, it's always been the case at LEO Pharma—as it should be at any pharma company—that we care about delivering excellent treatments to patients. But we've taken this one step further by asking ourselves not just are our treatments safe and efficacious but also are they convenient and do they truly address patients' needs?

One of the obstacles we face is that even though skin diseases can have a profound impact on the lives of patients, patients don't always adhere to treatments, often because they find it too difficult to use the products. We need to remember that patients are people like you and me, who get up in the morning, go to work, and pick up their kids after school. So if we come up with a

treatment, like an ointment, that takes patients a long time to apply every day, they most likely won't. We want to respond to this.

The Quarterly: *How has patient-centricity changed the way you do things in practice?*

Gitte Aabo: One example is that we have asked anthropologists who study psoriasis patients in various parts of the world to help us understand not only the needs that these patients are able to express themselves but also some of the unmet needs that, maybe, they are not even aware of. Indeed, this led to a new treatment applicator, which is now being used by people with psoriasis all over the world.

Another example is in R&D, where we now specifically work to address the issues of different personas. We are very conscious, for instance, that a young girl who gets psoriasis in her teenage years—a time when she is concerned with her looks, thinking about a first date, and worrying about her education—will react differently from a 70-year-old man in the same situation. That is reflected in how we develop treatments and support these different types of patients.

To me, patient-centricity means being deeply entrenched in patient's needs, not just thinking about how to develop new products and new features. It means reaching out to patients and considering treatments that will help them in whatever situation they find themselves in.

The Quarterly: *How have you changed the culture of the company to reflect this thinking?*

Gitte Aabo: That is a huge challenge and clearly not something that happens overnight. We've done a number of things. Every employee who joins LEO Pharma, for example, meets a patient as part of the induction. And the incentive schemes for all senior managers are now split into three categories: patients, people, and performance—with patients being the one that has the heaviest weighting.

Other elements still need to change. Take our clinical trials. What does a successful clinical trial look like in a patient-centric culture? It requires a focus on convenience—ease of use—and on reported patient outcomes as much as on safety and efficacy, and it requires openly sharing the results. As an example, we have taken steps toward the latter with our commitment to transparency. We were the second company, globally, to commit itself

to increased disclosure of clinical-trial information. We are proud of that commitment but want to do even more.

The Quarterly: *Can you tell us about the LEO Innovation Lab? Why did you create a separate unit, and what is its relationship with the rest of the company?*

Gitte Aabo: The idea behind the LEO Innovation Lab has been to build and test digital technologies and platforms that will address areas the pharmaceutical industry typically overlooks. We wanted, above all, to create an environment that resembles a start-up company because we realized that the competencies we need are very different from what we find in many employees with scientific backgrounds. A company with a more than 100-year history probably doesn't have that start-up environment. Hence the decision to opt for a separate unit, with a different way of working that would attract people wanting to innovate in the digital space.

The Quarterly: *How did you decide where to locate the LEO Innovation Lab?*

Gitte Aabo: We felt it was important to locate the lab in the center of Copenhagen, where younger, digitally savvy people are more likely to want to work, rather than in the suburbs, where LEO Pharma is headquartered. And it was important to be in Copenhagen—not, say, Silicon Valley—so that we could more easily transfer all the insights we have in the company about the physical, social, and psychological impact of living with a skin disease.

To guide the LEO Innovation Lab, we have put in place an advisory board that combines people from the business in LEO Pharma with people well known within the start-up and digital space. The latter bring knowledge, experience, and networks to the table, but, most important, they set the tone for a start-up environment in culture and values.

Besides Copenhagen, we have satellite labs in the UK, France, and Canada—all markets where we have a very strong presence and close relationships with dermatologists, payors, and pharmacists. To reach out to patients, we need a deep understanding of the ecosystems surrounding them.

The Quarterly: *What results are you expecting from the LEO Innovation Lab, and how will you measure them?*

Gitte Aabo: In the first instance, we aim to develop specialized apps to give people living with skin diseases resources like dietary advice, beauty tips for psoriasis sufferers, and general ideas on how patients can benefit from their

GITTE AABO

Education

Earned an MBA at Copenhagen Business School

President and CEO (2008–present)

Deputy group managing director (2007)

Fast facts

Member of the board of directors of the Danish National Bank

Career highlights

LEO Pharma
(1992–present)

Vice president and senior vice president, finances and IT (1999–2006)

interactions with healthcare professionals. We will have KPIs¹ to track how many people with skin diseases use our solutions and continue to use them. We believe that the better patients are informed and understand a disease, the better they will be able to take control of it and adhere to treatment.

The Quarterly: *How flexible is the operating model of LEO Innovation Lab?*

Gitte Aabo: It's flexible in the sense that it's scalable. The lab operates a lot through external partnerships and hiring people with specialized competences on shorter assignments to work on a particular digital solution.

We've allocated around €60 million for the next three years and are already considering how to continue the initiative, and in what form, when that period is up. We want to strike a balance, ensuring that there is enough funding to have an impact, while not providing so much money that it discourages the sort of risk taking, pragmatism, and agility that distinguish the best start-ups.

I hope that some of the thinking applied in LEO Innovation Lab will rub off on how we run projects or processes inside the traditional, nondigital part of LEO Pharma. In LEO Innovation Lab, we have an innovation process that runs within 100 days—100 days from the point we have an idea to the moment we have a solution on the market. Although I would love to see that kind of speed in my innovation process in more traditional research and development, that's not possible for many reasons. Still, there are elements that we can learn from and apply elsewhere in the business.

The Quarterly: *With LEO Innovation Lab, you've been active in seeking innovation partnerships. What technologies are you most interested in, and what characteristics do you look for in potential partners?*

Gitte Aabo: We are particularly interested, at the moment, in the combination of imaging and artificial intelligence. Currently, general practitioners, or family doctors, have a limited ability to diagnose a skin

¹ Key performance indicators.

disease. Studies show that only about 50 percent of eczema cases, for instance, are correctly diagnosed by these GPs. By combining imaging technology with pictures taken on a mobile phone, you can build up knowledge, over time, about what eczema looks like or what a melanoma looks like. We've recently invested in a company whose app to detect melanoma can provide as accurate a diagnosis, with images taken by an individual patient, as the best specialists.


The Quarterly: *How does the legal and regulatory framework affect LEO Pharma's strategy?*

Gitte Aabo: The legal and regulatory frameworks reflect the credibility of our industry in the eyes of society. Credibility is crucial to the industry because a lot of people don't trust pharma companies. That's something we need to address and change in the coming years, and there's only one way to do it—by being transparent about our clinical trials and our other activities.

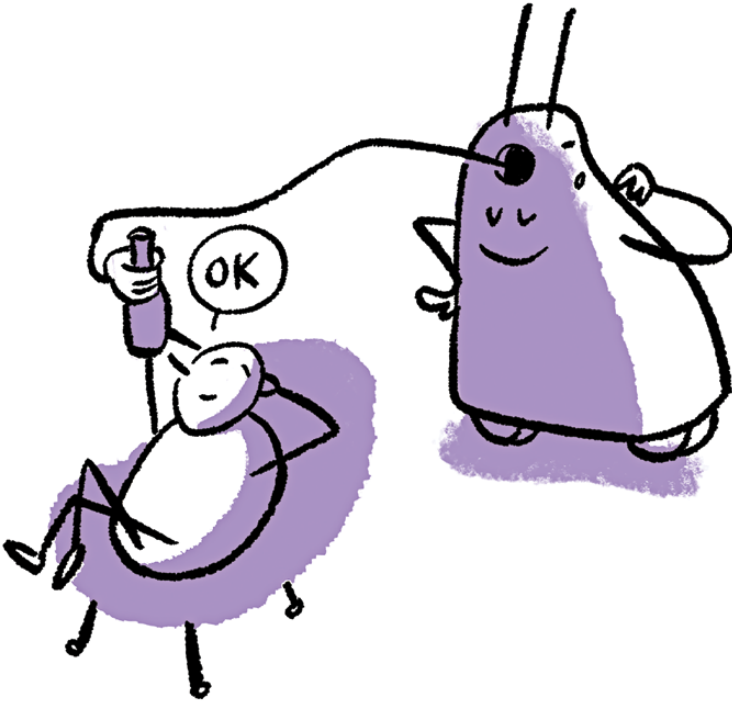
The Quarterly: *As you look ahead, what worries you and what excites you?*

Gitte Aabo: One of the things that excites me is the level of access to information that patients now have, which will further increase. I believe this is going to change the whole dynamic of the healthcare system. We've only scratched the surface at the moment, but more information will have a profound impact on the physician's role, the patient's role, and our role as a company. Patients will have more decision power, at least when it comes to chronic diseases, and as a citizen I think that's a healthy development. It's also challenging because it requires a completely new business model, in which the patient gradually moves to the foreground.

The Quarterly: *Is it important for LEO Pharma to prioritize long-term success over short-term gain?*

Gitte Aabo: I think it's important for the entire pharma industry if we want to be perceived as credible and to run a sustainable business. In the years to come, people will increasingly select not just a pharmaceutical product but the company behind that product—and that's where trust is vital. That mindset is embedded in how we run the business and how we make investments. The fact that LEO Pharma is owned 100 percent by a foundation strengthens our ability to think and act for the long term and is closely related to our credibility. 

Gitte Aabo is the president and CEO of LEO Pharma. This interview was conducted by **Martin Møller**, a senior partner in McKinsey's Copenhagen office.



A smart home is where the bot is

Within a decade, our living spaces will be enhanced by a host of new devices and technologies, performing a range of household functions and redefining what it means to feel at home.

by Jean-Baptiste Coumau, Hiroto Furuhashi, and Hugo Sarrazin

The promise of devices that not only meet our household needs but anticipate them as well has been around for decades. To date, though, that promise remains largely unfulfilled. Advances such as the Nest thermostat by Alphabet (parent company to Google) and Alexa, Amazon's personal assistant, are notable, but the home-technology market as a whole remains fragmented, and the potential for a truly smart home is still unrealized.

A tipping point may be at hand. Increased computing power, advanced big data analytics, and the emergence of artificial intelligence (AI) are starting to change the way we go about our busy lives. The vision we present in this article may seem "out there," but it simply represents the confluence of those



Illustration by Luis Mendo

technological developments and realization of existing trends. Those trends, along with what's just on the horizon, according to our research, suggest to us that within a decade, many of us will live in “smart homes” that will feature an intelligent and coordinated ecosystem of software and devices, or “homebots,” which will manage and perform household tasks and even establish emotional connections with us.

A smart home will be akin to a human central nervous system. A central platform, or “brain,” will be at the core. Individual homebots of different computing power will radiate out from this platform and perform a wide variety of tasks, including supervising other bots. Homebots can be as diverse as their roles: big, small, invisible (such as the software that runs systems or products), shared, and personal. Some homebots will be companions or assistants, others wealth planners and accountants. We will have homebots as coaches, window washers, and household managers throughout our home.

