McKinsey on Digital Services

Introducing the next-generation operating model

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Introduction

Reinventing your operating model to win in the digital world: How to capture the *full* value

How to profitably deliver services to customers has become a defining challenge for businesses today.

There are a number of reasons for this. One is because customers don't just expect more, the expectations themselves also change quickly, radically shifting profits. The other is that executives face an increasingly complex landscape of technologies, methodologies, and both regulatory and compliance pressures to ensure that new processes are standardized and traceable.

This sea change for both B2B and B2C businesses is fundamentally transforming what "services" means. Our research suggests that as much as 45 percent of employee activities can be automated by adopting current technologies. That is calling into question how businesses work, build skills, and deliver customer experiences.

This reality is particularly important given the high-stakes nature of today's digital environment. Our research has revealed a "power curve" where the top quintile of performers capture more than 90 percent of the economic profit (see Exhibit). The 24 companies that make up the top 1 percent of our sample earn—astonishingly—the same as the next 87 companies combined.

Moving into the top quintile, or even improving within it, is not easy. Most companies have embarked on journeys to transform their operating models, of course, but performance has been uneven. The efficiency levels of many service industries, for example, have barely changed over the past decade. Confusion about what the primary "axis of change" is—from customer expectations to technology—as well as which combination of capabilities to build and in what sequence, has been the primary culprit.

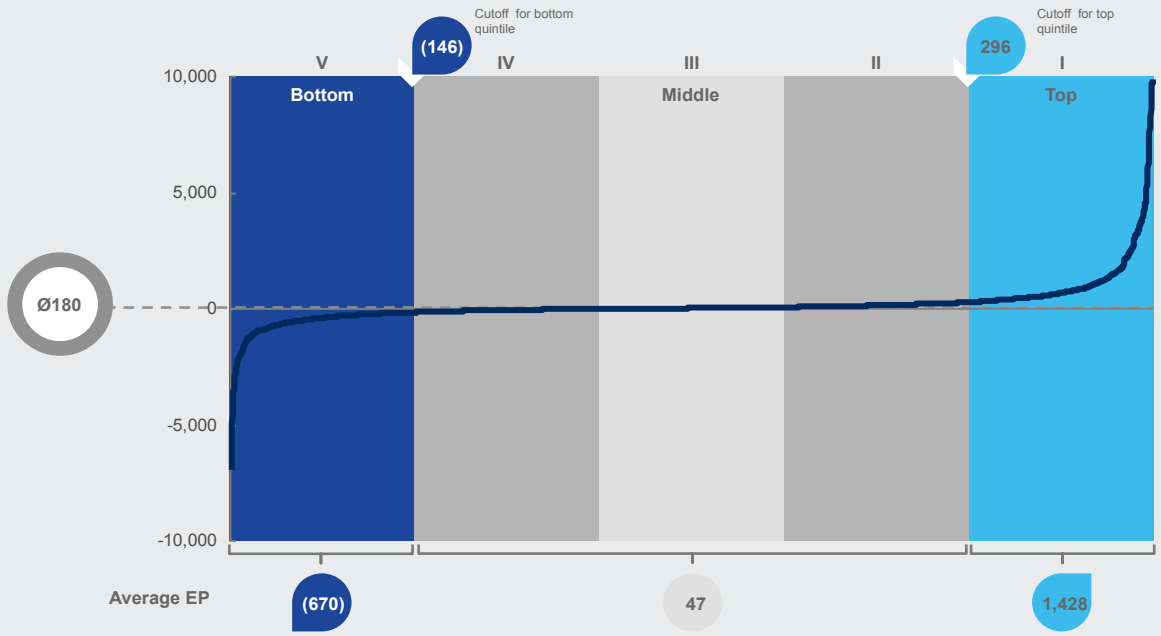
Yet we know that companies across industries can successfully make the leap when they put in place a sound strategy and commit to making a specific set of big moves: accessing new markets or capabilities through mergers and acquisitions, investing in capabilities and value-creating activities at significant scale, aggressively allocating resources to those capabilities and activities, and radically improving productivity. There are recurring patterns of success, and a step-function improvement in productivity is one of the leading forces that allows companies to move up the power curve. To be clear, these "big moves" aren't single bet-the-company

EXHIBIT 1

The Power Curve of economic profit.

The global distribution of economic profit divides into 3 clear groups; all the value accrues to the top.

Average annual economic profit generated per company, 2010–14
$ Millions, N=2,393[1]



[1]Global top 3,000 companies by revenues (FY13) less firms with insufficient data to calculate an accurate average economic profit for 2000–04 and 2010–14.

Companies with EP above $10b and below $10b not shown for scaling purposes.

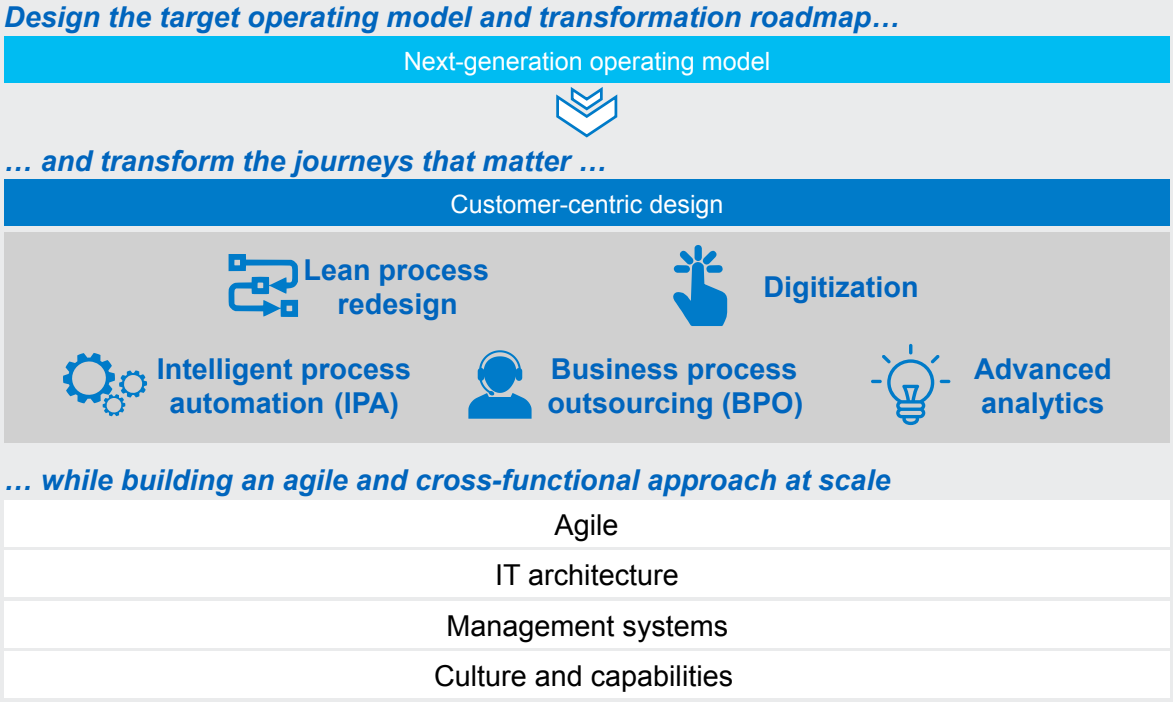
Source: McKinsey Strategy Practice (Beating the Odds model v.18.3) and Corporate Performance Analytics™

kinds of actions. Experience has shown, rather, that a series of bold initiatives that reinforce each other and create impact cumulatively is the recipe for a successful transformation.

When it comes to digital services, these big moves are all about disrupting how your business works today and are necessary to put in place a next-generation operating model that can sustain new levels of speed, agility, efficiency, and precision. We believe that requires a three-part program: 1) designing the next-generation operating model and transformation roadmap; 2) transforming the customer journeys that matter through a combination of capabilities and approaches; 3) building up cross-functional foundations to scale and sustain the benefits of the transformation (see Exhibit 2).

EXHIBIT 2

Three steps to the next-generation operating model.



To help show the way forward, we have created this collection of articles to show what's needed to not just identify value from digital services but capture it as well. This collection builds on our longstanding experience in digital and lean management transformation at scale, with a focus on newer thinking and developments in digital services and operations.

We've organized it in three sections designed to address the most important questions executives should ask:

1. The next-generation operating model: What is it and how do I build it?

- What is the operating model needed to simultaneously disrupt existing processes, drive value, and improve customer experience while reducing costs to serve?
- How do we actually build it and what does the sequencing look like?

- Why should we focus on end-to-end journeys, and which ones will deliver the most value?
- How can we use design thinking to reinvent user experience for our most important journeys?

2. New approaches and capabilities to drive your next-generation operating model

- What is the right mix of capabilities and approaches we should develop to meet our primary objectives based on our starting point and aspirations?
- How do we set up teams to be successful in a digital world?

3. Foundations to scale your next-generation operating model

- What is the IT architecture we need to support a next-generation operating model?
- How can we scale and sustain the operating model across the entire business?
- How can we build a new and healthy organization that supports an agile and customer-centric culture?
- What management systems should we put in place to embed the new skills, technologies, and processes in the organization?

These are not simple questions to answer, but they are the right ones to ask—and ultimately, it's up to senior leaders to answer them.

Leadership, in fact, underpins whether the next-generation operating model becomes a reality or remains an aspiration. As the primary change agents in the business, CEOs and senior business executives in particular have outsize influence on the success of this transformation. Their roles must focus on forging alignment at all levels of the organization around journeys, championing new models of working that embody speed and agility, and anchoring a transformation through bold and effective decisions.

The articles in this collection are intended to help light the path forward. We look forward to the conversations on the role of digital services in driving forward a new operating model that creates sustainable value.

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PART 1

The next-generation operating model: What is it and how do I build it?

The next-generation operating model for the digital world

Albert Bollard, Sanjay Kaniyar, Elixabete Larrea, Alex Singla, and Rohit Sood

Companies know where they want to go. They want to be more agile, quicker to react, and more effective. They want to deliver great customer experiences, take advantage of new technologies to cut costs, improve quality and transparency, and build value.

The problem is that while most companies are trying to get better, the results tend to fall short: one-off initiatives in separate units that don't have a big enterprise-wide impact; adoption of the improvement method of the day, which almost invariably yields disappointing results; and programs that provide temporary gains but aren't sustainable.

We have found that for companies to build value and provide compelling customer experiences at lower cost, they need to commit to a next-generation operating model. This operating model is a new way of running the organization that combines digital technologies and operations capabilities in an integrated, well-sequenced way to achieve step-change improvements in revenue, customer experience, and cost.

A simple way to visualize this operating model is to think of it as having two parts, each requiring companies to adopt major changes in the way they work:

- The first part involves a shift from running uncoordinated efforts within siloes to launching an integrated operational-improvement program organized around customer journeys (the set of interactions a customer has with a company when making a purchase or receiving services) as well as the internal journeys (end-to-end processes inside the company). Examples of customer journeys include a homeowner filing an insurance claim, a cable-TV subscriber signing up for a premium channel, or a shopper looking to buy a gift online. Examples of internal-process journeys include Order-to-Cash or Record-to-Report.

- The second part is a shift from using individual technologies, operations capabilities, and approaches in a piecemeal manner inside siloes to applying them to journeys in combination and in the right sequence to achieve compound impact.

Let's look at each element of the model and the necessary shifts in more detail:

Shift #1: From running uncoordinated efforts within siloes to launching an integrated operational-improvement program organized around journeys

Many organizations have multiple independent initiatives underway to improve performance, usually housed within separate organizational groups (e.g. front and back office). This can make it easier to deliver incremental gains within individual units, but the overall impact is most often underwhelming and hard to sustain. Tangible benefits to customers—in the form of faster turnaround or better service—can get lost due to hand-offs between units. These become black holes in the process, often involving multiple back-and-forth steps and long lag times. As a result, it's common to see individual functions reporting that they've achieved notable operational improvements, but customer satisfaction and overall costs remain unchanged.

Instead of working on separate initiatives inside organizational units, companies have to think holistically about how their operations can contribute to delivering a distinctive customer experience. The best way to do this is to focus on customer journeys and the internal processes that support them. These naturally cut across organizational siloes—for example, you need marketing, operations, credit, and IT to support a customer opening a bank account. Journeys—both customer-facing and end-to-end internal processes—are therefore the preferred organizing principle.

Transitioning to the next-generation operating model starts with classifying and mapping key journeys. At a bank, for example, customer-facing journeys can typically be divided into seven categories: signing up for a new account; setting up the account and getting it running; adding a new product or account; using the account; receiving and managing statements; making changes to accounts; and resolving problems. Journeys can vary by product/service line and

customer segment. In our experience, targeting about 15–20 top journeys can unlock the most value in the shortest possible time.

We often find that companies fall into the trap of simply trying to improve existing processes. Instead, they should focus on entirely reimagining the customer experience, which often reveals opportunities to simplify and streamline journeys and processes that unlock massive value. Concepts from behavioral economics can inform the redesign process in ingenious ways. Examples include astute use of default settings on forms, limiting choice to keep customers from feeling overwhelmed, and paying special attention to the final touchpoint in a series, since that's the one that will be remembered the most.

In 2014, a major European bank announced a multiyear plan to revamp its operating model to improve customer satisfaction and reduce overall costs by up to 35 percent. The bank targeted the ten most important journeys, including the mortgage process, onboarding of new business and personal customers, and retirement planning. Eighteen months in, operating costs are lower, the number of online customers is up nearly 20 percent, and the number using its mobile app has risen more than 50 percent. (For more on reinventing customer journeys, see "Putting customer experience at the heart of next-generation operating models").

Shift #2: From applying individual approaches or capabilities in a piecemeal manner to adopting multiple levers in sequence to achieve compound impact

Organizations typically use five key capabilities or approaches (we'll call them "levers" from now on) to improve operations that underlie journeys (see Exhibit 1):

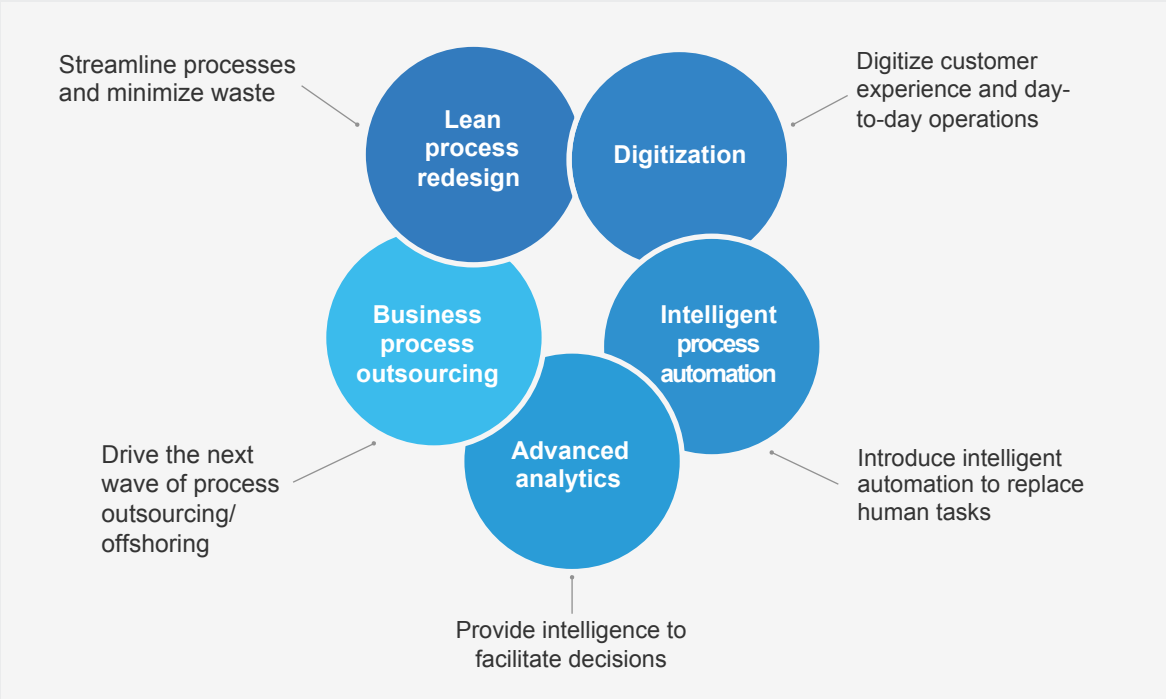
- Digitization is the process of using tools and technology to improve journeys. Digital tools have the capacity to transform customer-facing journeys in powerful ways, often by creating the potential for self-service. Digital can also reshape time-consuming transactional and manual tasks that are part of internal journeys, especially when multiple systems are involved.[1]

- Advanced analytics is the autonomous processing of data using sophisticated tools to discover insights and make recommendations. It provides intelligence to improve decision making and can especially enhance journeys where nonlinear thinking is required. For example, insurers with the right data and capabilities in place are massively accelerating processes in areas such as smart claims triage, fraud management, and pricing.

- Intelligent process automation (IPA) is an emerging set of new technologies that combines fundamental process redesign with robotic process automation and machine learning. IPA can replace human effort in processes that involve aggregating data from multiple systems or taking a piece of information from a written document and entering it as a standardized data input.

1 "The case for digital reinvention," *McKinsey Quarterly*, January 2017, McKinsey.com.

EXHIBIT 1 **Five approaches and capabilities to drive the next-generation operating model.**



There are also automation approaches that can take on higher-level tasks. Examples include smart workflows (to track the status of the end-to-end process in real time, manage handoffs between different groups, and provide statistical data on bottlenecks), machine learning (to make predictions on their own based on inputs and provide insights on recognized patterns), and cognitive agents (technologies that combine machine learning and natural-language generation to build a virtual workforce capable of executing more sophisticated tasks). To learn more about this, see "Intelligent Process Automation: The engine at the core of the next generation operating model."

- Business process outsourcing (BPO) uses resources outside of the main business to complete specific tasks or functions. It often uses labor arbitrage to improve cost efficiency. This approach typically works best for processes that are manual, are not primarily customer facing, and do not influence or reflect key strategic choices or value propositions. The most common example is back-office processing of documents and correspondence.

- Lean process redesign helps companies streamline processes, eliminate waste, and foster a culture of continuous improvement. This versatile methodology applies well to short-cycle as well as long-cycle processes, transactional as well as judgment-based processes, client-facing as well as internal processes.