We are already entering this new era. In two years, we expect to see more items in our living space become interconnected—the formative first stage of a new home ecosystem. In five years, numerous tools and devices in the home will be affected. And in ten years, smart homes will become commonplace and will regularly feature devices and systems with independent intelligence and apparent emotion.

That level of home improvement presents significant opportunities, threats, and changes for appliances and devices that have been part of our home life for generations. The new home will be built on a foundation of platforms and ecosystems, whose producers will need to establish new levels of trust with their customers. Competition will take place not just for the consumers who inhabit the smart home, but for the interactions between consumers and homebots that increasingly will shape buying behavior. It's not too early for a wide range of players to start laying the groundwork for success in the home of the future.

THE NEW HOMEBOT LANDSCAPE

When we envisage smart homes to come, two core features are starkly apparent.

Platforms

Platforms will provide the foundation to integrate different devices while providing a consistent interface for the consumer. Frontrunners include Amazon, Apple, Google, and Samsung; start-ups at various points in the development cycle will be part of the mix, as well. The winners will deliver omnipresence through ubiquitous connectivity and go-anywhere hardware, as well as integration, with bots collaborating among each other and linking to third parties' products and services. If the recent past is any indication, it's likely that multiple platform standards will evolve. That will present complexities both for consumers and businesses but will foster new, niche opportunities, as well.

Product and service ecosystems

Developers will create bots that plug into the new and various platforms. In short order, this combination of platforms and bots will mature into an ecosystem of products and services. Platform companies are likely to develop their own AI-driven bots (the descendants of Amazon's Alexa and Apple's Siri, for example). Many other creators will develop unique homebots that integrate into different platforms, much as the apps of today have been developed for Android and iOS, which support the impressive mobile-device ecosystems we see now.

Likely, too, a hierarchy will emerge: we can expect a "master bot" that acts as general manager, juggling many services; "service bots" that handle a set of functions related to a more complex task such as managing media; and "niche bots" that perform single tasks, such as window cleaning. For now, put aside

grand visions of a single, *Jetsons*-style Rosie the Robot replacing a human maid in toto; think instead of multiple bots performing separable, specific tasks. Well-defined scope presents much less risk of error. “If you have a robot at home,” notes Gary Marcus, a futurist and professor of psychology at New York University, “you can’t have it run into your furniture too many times. You don’t want it to put your cat in the dishwasher even once.”¹

TRUST WILL BE A MUST-HAVE

To better understand the homebot opportunity and potential obstacles to its realization, we conducted in-home and mobile diary studies in Japan and the United States with dozens of consumers who are already using AI products or services where they live. We found that satisfaction with individual smart devices runs high. Today, people are quite willing to invite homebots into their lives to address a broad array of specific use cases: from doing individual chores to completing a more complex set of tasks to managing even certain elements of child and elder care.

But we also found there’s a crucial variable that will determine the speed and extent to which consumers truly embrace smart homes managed by homebots. The overwhelmingly determinative factor for consumer acceptance that emerged from our research was trust. Trust is initially based on the bot’s ability to perform its task, as might be expected. That does not always go as planned. But once trust is established, people are willing to cede more responsibilities to devices and systems powered by AI. One key to creating that trust will be creating bots that are more than mere automatons. After all, humans are wired for emotions.² Our research confirmed that consumers are satisfied when a bot gets a task done, but they are delighted when there is a more personal, emotional element to how the bot does it.

COMPETING THROUGH HOMEBOTS

At the same time as competitors in the smart-home space are figuring out how to create trust, they also must learn how to compete in a new landscape where the winners are influencing the homebots themselves. As consumer-bot interactions become a new nexus of competition, a variety of players will need new skills in designing bots, marketing products and services to them, and building business models that exploit their position at the center of the home.

¹ See “Is big data taking us closer to the deeper questions in artificial intelligence?,” *Edge*, May 2016, edge.org.

² See “Leadership and behavior: Mastering the mechanics of reason and emotion,” *McKinsey Quarterly*, October 2016, McKinsey.com.

Designing bots

Increasingly, designers will tap into and even advance data science to develop solutions that go beyond addressing static insights. Likely, that will entail solutions that are at least in part AI-driven, in order to react instantly and evolve constantly for the needs of customers. By understanding customers through a variety of approaches including ethnographic research and AI-generated insights, designers can help guide businesses through the complicated tangle of interactions and diverse engagement models. We expect solutions will migrate from screen-dominated interfaces to more physical and even atmospheric interactions. Companies that have more compelling and intuitive engagement models between bots and consumers—and can achieve significant market penetration first—will hold the competitive advantage.

To become machines that are truly integral to peoples' home lives and to establish genuine trust, bots will need to connect with and relate to humans. That's hard, and it goes beyond AI to the realms of artificial emotion (AE). AE encompasses attributes such as tone, attitude, and gestures that communicate feelings and build an emotional connection. Consider Alexa. Several of our interview subjects told us that they think of Alexa as a friend. That doesn't develop from merely providing the train schedule when asked. It comes because Alexa evokes a sense of support, through its sensitive omnipresence and nuanced voice interaction. Interacting with Alexa really is like talking to a friend.

Marketing products and services to bots

As consumers trust bots more and in turn cede to bots more control over their home management, people will become less involved in the active decision making that goes on in daily home life. For providers of home goods and services, this means that bots will increasingly become the customer—or at least an important intermediary between a selling business and a human purchaser.

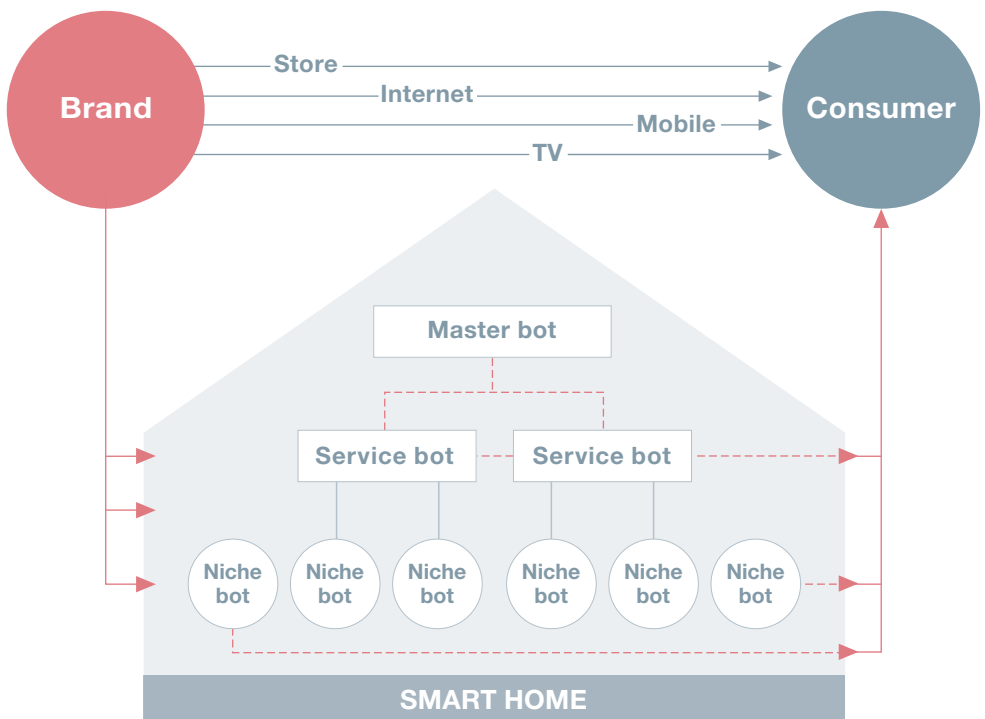
Marketing for bots certainly gives new meaning to the term robocalls. But it also poses a serious challenge: How can businesses position their products and services to a bot so the human consumer will passively allow, or actively ensure, a purchase (exhibit)? We expect that the marketer's mission will be comparable to the steps one takes to rank one's product or service at the top of an Internet search result. Just as companies focus on search-engine optimization, they will need to develop metadata and tagging systems that are optimized for homebots.

Given the simplicity of automated purchases and refills for many household products, sellers will need to focus on getting into a homebot’s “consideration set” and optimize features to win the likely comparisons embedded in a purchase-decision algorithm. That calls for an approach that is much harder than “one and done.” Given the speed and reach of AI, providers will have to monitor bot purchasing behaviors continuously and be vigilant in tracking competitors’ moves going forward.

The stakes are real; a shift in AI preference toward a competing product could reduce demand to zero. The once all-powerful intangible influence of a brand may now be reduced to a tangible sum of its parts. As AI gathers inputs across consumer networks, unpleasant consumer experiences or negative feedback could have near immediate impact on bot purchasing preferences.

Exhibit

Marketing to consumers will increasingly mean marketing to their bots as well.



Master bot acts as general manager, juggling many services

Service bots handle functions related to a more complex task—eg, managing media

Niche bots each perform a single task, like cleaning a window

As a result, analytics and marketing will need to be rapid, responsive, and agile. Consumers who can't be bothered to search for the right purchase or are overwhelmed by the complexity of choice can have a homebot scan constantly based on variable individual preferences (such as cost, appearance, and durability).

Evolving business models

We expect that a wide range of homebot business models and use cases will emerge. Not only could homebots be purchased or rented for a specific task, people may share or rent them out to others. It's conceivable that networked bots will work together across households, for example, to increase processing power, share expenses, or even partake in buyer co-ops to benefit from bulk pricing. Each of these models creates opportunities for new revenue streams.


The greatest source of value may come from the data. Bots will acquire and generate reams of information, and these data points will be critical for increasingly data-driven projects and services. Data will be sources of insight and even products in their own right. And understanding the implications, opportunities, and information about the smart home won't be someone's part-time job. It will require a dedicated team to parse the data, develop strategies, manage partnerships, and drive experiments that will become integral to creating value.

LAYING THE FOUNDATION

Businesses that seek to compete in the smart home can begin their housework early. A network of functioning bots is, in effect, an ecosystem of capabilities. Each bot will need to follow standard protocols to communicate with one another. But while a house may be bounded by four walls, a homebot ecosystem extends into the ether; it has to, as bots will need to interact

Competition will take place not just for the consumers who inhabit the smart home, but for the interactions between consumers and homebots that increasingly will shape buying behavior.