Guidelines for implementing these levers

In considering which levers to use and how to apply them, it's important to think in a holistic way, keeping the entire journey in mind. Three design guidelines are crucial:

1. Organizations need to ensure that each lever is used to maximum effect. Many companies believe they're applying the capabilities to the fullest, but they're actually not getting as much out of them as they could. Some companies, for example, apply a few predictive models and think they're really pushing the envelope with analytics—but in fact, they're only capturing a small fraction of the potential value. This often breeds a false complacency, insulating the organizations from the learnings that would otherwise drive them to higher performance because it is "already under way" or "has been tried". Having something already under way is a truism: everyone has something under way in these kinds of domains, but it is the companies that press to the limit that reap the rewards. Executives need to be vigilant, challenge their people, and resist the easy answer.

In the case of analytics, for example, maxing out the potential requires using sophisticated modeling techniques and data sources in a concerted, cross-functional effort, while also ensuring that front-line employees then execute in a top-flight way on the insights generated by the models.

2. Implementing each lever in the right sequence. There is no universal recipe on sequencing these levers because so many variables are involved, such as an organization's legacy state and the existing interconnections between customer-facing and internal processes. However, the best results come when the levers can build on each other. That means, in practice, figuring out which one depends on the successful implementation of another.

Systematic analysis is necessary to guide decision making. Some institutions have started by outlining an in-house versus outsource strategy rooted in a fundamental question: "What is core to our value proposition?" Key considerations include whether the activities involved are strategic or confer competitive advantage or whether sensitive data or regulatory constraints are present.

The next step is to use a structured set of questions to evaluate how much opportunity there is to apply each of the remaining levers and then to estimate the potential impact of each lever on costs and customer experience. This exercise results in each lever being assigned an overall score to help develop a preliminary point of view on which sequence to use in implementing the levers.

There's also a need to vet the envisioned sequences in the context of the overall enterprise. For example, even if the optimal sequence for a particular customer journey may be "IPA then lean then digital," if the company's strategic aspiration is to become "digital first," it may make more sense to digitize processes first.

This systematic approach allows executives to consider various sequencing scenarios, evaluate the implications of each, and make decisions that benefit the entire business.

3. Finally, the levers should interact with each other to provide a multiplier effect. For example, one bank only saw significant impact from its lean and digitization efforts in the mortgage application journey after both efforts were working in tandem. A lean initiative for branch offices included a new scorecard that measured customer adoption of online banking, forums for associates to problem solve how to overcome roadblocks to adoption, and scripts they could use with customers to encourage them to begin mortgage applications online. This, in turn, drove up usage of online banking solutions. Software developers were then able to incorporate feedback from branch associates, which made future digital releases easier to use for customers. This in turn drove increased adoption of digital banking, thereby reducing the number of transactions done in branches.

Some companies have developed end-to-end journey "heat maps" that provide a company-wide perspective on the potential impact and scale of opportunity of each lever on each journey. (see Exhibit 2). These maps include estimates for each journey of how much costs can be reduced (measured in terms of both head count and financial metrics) and how much the customer experience can be improved.

Companies find heat maps a valuable way to engage the leadership team in strategic discussions about which approaches and capabilities to use and how to prioritize them.

Case example: The "first notice of loss" journey in insurance

In insurance, a key journey is when a customer files a claim, known in the industry as first notice of loss (FNOL). FNOL is particularly challenging for insurers because they must balance multiple objectives at the same time: providing a user-friendly experience (for example, by offering web or mobile interfaces that enable self-service), managing expectations in real time through alerts or updates, and creating an emotional connection with customers who are going through a potentially traumatic situation—all while collecting the most accurate information possible and keeping costs in line.

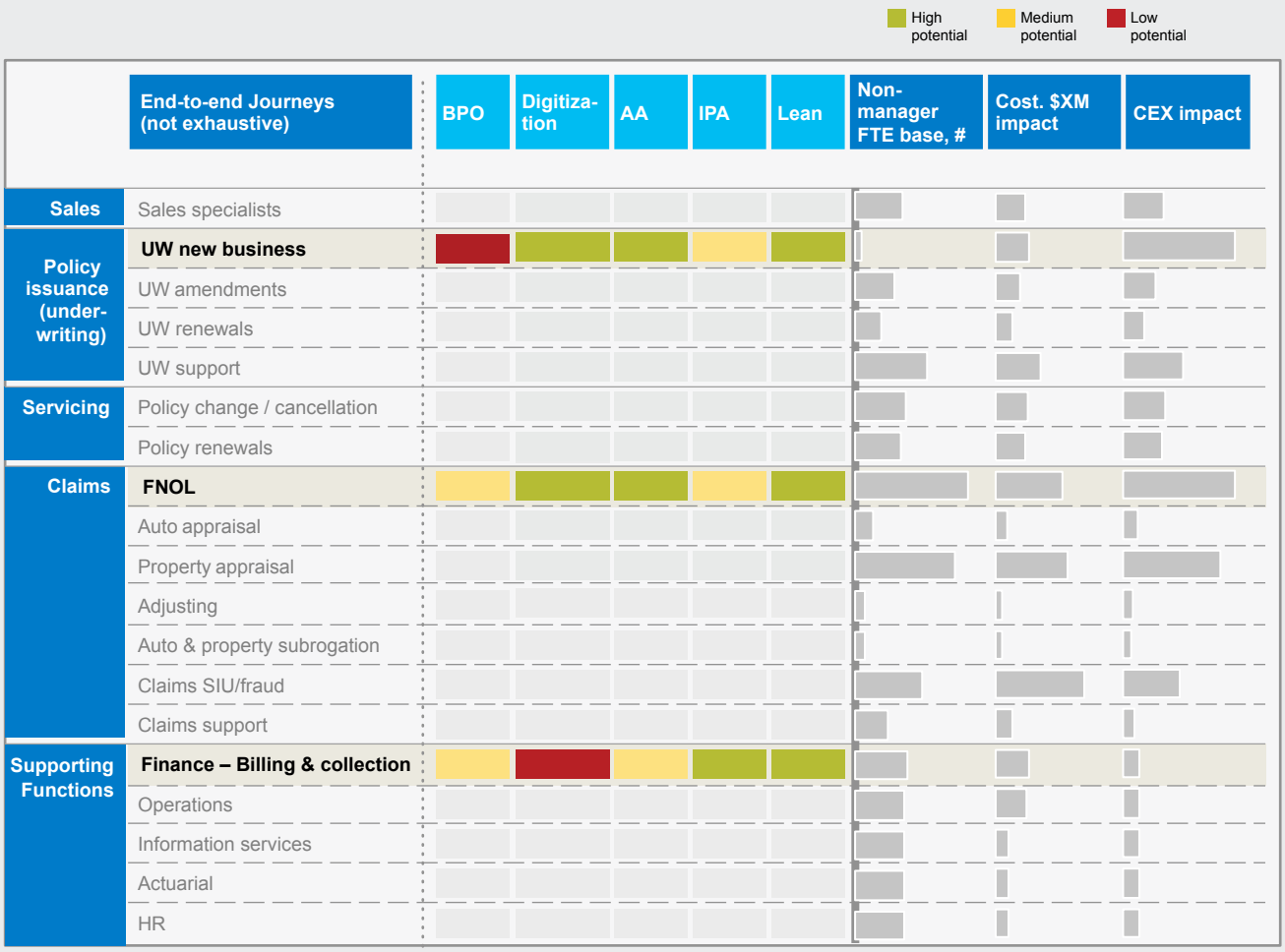
Many companies have relied on Lean to improve FNOL call-center performance. One leading North American insurer, however, discovered it could unlock even more value by sequencing the buildout of three additional capabilities, based on the progress it had already made with Lean:

Digitization. This company improved response times by using digital technologies to access third-party data sources and connect with mobile devices. With these new tools, the insurer can now track claimant locations and automatically dispatch emergency services. Customers can also upload pictures of damages, and both file and track claims online. The insurer also allows some customers to complete the entire claims process without a single interaction with a company representative.

Advanced analytics. Digitization of the FNOL journey provided the insurer with more and better data faster, which in turn allowed its analytics initiative to be more effective. Now able to apply the latest modeling capabilities to better data, the company is using advanced analytics to improve

EXHIBIT 2

The heat map provides a company-wide integrated perspective of the potential for impact for each end-to-end journey.



decision making in the FNOL journey. For example, intelligent triage is used to close simple claims more quickly, and smart segmentation identifies claims likely to be total losses and those liable to require the special investigative unit (SIU) far earlier than before. Analytics are even being used to predict future staffing needs and inform scheduling and hiring, thereby allowing both complex and simple claims to be handled more efficiently.

Intelligent process automation (IPA). Once digital and analytics were in place, IPA was implemented. Automation tools were deployed to take over manual and time-consuming tasks formerly done by customer-service agents, such as looking up policy numbers or data from driving records. In addition to reducing costs, IPA sped up the process and reduced errors. IPA came last because the streamlining achieved by digitization and more effective use of

analytics had eliminated some manual processes, so the IPA effort could focus only on those that remained.

By combining four levers—lean plus digital, analytics and IPA—this insurer drove a significant uplift in customer satisfaction while at the same time improving efficiency by 40 percent. (For more approaches to improving claims, see "Next-generation claims operating model: From evolution to revolution.")[2]

Bringing it all together: Avoid creating new silos by thinking holistically

Senior leaders have a crucial role in making this all happen. They must first convince their peers that the next-generation operating model can break through organizational inertia and trigger step-change improvements. With broad buy-in, the CEO or senior executive should align the business on a few key journeys to tackle first. These can serve as beacons to demonstrate the model's potential. After that comes evaluation of the company's capabilities to determine which levers can be implemented using internal resources and which will require bringing in resources from outside. Finally, there is the work of actually implementing the model. (For more on the last topic, see "How to build out your next-generation operating model.")

Transformation cannot be a siloed effort. The full impact of the next-generation operating model comes from combining operational-improvement efforts around customer-facing and internal journeys with the integrated use of approaches and capabilities.

The authors would like to thank Swapnil Prabha and Deniz Cultu for their gracious support and expertise in creating this article.

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2 Chief Claims Officer Roundtable, McKinsey, 2017.

Putting customer experience at the heart of next-generation operating models

Shital Chheda, Ewan Duncan, and Stefan Roggenhofer

Digital is reshaping customer experience in almost every sector. Digital first attackers are entering markets with radically new offers, disrupting the ways that companies and customers interact and setting a high bar for simplicity, personalization, and interactivity.

To not only stay in the game but capture new sources of value, incumbents will need to reinvent their customer experience. That begins with bringing in data and analytics-based insights about what really matters to customers and how best to deliver it to them. Some companies fail to capture the full benefits of their improvement efforts because they concentrate on optimizing individual touchpoints rather than tackling the customer experience as customers actually experience it—a complete journey that cuts across multiple functions and channels.

The other imperative for companies is to explicitly tie the reinvented customer experience to their operations. If they focus only on the front-end experience and don't change the back-end operations that support it, the new experience is unlikely to be sustainable. Changes will be needed in both underlying processes and the way employees work.

Enhancing the customer experience can bring rich rewards. Across industries, satisfied customers spend more and stay more loyal over time. In banking, customers are seven times

more likely to increase their deposits and twice as likely to open an additional account if they rate a bank as excellent (with a customer-satisfaction score of nine or ten out of ten) rather than average (six to eight out of ten). Similarly, pay-TV customers who rate their provider as excellent tend to stay with it for up to twice as long as they would a provider they rate as average or below (see sidebar, "About the research").

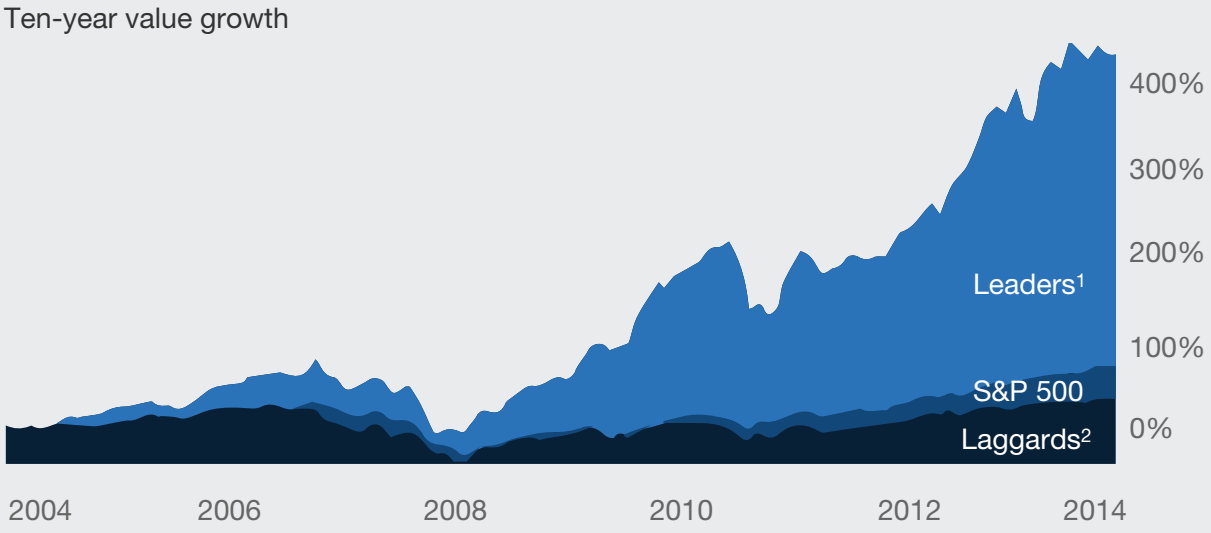
More broadly, the effect of customer satisfaction on total return to shareholders (TRS) is dramatic. If we compare the TRS of companies with above- and below-average customer satisfaction scores, the leaders achieve four times the growth in value of the laggards over a ten-year period, according to data from the American Customer Satisfaction Index and the Medallia Institute (Exhibit 1).

This article highlights two lessons to help companies capture the greatest value from improving their customer experience.

EXHIBIT 1

How customer satisfaction correlates to total return to shareholders.

Total return to shareholders for companies with above- and below-average customer-satisfaction scores / %



[1]Companies with above-average American Customer Satisfaction Index scores within their industry
[2]Companies with below-average ACSI scores within their industry

McKinsey&Company | Source: Medallia

About the research

McKinsey conducted a survey of more than 5,000 US customers to analyze customer preferences and trends and understand what drives satisfaction in six major industries: banking, hotels, health care, health insurance, utilities, and pay TV. In banking, the team deepened the analysis by taking a sample of 18 financial institutions and seven retail products and surveying 10,000 respondents to understand their channel preferences and satisfaction with customer journeys. The team sought to identify the key drivers of satisfaction, pinpoint the journeys that mattered most to customer experience, assess their contribution to overall satisfaction, and compare each bank's performance across these journeys with that of peers and the industry as a whole.

First, how do you find out what really matters to customers? Companies that excel at this do two things: they streamline their operations and take out cost, and they create new experiences and tap new sources of value. Many organizations simply take a "problem view"—treating internal processes as a cost that needs to be reduced, and looking for customer pain points that need to be eliminated. That's a good place to start, but if it's the only view, it misses out on the idea of creating additional customer value.

One insurance company invested time in deepening its understanding of the distress customers suffer when they have an automobile accident and make a claim. The insurer found customers were extremely dissatisfied with the lengthy process of filing a claim over the phone, especially the number of back-and-forth calls with the loss adjuster and the lack of transparency on the status of the claim. The insurer used this understanding of customer pain points to create a new mobile app that enables a claim to be filed within a couple of minutes, sends messages to update customers on the status of their claim, and provides real-time processing and cash payout. To create additional value for customers, the insurer went a step further and created a function that allows customers to make appointments with a repair shop directly via the app.

Another insurer, the start-up Lemonade, allows distressed customers who have lost property to submit a claim via a video message on their mobile phone.[1] The company reviews the message using anti-fraud algorithms, cross-references it against the customer's policy, and then transfers the appropriate funds to the customer's bank account. While these are still early days for the start-up, it is declaring speeds for processing claims in matters of seconds.

By showing empathy with customers and helping to fix their problems (and even delighting them in the process), companies like these can tap into a source of tremendous value, find new business opportunities, and shift their operating model over time.

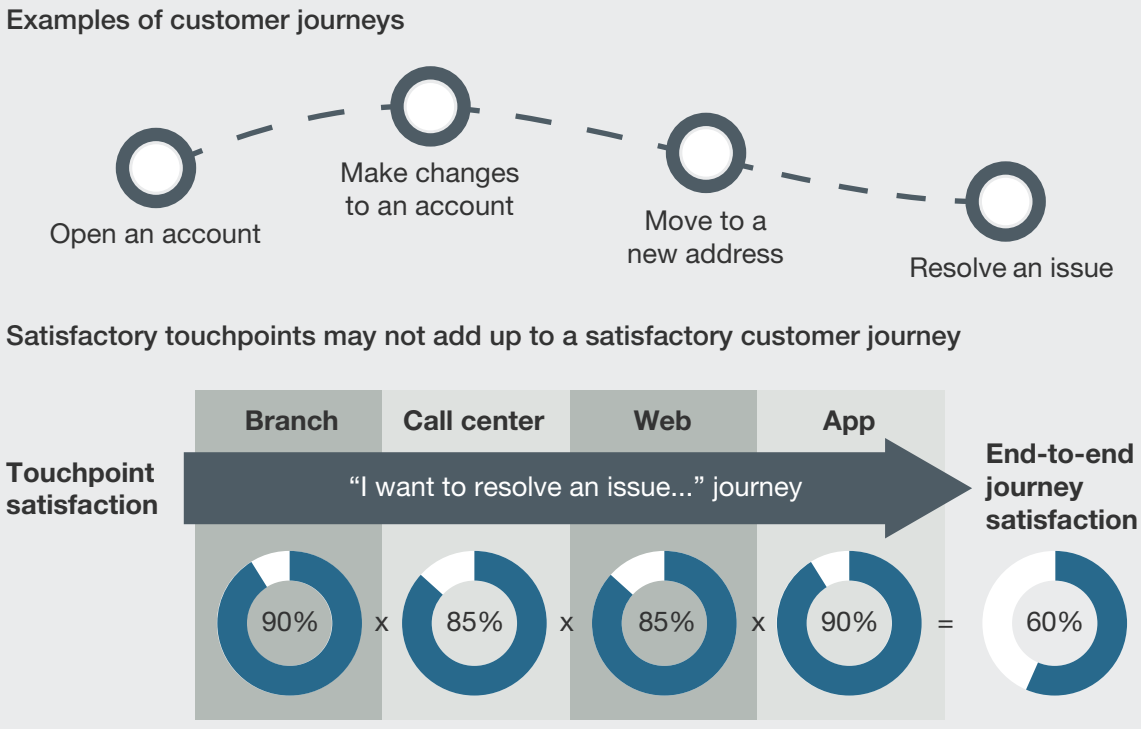
1 https://blog.lemonade.com/2017/01/01/lemonade-sets-new-world-record/?utm_source=instantclaim&utm_medium=facebook&utm_campaign=firstinstantclaim&utm_content=pr_post

Once a company has found out what its customers value, it faces the second big question: how do you link customer experience to operational improvements? Most organizations manage operations, track performance, and measure customer satisfaction along functional lines. Yet the best way to tackle customer experience is to follow it from the customer's point of view, along a journey that cuts across functions and channels. That's because customers frequently use multiple channels to interact with their service provider, and need multiple interactions to complete a transaction.

Imagine you are a customer trying to resolve an issue. You may need to visit a retail outlet, phone a call center, visit a website, use an app, or any combination of these. Exhibit 2 shows that even if you are satisfied with each of these interactions individually, rating them at 85 to 90 percent, your satisfaction with the whole customer journey from beginning to end—calculated as the product of all four interactions—can still be low, just 60 percent in this case. To create a great customer journey, you need more than great touchpoints.

EXHIBIT 2

A customer journey can score low for satisfaction even when individual touchpoints perform well .



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Understanding what matters—and what doesn't

Before rethinking your customer experience, look first at your product, price, service, and brand. If a product is unreliable or its price is too high, not even the most delightful customer experience will redeem it. Once these essentials are in place, work out which journeys matter most to customer experience and assess how you perform in each one so that you can prioritize what to fix to get the most impact from your improvement effort.

Banking is one industry where customer experience offers enormous scope for differentiation. We analyzed the main customer journeys at a sample of US financial institutions to expose "choke points" where banks consistently underperform and explore opportunities to address them (see sidebar).[2] We calculated how much each customer journey contributed to overall satisfaction and found that the most critical journeys were using a product or service (which contributed 23 percent to customer satisfaction) and resolving problems (20 percent). Onboarding new customers—signing up, setting up services, and opening new accounts—was also extremely important (Exhibit 3).

Our research indicates that US banks as a group underperform on customer satisfaction for the two journeys that matter most: product use and problem resolution. The journeys for signing up and opening a new account also rank among the worst, often requiring customers to enter vast quantities of data and navigate numerous application forms and fields.

A successful improvement effort begins not by taking an existing portfolio and digitizing it wholesale, but by radically simplifying both the customer experience and the product or service at its heart. One telecom provider reduced its product portfolio by 80 percent before streamlining its digital experience and supporting platform. After rationalizing its offerings, eliminating some process steps, and using readily available tools to automate others, it managed to cut its sign-up time for new customers by two-thirds.

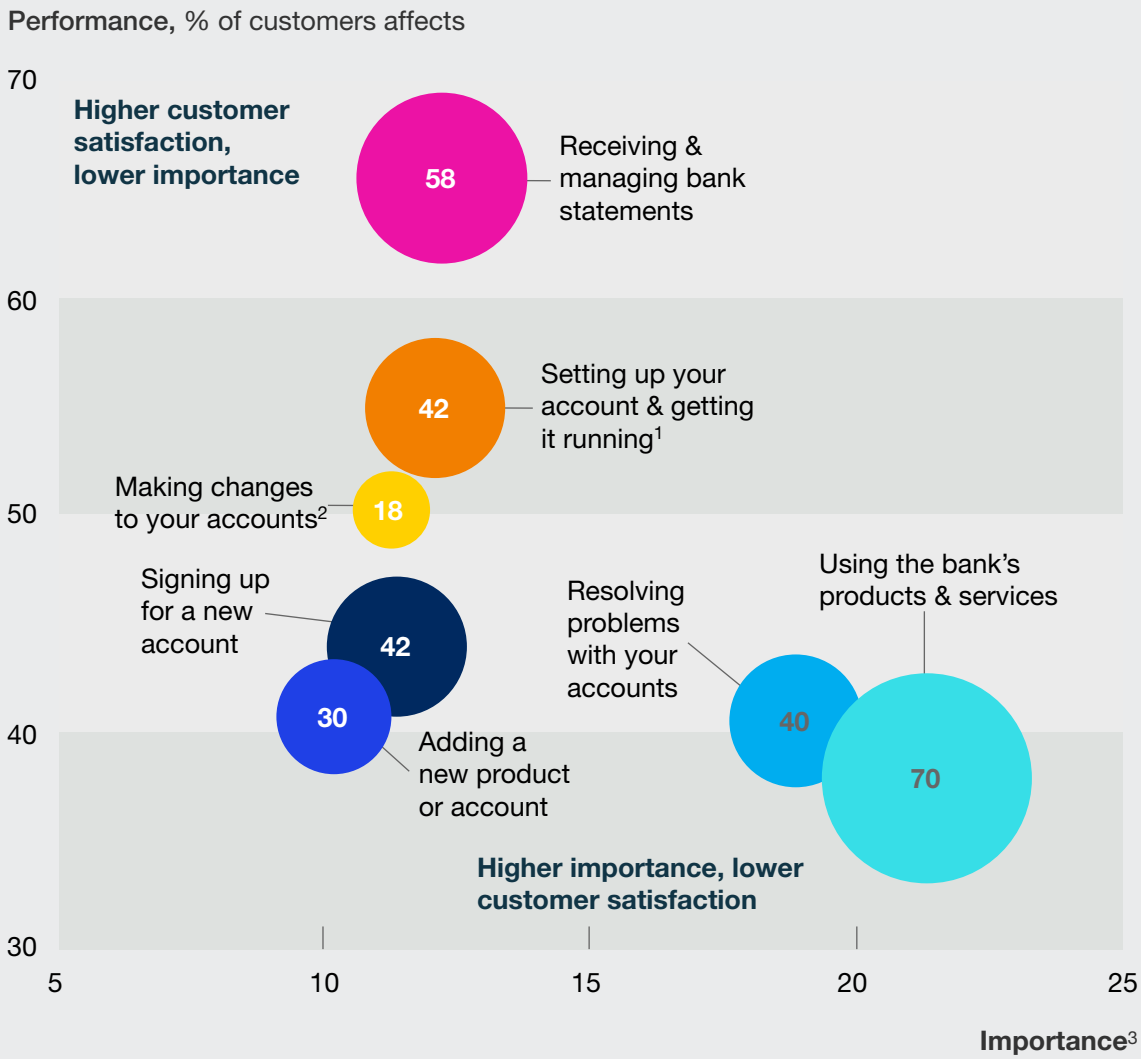
Resolving problems is an area that many customer-facing businesses struggle to get right. Given self-serve options and simple guidance, customers can often fix problems for themselves, but companies don't always provide enough of this support, or communicate it clearly enough when they do. Another stumbling block is having customer care that mimics a company's broader organizational set-up, complete with product silos. Customers dealing with a credit-card issue and a mortgage issue can often experience two entirely different processes at the same bank, and find themselves being transferred from one function to another because each group can help with only one aspect of their problem.

When companies rethink their customer experience, digitization allows them to work backward from what customers would like to see instead of getting bogged down in

2 For a summary of findings from our European research effort, see Joao Dias, Oana Ionutiu, Xavier Lhuer, and Jasper van Ouwerkerk, "The four pillars of distinctive customer journeys," McKinsey & Company, September 2016.

EXHIBIT 3

Customer satisfaction is low for the journeys that matter most.



[1]Setting up online banking, creating automatic bill payments, ordering checks
[2]Changing address or name on account, for example
[3]Relative weight against customer satisfaction

incremental improvements. This clean-sheet approach encourages greater ambition, not shaving 20 percent off the time it takes to open an account, say, but slashing it by 80 percent or more. When one major North American bank revamped its deposit-account journey, it managed to reduce the time from sign-up to working account from two weeks to less than ten minutes.

Eliminating problems or saving customers—and the business—time and effort is only the beginning, though. Much more value can be created when we understand what else we can do to satisfy an unmet need or spark delight. To do that requires working much more closely and directly with customers: observing them during interactions, asking how they are feeling, and mapping their emotional state at every touchpoint in the journey.

The insurance company mentioned earlier found that taking care of an anxious customer who had suffered an auto accident was a great opportunity to make a friend, build loyalty, and reduce claims payouts by recommending preferred repair services. In an industry where differentiation is hard to achieve through products alone, providing a turnkey service that spans the whole process from identifying the cause of damage to finding a repair provider to paying the bill proved to be a valuable new business opportunity.

Linking journeys to operations and value creation

Digital innovation and user feedback provide a catalyst to simplify products and customer experience, but to capture economic value, you need to take a further step: link the new experience to underlying operational processes. That requires an understanding of two things: what creates value across a given journey from the customer's point of view (faster cycle time, personalization, cross-channel functionality, and so on) and what drives business costs and revenues (number of manual touches, extent of customer fallout, additional product sales, and so on).

When businesses are trying to see journeys as customers see them, it can be hard to shake off a frame of mind that revolves around internal processes, structures, and KPIs. It may take a deliberate effort to stop thinking "this change might be difficult to implement" or "that cost has to be reduced" and start thinking what the customer wants instead. Small changes can help to create the right mind-set, such as the insurance company's decision to stop referring to customers by their claims numbers.

Describing journeys from the customer's perspective—"*I* wait in line" or "*I* receive a bill"—is also helpful in exploring what can go wrong and how to put it right. When an airport realized that customers queuing for security checks often worried they might miss their flights, it introduced new signs giving a rough indication of waiting times. Another company investigating customers' experience of repairs found they preferred knowing when a technician would arrive to having a shorter wait with more approximate timing. This insight led the company to improve its control over scheduling and start tracking the whereabouts of field staff in real time—which in turn meant investing in GPS and dynamic dispatch technology, overhauling staffing levels and costs, and rethinking the operating model.

In our survey of US customers, we also investigated which parts of banking journeys had the biggest impact on satisfaction, and how well banks performed in them. In the sign-up journey, for instance, what mattered most to customers was the smooth completion of the application,

followed by the availability of information to help in choosing and comparing products and services; the choice of products and services; the ease of understanding interest rates, account fees, and other features; the simplicity of signing up online; and finally knowing the customer representative and the quality of his or her service. Among these factors, customers tended to be most satisfied with the availability of information and least satisfied with the ease of signing up online.

As well as scoring poorly for customer satisfaction in general, sign-up is also the journey that exhibits the widest gap between top performers and the industry average. Leading banks make it easy and quick, like the bank mentioned earlier that enables customers to open a functioning deposit account in under ten minutes. Any bank seeking to improve its sign-up journey should diagnose how its performance compares with industry benchmarks, customer expectations, and best practices within and beyond the industry. Then it can focus its improvement efforts on the drivers that should deliver the most impact.

Delivering a great customer experience calls for disciplined execution and consistent service delivery. By analyzing customer journeys, companies can pinpoint the operational improvements that will have the biggest effect on customer experience. In the example illustrated in Exhibit 4, a North American bank examined how satisfaction among deposit-account customers was affected by the time it took to apply for an account, activate it, and receive the account card. If applications took more than 20 minutes to complete, the net promoter score (NPS) declined; if activating the new account took more than a day, or receiving the debit card and PIN took more than five days, the NPS fell sharply.

An understanding of break points like these helps companies focus their operational improvements and target their investments pragmatically, without reaching the stage of diminishing returns. Once the desired operational improvements have been identified, organizations can implement them by activating five key capabilities and approaches from their next-generation operating model:

1. Digitization: the process of using technology to automate and improve journeys directly.

2. Advanced analytics: the autonomous processing of data using sophisticated tools to discover insights and make recommendations.

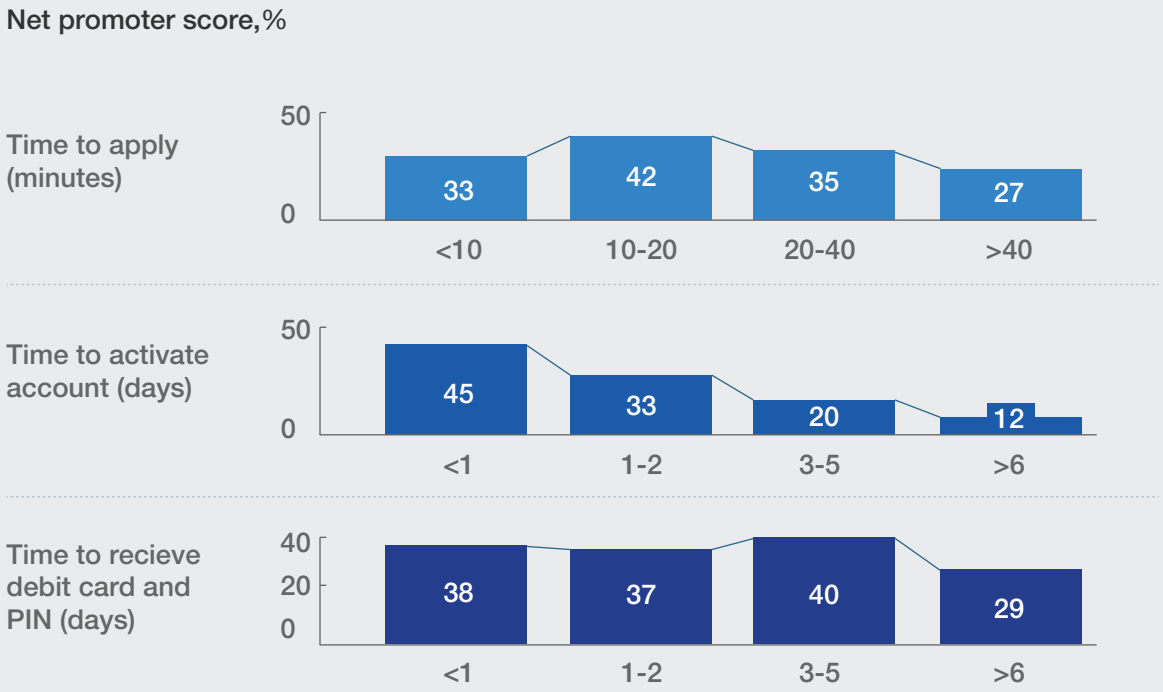
3. Intelligent process automation: a suite of business-process improvements that combines process redesign with automation and machine learning to eliminate repetitive routine tasks.

4. Business-process outsourcing: using resources outside the main business to complete specific tasks of functions.

5. Lean: a systematic approach to streamlining processes, eliminating waste, and fostering a culture of continuous improvement.

EXHIBIT 4

How operational drivers affect satisfaction for customers opening a new deposit account.



Source: McKinsey customer experience benchmarking, banking, Canada, Fall 2016

For more on this topic, see "The next-generation operating model for the digital world."

Bringing it all together

How much companies can achieve by redesigning customer journeys is demonstrated by a leading global bank that sought to improve its customer-satisfaction ranking from average to top three in three years. To identify priorities, the team worked out how much value could flow to customers and the bank if various journeys were reimagined and digitized. It determined that onboarding journeys for all products were of most value, followed by credit-card journeys involving disputes, issuance, and fraud handling.

The work began with the transformation of just one credit-card onboarding journey. As the organization gained experience, the next wave included onboarding journeys for two products, with four in the wave after that, and so on. The choice and sequencing of the journeys to transform were always linked to value creation. Over the course of three years, and after the

transformation of multiple journeys, the bank was able to boost its customer-satisfaction score by 25 percent and generate $1 billion a year in additional customer spending from its credit-card business.

As the other articles in this collection will show, much of the value of digitization comes from the way it helps organizations address multiple elements that work together to create a customer journey—not just the customer experience itself, but all the operational processes that underpin it. Our advice is:

- Start with a clear understanding of what customers value and use it to decide where to focus (and what to deemphasize).
- Guided by these priorities, simplify and streamline your underlying product and services; if you don't, you're likely to digitize existing complexity.
- Link customer value to the operational drivers that underpin it, then design a new operating model based on these linkages, working back from the customer and using digital tools to streamline or automate your processes in line with what customers care about.
- Tackle the most important customer journeys one by one and support the effort with operational changes to improve efficiency and speed.
- Embed agile, cross-functional ways of working and reengineer your management system to support continuous improvement.

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Organizations that take these steps can turn customer experience into a source of delight for customers and a new and sustainable source of differentiation for themselves.

The authors would like to thank Rohit Bhapkar for his gracious support and expertise in creating this article.

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How to start building your next-generation operating model

Joao Dias, David Hamilton, Somesh Khanna, Christopher Paquette, and Rohit Sood

A North American bank took less than two years to shift 30 percent of its in-branch customer traffic to digital channels and dramatically reduce its brick-and-mortar footprint. A European cruise line redesigned and relaunched five core products in nine months to increase digital conversions by three to five times and sales by 150 percent.

These companies have been able to transform because they have developed next-generation operating models that provide the speed, precision, and flexibility to quickly unlock new sources of value and radically reduce costs. The operating model of the future combines digital technologies and process-improvement capabilities in an integrated, sequenced way to drastically improve customer journeys and internal processes.

Lean management has already played a significant role in putting in place processes, capabilities, and tools to improve how businesses operate. But the digital age has increased both the opportunities for businesses who know how to react and the difficulty of getting it right. For one thing, tasks performed by humans are more complex, whether it's accessing information in multiple formats from multiple sources or responding to changing market and customer dynamics at ever-increasing speeds. And as an increasing number of tasks become automated or are taken over by cognitive-intelligence capabilities, companies will need to take many of the lessons learned from lean management and update them. Like a sprinter who needs all her muscles to be

finely tuned and working in concert to reach top speeds, fast-moving institutions must have a system to continually synchronize their strategies, activities, performance, and health.

But how? Many institutions understand the need to change how they work and have embarked on numerous initiatives, yet few have been able to get beyond isolated success cases or marginal benefits.