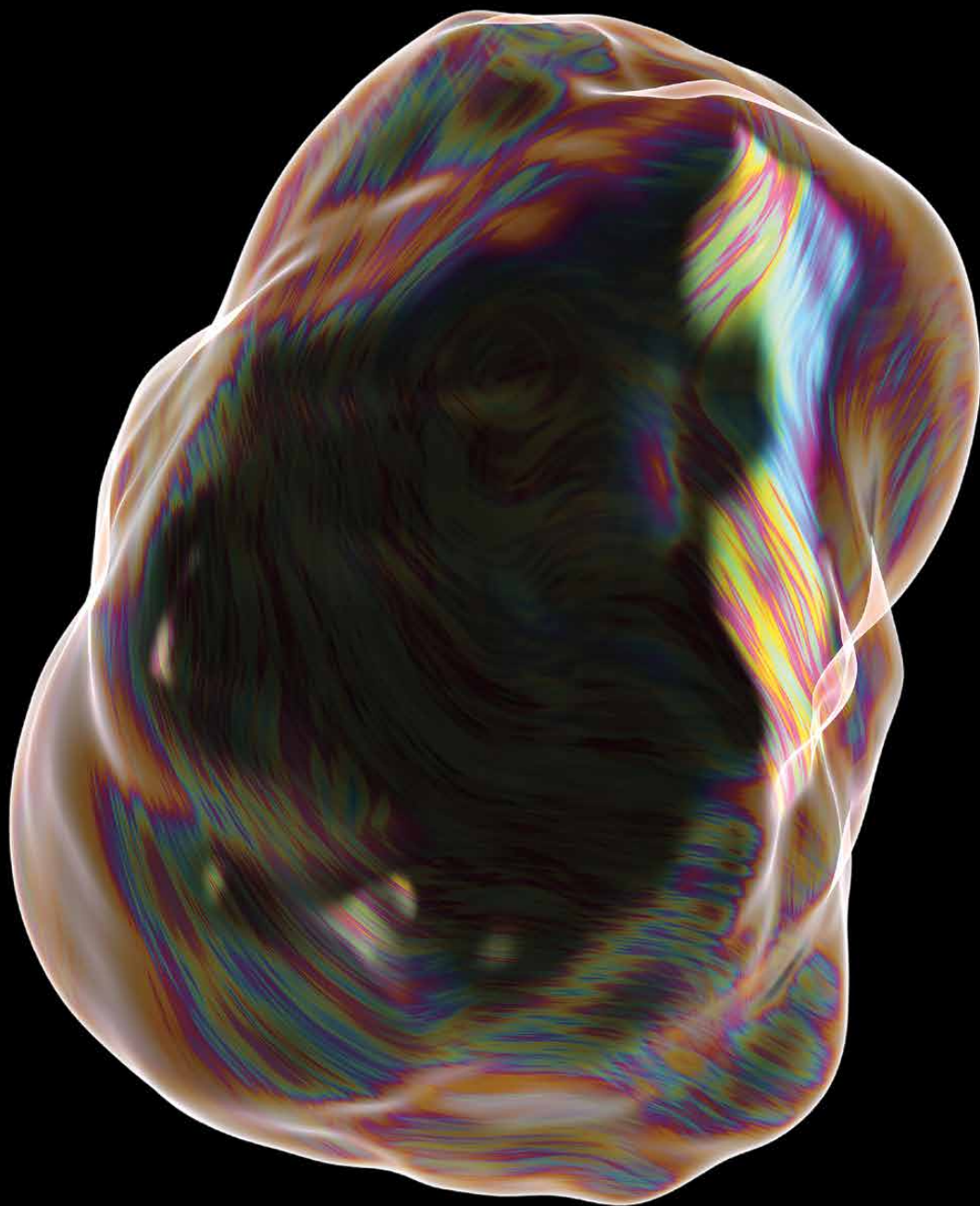
with markets and networks around the world. Smart cars, wearables, and mobile devices are but a few examples. How all those systems “talk” to one another will be the core IT challenge for the foreseeable future.

On the technical side, mastery demands an intimate understanding of AI technologies and how they work with one another. On the strategic front, it’s worth the effort to identify what your company’s competitive advantages are or may become and then imagine how these advantages could align with the homebot value opportunities that are likely to emerge. Remember: the smart home will require different parties to work together. It’s not too soon to take note of players developing complementary—or potentially competitive—capabilities, and consider opportunities for potential partnerships. Most important, keep in mind that the success of homebots and smart homes is not wholly about technology. Rather, smart homes and bots are about how technology makes us feel. The objective is to meet the needs of human consumers and to make a house feel like home. 

Jean-Baptiste Coumau and **Hiroto Furuhashi** are partners in McKinsey’s Tokyo office, and **Hugo Sarrazin** is a senior partner in the Silicon Valley office.

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The dark side of transparency

Executives need to get smarter about when to open up and when to withhold information so they can enjoy the benefits of organizational transparency while mitigating its unintended consequences.

by Julian Birkinshaw and Dan Cable

Transparency in the business world—think of buyers and sellers rating each other on eBay, Airbnb, and Uber—is generally considered a good thing. It accelerates information gathering, helps people coordinate their efforts, and makes those in positions of authority accountable to others.

What about transparency *within* organizations? Again, many emphasize the benefits of sharing information freely, as a way of empowering frontline employees and improving the quality and speed of decision making. For example, transparency is one of the key principles in the increasingly popular Scrum methodology for project management: “In my companies, every salary, every financial, every expenditure is available to everyone,” says Jeff Sutherland, its inventor.¹ Compared to knowledge hoarding and secretive behavior, it is easy to agree that greater information sharing is a good thing.

But there is also a “dark side” to transparency. Excessive sharing of information creates problems of information overload and can legitimize endless debate and second-guessing of senior executive decisions. High levels of visibility can reduce creativity as people fear the watchful eye of their superiors. And the

¹ Jeff Sutherland, *Scrum: The Art of Doing Twice the Work in Half the Time*, first edition, New York, NY: Crown, 2014.

open sharing of information on individual performance and pay levels, often invoked as a way of promoting trust and collective responsibility, can backfire.

There is a fascinating paradox in all this. It's possible in a digital age to track activities in real time and to share information widely at almost zero cost (in theory, at least, improving decision making). But, in many cases, the innovations that have brought this about have *reduced* effectiveness, thanks to an emerging "accountability gap" where information is in the hands of people who may not use it wisely.

Executives may therefore need to become smarter about when to open up and when to withhold information. This article looks at three main areas where too much transparency creates problems and offers some guidance on how to get the balance right.

TRANSPARENCY IN DAY-TO-DAY BUSINESS ACTIVITIES

Thanks to technology, companies can now monitor business activities in minute detail, from verbatim logs in a call center to real-time GPS tracking of component supplies. Such information isn't necessarily restricted to top executives: some firms now make video recordings of their meetings so everyone can see what went on; others have opened up their strategy-making process by allowing employees across the firm to read and review a wide range of planning documents.

The argument for transparency lies in the *wisdom-of-crowds* effect: by broadening the number of people involved, we will make smarter decisions and we will increase buy-in. But there are also problems with this approach. One is lack of speed: "It takes us so much longer to make decisions because so many people are involved," admits Jim Whitehurst, CEO of software company Red Hat, which has pioneered a highly inclusive approach to strategy making.²

The other, and bigger, concern is that people weigh in without relevant knowledge, or without any responsibility to see things through. One university we know well provided faculty with detailed information about the student demand for elective courses, resulting in a number of proposals to cut certain courses and grow others. The proposals were well intentioned, but were later rejected because the faculty did not know the trade-offs that had to be managed to introduce new classes. Both faculty and senior management were frustrated.

² Scott Merrill, "The open source CEO: Jim Whitehurst," *TechCrunch*, April 27, 2012, techcrunch.com.

Some companies have sought to overcome this accountability gap. For example, the Amazon subsidiary Zappos recently experimented with an ambitious form of self-management called holacracy, in which work is done in self-governing teams without any formal management roles, and employees have a “duty of transparency.”³ But implementing this new transparent way of working has not worked for everyone, with 14 percent of workers choosing to leave since it was introduced. One study noted that it “has been confusing and time-consuming, especially at first, sometimes requiring five extra hours of meetings a week as workers unshackled from their former bosses organize themselves into ‘circles.’” Another company, Shift (founded by former Zappos manager Zach Ware), abandoned holacracy after less than a year because it led to too many meetings and vague decision-making authority.⁴

Such cases reveal an important truth: many people do not want to know the full details of how their firm is doing, nor do they want to be held fully responsible for its outputs. Instead, they want to know enough to do their job well and they want to have the right to know more, but for the most part they are happy for someone else to process and manage that information on their behalf.

So how do you get the balance right? The first rule of thumb is to strive for a match between transparency and responsibility. If client service is everyone’s responsibility, then data on service levels should be available to all; but if decisions about which product lines to invest in and which ones to cut are the CEO’s responsibility, he or she should have privileged access to the information needed to make those decisions. If employees can access this type of privileged information anyway, it is useful to create a team or task force with responsibility for sifting through and channeling the views of employees to the ultimate decision makers. A works council in Germany or an employee committee like the one at retailer John Lewis can give employees a voice without the entire decision-making process grinding to a halt.

TRANSPARENCY IN EMPLOYEE EFFORTS AND REWARDS

Employee earnings is a second and highly controversial dimension of transparency. About one-third of US companies have “no disclosure” contracts that specifically forbid employees from discussing their pay with coworkers.⁵ In most others, pay is implicitly a private matter between boss

³ *Holacracy Constitution*, version 4.1, June 2015, holacracy.org.

⁴ Rachel Emma Silverman, “At Zappos, banishing the bosses brings confusion,” *Wall Street Journal*, May 20, 2015, wsj.com.

⁵ David Card, Alexandre Mas, Enrico Moretti, and Emmanuel Saez, *Inequality at Work: The Effect of Peer Salaries on Job Satisfaction*, National Bureau of Economic Research Working Paper Number 16396, September 2010, nber.org.

and employee. But in recent years a number of firms have experimented with radical pay transparency, even in large firms such as Whole Foods Market.⁶ Reasons for this shift include a desire to treat employees as adults, increase trust, and spur competition.

But sharing pay information can backfire—badly. Consider the example of a Canadian engineering firm. Each year, just before Christmas, the founder and CEO of the 30-year-old company used to look over each employee’s contributions for the year, and then award each person a bonus based on his personal beliefs about the value of those contributions. Sometimes the bonuses would be large—say \$30,000—and other times the bonuses would be small (\$5,000 or nothing at all). There was no formula, only the judgment call of the founder.

As the organization grew, however, the CEO requested that company leaders develop a rational and transparent process for determining allocation of bonuses. The leaders worked for a year to create a fair bonus system based on pre-established key performance indicators, and launched it through town halls and workshops so that everyone was clear how their bonus would be calculated. A year later, after the bonuses had been calculated and distributed according to the new system, employees acknowledged the increased transparency, but their perceptions of the fairness of the bonuses were significantly *worse*, and they trusted the employer *less* (exhibit). Even those who had received as much or more than the previous year were significantly *less* satisfied with the fairness of the more transparent system, and trusted the employer less.