We have found that companies that successfully build next-generation operating models do two things well. They focus on putting in place the building blocks that drive change across the organization, and they select a transformation path that suits their situation. These practices don't apply only to companies that have yet to start their digital transformation. In our experience, even companies that are well along their transformation journey can pivot to putting in place a next-generation model that delivers massive value while significantly reducing costs.

Building blocks of the next-generation operating model

Whatever the path companies choose to develop their next-generation operating model (a subject we return to later), we have found there is a set of building blocks of change that successful leaders put in place. Think of them as the mechanics of change—elements needed to underpin the development of the operating model. Given the dynamic nature of digitization and the fast pace of change, it's important not to think about perfecting the implementation of each building block before the operating model can function. The process is highly iterative, with elements of each building block tested and adapted to grow along with the model through a constant evolutionary cycle.

Building Block #1: Autonomous and cross-functional teams anchored in customer journeys, products, and services

Successful companies constantly rethink how to bring together the right combination of skills to build products and serve customers. That means reconfiguring organizational boundaries and revisiting the nature of teams themselves, such as creating more fluid structures in which day-to-day work is organized into smaller teams that often cut across business lines and market segments. This approach includes empowering teams to own products, services, or journeys, as well as to run experiments. These organizations are also becoming nimble in how they build skills across their teams by making "anchor hires" for key roles, setting up rotational and "train the trainer" programs, and committing to ongoing (often weekly) capability building and training for key roles.

Many insurers, for example, are dismantling traditional claims and underwriting units and reconstructing them to embed subject-matter experts such as lawyers and nurses into service groups. In the best companies, these teams also work side by side every day with technologists to design the tools and technology to improve efficiency and effectiveness.

Iteration is crucial to making this approach work. Leaders test various team configurations and allow flexibility in response to changing customer needs. One credit-card company, for example, shifted its operating model in IT from alignment around systems to alignment with value streams within the business. Cross-functional teams were pulled together to work on priority journeys and initiatives to deliver on the value stream. These changes dramatically simplified the operating model, lowered direct leadership expenses, and contributed to a 200 percent increase in software-development productivity within three months.

Building Block #2: Flexible and modular architecture, infrastructure, and software delivery

Technology is a core element of any next-generation operating model, and it needs to support a much faster and more flexible deployment of products and services. However, companies often have trouble understanding how to implement these new technologies alongside legacy systems or are hampered by outdated systems that move far too slowly.

To address these issues, leaders are building modular architecture that supports flexible and reusable technologies. Business-process management (BPM) tools and externally facing channels, for example, can be shared across many if not all customer journeys. Leading technology teams collaborate with business leaders to assess which systems need to move faster. This understanding helps institutions decide how to architect their technology—for example, by identifying which systems should be migrated to the cloud to speed up builds and reduce maintenance.

This approach both accelerates development and prioritizes the use of common components, which in turn leads to development efficiency and consistency. Another important reason for building more flexible architecture is that it enables businesses to partner with an external ecosystem of suppliers and partners.

Similarly, leaders are investing heavily in DevOps and combining people, process, and technology changes to automate software testing, security, and delivery processes as well as infrastructure changes.

Building Block #3: A management system that cascades clear strategies and goals through the organization, with tight feedback loops

The best management systems for next-generation operating models are based on principles, tools, and associated behaviors that drive a culture of continuous improvement focused on customer needs. Leading companies embed performance management into the DNA of an organization from top to bottom, and translate top-line goals and priorities into specific metrics and KPIs for employees at all levels. They make visible the skills and processes needed for employees to be successful, put clear criteria in place, and promote the sharing of best practices.

The best institutions are evolving their management systems to create feedback mechanisms within and between the front line, back-office operations, and the product teams that deliver new assets. They are also using their management systems to harvest the surfeit of data generated by day-to-day activities to create user-friendly dashboards and reports, some of them in real time.

Performance management is becoming much more real time, with metrics and goals used daily and weekly to guide decision making. These metrics are supported by joint incentives—not just for individuals—that are tailored to each level of the organization and reinforce behaviors to support customers regardless of organizational boundaries.

One North American insurer struggled to make the predictive analytics models developed by central teams relevant to its front-line claims adjusters, who therefore failed to adopt the new capability. Knowing it was leaving significant value on the table, the company established daily feedback sessions between the central development team and the claims adjusters and embedded analytics specialists into customer-service teams to develop better insights into customer issues. The teams created shared goals based on customer value that were consistent with the organization's strategy and the daily work of adjusters. Under this new management system, the analytics specialists and claims adjusters shortened cycle times and dramatically improved the effectiveness of assignment. This freed up time for leaders to coach, problem solve, and iterate on the next opportunities for the teams to pursue.

Building Block #4: Agile, customer-centric culture demonstrated at all levels and role modeled from the top

Successful companies prioritize speed and execution over perfection. That requires agility in delivering products to customers and quickly learning from them, as well as willingness to take appropriate risks. The best organizations have already made agility a cornerstone of how they work beyond IT. One credit-card company brought together law and compliance personnel to sit in with marketing teams to intervene early in processes and have daily conversations to identify and resolve issues. Law and compliance functions have also begun to adopt agile methodologies to change their own work. As functions and teams collaborate, they are on track to reduce effective time to market by 90 percent for some core processes while also reducing operational risk.

Critical to success is leading the change from the top and building a new way of working across organizational boundaries. Senior leaders support this transformation as vocal champions, demonstrating agility through their own choices. They reinforce and promote rapid iteration and share success stories. Importantly, they hold themselves accountable for delivering on value quickly, and establish transparency and rigor in their operations. Many manage the change aggressively, often changing performance incentives, mothballing outdated processes,

assembling communication campaigns to reinforce culture, and writing informal blogs. At one asset-management company, the top team jettisoned its legacy budgeting process and asked leaders to be aggressive about capturing more value. They established an ongoing process for redistributing funding to the highest-value experiments that were working.

Defining the path for your organization

There is no one way to develop a next-generation operating model. It depends on a company's existing capabilities, desired speed of transformation, level of executive commitment, and economic pressure. We have seen four paths that leading companies take to drive their transformation, though organizations often move to a different path as their capabilities mature. These paths offer a guide for the first 12 months of a transformation journey.

An innovation outpost is a dedicated unit set up to be entirely separate from the historical culture, decision-making bureaucracy, and technical infrastructure of the main business. It creates inspiring products that illuminate the digital art of the possible (sometimes with questionable economic impact), and hatches new business models in informal settings such as over foosball tables. This path has traditionally been popular as a first move, but is now less common.

One retailer with an ineffective online business chose to open such an outpost. It introduced next-gen analytics, focused on customer experience rather than technology, and drove the mobile interface. Staying largely separate from the main business, the outpost created a buzz around innovation, attracted better talent, and repatriated many of its creations into the broader organization.

This path works well when there is limited alignment among executives on the importance and value of transformation, a need to move very quickly in response to market pressures, and significant legacy culture challenges to overcome. However, it is less effective as the "tip of the spear" for changing the culture or building sustainable capabilities, and often yields a low return on investment.

A fenced-off digital factory is a group of groundbreakers that works in partnership with businesses and functions (such as IT infrastructure and security, legal, compliance, and product development) while enjoying a high degree of autonomy. It typically houses specialized capability groups in technologies such as robotics or analytics, and deploys them to support the development of specific journeys in concert with business and functional partners. It both models a new way of working and integrates developed capabilities into the main business. As such, it focuses internally on integrating with and shifting the culture of the organization.

This is the most common starting point, as it balances the need for incubation with that of broader transformation. One European bank built a digital factory in a building on a campus. Each of the lower floors is dedicated to a separate journey, while the top floor is dedicated to creating reusable

components and utilities—such as customer identification and verification or esignature—that the other journeys can deploy in a modular way.

Business and functional colleagues come together to work with teams in the factory. Each of these teams develops products and services, moves them quickly from prototype to deployment, and then transfers them into the main business. As part of the management system, the team continues to monitor and iterate the product or service based on economic performance and customer feedback.

This path works well when there is a broad-based belief in and commitment to transformation, and a need to incubate a critical mass in internal capabilities. Many organizations have used this approach to attract digital talent, combat large-project inertia within IT groups, and speed transformation. Culture change is slower within the rest of the organization, but it happens over time as business and functional specialists partner with the factory for each journey. It can, however, also create a "have and have not" split within the business if not managed appropriately, and can require significant initial C-suite support and funding. (For more on the digital factory, see "Scaling a transformation culture through a digital factory.")

A business-unit accelerator is a scaled-down digital factory that incubates a transformation inside a business unit to tackle local customer journeys and business functions. The business unit builds its own skills, such as process-redesign and robotics capabilities, and has control over specific capabilities and investments. This means it doesn't need central funding or organization-wide agreement on a host of issues to get going.

One North American bank shifted to a business-unit accelerator model after the first few years of its transformation. It found that this move gave it more control and a closer connection to business strategy and the customer—benefits that outweighed centralized scale and capability building. The bank invested heavily in talent and tools with the aim of building a reputation among customers as a digital business that happens to produce banking products and experiences.

This path works well for organizations with large business units that operate independently. It's also a good starting point when one business unit is particularly far ahead in its thinking and belief, or where digital services have disproportionate value-creation potential. However, companies that choose this model must mitigate several risks. When business units choose their own digital tools and processes, for instance, complexity and costs increase for IT teams managing maintenance, licensing, and enterprise architecture. This model can also make it harder to build and share capabilities across the organization since the skills developed are specific to the business unit.

A full-scale evolution is a comprehensive transformation in which the enterprise reorganizes itself almost entirely around major journeys. This is the natural operating model for many digital natives, as technology, digital services, and product delivery are basically inextricable. Companies focus on specific digital initiatives that deliver on business priorities, deploying specialized talent and

cross-functional teams to support each one. The model is highly attuned to the customer, and rapidly develops, tests, and iterates on new products or services. Team members may be managed through a center of excellence or by business-unit leaders. This path is the aspiration for many incumbents, especially those that deliver services rather than physical products.

In one European bank undergoing a full-scale evolution, agile has become the default way for people to work, with colleagues from multiple functions including IT sitting sit side by side. Results are measured by value streams—the sources of the value being generated—and journeys, flowing from the customer need back to the performance of the bank. Prioritization and resourcing take the form of active daily and weekly conversations about the next most important thing to work on. This approach is initially almost like shock treatment, but it offers important benefits, allowing companies to shake up the traditional management system and achieve culture change quickly and at scale. The organization builds agile skills broadly, identifies high and low performers, and pinpoints valuable and missing skills.

This path works well when there is a broad and top-down organizational mandate for change. Given the time it takes to move the needle, there should be no pressing near-term economic imperative. Companies that choose this model need to mitigate several risks, such as ensuring that best practices are shared across the operating model rather than being confined to individual teams. In addition, organizations must share any scarce resources across business functions to drive impact, and ensure coordination with IT as it seeks to keep up with the technical architecture.

No-regret steps leaders should take

Every organization's transformation journey will be different. However, a simple set of immediate, no-regret steps can help leaders shape their first set of priority decisions and provide clarity on the way forward. These often include:

- Creating clarity on enterprise strategy and on where digital services can quickly enable sustainable value creation. (For more on this, see "The next-generation operating model for the digital world.")

- Challenging the board to be explicit about the importance of the transformation and its support for investment; or, as a board, making this decision and challenging the executive team for a bold vision.

- Building top-team excitement and belief in change through visits to leading digital natives or incumbents pursuing their own transformation paths.

- Assessing the maturity of the management system using benchmarking against other organizations to identify strengths to build on and risks to mitigate.

- Investing in targeted capability building, especially for the top 50 leaders in the organization. Exploring core concepts such as digitization, agile, design thinking, and advanced analytics can create a shared vocabulary and spur action.

- Making an honest objective assessment of talent and capabilities within the organization, benchmarked against peers and cross-sector leaders. Disruption often comes from outside an industry rather than within.

- Surveying the cross-sector landscape for ideas and inspiration. It's easier than ever to learn from others, and a rapid inventory of ideas can shed light on potential execution challenges to resolve.

- Assessing the level of change that the organization can realistically absorb in the near and long term given its other priorities.

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Most companies recognize the need for a next-generation operating model to drive their business forward in the digital age. But how well they actually develop it makes all the difference between reinventing the business and just trying to do so.

The authors would like to thank David Wilkes, Alex Singla, Rohit Bhapkar, Zachary Surak, Marta Rohr, and Andy Eichfeld for their gracious support and expertise in creating this article.

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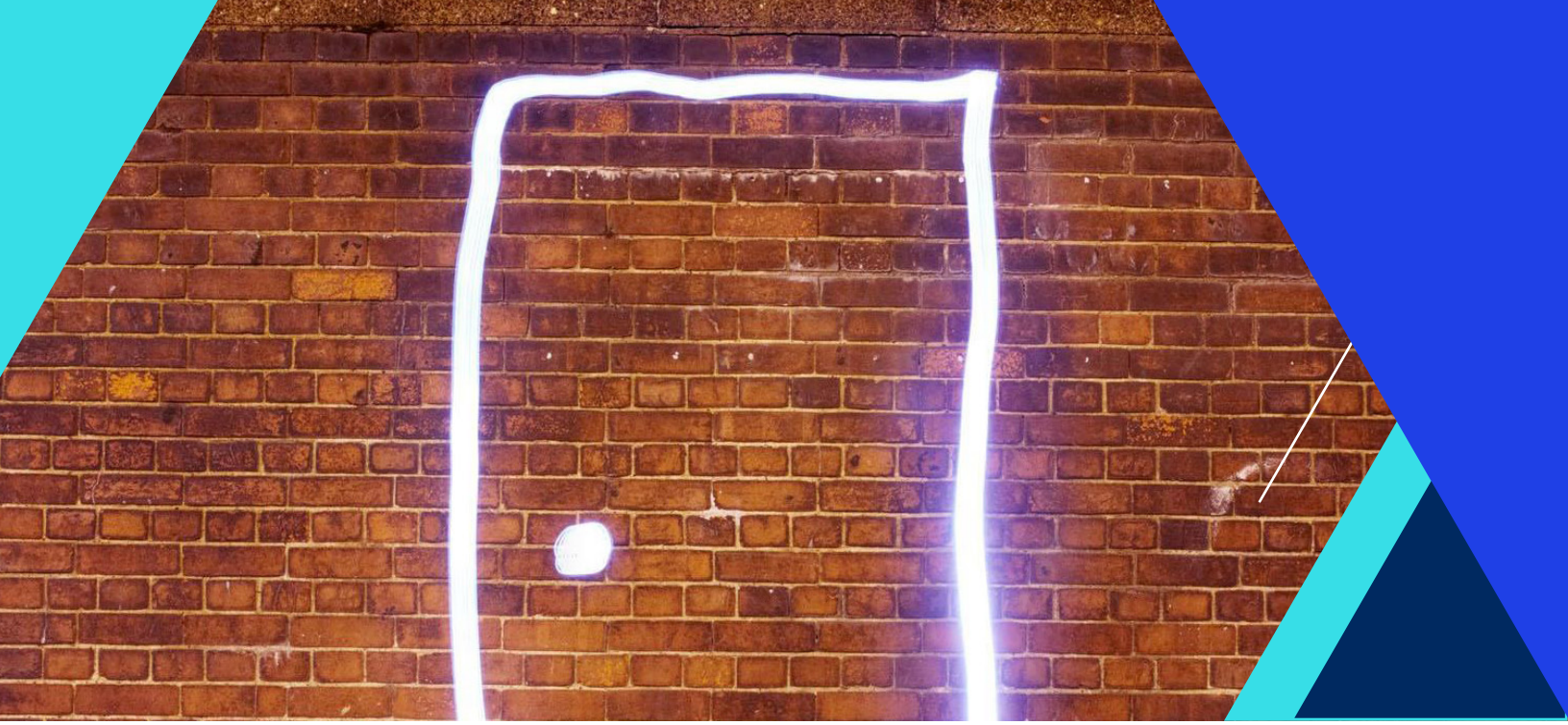

What it takes to deliver breakthrough customer experiences

Xavier Lhuer, Tunde Olanrewaju, Rohit Sood, and Hyo Yeon

Seven minutes.

That's how long it takes financial-technology start-up Kabbage to approve a small-business loan—nearly 5,000 times faster than the 20 days it takes a typical bank. It's no wonder that customers' experiences with technology companies have not only altered their behavior but also raised their expectations about how interactions with all businesses should work. As a survey conducted by Ipsos and LinkedIn found, some 67 percent of affluent millennials are open to using non-financial-services brands.[1]

Incumbents are moving fast to adapt, applying a range of approaches to improve customer experiences. These include everything from design thinking, which involves applying creative, nonlinear approaches to reinvent how customers interact with businesses, to agile, which calls for fielding prototypes quickly, gaining early customer input, and then iterating continually.

1 See TechCrunch, "The unbundling of finance," blog entry by Scott Walchek, May 29, 2015, techcrunch.com.

From measuring customer behavior to spending time with customers to truly understand them

Most companies conduct quantitative research on customers. Such data provide important insights, but to create distinctive customer journeys, companies must not only understand their customers' behavior but also develop deep empathy. In particular, companies need to empathize with customers when they experience difficulties and obstacles.

This means embracing new techniques for intimately understanding customer journeys: ethnographic observation and "shop-alongs," where researchers watch or accompany customers in stores; customer diaries, where customers describe, hour by hour, their activities and reactions as they interact with products and services; codesign, where customers give feedback about early versions of proposed offerings; and continual live testing and design iteration with customers after launch.

Top-performing companies also develop a clear vision of the entire customer ecosystem, understanding relevant interactions that extend beyond the core journey the company controls. For example, the journey to securing a mortgage includes an understanding of how potential home buyers consider schools. Such an approach allows companies to uncover new insights that allow them to design and deliver truly transformative customer experiences.

Example: Climate insurance for farmers

An insurer was developing a new product to protect livestock farmers from the greater variability in hay yields caused by climate change. It undertook traditional market research but also sent a product-design team to observe the daily activities of farmers.

The team learned that farmers are pressed for time but also very tech savvy, relying heavily on PCs and mobile devices in their daily activities. The insurer had originally planned to market its new product through traditional channels, but insights gleaned from an observation trip led it to create a digital solution, which allowed farmers to gather information and buy policies online at night and on weekends. The user interface was streamlined and incorporated the farmer's perspective: for example, it quantified the number of cattle and sheep using the term "livestock units." The insurer also provided additional value to customers by offering historical weather data and future forecasts on the app.

From designing the user interface to designing the complete customer experience

Many executives believe design is about making devices and screens look pretty. Good visuals improve any experience, but being great requires thinking about everything—and everyone— it takes to fulfill customer needs. True customer-experience design involves crafting each interaction customers have with a company along the path that runs from the minute they consider a

purchase through their entire relationship with the product or service. As Steve Jobs said, "[Design is] not just what it looks like and feels like. Design is how it works."

To design a compelling customer journey, companies must enlist everyone who has an impact on any part of a customer's journey, not just people with the word "design" in their title. In particular, operational and IT groups should be involved. Companies need to not merely map out customer touchpoints but also implement changes that must occur in the background to deliver a superior journey.

Example: Disney's MagicBands

After a five-year effort to root out pain points in the experience of visitors to its theme parks Disney introduced MagicBands in 2013. These brightly colored wristbands allow visitors to board rides, pay for meals and gifts, and even unlock the doors of their hotel rooms. More important, the bands and the technology behind them—which is stitched into every part of the park—allow visitors to select exactly what they want to see and do in advance. That has helped turn a day at Disney from a series of highlight attractions interrupted by waiting in line to a magical end-to- end experience.

From addressing issues in the customer journey to completely rethinking the customer experience

Many companies spend a lot of time improving their current customer journeys. This can lead to incremental cost reductions and quality enhancements. But such an approach may also cause companies to narrow their horizons and blind them to better overall solutions.

True reinvention requires taking a hard look at journeys from the customer's perspective to find the pivotal insight around which a new journey should revolve. The focus is addressing customer needs, not improving a process. Bringing in people who are not normally involved in the process can be a great way to encourage fresh thinking. Assessing the best digital experiences employed in other industries can also be useful inspiration.

Example: Amazon Dash

Online retailers recognize that customers often forget to order household items when they run out, resulting in lost sales. Most deal with this problem using solutions that reside online: standing orders delivered on a periodic basis or checklists on the company website to jog customers' memories. But Amazon bridged this gap by wholly transforming the order experience.

Amazon's pivotal insight was that the moment when people want and are most inclined to reorder is when they're using an item and realize they're about to run out. So it created Amazon Dash, a small Wi-Fi-connected device the size of a USB drive, decorated with the logo of a common household item such as laundry detergent, plastic wrap, or coffee. Customers place these "order buttons" around their home on appliances or cupboards and simply press them when they realize they are running low on an item.

From working around the regulations to rewriting the rules

At many companies, particularly those in financial services, efforts to transform customer journeys have been constrained by the understandable and necessary caution of internal groups responsible for ensuring compliance with regulations. Some companies address this challenge by being innovative about everything but the mandated steps, often leading to a jarring or cumbersome experience for customers: "You can complete this application online, but you then need to print everything and come to the branch next week."

The best companies focus on the underlying purpose of the rules, engaging regulators and lawyers to show how technological advances can make things better for customers while improving risk outcomes. This process also often uncovers status quo situations where people assume there are constraining regulations—"Things have always been done that way for a reason"—when in fact that isn't the case.

Example: Digital identification and verification

Advances in optical character recognition and machine learning have allowed technology companies to develop solutions for the verification of government-issued identity documents, such as national identification cards and driver's licenses, with a high degree of reliability.

Many banks wanted to adopt digital identification and verification to enable online opening of accounts. But internal compliance groups were wary. One bank broke the logjam by going directly to national regulators with a pilot demonstration showing the new, technology-based process was even more reliable than the existing process, paving the way for regulatory acceptance. As a bonus, the digital process automatically captures names, addresses, and dates of birth from documents used to verify identity, so customers don't even have to type that information when they open a new account online.

From developing software using agile to becoming an agile organization

Many incumbents use agile software-development practices inside their IT departments and believe this means their organizations are agile. But if only IT adopts agile practices—fast, iterative development—companies can't reap its full benefits and are still slowed by traditional decision-making and deployment processes. Creating responsive and adaptive customer experiences requires the entire organization to be agile. Making that change begins with putting in place new governance standards and ways of working.

Product managers responsible for developing new offerings, for example, need the authority to make decisions quickly and to hold staff from functional groups accountable. This means metrics and incentives also need to be adjusted to focus on end-to-end rather than functional objectives. Instead of asking for detailed business cases, companies should fund projects the way venture-capital firms fund start-ups: making a number of small bets at first and providing more money if

early results are promising. Small pilots can be tried in a few locations and, if successful, be rolled out across the entire network.

Example: Rapid development teams that extend across the organization

One European bank set up scrum teams in its IT department. Yet it still took up to a year to bring new customer offerings online, due to slow decision making and delays in the deployment of new software. To shorten this time to market, the bank created cross-functional teams accountable to empowered product managers. Because legacy IT systems can block the move to agile, the bank shifted to a modern IT architecture and cloud technologies, which allowed new software developed by the scrum teams to go live on the company website in a matter of seconds.[2] By making the whole organization agile, the bank dramatically reduced time to market.

From delivering a product to constant iteration

Many incumbents figure out what new product or service offering they want to create for customers and then launch pilots, projects, or trials. These typically emerge as infrequently as once a year, or perhaps every six to nine months if sped up. Live customers are often excluded from pilots in a bid to do thorough testing before release.

But an article of faith among the start-up community in Silicon Valley is that a product is never done. These companies launch a minimum viable product (MVP) with the express purpose of getting customer feedback and then iterating. Based on customer input, improved versions of the product are released quickly and continuously. Our Digital Quotient analysis[3] has shown that the best-performing digital companies embrace test-and-learn approaches that value speed over perfection. As LinkedIn founder Reid Hoffman once said, "If you are not embarrassed by the first version of your product, you've launched too late."[4]

The truth is that it's impossible to know in advance how an experience will be embraced by customers. It's better to launch sooner with fewer features and a simpler interface and learn what works, based on real customer input. This approach requires not just ensuring speed in delivering a product but also putting in place an infrastructure—customer-satisfaction metrics, live and A/B testing capabilities, product development, and empowered managers—to act quickly on feedback and iterate the experience.

Example: Tablet-based account opening

When a European bank tried several times to fix its account-opening process with large projects, it floundered. Stung by these false starts, it instead launched a small pilot in a few locations, focused

2 For more on the importance of updating legacy IT systems, see Juan Garcia Avedillo, Duarte Begonha, and Andrea Peyracchia, "Two ways to modernize IT systems for the digital era," August 2015, McKinsey.com; and Satty Bhens, Ling Lau, and Shahar Markovitch, "Finding the speed to innovate," April 2015, McKinsey.com.

3 See Tanguy Catlin, Jay Scanlan, and Paul Willmott, "Raising your Digital Quotient," *McKinsey Quarterly*, June 2015, McKinsey.com.

4 Ben Casnocha and Reid Hoffman, *The Start-up of You: Adapt to the Future, Invest in Yourself, and Transform Your Career*, first edition, New York, NY: Crown Business, 2012.

only on student customers. Using this new approach, the bank was able to build a new tablet-based account-opening app in just 16 weeks. It then iterated new versions based on user feedback, improving the verification process so applicants could open accounts immediately and letting some customers request overdraft protection. After these tweaks, the app was scaled across new segments and more branches.

From collaborating under the guidance of leaders to working together spontaneously

Companies need to push their people to move beyond traditional functional roles and work together to reinvent customer journeys. This is typically done by creating temporary project teams or task forces. But responding to a customer issue or improving a journey requires a culture where people from different functions work together spontaneously. Our Digital Quotient analysis revealed that less than 30 percent of companies say they have a highly collaborative culture.[5] Improvements can come from having motivated, empowered front-line employees driven by clear purpose. Technology has a role too. By moving into cloud-based, virtualized environments, for example, companies can help teams to experiment and innovate.

Example: Supporting collaboration for an agile program

At another European financial institution, an agile program had been mobilized for three months, and individual teams were working hard, but no real progress had been made in building the planned offering. Why? The company had formed a cross-functional team that included all the key units, but its members still reported to functional heads and were housed in six different locations. Recognizing the initiative was stuck, the company appointed a single executive as end-to-end leader and held five full-day in-person meetings, allowing many people to meet their peers face-to-face for the first time. Coaches provided live on-the-job coaching, helping team members gain new skills via experiential learning while building cohesion and trust.

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Many incumbents are working hard to reinvent their customers' journeys. The ones that win will be those that push the boundaries and simultaneously adopt next-generation digital thinking and practices.

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5 For more articles on this topic, see our Raise your Digital Quotient series, McKinsey.com/features/ raise_your_digital_quotient

From disrupted to disruptor: Reinventing your business by transforming the core

Peter Dahlström, Liz Ericson, Somesh Khanna and Jürgen Meffert

When Madonna burst onto the scene in the early 1980s, there was little reason to suspect that she'd have more than her allotted 15 minutes of fame. But in the three decades since her debut album, she has managed to remain a media icon.

Her secret? "Madonna is the perfect example of reinvention," Janice Dickinson, renowned talent agent, has said. Fittingly, the name of Madonna's sixth concert tour was "Reinvention."

Madonna may seem like an unlikely touchstone for modern businesses, but her ability to adapt to new trends and set some others offers a lesson for companies struggling with their own digital revolutions. That's because the digital age rewards change and punishes stasis. Companies must be open to radical reinvention to find new, significant and sustainable sources of revenue. Incremental adjustments or building something new outside of the core business can provide real benefits and, in many cases, are a crucial first step for a digital transformation. But if these initiatives don't lead to more profound changes to the core business and avoid the real work of re-architecting how the business makes money, the benefits can be fleeting and too insignificant to avert a steady march to oblivion.

Simply taking an existing product line and putting it on an e-commerce site or digitizing a customer experience is not a digital reinvention. Reinvention is a rethinking of the business itself. Companies need to ask fundamental questions, such as, "Are we a manufacturer, or are we a company that enables customers to perform tasks with our equipment wherever and whenever they need to?" If it's the latter, then logistics and service operations may suddenly become more important than the factory line. Netflix's evolution from a company that rented DVDs to a company that streams entertainment for a monthly subscription to one that now creates its own content is a well-known example of continuous reinvention.

Reinvention, as the term implies, requires a significant commitment. From our Digital Quotient® research, we know that digital success requires not only that investment be aligned closely with strategy but also that it be at sufficient scale. And digital leaders have a high threshold for risk and are willing to make bold decisions.[1] But companies don't have to wait far in the future to realize those benefits. We've found that 60 to 80 percent of total improvement targets can be achieved within about three years while also laying the foundation for future growth.

For all the fundamental change that digital reinvention demands, it's worth emphasizing that it doesn't call for a "throw-it-all-out" approach. An engine-parts company, for example, will still likely make engine parts after a digital reinvention, but may do so in a way that's much more agile and analytically driven, or the company may open up new lines of business by leveraging existing assets. Apple, with its move from computer manufacturer to music and lifestyle brand through its iPhone and iTunes ecosystem, reinvented itself—even as it continued to build computers. John Deere created a whole series of online services for farmers even as it continued to sell tractors and farm equipment.

There are many elements to a transformation, from end-to-end journey redesign and embedding analytics into processes to open tech platforms. They require a myriad of capabilities, from artificial intelligence and agile operations to data lakes, cloud-based infrastructure, and new talent. Many of these elements have been written about extensively, and each can absorb a significant amount of executive time. What's often missing, however, is a comprehensive view of *how* an organization sets the right ambition, *how* to architect the right elements for the transformation, then *how* to systematically and holistically undertake the change journey.

What the "core" is and why it needs to change

"Think of your core muscles as the sturdy central link in a chain connecting your upper and lower body."[2] That was the guidance from Harvard Medical School on how to stay in shape. The authors defined the core as the central set of muscles that helps a body maintain its power, balance, and overall health.

That's the essence of what we mean when we talk about changing the core of the business—the set of capabilities that allows the entire business to run effectively. A company's core is the value

1 "Raising your Digital Quotient," *McKinsey Quarterly,* June 2015, McKinsey.com.

2 "The real-world benefits of strengthening your core," *Harvard Health Publications*, Harvard Medical School, January 2012.

proposition of its business grounded in strategy as enabled by its people, processes, and technology. These elements are so intrinsic that any transformation that doesn't address them will ultimately underwhelm and fizzle because the legacy organization will inevitably exert a gravitational pull back to established practices.

Value proposition: Any digital reinvention must address the value the company provides to customers (whether existing or new) through its products and/or services. Inevitably this is based on a clear strategy that articulates where value is being created, shifted, or destroyed. Crucial to getting this right is identifying and evaluating existing assets that are most important and understanding what customers actually want or need. This can be surprisingly difficult to do in practice. The value that Amazon originally provided, for example, wasn't selling books online but rather providing convenience and unheard-of selection. Understanding the real source of its value allowed Amazon to expand exponentially beyond books.

People: Of course talent is important, but a reinvention needs to involve more than just hiring a CDO or a few designers. Talent priorities should be based on a clear understanding of the skills needed at all levels of the business. This requires investing in building relevant digital capabilities that fit with the strategy and keep pace with customers as they change the way they consider and make purchases. At the same time, targeted hiring should be tied to those capabilities that actually drive financial performance.[3]

Enabling that talent to thrive requires a digital culture, i.e. one that is customer-centric and project-based, with a bias for speed and continuous learning. In fact, cultural and organizational issues can lead to the squandering of up to 85 percent of the value at stake.[4] Making sure the new culture sticks requires rebuilding programs that reward and encourage new behaviors, such as performance management, promotion criteria, and incentive systems.

Processes: Rewiring the mechanisms for making decisions and getting things done is what enables the digital machine to run. Digitizing or automating supply chains and information-intensive processes as well as building new capabilities like robotic process automation or advanced analytics, for example, can rapidly increase the business's clock speed and cut costs by up to 90 percent.[5]

One temptation is to focus on simply digitizing existing processes rather than really rethinking them. Often, the most productive way to tackle this issue is to identify the customer journeys that matter most to the business and then map out the touchpoints, processes and capabilities required to deliver on them—without regard to what is already in place. Re-architecting processes requires establishing governance and decision rights to provide clarity and accountability, as well as embedding advanced analytics, automation, and machine-learning capabilities. (For more, please read "Accelerating the digitization of business processes," March 2014, McKinsey.com.)

3 For more on talent, see "Raising your digital quotient," *McKinsey Quarterly*, June 2015, McKinsey.com.

4 2016 McKinsey Digital Survey.

5 See Shahar Markovitch and Paul Willmott, "Accelerating the digitization of business processes," March 2014, McKinsey.com.

Technology: While digital reinvention is more than just a technology overhaul, technology is crucial to it. Leaders need to ensure that each IT investment responds to clear and robust business needs, and does not devolve into "tech for tech's sake." They also need to identify how best to work within an ecosystem of partners and vendors, and assess which legacy systems to keep, which to mothball, and—critically—determine how to help legacy technology work in a digital world.

Reinvention requires a proven, systematic approach

Because of the complexity involved, most reinventions fall short of their original goals. In our experience, extracting the full value from digital requires a carefully coordinated approach across four "Ds": Discover what your digital ambition is (based on where the value is); Design programs that target profitable customer experience journeys; Deliver the change through an ecosystem of partners; and De-risk the process by thoughtfully sequencing steps.

While this approach may seem self-evident, we find that most companies fall short in the execution. There are myriad reasons for this, but the most common are that the business either underinvests in the capabilities needed or doesn't drive the transformation program sufficiently across all four of the "Ds." A company may invest tens of millions of dollars to "Discover" great insights, for example, but if its "Deliver" strategy is inadequate, those insights are for naught.

EXHIBIT 1

The 4Ds of a digital transformation

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

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

Deliver: Activate an ecosystem to rapidly deliver at scale

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

1. Discover: Shape your digital ambition, strategy, and business case

In this phase, companies develop a clear view of where value is being created and destroyed as the basis for a clear business strategy. That requires an analysis of their business, sector,

customer-behavior trends, and the larger economy to identify and quantify both threats and opportunities. These kinds of digital opportunity scans should be sorted by short- and long-term pockets of value. (For more on this, please read "The economic essentials of digital strategy," *McKinsey Quarterly*, March 2016, McKinsey.com.)

At the same time, companies need to engage in a sober analysis of their own digital capabilities and resources. Capabilities that build foundations for other key processes and activities (e.g. modular IT and agile technology platforms) are particularly important. And while leadership matters, our DQ™ research has shown that mid-level talent is the most critical element for a company's digital success.

With this understanding in hand, companies then determine what their strategic ambition is, whether retooling the existing business or something more radical, such as plunging into a new market or innovating a business model. They develop a detailed roadmap for addressing capability gaps, and recruiting, developing, incentivizing and retaining the necessary talent. The goal is to develop a tight business case for change based on facts.

2. Design: Create and prototype breakthrough experiences

Actually acting on a digital ambition can be daunting. We have found that the most successful companies start by focusing on the most important customer journeys, then work back from there to design and build out breakthrough customer experiences. Using design thinking and skills, these companies define each journey, looking especially for the pain points and potential missed connections. The change team can then map out, screen by screen, models for a new interface. In this phase, the company must avoid getting caught in endless rounds of planning but instead rapidly build prototypes, translating concepts into minimum viable products to test and iterate in the market before scaling.

This phase also includes building out rapid delivery approaches and an IT infrastructure that blends the legacy systems with microservices and modular plug-and-play elements). While agile IT has become standard, more digital businesses are embracing DevOps (integrated development and operations teams) and continuous delivery so that software can be developed, tested, and deployed quickly to consumers and end users.

On the organization side, the fluid nature of cross-functional collaboration, rapid decision making, and iterative development means that the business should focus on the enablers for this kind of teamwork. These include effective metrics and scorecards to evaluate digital performance and incentive structures to drive the right behaviors, mind-sets and outcomes. The CDO at one multinational pharma company addressed this issue by establishing a "digital council," which was tasked specifically with breaking down organizational silos to enable transformational change across all business lines. The initiative was credited with significantly contributing to a 12 percent increase in sales.

3. Deliver: Develop a network of partners who can rapidly scale your ambition

Getting the speed and scale necessary for a reinvention increasingly requires an ecosystem of external teams, partners, suppliers and customers. In practice, this means working with a mix of platform players, delivery specialists, and niche players. These are the relationships that companies can call on to provide specific skills and capabilities quickly.