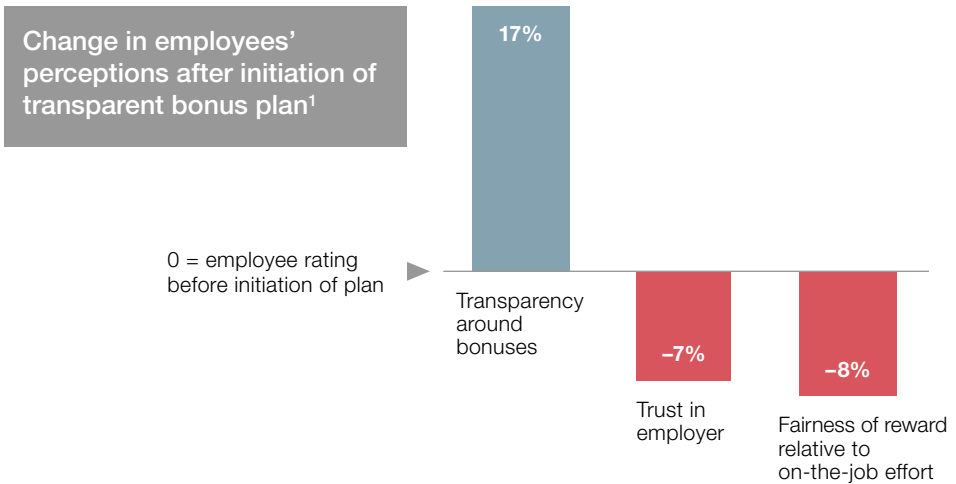
What went wrong? Interviews we conducted with employees suggested two unintended side effects of the new process. First, transparency invited a critical and transactional evaluation, rather than the bonus being seen as an unexpected gift. Second, transparency highlighted those who received larger bonuses, inviting envy on the part of those who fared less well.

The company leaders were genuinely surprised and have had to train managers to have tough monthly conversations, which can be facilitated through better data and clearer expectations about performance criteria.

⁶ Sue Shellenbarger, “Open salaries: The good, the bad and the awkward,” *Wall Street Journal*, January 12, 2016, wsj.com.

Exhibit

One company's new transparent bonus plan paradoxically reduced its employees' perceptions of trust and fairness.



¹ Based on confidential employee surveys; percentage difference between 2012 and 2014 ratings on a scale from 1 (strongly disagree) to 7 (strongly agree). Differences reflect ratings of 108 respondents, representing roughly 30% of employees, who filled out surveys in both years.

This case illustrates the psychological phenomenon of social comparison, whereby people have a need to compare themselves to others. In the workplace, we are driven to compare the equity of our contributions (inputs) and rewards (outcomes) relative to others. Perceiving our ratio of rewards to contributions as worse than other people's creates mental dissonance that can spiral into envy, distraction, stealing, withdrawing effort, or quitting.

Greater transparency was supposed to increase perceptions of equity at the Canadian engineering firm, but its emphasis on outcomes (rather than inputs *and* outcomes) had the opposite effect. Employees focused on "gaming" the mechanics of the system rather than creating real value and thinking about the collective good. As a result, the senior executives had to put in a lot of additional work, meeting with employees to explain more clearly how the new scheme actually worked. In hindsight, one of them noted, "it would have been useful to announce and run the new bonus system as a 'phantom' for the first year, telling employees what they would have earned under the new system, and then allowing them voice about the pain points of the new system."

In sum, even though many firms are experimenting with pay transparency, we believe they should be cautious and only do it when they can clearly connect employees' inputs to the outcomes they achieved.

TRANSPARENCY IN CREATIVE WORK

The third area where transparency can backfire is in creative work.

In many circumstances, such as working on an oil rig where safety comes first, making actions visible to others is a good thing. But in other circumstances it can have its downsides. Creative work, in particular, with its non-linear detours and dead ends, does not benefit from high levels of transparency. Indeed, the close monitoring of the process of developing a creative product is detrimental because the creative person may self-censor some of his or her better ideas, for fear that they will be misunderstood or criticized. For example, one study found that workers in a mobile-phone factory actually did their most productive and creative work when they were not being observed, suggesting that performance improvements can sometimes be achieved by creating “zones of privacy.”⁷

Consider the case of Eulogy, a communications agency based in London, where CEO Adrian Brady has sought to increase transparency in his team's creative work by bringing clients into early-stage brainstorming sessions. While this approach has ultimately proven useful, Eulogy's experience also shows it can give rise to negative side effects.

One problem is that clients can reject early-stage ideas before there is a chance to develop them fully. “A client's immediate negative reaction to a potentially great idea can end a conversation before it takes flight, making it hard to do anything big or new,” explained Brady.

Another issue with full transparency is that clients don't fully understand the process they are observing. “Sometimes a winning creative idea that is perfectly suited for a client's brief is something that pops into our heads within minutes,” said Brady, whereas in other cases it can take many weeks. When clients have a “time-and-materials mind-set” they're likely to focus on how long it took to get the idea, rather than how much value it will generate.

Eulogy's original and highly successful campaign for the beer company Grolsch, for example, was based on a single brainstorming session. “Logically, clients know they pay us for our expertise, experience, and creativity in the

⁷ Ethan S. Bernstein, “The transparency paradox: A role for privacy in organizational learning and operational control,” *Administrative Science Quarterly*, Volume 57, Number 2, pp. 181–216, sagepub.com.

right idea,” Brady observed. “But emotionally, it can be hard for people to pay us if they know it took 15 minutes to generate.”

A similar sort of challenge faces companies that make video recordings of meetings and then post them online for all employees to review. One company tested this new approach for a year, but with mixed results. While seen as a big step forward in accountability, some executives were seen to talk freely in ways that reflected negatively on, and offended, employees. Executives subsequently became more cautious in their meetings, self-censoring their comments, and taking all the important conversations offline.

To overcome these issues executives should identify the truly creative activities in their firm. Which elements of work proceed on a “one step back, two steps forward” basis, and which take place according to a predictable linear sequence of steps? They can then build “windows” into the process through which individuals not involved (either outsiders or interested employees from other parts of the organization) can review progress and take stock. Typically those individuals will be happy if they know in advance where the windows are.

The stronger the level of trust between those doing the creative work and those overseeing it, the larger the windows can become.

We are getting used to transparency in our lives. We allow companies to know where we are physically and what we are thinking about and searching for. There are some 1.18 billion active users on Facebook every day, many of whom are updating their information for all to see. But transparency can also cause pain without much gain. Smart leaders need to know when to share and when to keep things back. They should also know when to get immersed in the details of a project or activity and when to turn a blind eye. Transparency is vital, but it has a dark side, and it takes real skill to get the balance right. 

Julian Birkinshaw is a professor of strategy and entrepreneurship at the London Business School, where **Dan Cable** is a professor of organizational behavior.

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Nokia's next chapter

The Finnish giant has exited mobile phones and doubled down on its networking business. Chairman Risto Siilasmaa explains why—and how.

The only way a corporation endures for a century or more, according to former IBM CEO Lou Gerstner in *McKinsey Quarterly*, is by changing 4, 5, or even 25 times over those 100 years.¹ Otherwise, he says, “they wouldn’t have survived.” By those measures, Finland’s Nokia is a paragon of corporate renewal. Over its 151-year existence, the company—which took its name from a lumber mill built on the banks of the Nokianvirta River, in southern Finland; later morphed into the power-transmission and phone-cable businesses; and then most famously moved into, and for more than a decade ruled, the entirely new market of mobile telephony—has made the ability to change a core competency. After surviving a near-death experience and abandoning phones, this corporate phoenix has reemerged as one of the world’s largest telecom network service providers. Recently, at its headquarters in Espoo, Finland, Risto Siilasmaa, Nokia’s cerebral chairman, escorted a visitor down a wall showcasing historical memorabilia from incarnations past—such as a pair of rubber boots, a power cable, the brick-like Cityman mobile phone from 1987, and Nokia’s beloved model 5110—and, turning a corner, paused to wave expansively at a corridor dominated on one side by a blank, 100-foot whiteboard: “And there,” he said with a wry smile, “is our future.”

Siilasmaa himself is a big reason Nokia even has a future. As one of Finland’s most successful high-tech entrepreneurs (he was briefly a “dollar

¹ See “Lou Gerstner on corporate reinvention and values,” *McKinsey Quarterly*, September 2014, McKinsey.com.

billionaire” on paper during the turn-of-the-millennium market boom), he joined the board in 2008 just as the emergence of Apple’s smartphone on the high end and a bunch of aggressive cheaper competitors on the low end were beginning to batter Nokia’s market leadership. Things went south with stunning speed, and by 2012, the company was hemorrhaging money. Named chairman in May of that year, Siilasmaa quickly found himself playing a complex corporate game of three-dimensional M&A chess, even as the company battled to survive. In quick order, he and his board bought back half of NSN (Nokia Siemens Networks), a networking joint venture that had been spun off at the height of Nokia’s mobile dominance, negotiated the sale of its phone business to Microsoft, and then wheeled to double down on networking by purchasing rival networking giant Alcatel-Lucent.

Amid the fog of uncertainty, Siilasmaa kept the enterprise focused by building trust among the board and top management team, by treating anxious employees with transparency and fairness, and by insisting on using facts and analysis to drive decision making. No non-oil company may have ever claimed more of a single country’s GDP, tax base, and collective esprit than Nokia at its peak did in Finland. So amid the national emotional outpouring its decline engendered, it helped to have a quietly confident rationalist at the helm.

Recently, Siilasmaa sat down with McKinsey Publishing’s Rik Kirkland to reflect on his own remarkable journey, as well as his company’s. In these edited excerpts, he recalls his education as an entrepreneur, his love-hate relationship as a sometime supplier to Nokia, and the battlefield lessons he learned about how to forge consensus and build trust—and sketches out his vision of how the new Nokia intends to fill in the blank white wall of its future.

The Quarterly: *Tell us about how you became interested in tech and being an entrepreneur.*

Risto Siilasmaa: I learned programming on a Commodore 64, actually a VIC-20 before that, when I was about 12 years old. My parents were not wealthy, so I had to earn the money to buy my own. I started working, doing all sorts of odd jobs, and began actively writing reviews and articles for Finnish computer magazines. When I was 15 to 16, I started helping some Finnish companies with their computer problems and later wrote a book on computer security.

I then attended the Helsinki University of Technology, where I didn’t study computer science, because I was under the false impression that I already knew enough about that topic. So I studied economics, international law, business strategy, and leadership—a wide and nonscientific curriculum. As

part of an exercise in one course, the university had us fill in the papers required to start a company. But my partner and I used those documents to actually start a company. Shortly after, he left to do his thesis, and I was left in charge. Customers were happy, so I started hiring. And one thing led to another.

The Quarterly: *This was F-Secure, a cybersecurity company, correct?*

Risto Siilasmaa: Yes. F-Secure launched in 1988. As we continued to grow, suddenly we had profits and were able to start hiring developers. So we shifted from services and consulting training to become a product company, which had been my dream since the early days of learning to program a Commodore 64. I had hoped to create the best text-based *Dungeons and Dragons* computer game of all time and sell that globally. For me, it was a fascinating thing to think that somebody on the other side of the world would use something I had created. However, the game didn't work out.

The Quarterly: *So the Angry Birds path to success didn't end up being in your future.*

Risto Siilasmaa: No, but it was good fun. However, with the path we chose, F-Secure grew at an average of 80 percent annually for the first 12 years and was always profitable. We went public at the end of 1999, and the stock took off. As the founder and the largest shareholder of the company during the tech bubble, I soon saw my face on the TV news in Finland, sometimes several times a week. People started recognizing me when I was walking down the street, even though I was not giving interviews. The media were just showing my face, speculating on TV about the company's success, rising share price, and how much I was worth.