This reality has made ecosystem management an important competency, especially understanding how to find and plug into the right mix of complementary capabilities. One national bookseller, for example, built out a digital offer by partnering with a telecom company for its technology and with a range of retailers to build up a marketplace. This approach allowed it to rapidly hit the marketplace and increase revenue 78 percent in a year.

As companies push to scale their digital reinvention throughout the organization, the crucial role of seasoned change managers comes into focus. These leaders not only play "air traffic controller" to the many moving parts, but also have the business credibility and skill to solve real business problems. They must maintain an accelerated pace of change and drive accountability across the business. The change leaders will look across the entire enterprise, examining organizational structure, data governance, talent recruitment, performance management, and IT systems for areas of opportunity, making decisions that balance efficiency and speed with outcome.

The "agility coach" is an example of this type of role. This person has strong communications and influencing skills, can create and roll out plans to support agile processes across the business, and can put in place KPIs and metrics to track progress.

4. De-risking: structuring the process to minimize risk

One of the most common reasons digital transformations fail is that the organization develops "change exhaustion" and funds start to dry up. To mitigate this risk, it's important to focus on quick wins that not only build momentum but also generate cost savings that can be reinvested in the next round of transformations. One global e-tailer, for example, focused on quick wins (such as increasing conversion rates) and was able to deliver $350 million in new revenue in just five months, which funded further changes and provided tangible results to further excite the business about the journey. This sequencing approach applies to tech as well. Many companies choose to invest first in "horizontal" components, such as business-process management (BPM) layers or central administration platforms that can be shared across many initiatives, while balancing them with more "visible" elements to provide the proof of concept.

Technology risks, especially cybersecurity, will also require increased attention as companies digitize more operations and processes. Organizations can mitigate these risks by automating tests on software, establishing systems in which failures can be rolled back in minutes, and

establishing build environments in which fixes can be made without putting significant parts of the business at risk. Senior leaders in particular need to focus on the structural and organizational issues—from building cybersecurity into all business functions to changing user behavior—that hamper the ability to manage cyber risk.

One risk senior leaders often overlook is losing ownership over sources of value. These might include the company's data, customer relationships, or other assets. Having a clear understanding of where the value is coming from allows businesses to navigate ecosystem relationships profitably. In evaluating which partners to work with, the bookseller mentioned above, for example, declined to work with a storefront partner because it feared losing its most valuable asset: its direct relationship with its customers.

Digital reinvention will put new demands on leadership. Here are some crucial questions leaders should ask themselves:

- Where have our past transformations succeeded or broken down?
- What do our customers say about their experience with our company?
- Do we understand what the next sources of value are and are we ready for them?
- Are we investing in the right places and at the right levels to reinvent ourselves?

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Companies can both rise and fall with astonishing speed as new customer needs are uncovered and new ways of meeting them are developed. We strongly believe that companies that are able to adapt, learn, and find new solutions quickly can do more than just retain market position; they can thrive, whatever disruptions come their way. As Madonna once said: "You have to reinvent to stay in the game."

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PART 2

New approaches and capabilities to drive your next-generation operating model

Digitizing customer journeys and processes: Stories from the front lines

Chandana Asif, Jiro Hiroaka, Tomas Jones, and Prerak Vohra

A compelling customer experience has evolved from a nice-to-have to a necessity in many industries. Winners use standout experiences to attract and retain business while reducing servicing costs and complaints. The rewards can be substantial, but execution is complex, requiring a complete reinvention of customer journeys and supporting processes.

Radical though this may sound, “reinvention” is no exaggeration, because digitizing existing processes is seldom if ever the solution. Instead, successful transformations begin with a zero-based redesign of the customer experience of a given task, such as opening an account or renewing a service. That involves ignoring everything the company already has in place and asking, “What would be the best possible experience a customer could have when completing this task?”

Only when a business has defined what that experience should be can it figure out how to build the processes and technologies needed to support it. By digitizing these processes,

the business can reduce costs, improve customer experience, capture value, and move to a next-generation operating model.

But what does this process of reinvention look like, and how do companies make it work? This article offers an inside view of key stages in a successful transformation. The examples are drawn mainly from financial services, but the lessons apply to any company seeking to reinvent its customer experience.

Designing a customer-centered solution

Most institutions understand the importance of a positive customer experience to the bottom line, but few excel at designing or delivering it. The transformations that bring the biggest benefit start by imagining what a world-class customer journey would look like, rather than settling for tactical evolution of the current state. This requires reimagining the entire journey, which many organizations find hard to achieve after years of incremental improvements.

One bank reduced the information required on its new-account-opening form from 45 fields to 35 and declared victory, yet it could have reduced the fields to 15 and pre-populated 10 of them from external data sources. Another bank found that the apparent requirement for a “wet signature” on a loan application quickly evaporated when the regulator was consulted.

To make this reinvention leap, leading companies employ a user-experience designer who can orchestrate the process, keep it focused on customer needs, inspire people, and ensure that the organization doesn’t allow its new vision to be limited by the way it does things today.

Another crucial aspect of reinvention is customer involvement, as the story of a Latin American bank illustrates. It was working to understand customer journeys and identify the most important processes to reimagine. Instead of doing what many organizations do at this point—try to put themselves in their customers’ shoes—the bank brought customers into the project room to get their reactions at first hand. Bankers, however empathetic, are not customers, and the only reliable way to find out what customers want is to go and ask them.

This was the first time the bank had ever spoken with its customers before redesigning a product or process. Previously it had run focus groups to gather feedback when piloting a new offering, but this had been largely a box-ticking exercise, since much of the solution had been developed and material changes would have been too costly to implement. Having direct rather than arm’s-length contact with customers was also critical. Many companies subcontract customer research to third parties and commission a report for the project team to study, but this can be a slow, remote, and inefficient process, depriving in-house teams of the regular ongoing customer exposure that can lead to great solutions.

Defining the scope of a transformation

The scope of a journey can be defined by the *product* (such as a mortgage or current account), the *channel* (such as online or branch), the *customer segment* (such as retail or commercial), and the *phase of customer engagement* (such as sales or servicing). Depending on how these elements are combined, the scope of a transformation can be narrow (a remortgage for existing customers via the online channel) or broad (all mortgage products in all channels).

Decisions about scope should be informed by a detailed assessment of the value at stake and the cost of capturing it. In our experience, companies achieve impact more quickly by focusing on a few large journeys rather than fragmenting their efforts across the enterprise. (For more on this, see "Putting customer experience at the heart of next-generation operating models.")

In its new approach, the bank consulted customers at every stage through weekly test-and-learn sessions. It showed customers first sketches of proposed solutions, then more detailed wire-frames, then prototypes, and finally a functioning solution. Having weekly feedback enabled the team to constantly refine the new customer experience and resolve any issues that might compromise its success at launch.

For instance, an early prototype of the bank's new-account-opening journey sought to help customers choose an account by asking how, when, and why they would use it and recommending the most suitable product. But in tests, customers always selected "compare to other accounts" whenever a recommendation was offered; answering three or four questions hadn't saved them the time or trouble of making comparisons for themselves. So the team took the questions out of the process, relegated recommendations to an option, and added brief summaries of account features to help customers make their own choice.

A zero-based design process can feel alien and risky at first, but handled well, it is a powerful tool for going beyond incremental change and making the kind of radical customer-centered shift needed to create the best possible experience. To turn the newly imagined solution into reality, the organization will also need to create a strong cross-functional team.

Mobilizing a cross-functional team

To gain multiple perspectives, best-practice companies take specialists from every function, bring them together in one place, and charge them with testing reimagined journeys and processes from every angle. Some organizations create a purpose-built "lab" or "pod" for a team working on a customer journey to insulate it from everyday business demands and free it to focus on delivery. To ensure speed to market, each team member must hold decision-making

authority for his or her respective area. If the head of legal can't attend every daily meeting, she needs to empower a member of her department to be in the lab full time and act on her behalf.

The power of this approach lies in the way it unites professionals from legal, compliance, operational risk, and other functions in working toward a common purpose. By engaging them from the start, organizations can sidestep responses that block change ("This can't be done") and foster more constructive dialogues ("Let's work together to make it happen").

One long-established bank developed its first-ever digital process for opening an account. Previously, prospective customers had to visit a branch and see a sales representative. The bank designed an account-opening process that required new customers to input just four data fields rather than the 25—already good by traditional banking standards—in the original process. Other fields were either pre-populated from public sources or deemed unnecessary.

When the bank's cross-functional team met to review the new process, the compliance expert remarked that it couldn't be implemented because regulation required new customers to provide at least 20 pieces of personal data. She was trying to minimize risk, as the bank had always taught her to do. The team subsequently brought in a new member who worked with colleagues from legal and operational risk to challenge the way things were done. On closer inspection of the regulations, the team found that some data fields could be filled in at any point during the customer's relationship with the bank, not necessarily when the account was opened. This ability to question accepted wisdom is just as important as technical capabilities—and sometimes more so.

Governance is another area where long-standing structures and practices designed to minimize risk can impede the fast, well-informed decision making needed to bring digital innovations quickly to market. Agile delivery can't be sustained if teams have to approach one governance body after another for approval. Instead, the organization should nominate a "product owner"—an executive who is accountable for delivering business value—and empower this individual to make day-to-day decisions for the team.

For strategic decisions that need to be made by a broader cross-section of leaders, leading institutions create a new governance body formed of senior representatives who can eliminate roadblocks and shield the team from parts of the organization that disagree with new developments. The governance body should meet at least every two weeks to provide guidance, ensure clarity on the way forward, and give the team the confidence and authority to move quickly.

To ensure this new structure works efficiently, team members and leaders need to adopt agile principles. That might mean leaders stop asking for detailed reports, for instance, while teams hold conversations in person rather than via long email chains. For many people, this

will require a fundamental shift in mind-set and behaviors. Regular coaching from a trained agile coach can help to make the transformation as seamless as possible.

Finally, this governance body must be a real working group. One company abandoned PowerPoint presentations and heavy documentation. Instead, its steering committee moves around the meeting room to “stations” demonstrating new products and posters depicting issues that need to be resolved. Just as we change the way we drive technological innovation, so we need to change the way we consider, debate, and approve decisions.

Developing the new solution

Once a new customer experience has been designed, tested, and refined, the next step is to develop the technology infrastructure to support it. To prevent unnecessary complexity, the new build should be as architecturally flexible as possible—incorporating reusable components and services or deploying the same functionality across multiple channels—while taking care not to jeopardize the performance of existing systems.

Integrating new processes with legacy systems in a cost-efficient way is a challenge most companies face when they digitize their customer journeys. One bank adopted a systematic approach that involved first asking whether a new interface was really needed and then determining the most efficient integration approach. It found it could make trade-offs in design—such as reducing data requirements to enable existing interfaces to be used—that would cut costs and improve the speed of delivery. Where new interfaces were required, the bank used a range of techniques from screen-scraping and robotics to agile building methods.

Many banks’ IT development is overseen by architecture and infrastructure review boards that require extensive documentation and long lead times. Moreover, standards for deployment often call for multiple testing groups and management bodies to sign off on code. These processes were originally designed to protect banks against rework, security issues, and systems failures at a time when releases were infrequent. Paradoxically, however, such safeguards can now have the opposite effect, increasing the time it takes to fix problems when things go wrong. For agile delivery, banks need to move toward fully automated testing and deployment, using DevOps tools to allow for frequent smaller releases. Properly implemented, this approach should mitigate risk.

At another bank, IT projects routinely took four to six months to go from concept to development, and three to four months to go from development to production. To speed up delivery, the CTO embedded an enterprise architect in the lab on a full-time basis. Not only did this reduce the four-month concept-to-development phase to four weeks, it also improved the quality of the results, delivering a customer-onboarding workflow based on service-oriented

architecture and with multiple reused and reusable components. For instance, when the team proposed developing a new service to bring customer details from source systems to the website, the enterprise architect suggested reusing a similar service that was already bringing customer data to tellers.

Time was also saved from the development-to-production phase by conducting quality-assurance and user-acceptance testing during program-development cycles, or sprints, rather than after development. In another innovation, the team used an automated deployment tool to eliminate the need to align release dates across multiple changes. This made the bank nimbler at IT development and helped it move closer to continuous deployment, where code is deployed in production as soon as it has been tested and approved by the business owner.

"Rolling in" the solution

In a conventional rollout, companies make detailed plans, communicate the changes, start small, replicate efforts, train teams, and let the business deal with implementation. Roll-in is a radically different approach and often a useful option for building scale.

You begin by determining the rough shape and size of your new digitized business through early cycles of test-and-learn, then gradually add more people until the team has the capacity to do all the work you require. Rather than getting your original team to train other teams and export capabilities to the rest of the organization, you effectively import volumes for your team to work on, growing its capacity while shrinking your old process and team at the same time. This ability to evolve the new business as work volumes rise enables you to create a best-practice operation from the ground up.

One major life insurer kicked off its roll-in phase by taking a small portion of its current demand—10 percent—and working out what kind of operation would be needed to handle it. To calculate optimal load balancing, it started with a small team and gradually increased the workload. Much to everyone's surprise, the team was able to increase its output by 40 percent. Bearing this team size and work mix in mind, the insurer gradually expanded the team until it could handle the entire workload. The new team not only had higher productivity but was much quicker to build than with a conventional approach.

Driving customer adoption

However good a digitized solution may be, it means nothing if customers don't use it. The trick is to minimize the effort needed to move to the new model and launch digital-adoption campaigns to make customers aware. Too often, these campaigns are overlooked or neglected, leading to lackluster adoption and lost value.

Successful digital-adoption campaigns start by understanding customers' pain points and exploring the barriers that prevent digital adoption. These efforts require senior leadership involvement, a clear and comprehensive action plan, and a guaranteed budget. In our experience, successful customer adoption of new products or services rests on five pillars:

- Customer experience: ensuring that customers have a delightful experience that directly addresses their challenges and needs.
- Marketing and communications: using timely targeted messages to make customers, partners, and employees aware of the new value proposition.
- Incentives and promotions: offering appealing bonuses, perks, or discounts to encourage customers to shift by sharing the value captured.
- Legacy channels: phasing out or reducing competing and expensive legacy channels to encourage slow adopters to migrate and demonstrate commitment to the new digital solution.
- Policy: ensuring seamless internal alignment across channels and business units to avoid disruptive conflicts between leaders on strategy, targets, compensation, or mind-sets.

One European telecom company took this to heart by using every call from a customer purchasing a new product as an opportunity to educate them about its digital services via recorded messages and conversations with sales agents. Another company communicated the convenience of digital touchpoints through "send to a friend" social campaigns that took advantage of satisfied digital-care users.

While the five pillars provide a firm foundation for any customer-adoption campaign, specific tactics will vary by company and context. Sophisticated players tailor their approach by customer segment, channel, and relationship or brand. Customers' reactions will also vary, of course. Early adopters react well to encouragement, fast followers expect rewards, and laggards may need deadlines or a gentle nudge. But regardless of category, the best way to secure a shift in behavior is to minimize the effort customers have to make to move to the new digital solution.

Leading institutions are becoming increasingly adept at using digital innovation to reshape customer journeys. Their experience in designing customer-centered solutions, building teams, getting the solutions to market, and driving scaling and adoption should point the way for other organizations to create value from this rapidly developing field.

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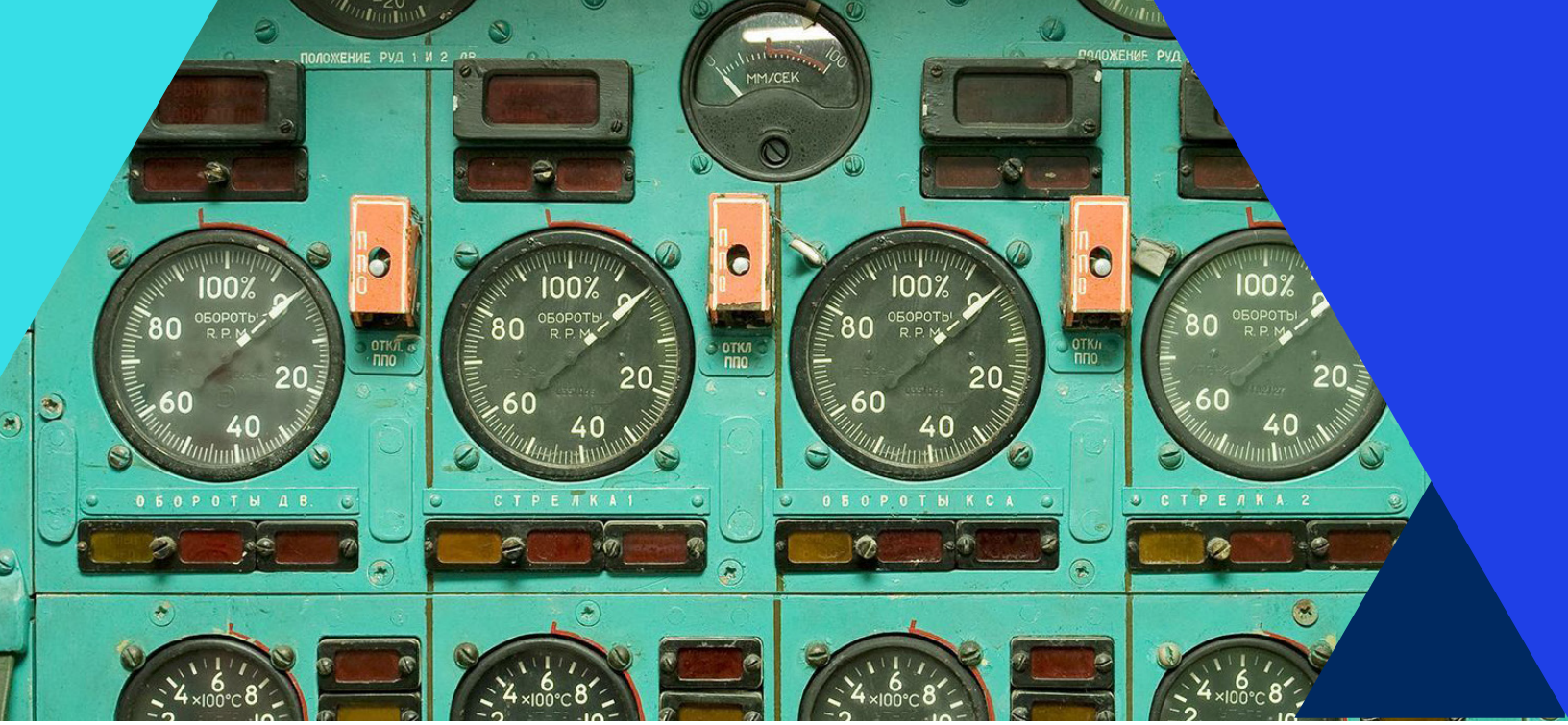


Four fundamentals of workplace automation

Michael Chui, James Manyika, and Mehdi Miremadi

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

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

1 For a proposed agenda to examine some of these topics, see "Research priorities for robust and beneficial artificial intelligence: An open letter," Future of Life Institute, January 11, 2015, futureoflife.org.

2 For a proposed agenda to examine some of these topics, see "Research priorities for robust and beneficial artificial intelligence: An open letter," Future of Life Institute, January 11, 2015, futureoflife.org.

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

More specifically, our research suggests that as many as 45 percent of the activities individuals are paid to perform can be automated by adapting currently demonstrated technologies.[4] In the United States, these activities represent about $2 trillion in annual wages. Although we often think of automation primarily affecting low-skill, low-wage roles, we discovered that even the highest-paid occupations in the economy, such as financial managers, physicians, and senior executives, including CEOs, have a significant amount of activity that can be automated.

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

Our research is ongoing. What follows here are four interim findings elaborating on the core insight that the road ahead is less about automating individual jobs wholesale than it is about automating the activities within occupations and redefining roles and processes.

1. The automation of activities

These preliminary findings are based on data for the US labor market. We structured our analysis around roughly 2,000 individual work activities[5] and assessed the requirements for each of these activities against 18 different capabilities that potentially could be automated (Exhibit 1).

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

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

5 Our analysis used "detailed work activities" as defined by O*NET, a program sponsored by the US Department of Labor, Employment and Training Administration.

Those capabilities range from fine motor skills and navigating in the physical world, to sensing human emotion and producing natural language. We then assessed the "automatability" of those capabilities through the use of current leading-edge technology, adjusting the level of capability required for occupations where work occurs in unpredictable settings.

The bottom line is that 45 percent of work activities could be automated using already demonstrated technology. If the technologies that process and "understand" natural language were to reach the median level of human performance, an additional 13 percent of work activities in the US economy could be automated. The magnitude of automation potential reflects the speed with which advances in artificial intelligence and its variants, such as machine learning, are challenging our assumptions about what is automatable. It's no longer the case that only routine, codifiable activities are candidates for automation and that activities requiring "tacit" knowledge or experience that is difficult to translate into task specifications are immune to automation.

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

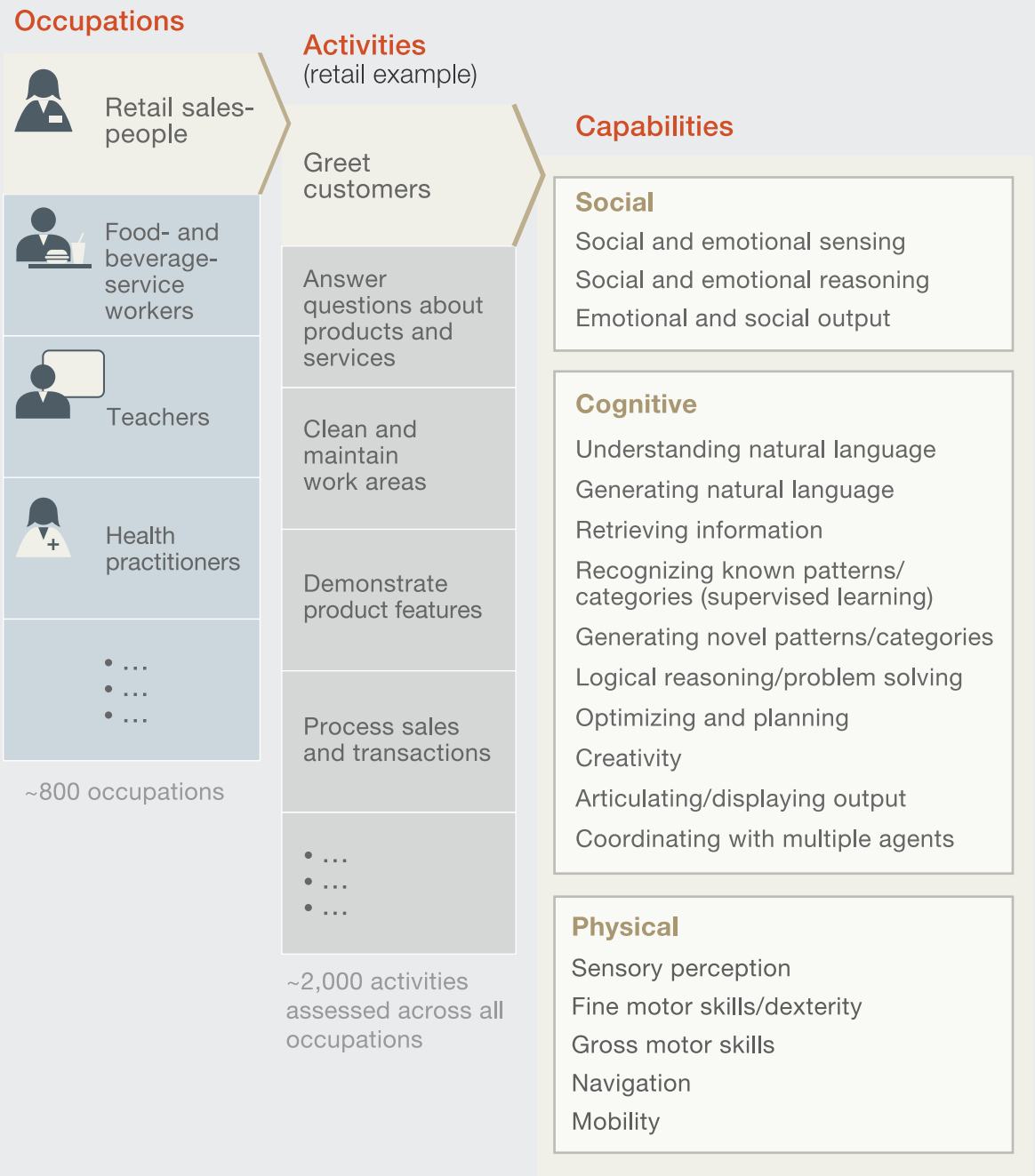
2. The redefinition of jobs and business processes

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

As roles and processes get redefined, the economic benefits of automation will extend far beyond labor savings. Particularly in the highest-paid occupations, machines can augment human capabilities to a high degree and amplify the value of expertise by increasing an individual's work capacity and freeing the employee to focus on work of higher value. Lawyers are already using text-mining techniques to read through the thousands of documents collected during discovery, and to identify the most relevant ones for deeper review by legal staff. Similarly, sales organizations

EXHIBIT 1

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



McKinsey&Company | Source: Expert interviews; McKinsey analysis

could use automation to generate leads and identify more likely opportunities for crossselling and upselling, increasing the time front-line salespeople have for interacting with customers and improving the quality of offers.

3. The impact on high-wage occupations

Conventional wisdom suggests that low-skill, low-wage activities on the front line are the ones most susceptible to automation. We're now able to scrutinize this view using the comprehensive database of occupations we created as part of this research effort. It encompasses not only occupations, work activities, capabilities, and their automatability, but also the wages paid for each occupation.[6]

Our work to date suggests that a significant percentage of the activities performed by even those in the highest-paid occupations (e.g., financial planners, physicians, and senior executives) can be automated by adapting current technology.[7] For example, we estimate that activities consuming more than 20 percent of a CEO's working time could be automated using current technologies. These include analyzing reports and data to inform operational decisions, preparing staff assignments, and reviewing status reports. Conversely, there are many lower-wage occupations, such as home health aides, landscapers, and maintenance workers, where only a very small percentage of activities could be automated with technology available today (Exhibit 2).

4. The future of creativity and meaning

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

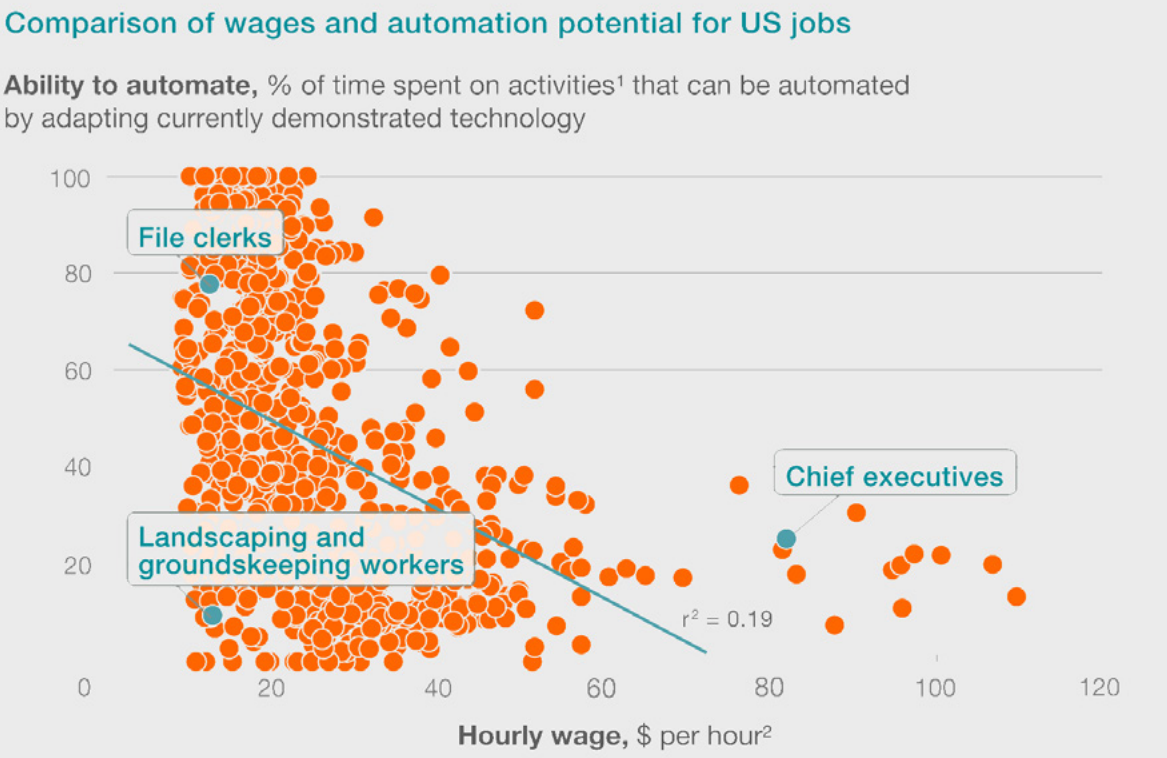
While these findings might be lamented as reflecting the impoverished nature of our work lives, they also suggest the potential to generate a greater amount of meaningful work. This could occur as automation replaces more routine or repetitive tasks, allowing employees to focus more on tasks that utilize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

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

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

EXHIBIT 2

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



[1]Our analysis used "detailed work activities," as defined by O*NET, a program sponsored by the US Department of Labor, Employment and Training Administration.

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

Source: O*NET 2014 database; McKinsey analysis

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

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

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

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

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Intelligent process automation: The engine at the core of the next-generation operating model

Federico Berruti, Graeme Nixon, Alex Singla, Giambatista Taglioni, and Rob Whiteman

Since the financial crisis of 2007–9, many companies have applied lean management to improve cost efficiencies, customer satisfaction, and employee engagement simultaneously, and many programs have achieved substantial impact on all dimensions. Progress on digital, however, has been more uneven.

In the insurance sector, for example, an October 2016 FIS study found that 99.6 percent of insurers surveyed admitted they face obstacles in implementing digital innovation, while 80 percent recognize they need digital capabilities to meet business challenges. This difficulty has been compounded by the boom in "insurtech" investments in 2016—topping $3.5 billion in funding across 111 deals since 2015.

As macroeconomic conditions continue to put pressure on profit margins across sectors, cost productivity and unlocking new value are back at the top of the senior-management agenda. The question is, what else can be done?

That's where intelligent process automation (IPA) comes in. We believe it will be a core part of companies' next-generation operating models. Many companies across industries have been experimenting with IPA, with impressive results:

- Automation of 50 to 70 percent of tasks…
- …which has translated into 20 to 35 percent annual run-rate cost efficiencies…
- …and a reduction in straight-through process time of 50 to 60 percent...
- … with return on investments most often in triple-digit percentages.

New technologies that promise double-digit or even triple-digit same-year returns should rightfully be viewed with skepticism. But our experience shows that the promise of IPA is real if executives carefully consider and understand the drivers of opportunity and incorporate them effectively with the other approaches and capabilities that drive the next-generation operating model. (For more on these approaches and capabilities, see "The next-generation operating model for the digital world.")

What is intelligent process automation?

In essence, IPA "takes the robot out of the human." At its core, IPA is an emerging set of new technologies that combines fundamental process redesign with robotic process automation and machine learning. It is a suite of business-process improvements and next-generation tools that assists the knowledge worker by removing repetitive, replicable, and routine tasks. And it can radically improve customer journeys by simplifying interactions and speeding up processes.

IPA mimics activities carried out by humans and, over time, learns to do them even better. Traditional levers of rule-based automation are augmented with decision-making capabilities thanks to advances in deep learning and cognitive technology. The promise of IPA is radically enhanced efficiency, increased worker performance, reduction of operational risks, and improved response times and customer journey experiences.

IPA in its full extent encompasses five core technologies:

- Robotic process automation (RPA): a software automation tool that automates routine tasks such as data extraction and cleaning through existing user interfaces. The robot has a user ID just like a person and can perform rules-based tasks such as accessing email and systems, performing calculations, creating documents and reports, and checking files.

RPA helped one large insurance cooperative to reduce excess queue procedures affecting 2,500 high-risk accounts a day, freeing up 81 percent of FTEs to take on proactive account-management positions instead.

- Smart workflow: a process-management software tool that integrates tasks performed by groups of humans and machines (for instance, by sitting on top of RPA to help manage the process). This allows users to initiate and track the status of an end-to-end process in real time; the software will manage handoffs between different groups, including between robots and human users, and provide statistical data on bottlenecks.

- Machine learning/advanced analytics: algorithms that identify patterns in structured data, such as daily performance data, through "supervised" and "unsupervised" learning. Supervised algorithms learn from structured data sets of inputs and outputs before beginning to make predictions based on new inputs on their own. Unsupervised algorithms observe structured data and begin to provide insights on recognized patterns. Machine learning and advanced analytics could be a game changer for insurers, for example, in the race to improve compliance, reduce cost structures, and gain a competitive advantage from new insights. Advanced analytics has already been implemented extensively in leading HR groups to determine and assess key attributes in leaders and managers so as to better predict behaviors, develop career paths, and plan leadership succession.

- Natural-language generation (NLG): software engines that create seamless interactions between humans and technology by following rules to translate observations from data into prose. Broadcasters have been using natural-language generation to draft stories about games in real time. Structured performance data can be piped into a natural-language engine to write internal and external management reports automatically. NLG has been used by a major financial institution to replicate its weekly management reports.

- Cognitive agents: technologies that combine machine learning and natural-language generation to build a completely virtual workforce (or "agent") that is capable of executing tasks, communicating, learning from data sets, and even making decisions based on "emotion detection." Cognitive agents can be used to support employees and customers over the phone or via chat, such as in employee service centers. A UK auto insurer that uses cognitive technology saw a 22 percent increase in conversion rates, a 40 percent reduction in validation errors, and a 330 percent overall return on investment.

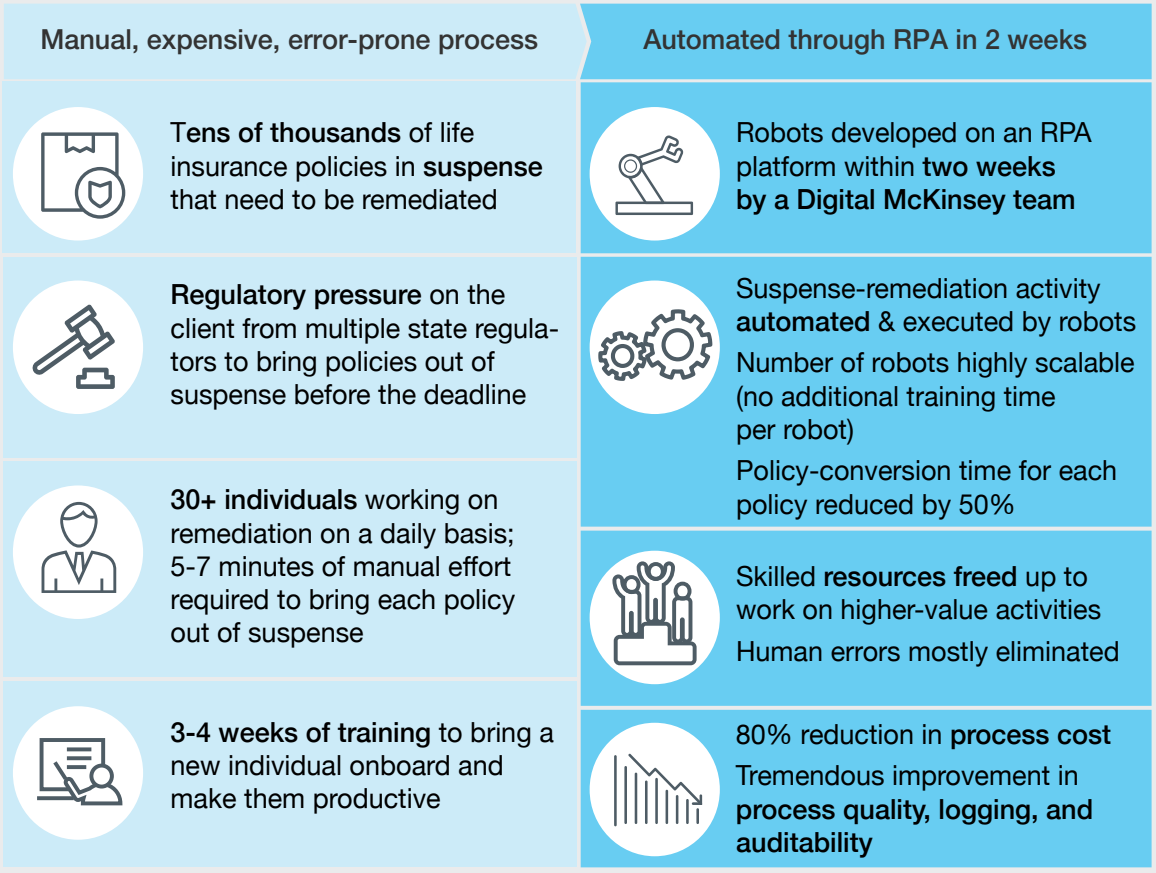
What might IPA look like in action? Let's take an insurance company where a human claims processor pulls data from 13 disparate systems to provide a "business as usual" service. With IPA, robots can replace manual clicks (RPA), interpret text-heavy communications (NLP), make

rule-based decisions that don't have to be preprogrammed (machine learning), offer customers suggestions (cognitive agents), and provide real-time tracking of handoffs between systems and people (smart workflows).