The Quarterly: *How did that kind of celebrity affect you?*

Risto Siilasmaa: The learning for me was that what the media says about you has absolutely no bearing on reality, especially when they're only saying positive things. You're not any better. The company's not any better. It's just that there's this huge hype. And you need to be aware of how that hype can affect you, for example, by potentially pushing you to spend much more than what makes sense and to think too much about the next month or quarter versus the next 25 years.

One thing we did, which is relatively unusual, is to say publicly, back in 2000, that we felt our share price was overrated and too high. Typically, the leadership of a publicly listed company doesn't do that. Two months after we did, our share price had tripled. It was absolutely absurd. But in the end, what made me so happy is that we had priced our IPO at the right level, so that

after the bubble burst, my investors still made money. Even after the bubble had completely deflated, I could look any investor in the eyes and say, “If you invested in the IPO, then you’ve still made money.” That was important for me personally as well. When people ask me, “How did it feel to lose a billion dollars?” I can honestly say I never felt I lost anything, because it was only paper money. After the bubble, I still had the same amount of shares that I had before the bubble.

The Quarterly: *In the meantime, Nokia’s own star was burning brighter and brighter as well. How did that shape your course at F-Secure?*

Risto Siilasmaa: When I started my company, Finland was not a high-tech country. In fact, our reputation was quite low in that regard. We didn’t really have international companies either. So when F-Secure started internationalizing and went to Silicon Valley in 1992, and Japan and other countries a few years later, I always tried to pretend that we were an American company. We still had printed corporate brochures back then, and I always put the US office address first on the list so that people would mistakenly think that we were an American company. Finland showed up somewhere on down in the list.

But with Nokia’s increasing success, I gained the confidence to start giving a real Finnish flavor to the F-Secure story. Because, for security, Finland is a great country of origin. We weren’t on any side in the Cold War.

RISTO SIILASMAA

Vital statistics

Born April 17, 1966,
in Finland

Education

Holds an MS in
engineering from
Helsinki University
of Technology

Career highlights

Nokia
(2012–present)
Chairman of the board
of directors

(2008–12)
Member of the board
of directors

F-Secure
(2006–present)
Chairman of the board
of directors

(1988–2006)
Founder, president,
and CEO

Fast facts

Chairman of the board of
the Federation of Finnish
Technology Industries
and a board member
of the Confederation of
Finnish Industries

Earned the Nordic
Chairman of the Year
award (2009) and the
Innovation Luminary
Award (2015)

We are impartial, objective, law abiding, and hardworking. There's almost no corruption in Finland. In many ways, we are the ideal home for a security company. But it was the rise of Nokia that encouraged me to open that door. Its success gave Finns a new pride in being Finnish.

Eventually, we became a supplier to Nokia, providing security software for its proprietary Symbian operating system. We started shipping an antivirus product for Symbian in 2001. But to be honest, when that happened, I discovered it was very difficult to work with Nokia. I loved Nokia, but I hated the way Nokia treated its partners. Besides the arrogance that can come with great success, the company had an attitude that it didn't need to please its partners. It treated them as a purely subcontracting, supplier relationship, which is not the way to act when an innovative product like software is part of your supply chain.

The Quarterly: *So how did you move from supplier to board member?*

Risto Siilasmaa: In 2006, I turned 40. After 18 years in the same role as CEO of F-Secure, I felt that I was not learning anything anymore. Instead, I decided to radically transform my life. So I stepped down, became the chairman, and started doing a lot of other things—such as becoming the chairman of Elisa, the biggest, most successful domestic teleoperator in Finland. In 2008, I was asked to join the Nokia board.

At the time, they were looking to me because of my technology and business experience, and because I had given them strong feedback about the shortcomings in how they treated their ecosystem of suppliers. But there was then no sense of any impending crisis. In fact, 2007 had been the best year for Nokia ever. But in hindsight, we know that the turn had begun some years before as far as competitiveness, the right technology architectures, and the way to organize the company.

The Quarterly: *Any reflections on how executives can foresee the kind of market shock that Nokia subsequently endured?*

Risto Siilasmaa: Very successful companies need to be extremely focused on forward-looking indicators. I often jokingly say that in business we all drive cars where the whole windshield is a rearview mirror. And we have only a small opening somewhere in that mirror surface through which we can look forward. That's because, in general, we are so focused on the historical numbers that we have little ability to look forward. None of our neighbors, in their right mind, would want to drive such a car, but we run huge businesses with exactly that approach. It doesn't make any sense. When everything

you see looking through this giant rearview mirror is great, how can you begin to understand that, actually, your fundamental competitiveness has dramatically decreased over the last years?

The Quarterly: *So, blinded by the mirror, Nokia missed the abrupt turn in the market and was forced to begin taking a number of radical steps to try to turn the tide. This included bringing in Microsoft's Stephen Elop as its first non-Finnish CEO in September 2010, and later deciding to stop investing in its own proprietary software and instead sell Microsoft's Lumia phones as its exclusive high-end option. Describe the situation at the time you were formally named chairman in May 2012.*

Risto Siilasmaa: To me, Jim Collins's book *How the Mighty Fall*² describes quite well what had happened to Nokia. When I became chairman, I think we were in the fourth stage of Collins's five stages. The fourth stage is sort of the Hail Mary stage, where you need to do something dramatic or you go into the fifth stage, which is death or irrelevance—with irrelevance obviously being worse than death. That spring had been pretty awful for us. We issued two profit warnings over two quarters. Our operating loss was about €2 billion during the first half. During the second quarter alone, our core revenues in handsets declined by 26 percent from the previous year. We were planning the biggest layoffs in the company's history. Our core investors were categorizing Nokia shares as noninvestable and not even following us anymore. It was mainly hedge funds and short-term investors holding the shares. The press was speculating about the timing of the Nokia bankruptcy. Our employees were reading all that, experiencing major job losses that had already happened, and feeling very fearful for the future.

It was a difficult moment, substantively and emotionally. Many of the things that we did then were done instinctively. After thinking about everything that has happened, certain lessons have crystallized. But while it may sound as if I knew what I was doing, I assure you it was not always so.

The Quarterly: *What were some of those lessons?*

Risto Siilasmaa: I have formed a leadership philosophy that I call “entrepreneurial leadership.” The core of that requires behaving as a paranoid optimist.

² Jim Collins, *How the Mighty Fall: And Why Some Companies Never Give In*, first edition, New York, NY: HarperCollins, May 2009.

The Quarterly: *That sounds a bit like Andy Grove's Only the Paranoid Survive.*³

Risto Siilasmaa: Yes, but he stressed the paranoia. You need both. If you're not an optimist, you can't energize people. But if you don't also scare them, then they won't be thinking about everything that can happen, and preparing for it. So in 2012, I was both scared and optimistic at the same time.

Somehow I decided that before we could plunge into all the issues we faced, we needed to stop for a moment and think about how we were going to approach them. While this was done instinctively, in hindsight it's one of the biggest lessons that I have learned: always, when you start something new, stop the team first.

Essentially, what I said was, "Let's forget about the issues we have at hand for a moment. Let's talk about what's really important. How do we work together? Is it important that we have fun together? Is it important that we work hard and give this our heart and soul? What are we prepared to do? How do we make decisions? If we have conflicts within the team, how do we resolve them? What are the rules by which we will live the part of our lives that we spend together?" And out of this, we created a list of what I called golden rules, for the board, and approved them immediately following the annual general meeting, where my board was formed.

There are seven, but I will call out two. The first rule is always assume the best of intentions from others. A simple thing, but if you can follow that, it will change how you behave in a lot of situations. The final one is that any meeting where we don't laugh out loud is a dismal failure. That's important, especially when you are making decisions that are emotionally hard. You can feel so bad, and everything is doom and gloom.

But that's when you need to work extra hard to get people to laugh. It helps you find the balance between being the optimist and the paranoid again. Otherwise, you just fall into the trap of being paranoid.

The Quarterly: *Say more about the practical impact of adopting these rules.*

Risto Siilasmaa: Let's go back to Jim Collins's five stages of how companies fail. The third stage is denial of truth, which means that you are in such a great position that any bad news is a threat. You tend to start punishing people who bring you news you just don't want to hear. And because things are going so great, you don't dive deep into the details.

³ Andrew S. Grove, *Only the Paranoid Survive: How to Exploit the Crisis Points That Challenge Every Company*, first edition, New York, NY: Crown Business, March 1999.

But as a board, we had agreed in our second golden rule that our philosophy would be data driven and based on analysis. Taking a stance of paranoid optimism meant we had to talk about the problems and about bad scenarios. We even had to discuss a possibility of a bankruptcy.

To enable those discussions, we first had to create a climate of trust with the executive team. Then CEO Stephen Elop gave me a lot of access to his top team, and our joint message was, “If you want us to respect you as an executive, you’ll level with us. You’ll come into the boardroom and tell us, ‘I have a big challenge. I don’t know how to deal with it. I have three initial plans. I’m not happy with any of them. Can you help me improve these plans and figure out the right way forward?’ But if you come with one idea, one solution, and try to sell that to us, then you will not get our respect.”

Next, having started the process to create trust within the board and between the board and the management team, we needed to create trust with employees—a difficult challenge given the layoffs we had endured and the many more we had to launch. To partially address this, we had already earlier created a program called Bridge, which provided substantial assistance in multiple ways to departing employees. It was so effective that, according to a university research study, about 18 months after people were fired, on average, 85 percent of them said that they were either “happy” or “very happy” or “satisfied” or “very satisfied” with the way they had been treated. That, in turn, created trust with the remaining employees, because those who had been laid off were not bad-mouthing the company. So the remaining employees were less afraid and more energized, which was critical, since many were working on key product projects with hard deadlines that required extra effort over, say, the holidays. But they did it. It blows me away when I think about it.

The Quarterly: *With this foundation, you soon found yourself embarked on two years of hyperactive deal making. How did the strategy behind that evolve?*

Risto Siilasmaa: Just to set the context, shortly after I became chairman, Microsoft, which was then our exclusive handset partner, announced it was bringing out the Surface tablet. That was a real shot across the bow, since they were moving for the first time into the device business. We had to start thinking, “What if Microsoft comes into the market with a smartphone of their own and competes against us? How do we manage that?” And then, early in 2013, Microsoft reached out to us saying they had an interest in acquiring Nokia’s handset business. At that moment, I still believed that we could turn handsets around. The optimist side was still winning. But after a series of exploratory discussions, and as more negative data kept coming in,

I realized that the paranoid side was right, and we had to divest. Because if we didn't, this could end really badly.

At the same time, we had a share in a network-infrastructure joint venture, NSN, which had been spun off some years earlier. Both Nokia and Siemens had, in effect, given up on the network business as noncore. As a stagnating joint venture, NSN and its management had been incentivized either to become an IPO or a trade-sale asset. At one point, each parent company funded NSN with \$500 million—and basically said that was it: “Go bankrupt if you will, but you will not get a penny more.” The fact that it subsequently became a vibrant business just emphasizes the fantastic turnaround that Rajeev Suri [now Nokia's president and CEO] and his team pulled off there from 2011 on. As the recovery became visible to us, we decided in mid-2013, while exploring the handset sale to Microsoft, to buy the 50 percent of NSN that we didn't already own. We could see that this could be of tremendous value. Once we made that decision, later that year we then began exploring how to implement our new strategy. One alternative out of six that we looked at was to create a market leader in networking by acquiring Alcatel-Lucent.

As a side note, one thing I instinctively felt, and that again proved critical in all these negotiations, was the importance of building a foundation of trust with our counterparties. In the first meeting with Microsoft, for example, we had probably 30 people in the room, lawyers and bankers on both sides, a huge army of people. Under such circumstances, anybody speaking is performing for an audience. There's no way to create trust when people are acting a role. So after that first meeting, I agreed with [then Microsoft CEO] Steve Ballmer that, from now on, we would not allow a single banker or external lawyer into the room, only the four key principals on each side. In a series of meetings, both one on one and as what we called the “four by four,” we discussed what was important, what we had learned, and what we were trying to achieve. That worked well, in terms of creating familiarity and trust and allowing us to get to results.

We used exactly the same model when negotiating with Alcatel-Lucent: no outsiders in the room and a lot of one-on-one discussions. As a result, we were able to avoid structuring the deal as a merger of equals, which have historically not had the highest odds of success. Instead, we were able to make the argument that it should be structured as an acquisition, where we took two-thirds and they got one-third.

The Quarterly: *What motivated the Alcatel-Lucent acquisition?*

Risto Siilasmaa: During the period from announcing the Microsoft deal in the fall of 2013 to closing it in May 2014, there was a period of roughly eight months, when I was both CEO and chairman. We had the questionable pleasure to rebuild the future for the company, questionable in the sense that while it's a great thing to be able to draw from a clean slate, it's also the outcome from a failure of the previous business model. Because even after moving entirely into networking, Nokia was a one-trick pony. We were mobile-broadband specialists, and we couldn't deliver an end-to-end experience.

To realize that future, we set five goals. First, create a new vision for the company. It's a vision we call the programmable world. In the programmable world, tens of billions of mobile sensors feed data into interoperable cloud platforms, which perform intelligent analysis and translate the learnings into actions that are fed back to the real world via actuators, such as valves, engines, locks, autonomous machines, and devices of all sorts. As the real world becomes programmable and connectivity expands massively, we can create new possibilities for people and businesses by embedding these intelligent, software-driven networks seamlessly in our lives.

We then had to create a strategy to help fulfill that vision. Next, generate the right organizational model to implement that strategy. Then put people into the model—the management team and the CEO. Finally, decide about the balance sheet. We did all five. And Alcatel-Lucent, under Rajeev's leadership as CEO, turned out to be an ideal answer to many of the unanswered questions about, "How can we execute this strategy?"

The upshot is, it is working. In the summer of 2012, Nokia's market capitalization was \$5 billion and our enterprise value was \$1.5 billion. By the beginning of this year, our market capitalization was close to \$28 billion and our enterprise value was about \$20 billion. While our share price has since dropped significantly in a tough year for the industry, we have continued to outperform our closest competitors. Out of some 100,000 employees today, less than 1 percent had had a Nokia badge three years ago. We essentially transformed the whole company by changing out all the "atoms." We are doing so much more than what Alcatel-Lucent and what Nokia did in our tech business and also in our R&D work. But this all started from that strategy process, and it's still basically founded on that vision of the programmable world. That's where we're going. 

Risto Siilasmaa is the chairman of Nokia. This interview was conducted by **Rik Kirkland**, senior managing editor of McKinsey Publishing, who is based in McKinsey's New York office.

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Illustration by Eric Chow

Finding hidden leaders

Traditional search methods typically target only the usual suspects. Organizations should adapt their strategies and learn to “hunt,” “fish,” and “trawl” to find their best talent.

by Kevin Lane, Alexia Larmaraud, and Emily Yueh

Searching for the next generation of business leaders represents one of the biggest headaches for any organization.¹ Most, in our experience, rely on development programs that rotate visible high fliers, emphasizing the importance of leadership attributes such as integrity, collaboration, a results-driven orientation, and customer-oriented behavior. Many, understandably, also look outside the organization to fill key roles despite the costs and potential risks of hiring cultural misfits.

Far fewer, though, scan systematically for the hidden talent that often lurks unnoticed within their own corporate ranks. Sometimes those overlooked leaders remain invisible because of gender, racial, or other biases. Others may have unconventional backgrounds, be reluctant to put themselves forward, or have fallen off (or steered clear of) the standard development path. Regardless of the cause, it’s a wasted opportunity when good leaders are overlooked, and it can leave individuals feeling alienated and demotivated.

To identify promising candidates for promotion who are not on the list of usual suspects, companies need to apply more rigor and better tools than many currently use. Proactive efforts are the key—think “hunting” as opposed to “harvesting” those who present themselves. In this article, we describe the causes of the hidden-leader problem in more detail and

¹ Amy Lui Abel et al., *The state of human capital 2012: False summit: Why the human capital function still has far to go*, the Conference Board and McKinsey & Company, October 2012, McKinsey.com.

propose a few techniques for addressing it. Some are technology enabled. And all are grounded in real-world experience like that of the global head of organizational development and talent management at one of the world's leading pharmaceutical companies, who told us recently, "We have increasingly been thinking about how to tap into our hidden leaders so as to unleash the full potential of the organization in a more systematic way."

The rewards can be significant. Expanding a company's leadership capacity is not only valuable in itself; it can be inspirational for the hidden leaders who are elevated and for those around them, bringing further benefits. As that same pharmaceutical-company executive observed, "Inspired employees are productive employees."

WHY LEADERS STAY HIDDEN

Most organizations we know have more leadership power within their ranks than they recognize. Some individuals quickly acquire reputations as rising stars and move up the ranks as if in a self-fulfilling prophecy. Others, for a variety of reasons, may miss the fast track. Some of these eventually leave in search of new pastures, while others stay behind, without ever reaching their full potential. Either way, the skills, knowledge, and energy they could bring to the company are lost. In our experience, there are three common reasons why leaders get overlooked, none of them easily overcome by the leadership-harvesting approaches prevalent at many organizations.

Persistent challenges

The first explanation is size: in large organizations, it's easy for hidden talent to stay hidden or be drowned out by the noise of complex organizational processes. They could be in a business unit far from the corporate center or in a backroom job away from the action. They might be quiet and reluctant to push themselves forward, eclipsed by more forceful personalities. Yet they may perform exceptionally well in their jobs, collaborate effectively with colleagues, have extensive networks across the organization, or carry informal influence among their peers. In short, they are showing signs of leadership potential, but it remains untapped because they are shielded from senior managers.

Another reason why promising future leaders go unnoticed is bias in the selection process. As Sylvia Ann Hewlett, Carolyn Buck Luce, and Cornel West have shown,² bias can be consciously or unconsciously based on race,

² Sylvia Ann Hewlett, Carolyn Buck Luce, and Cornel West, "Leadership in your midst: Tapping the hidden strengths of minority executives," *Harvard Business Review*, November 2005, hbr.org.

ethnicity, or gender, or on age, when older employees are seen as past their prime. A language “deficit,” or even a strong accent, has been known to cause people in global organizations to be penalized, as has a failure to fit conventional cultural norms. Sometimes it might be merely a one-off bad experience on a project that taints a high-potential employee’s reputation. Or it could happen to someone who steps off the conventional path for personal reasons—for example, to have a child or care for an ill family member. Managers in most organizations, notwithstanding efforts to encourage diversity and inclusion, still tend to recognize, reward, and promote people who look and behave like them and who have followed similar paths, while neglecting others whose leadership potential may be equally impressive.

Finally, there is the problem of the narrow top-down lens that senior leaders often use when looking for leadership talent. Underlying this is the mistaken assumption that only those at the top of the organization know what great leadership looks like, or a narrow focus on leadership contexts specific to the organization and the particular role. This can crowd out other perspectives, such as what individuals have achieved outside the company or what people lower down in the organization see as examples of effective leadership. A narrow lens can also interact in subtle ways with bias, as was the case for the executive at a large technology company who found it difficult to understand why a female manager wasn’t seizing more opportunities to “demo” the company’s products at major events as he and other senior leaders had done during their rise up the ranks.

Disappointing harvests

Overcoming the obstacles of size, bias, and narrow lens is a management challenge of the first order. In our experience, the most common means of finding leaders in large organizations—what we call harvesting—is not up to the task. Harvesting assumes that the best, often with some help, will organically rise to prominence and can then be plucked and placed into leadership roles. There are many varieties of harvesting, but it essentially involves planting talented “seeds”—new hires—in the organization, giving them increasingly demanding tasks, providing training and support as they develop, allowing them opportunities to demonstrate their abilities, and choosing the best performers for the senior roles. Managers who do this best invest a large amount of time and energy in cultivation activities. There is a lot of value in this, and harvesting should remain a vital part of developing and selecting. But it does little to unearth hidden talent, because hidden talent, by its nature, includes individuals who for some reason are not on the standard advancement path and thus remain invisible to those relying on conventional processes.

HOW TO SPOT YOUR HIDDEN LEADERS

Finding employees with the qualities to be tomorrow's leaders requires more than harvesting talent and should include what we call "hunting," "fishing," and "trawling" (exhibit). These approaches are more proactive and involve, for example, turning over more stones than usual, encouraging leaders to identify themselves, and finding new ways to tap into the environments where people live and work.

Exhibit

Traditional cultivation of leaders

Harvesting

Assume that the best, with some care and support, will rise to the top, where they can be plucked and placed into leadership roles.



New ways to find hidden leaders

Hunting



Seek out promising individuals from among those who don't normally make the short list and cultivate them to take on leadership challenges.

Fishing



Use bait—ie, awards for people who demonstrate specific skills or competitions to root out unsung talent.

Trawling



Dig into the work environment of employees to uncover skills you can't see by looking top-down.

Hunting

When potential leaders refrain from identifying themselves or fail to follow a conventional path up the organizational ladder, companies have to look actively for them. One simple but effective approach is for managers explicitly to scan for promising individuals in their unit who are not currently on a list of high potentials. This forces them to shed at least some of their existing biases. It can pay to be specific—targeting, say, people who have demonstrated strong performance in a particular area. Once they have been identified, the next step is to devise a tailored approach for developing them. For example, a division leader at a global industrial-products company, when shown an all-male slate of potential leaders, sent managers back to their departments with an explicit mandate to discuss leadership opportunities with female employees, an exercise that produced several high-quality leaders who had not been recognized before. At a Chinese bank, senior leaders conducted a systematic review of all employees against key characteristics and leadership potential to match their compatibility with open positions and forced a ranking for each position. That effort helped the bank identify both hidden and more established leaders.

Technology increasingly supports a hunting mentality. Many personnel databases are sufficiently robust to enable scans of employees' educational and training background, their work history, and leadership experiences outside the organization. Patterns often emerge, such as people with solid credentials who had a bad experience and never recovered, people who had a strong start but did not continue to grow, people with skills that have not been recognized or applied in the organization, or people adversely affected by the experience of working with a particular manager or in a particular part of the organization.

Google has led the way in using data to understand leader and team performance and to apply those lessons to identify and develop capable leaders. Over time, as sophisticated people analytics go mainstream, all organizations will be able to hunt more effectively. In the meantime, if existing databases won't support strong pattern identification, there are work-arounds. A European bank we know is contemplating asking its employees for a waiver to access social-media data so as to better populate their HR database, which is currently of such poor quality that it cannot hunt for hidden talent.

Fishing

If hunting is about proactively using new approaches to seek out hidden leaders, fishing involves using “bait” that encourages them to identify

themselves. One idea we've seen work is to offer awards for atypical performance such as innovation or quality control. Awards for inspirational leadership (designed specifically for people who are not in formal leadership roles), for problem-solving skills (restricted to nonmanagers), or for global collaboration are all ways to root out unsung talent.

After years of rapid growth and a harvesting approach to leadership selection, LinkedIn discovered that it was promoting people with highly similar profiles. Earlier this year, it launched its Quiet Ambassadors program to help identify introverted leaders who do not fit the typical profile harvesters had been looking for in the past. While conventional wisdom has often associated extroversion with leadership skills, we know that quiet leaders can be equally effective. Highlighting these less common characteristics, along with the special recognition, encouraged introverts at LinkedIn to raise their hands. With the success of its first pilot, the company is rolling out the program more broadly in 2017.

Adecco, the global workforce-solutions provider, has been running its CEO for One Month program since 2011, initially at the local level and globally since 2014. The program offers work-based training opportunities for young people as the best way to help them boost their employability and step onto the career ladder. It soon revealed itself to be a great system to fish for hidden leaders outside the company, but the approach could work equally well to target an internal audience. In 2016, CEO for One Month elicited more than



54,000 applications, many of them highly talented young people. Regional selected candidates shadowed the Adecco country managers for a month, while the global CEO for One Month shadowed Adecco's CEO, Alain Dehaze. The program has proven to be a gateway to future professional success, becoming also a highly successful talent-acquisition model, with several candidates hired at the local and group level.

Successful fishing depends on choosing the right bait, knowing what leadership attributes are needed, and designing a program accordingly. It's counterproductive to arouse the expectations of leadership candidates only to discover that they don't meet the company's needs.

Trawling

A third way to spot hidden talent is to dig more deeply and more broadly into employees' work environments—something we call “trawling.” Doing this assumes that leadership capabilities are sometimes more apparent to peers and subordinates than to those at the top of the hierarchy. A low-tech approach, crowdsourcing at its most basic, is to ask people within the organization to nominate colleagues who have particular talents, then interview those nominated so as to find out more about their potential leadership strengths.

A more sophisticated approach uses social-network analysis to draw an accurate portrait of the real social networks within organizations, which tend to be quite different from the formal roles and processes written down on the organization chart. Some companies use employee surveys to determine which individuals play vital and influential roles in helping the organization to function effectively, regardless of their official positions. Once leaders know who these people are, they can assess their broader potential. After a merger, the executives of one global consumer-goods company provided data on their interactions with colleagues, such as who they contacted for which purpose, who provided the support they needed, and who inspired them in their daily work. The analysis revealed “super connectors” scattered across the organization who did things differently, such as participating in activities outside work, listening carefully, helping others, and networking externally.

Finding employees with the qualities to be tomorrow's leaders requires more than harvesting talent and should include what we call “hunting,” “fishing,” and “trawling.”


Social-network analysis with “snowball sampling” (two- to three-minute surveys that ask participants to identify others who should take part in the research) is also a tool that can identify people most likely to catalyze—or sabotage—organizational change.³

An American company that recently acquired a Japanese medical-devices business used a form of trawling to help determine what talent to retain from the target enterprise. It asked everyone to select up to ten people they trust and respect. The list of influencers identified in the survey was cross-referenced with annual review scores and sales performance (for sales reps). The positive influencers, some of whom had been under the radar previously, were offered leadership roles in the new organization.

Nothing here is intended to replace the foundational work of leadership development—notably a well-defined leadership model, widely adopted performance-management systems, and the support, feedback, development opportunities, training, leadership coaching, encouragement, and difficult conversations that great leaders bring to their roles. The three approaches suggested here—hunting, fishing, and trawling—should augment those

³ Lili Duan, Emily Sheeren, and Leigh M. Weiss, “Tapping the power of hidden influencers,” *McKinsey Quarterly*, March 2014, McKinsey.com.

existing activities and can be used in conjunction with one another or independently. Organizational leaders will first want to consider what is culturally acceptable and technologically feasible and should test different approaches and refine them as they learn.

By acknowledging that overlooked leaders can be identified through more proactive efforts, executives should be able to reshape their leadership culture, increase the available talent, save on recruiting costs, and raise retention rates. Higher levels of engagement, greater entrepreneurialism, and a more inclusive culture are less quantifiable but no less valuable benefits. 

Kevin Lane is the founder of KPL Partners and an alumnus of McKinsey's Shanghai and Zurich offices; **Alexia Larmaraud** is a consultant in the Zurich office, where **Emily Yueh** is a partner.

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HOW TO ACCELERATE GENDER DIVERSITY ON BOARDS

Slow progress in adding more women to boards has dominated the conversation. But tips from standout companies are more likely to inspire others to take firmer action.



Celia Huber is a senior partner in McKinsey's Silicon Valley office.

The tone of much public discourse on the issue of women's representation on boards has been pessimistic of late, and understandably so, given the crawl toward gender parity in the United States. Women currently hold 19 percent of board positions there, while in European countries such as France, Norway, and Sweden, where legislative or voluntary targets are in place, they hold more than 30 percent.

That said, some progressive companies are taking the lead, looking for female board members in new places and bringing them on board in new ways. Many feel they still have a long way to go, but their experiences are salutary for those that are lagging behind and want to better understand how to make change happen.



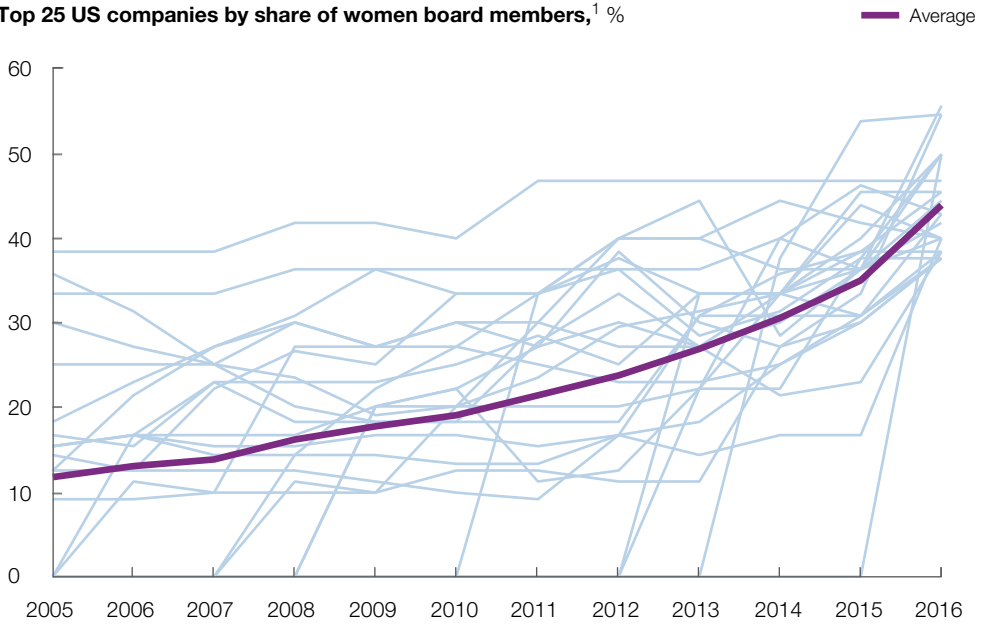
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We recently conducted an analysis of companies in the S&P 500 to identify top performers in board diversity, defined as those with the highest percentage of women on their boards as of August 2016 (see Exhibit 1 for the top 25; for the full list of the top 60 companies, see the online version of this article, on McKinsey.com). It showed that women occupied at least 33 percent of board seats among the top 50 companies (up to nearly 60 percent for the highest percentage). In all, female representation on those boards has increased on average by 24 percentage points since 2005. We then conducted a series of interviews with the CEOs and board chairs from a number of those standout companies, as well as some European businesses that have made similar progress. (For in-depth insights from executives at some of these companies, see "Straight talk about gender diversity in the boardroom and beyond," on McKinsey.com.) Our goal was to hear directly from them about their gender-diversity journeys—the challenges they've faced, the best practices they've adopted, and the benefits that they continue to reap from increased representation of women, as well as other minorities, on their boards. What follows is a set of best practices, although by no means an exhaustive one (Exhibit 2).

Exhibit 1

Among the top 25 US companies, representation of women on boards is steadily converging toward parity.

Top 25 US companies by share of women board members,¹ %



Accenture	General Motors	Signet Jewelers
Alaska Airlines	Hewlett-Packard	Tegna
Alliant Energy	Hologic	Texas Instruments
American Water Works	IPG	Ulta
Ameriprise Financial	Kellogg	Viacom
Best Buy	Macy's	Wells Fargo
Dollar General	Michael Kors	Williams Companies
Dr Pepper Snapple	Navient	
Estée Lauder Companies	Patterson Companies	

¹As of August 2016.

Source: BoardEx database, 2005–16

Change the mind-set

Even laggards acknowledge that increasing the percentage of women in the workforce and on boards is the right thing to do. But general conviction isn't sufficient. What's too often missing, says Fabrizio Freda, president and CEO of the Estée Lauder Companies, is a sense of urgency: "People believe we are going to get there eventually. But that is not enough; it's too slow. The real obstacle is the lack of urgency." Freda was one of many executives we interviewed who insisted that meaningful change will come only when executives make fewer excuses and work together quickly. What's needed

Exhibit 2




Best practices to improve gender diversity on boards

Change your mind-set	Make a visible commitment to diversity with sustained action throughout the organization
	Set new principles for decision making (eg, include women on every candidate slate)
Expand your criteria	Look beyond current CEOs and other members of the C-suite
	Consider candidates with the right expertise, not just those with prior board experience
Maintain an active pipeline	Expand your network to include more women and explicitly ask search firms for female candidates
	Cultivate long-term relationships with prospective candidates

are purpose and intention—a set of goals and motivations that will underpin decision making. For some, that has meant establishing a target number of board positions for women, while others take care to ensure that the list of candidates is diverse from the beginning, without adherence to a static quota. As Mary Dillon, CEO of Ulta, explains, “To maintain or expand diversity on our board, we continue to make an active effort to make sure that the slate is diverse. Just the act of being cognizant, and having it top of mind that every slate has to have diversity, will drive action.” Leaders at both Genpact and Microsoft underscored the importance of flexibility, recounting how their searches to fill one board seat yielded two highly qualified women, so they just decided to bring both of them on board.

Expand your criteria

Despite their best efforts, some companies cite the small pool of female executives as a continuing challenge. And they add that specific criteria for expertise in areas such as digital technology narrows the field even further.



Overcoming this reality of unequal numbers requires openness to creative solutions. One is to move beyond the standard practice of focusing a search on executives with prior board experience. Dan McCarthy, president and CEO of Frontier Communications, notes that many of the women on his board were first-time directors. “We were willing to take risks on individuals—we look for someone who has the ability to move from the tactical to the strategic—and it has turned out to be great.”


This approach can be particularly helpful for small- and mid-cap companies that struggle to compete with large corporations for high-profile candidates. Genpact president and CEO Tiger Tyagarajan observes that “some people may prefer to join the board of a mid-cap company, where they can actually be more engaged and have an impact on the company’s strategy, versus a large company, where more time may be spent on general governance issues.” Leaders also tell us that looking beyond current or former CEOs and C-suite executives for candidates in other spheres such as law, academia, and the social sector can be rewarding as well, creating a rich balance of perspectives at the table. Ultimately, it’s about defining what is nonnegotiable, such as digital or finance expertise, and then seeing what is flexible so as to deliver on gender-diversity goals and to meet specific challenges.

Maintain an active pipeline


Effectively creating and cultivating an active pipeline of female candidates is arguably the single most important element of a successful board-inclusion effort. When conducting a search, this means relying on both personal networks and search firms to identify candidates. Relying only on the former, particularly where a board is composed primarily of men, risks perpetuating the candidate slates from the old-boys’ network of yore; relying solely on search firms can produce highly qualified candidates who are not particularly suited to the personal dynamics of the board. A little patience may also be necessary. As John Thompson, chairman of Microsoft, points out, some of the best candidates may take two or three years to cultivate. By taking the trouble to get to know potential candidates, even those who may not be available for some time, companies will establish foundations for the long term. Companies that are open about their quest for diversity, meanwhile, will also benefit in the long run. Michael Roth, chairman and CEO of IPG, told us his reputation as a male champion for diversity had prompted a search firm to send him a qualified female board candidate proactively, even though he hadn’t initiated a search engagement with them.

Make the case

The leaders we interviewed had long since crossed the bridge of understanding the benefits of gender diversity, but their experiences provide a useful checklist for those still trying to convince the skeptics:

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- **Board diversity helps to draw in and motivate talented employees.** As Genpact's Tiger Tyagarajan explains, "To attract the best talent into the company, you need to appeal to 100 percent of the top talent, not 50 percent. To do that, you need strong female role models."
 - **Boards that represent the customer base have better intuition.** For retailers in particular, the reality is that women make up more than half of global purchasers. Board diversity is simply better business.
 - **A diverse board boosts decision-making quality.** As Scott Anderson, chairman, president, and CEO of Patterson Companies, states, "The quality of discussions goes up dramatically when you have a more diverse group in the boardroom." Rodney McMullen, chairman and CEO of Kroger, adds that "you get questions from perspectives that you hadn't thought of before, and I think this helps you avoid more blind spots."

Several of our interviewees emphasized that getting more women on boards isn't the end of the story. For starters, board diversity is not just about gender. As McMullen explains, "I always think diversity of background is important, but also diversity of experiences, thinking, and career paths." Marc Lautenbach, president and CEO of Pitney Bowes, puts it this way: "While we don't have a specific number in mind, we do have an appreciation for the value that diversity can bring. To my mind, it's a little bit like assembling an orchestra. I know I need a bunch of different instruments; whether I have three of one and two of the other, or three of one and three of the other—that misses the point. It's about how all of the instruments blend together."

It's important to recognize, of course, that broader gender inclusion at all levels of the company is critical. Companies can drive board inclusion by preparing their own female executives for future board participation: placing them in roles with profit-and-loss responsibility, ensuring they have committed sponsors and mentors, and equipping them with the knowledge and skills needed to confront the governance and strategy issues that boards typically face. This can create a virtuous cycle that speeds progress on board diversity and counteracts cynicism with success stories such as those in our survey. 

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TIME FOR A NEW GENDER-EQUALITY PLAYBOOK

The old one isn't working. We need bolder leadership and more exacting execution.



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More than 75 percent of CEOs include gender equality in their top ten business priorities, but gender outcomes across the largest companies are not changing. Our research indicates, for example, that corporate America promotes men at 30 percent higher rates than women during their early career stages and that entry-level women are significantly more likely than men to have spent five or more years in the same role.



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Why is gender inequality in the workplace so persistent despite growing attention from business leaders and the media—and what should we all do differently? Our research suggests we fall short in translating top-level commitment into a truly inclusive work environment. We see strong evidence that even when top executives say the right things, employees don't think they have a plan for making progress toward gender equality, don't see those words backed up with action, don't feel confident calling out gender bias when they see it, and don't think frontline managers have gotten the message. Consider these findings from our survey conducted with LeanIn.Org, which included more than 130 companies and over 34,000 men and women:

- **Employees question the plan of attack.** Companies have been trying to apply the same playbook of programs and policies for more than a decade. The vast majority of companies have flexibility, mentorship, and parental-leave programs. Despite these efforts, only 45 percent of employees think their companies are doing what it takes to improve diversity outcomes. The younger generation is even less confident—with only 38 percent of entry-level women thinking their company has a good handle on gender diversity.
- **Commitment isn't evident in everyday actions.** There's also a yawning gap between what companies think they do and what people experience day to day. For example, more than 70 percent




of companies say they are committed to diversity, but less than a third of their workers see senior leaders held accountable for improving gender outcomes. Over 90 percent of companies report using clear, objective criteria for hiring and promotions, yet only about half of women believe they have equal opportunities for growth at their companies. Without bridging the gap between corporate intent and individual experience, companies won't break the stall.


- **People and organizations are afraid to address bias head on.** Men and women, in all roles, shy away from calling out gender bias when it occurs. Less than a quarter of employees see their managers regularly challenge gender-biased language or behavior. Less than half of all employees see day-to-day evidence that their company is worried about creating a culture that embraces diverse leadership styles. Though there has been a surge of corporate programs focused on unconscious bias, people aren't having the courageous conversations.
- **Frontline managers need help.** Change does not happen without the full engagement of frontline leaders. These are the plant managers, regional sales leaders, store managers, team coaches, and general managers who make companies tick. Today, only 9 percent of employees see managers recognized for making progress on gender-diversity goals. Less than half of all workers see managers taking advantage of the diverse strengths of their teams or considering a diverse lineup of candidates for open positions. What this tells us is that managers are either not getting the message or don't know how to manage differently.

Faced with these challenges, it's time to rewrite our gender playbooks so that they do more to change the fabric of everyday work life by encouraging relentless execution, fresh ideas, and courageous personal actions.

- **Uncompromising execution.** Changing outcomes on a scale that will move the needle requires relentless—even radical—execution that builds on the hits and misses of the past decade. Areas to focus on include creating fair, “first promotion” experiences and developing more holistic family-leave programs that incorporate longer leave options, systematic onboarding back into roles, and tracking of promotion and attrition one to three years postleave. Sponsorship needs a shot in the arm, too. Instead of designing rifle-shot sponsorship initiatives, as is too often the case, we need to do more to embed sponsorship, over the long haul, in the career development of men and women.

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- **Fresh, bold thinking.** It's sorely needed—and there are some promising signs. For instance, one industrial company is implementing a new program called All Roles Flex, which incorporates flexibility into every role from the factory floor to the corporate center. Other companies are openly and transparently addressing pay equity. Still others are experimenting with new analytic tools to reduce bias in résumé screening and improve local talent sourcing.
 - **Courageous leadership.** A few months ago, one of our partners at McKinsey made waves by posting on our intranet an anecdote about showing up at a meeting with an all-male team of experts. His client asked whether this team was sufficiently diverse to see all sides of the client's problem. Our partner said this was a defining moment for him in confronting his blind spots with respect to gender and described how he was acting differently as a result—starting with engaging women at the firm whose expertise advanced his thinking about the client's situation. When leaders communicate openly about experiences like this, they help shift the dialogue, influence everyday decisions up and down the line, and change the corporate culture.

Improving gender outcomes is extremely hard, as we well know from the obstacles our own organizations continue to encounter in making deep and lasting progress on this front. We offer these ideas not to discourage leaders about the magnitude of the challenge but to embolden us all to be persistent and creative.

As our research underscores, we need to look more carefully at the day-to-day experiences, for better or worse, of the people in our organizations. Such a look, even if sobering, will be an invaluable step toward breaking gender gridlock. 

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HOMEBOTS: THE FEELING SIDE OF TECHNOLOGY

In a future of smart homes, homebots will become commonplace, and marketing to them will be essential. These bots will act as intermediaries between companies and consumers—filtering, recommending, and processing the products and services a customer will buy. This represents a huge shift in how purchase decisions will be made.

On the home front, trust determines consumer acceptance. We conducted in-home and mobile diary studies in Japan and the United States with dozens of consumers who are already using artificial-intelligence products or services where they live. What makes for a good bot? Satisfaction in the bot’s ability to accomplish a task is paramount, and a personal or emotional element to the human–bot interaction evokes delight. A trustworthy bot feels like a friend. Here are a few examples of roles a homebot can serve.



ADORABLE PET

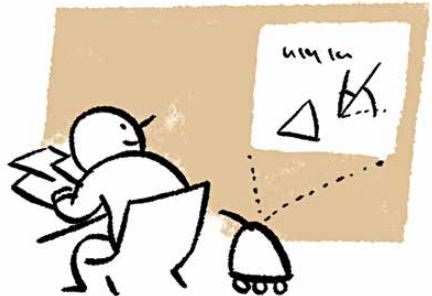
Teaches children to take care of others by asking to be “fed” or “petted”

Tracks children’s health and sends alerts to parents

LIFE COACH

Serves as a multidisciplinary teacher or trainer

Engages on a variety of subjects and hobbies such as academic interests or cooking



BEST FRIEND

Acts as a companion and counselor, providing advice and encouragement

Shares (with user’s permission) mood analyses with family members

Illustrations by Luis Mendo



⊕ For more on interconnected living spaces and the business challenges therein, see “A smart home is where the bot is,” on page 80.

Highlights

The case for digital reinvention

New research on consumer decision journeys and the growing importance of encouraging “consideration”

The smart home of the future: Why you may soon be marketing to robots

Finding hidden leaders

The dark side of transparency: Knowing when to open up

Transforming Nokia, ING, and Citigroup

The hidden toll of workplace incivility

Accelerating gender diversity on boards

Snapshots of music-streaming platforms in Asia, B2B digitization challenges, and energy-storage economics