The value of IPA

While IPA takes over rote tasks, human workers can focus on delighting customers and thinking about how new troves of data outside the organization—from news, events, social media, embedded sensors, and elsewhere—can help achieve business goals.

EXHIBIT 1 **Productivity gains from RPA alone.**



Although the full range of benefits comes from implementing the complete IPA suite, companies can unlock significant value quickly through individual elements. RPA alone can drive significant productivity gains, as Exhibit 1 shows.

One large financial institution used an RPA transformation at scale to automate 60 to 70 percent of tasks in record-to-report processes and create annual run-rate efficiencies of 30 percent or more. Using the same methodology, another institution achieved an 80 percent reduction in processing costs in excess queue procedures. Yet another financial institution in the FT500 used robotics to unlock a £175 million annual reduction in costs and save over 120 FTEs.

Areas and tasks where IPA can have significant impact:

Simple, manual work

- Automation of **data aggregation**
- Automation of **data rekeying**
- Automation of **"not-In-good-order" checks** for new applications or benefits

Back-end processes

- Full automation of **policy maintenance** and **client data changes**
- Automation of data feed into analytics-enhanced rules to facilitate **auto-decisioning** (e.g.,for jet underwriting, renewals, payment approvals, new business and amendments, claims subrogation, suspicious activity flagging)
- Automation of **other small transactions** with lower but incremental impact

Front-end processes

Examples of **process subparts** to be automated include:

- **Correspondence** creation and sending
- **Multiple system information updates**
- **Benefits analysis**
- **Application checks** to authorize commissions

In addition, IPA helps leaders get the most out of decades of investments in a multitude of complex systems and make many complicated decisions simultaneously. We have also seen businesses insert controls to activate additional processes triggered by new discoveries in real time. Creating an unsupervised machine-learning platform coupled with a natural-language generation engine, for example, will soon allow the processing of structured daily performance data to create deep insights that help leaders make better decisions, while shifting internal management processes at the same time. No longer will painful-to-create reports with limited functionality be required, only to pile up on desks. In the insurance industry particularly, there are areas where IPA could have massive impact.

How to get started on your IPA transformation

IPA does not require a significant infrastructure investment since it addresses the presentation layer of information systems. RPA software, for example, sits on top of existing systems, enabling it to be implemented to achieve rapid returns without changing the IT back end. In some cases, companies can get RPA systems up and running—and delivering value—in as little as two weeks.

In our experience, the following steps are the most important in driving successful IPA transformations at scale:

1. Rapidly align on IPA's role in operating model

Any effective IPA initiative must be grounded in a clear understanding of the overall strategy of the business and the role of the next-generation operating model in helping to achieve it. That requires a clear articulation of the target end state and the journeys to focus on to reach it. Such clarity allows business leaders to evaluate and align on the approaches and capabilities to implement to drive the operating model. In many cases IPA has an important—even dominant—role in driving the change, but its greatest value comes when companies understand how it can work with the other capabilities and approaches in the operating model. Automation is coming, and now is the time to define the art of the possible and apply it strategically where it makes most sense.

2. Design around the full portfolio of IPA solutions to maximize impact

Organizations should not dabble with a few IPA technologies. The world moves too quickly for that approach to work effectively. The full impact comes when IPA technologies work together.

Organizations need to envision and implement holistic optimization programs to maximize return on investment. Though it is easier and faster to implement automation projects in

silos, such an approach is inherently flawed. By themselves, individual technologies are insufficient to capture value. Instead, fundamental process redesign is required to transform the way a group works.

A detailed roadmap for implementation should be created to identify all automation-enhancement opportunities and allow businesses to sequence IPA initiatives by balancing their impact with the feasibility of scaling solutions from initial use cases. Start your IPA journey by rapidly creating an overview of current tasks and the resources and capabilities needed to carry them out. Then deploy an experienced ring-fenced incubator team to redesign processes and group workflows based on a deep understanding of lines of business and IPA capabilities.

3. Build a rapid minimum viable product (MVP)

Even though it's important to design for a full IPA portfolio, it can be daunting to start working on everything at once. Many executives have been burned by promising complex data-warehouse projects, some of which have taken up to a decade to complete and have run vastly over budget. As with other digitization efforts, it's better to select—with a bias to speed and impact—an end-to-end process or customer journey to redesign and enhance using IPA, and then work to launch an MVP, the most stripped-down version of the product that can still accomplish the task. In this way, you can quickly test what works and what doesn't and make changes accordingly.

IPA can deliver tangible value in weeks rather than years in the form of fewer errors and less "busy work" for back-office employees. The rapid returns from early pilots help to secure support from stakeholders and executive sponsors for a much deeper program to harness the potential achievable from a full IPA transformation.

4. Build momentum and capture value

Any IPA implementation should combine quick wins with larger longer-term developments. The detailed roadmap should be rooted in a fundamental process redesign that sequences automated modules for production and reimagines the way groups should work to capture value.

Every product line in insurance, for example, has a different degree of potential for standardization and automation, and needs to be examined and sequenced (Exhibit 2). Look at time-intensive processes in sales, underwriting and pricing, policy administration, claims and finance, and accounts, and start with a clean sheet when deciding how they will work in future.

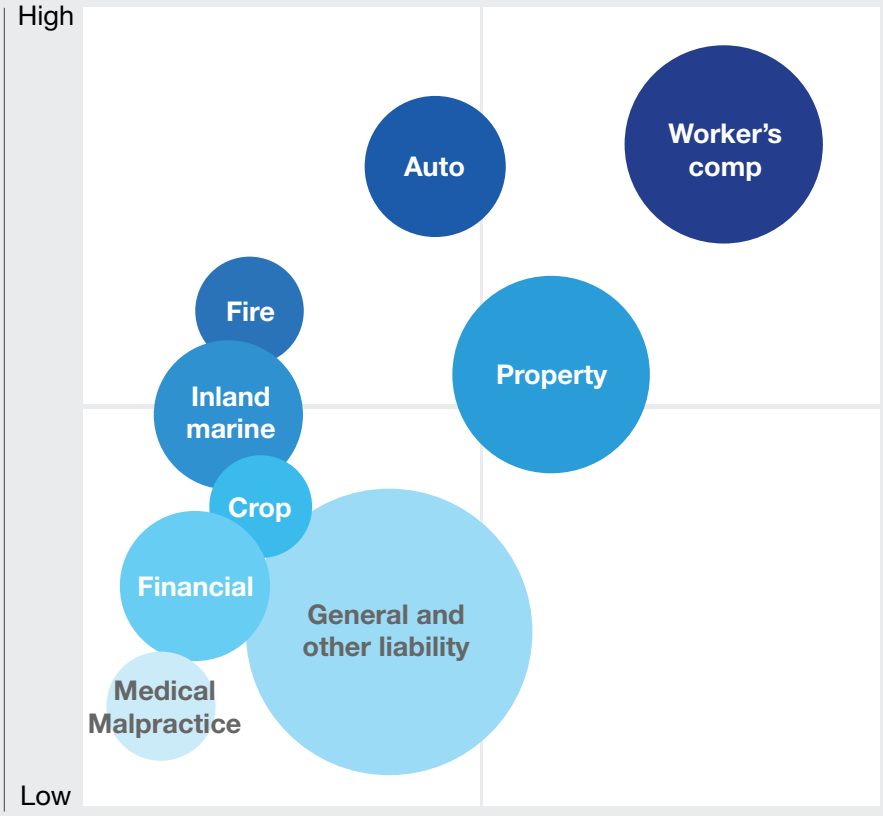
EXHIBIT 2

Each product line in insurance has a different degree of standardization and potential for automation.

US Insurance industry product lines, modules (not exhaustive)

Degree of standardization

- Processes are repetitive and predictable
- Processes are stable over time
- Processes have lower level of customization
- Process adopt common industry technical standards and specifications



Impact through automation

- Improve customer and intermediary satisfaction, quality, and turn around time; build core competencies
- Engage employees through automation, robotics, and analytics leadership
- Variabilize cost and allow for pace and flexibility

5. Embed lasting capabilities to achieve sustainability

One successful way to sustain value creation is by creating a center of excellence (CoE) to govern the transformation and support the rapid deployment of IPA solutions through capability building, certification and standards, vendor management, and the creation of a library of reusable solution patterns. Such a CoE should be centrally located and can be fairly small in size because it can call on existing lean or process-optimization CoEs, while business ownership and execution should sit in the lines of business or in digital factories. (For more on this, see "Scaling a transformative culture through a digital factory.")

Systematic controls need to be in place, and organizations should embed critical business-analysis and digital skills in lines of business so that they can own the process. They also need to redesign organizational structures to capture value, establish a future-state operating model to scale up their IPA initiatives, create blueprints for future structures to capture impact and embed new capabilities, and offer training and workshops to explain why the automation of manual processes will free up teams to focus on more creative activities.

It's crucial to engage your business and your functional teams in the process—for example, by building bots—and to establish reusable assets such as playbooks. The most successful way to build lasting IPA capabilities is through a learn-by-doing approach that combines coaching, on-the-job training, and knowledge sharing. To capture value at enterprise scale, organizations need people with deep skills in IPA levers, process redesign, and lean principles as well as domain expertise. Technology skills alone will not be sufficient. Many organizations opt to bring in external support to supplement their talent pool and accelerate the transformation of the enterprise.

6. Carefully coordinate change management and communications

As in any large transformation program, a robust communications plan will be required to help manage redeployment, generate excitement, and align the change story with corporate strategy. Success in establishing the new execution model will depend on how far it is aligned with the organization's culture and how well people are able to adapt to agile practices. In addition, change champions will need to be developed internally to make the transformation a success.

Companies are using IPA to invest in and develop new platforms, engage with customers, and win over advisors, all at a dramatically lower cost. But companies are only scratching the surface of what is possible. Tomorrow's winners are those that embrace these capabilities as part of a next-generation operating model and move quickly to capture the value from them, pulling away from the laggards who choose to dip in only one toe at a time.

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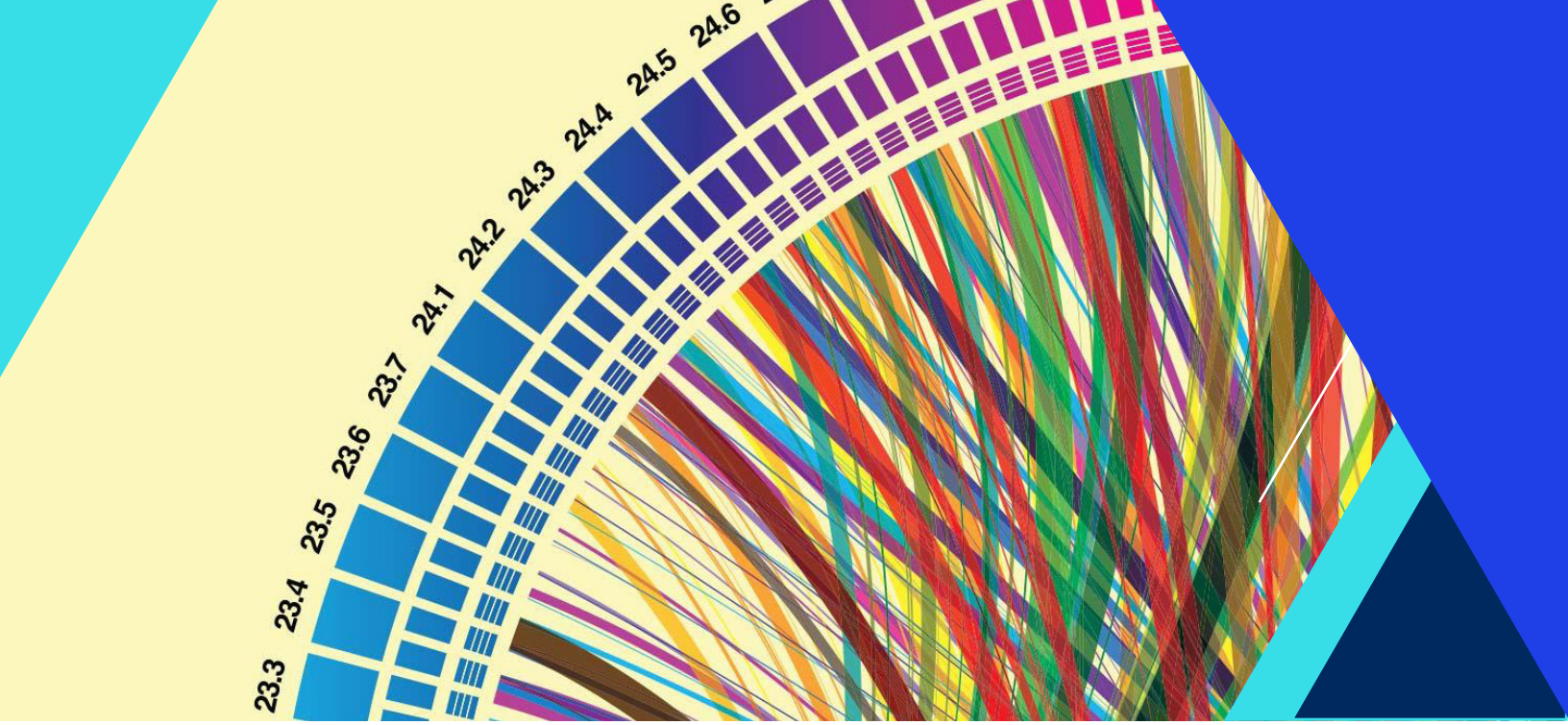


Making data analytics work for you—instead of the other way around

Helen Mayhew, Tamim Saleh, and Simon Williams

The data-analytics revolution now under way has the potential to transform how companies organize, operate, manage talent, and create value. That's starting to happen in a few companies—typically ones that are reaping major rewards from their data—but it's far from the norm. There's a simple reason: CEOs and other top executives, the only people who can drive the broader business changes needed to fully exploit advanced analytics, tend to avoid getting dragged into the esoteric "weeds." On one level, this is understandable. The complexity of the methodologies, the increasing importance of machine learning, and the sheer scale of the data sets make it tempting for senior leaders to "leave it to the experts." But that's also a mistake.

Advanced data analytics is a quintessential business matter. That means the CEO and other top executives must be able to clearly articulate its purpose and then translate it into action—not just in an analytics department, but throughout the organization where the insights will be used. This article describes eight critical elements contributing to clarity of purpose and an ability to act. We're convinced that leaders with strong intuition about both don't just become better equipped to "kick the tires" on their analytics efforts. They can also more capably address many of the critical and complementary top-management challenges facing them: the need to ground even

the highest analytical aspirations in traditional business principles, the importance of deploying a range of tools and employing the right personnel, and the necessity of applying hard metrics and asking hard questions.[1] All that, in turn, boosts the odds of improving corporate performance through analytics.

After all, performance—not pristine data sets, interesting patterns, or killer algorithms—is ultimately the point. Advanced data analytics is a means to an end. It's a discriminating tool to identify and then implement a value-driving answer. And you're much likelier to land on a meaningful one if you're clear on the purpose of your data (which we address in this article's first four principles) and the uses to which you'll be putting your data (our focus in the next four). That answer will of course look different in different companies, industries, and geographies, whose relative sophistication with advanced data analytics is all over the map. Whatever your starting point, though, the insights unleashed by analytics should be at the core of your organization's approach to defining and improving performance continually as competitive dynamics evolve. Otherwise, you're not making advanced analytics work for you.

'Purpose-driven' data

"Better performance" will mean different things to different companies. And it will mean that different types of data should be isolated, aggregated, and analyzed depending upon the specific use case. Sometimes, data points are hard to find, and, certainly, not all data points are equal. But it's the data points that help meet your specific purpose that have the most value.

Ask the right questions

The precise question your organization should ask depends on your bestinformed priorities. Clarity is essential. Examples of good questions include "How can we reduce costs?" or "How can we increase revenues?" Even better are questions that drill further down: "How can we improve the productivity of each member of our team?" "How can we improve the quality of outcomes for patients?" "How can we radically speed our time to market for product development?" Think about how you can align important functions and domains with your most important use cases. Iterate through to actual business examples, and probe to where the value lies. In the real world of hard constraints on funds and time, analytic exercises rarely pay off for vaguer questions such as "What patterns do the data points show?"

One large financial company erred by embarking on just that sort of open-ended exercise: it sought to collect as much data as possible and then see what turned up. When findings emerged that were marginally interesting but monetarily insignificant, the team refocused. With strong C-suite support, it first defined a clear purpose statement aimed at reducing time in product

1 For more on the context and challenges of harnessing insights from more data and on using new methods, tools, and skills to do so, see "Is big data still a thing?," blog entry by Matt Turck, February 1, 2016, mattturck.com; David Court, "Getting big impact from big data," *McKinsey Quarterly*, January 2015, McKinsey.com; and Brad Brown, David Court, and Paul Willmott, "Mobilizing your C-suite for big-data analytics," *McKinsey Quarterly*, November 2013, McKinsey.com.

development and then assigned a specific unit of measure to that purpose, focused on the rate of customer adoption. A sharper focus helped the company introduce successful products for two market segments. Similarly, another organization we know plunged into data analytics by first creating a "data lake." It spent an inordinate amount of time (years, in fact) to make the data pristine but invested hardly any thought in determining what the use cases should be. Management has since begun to clarify its most pressing issues. But the world is rarely patient.

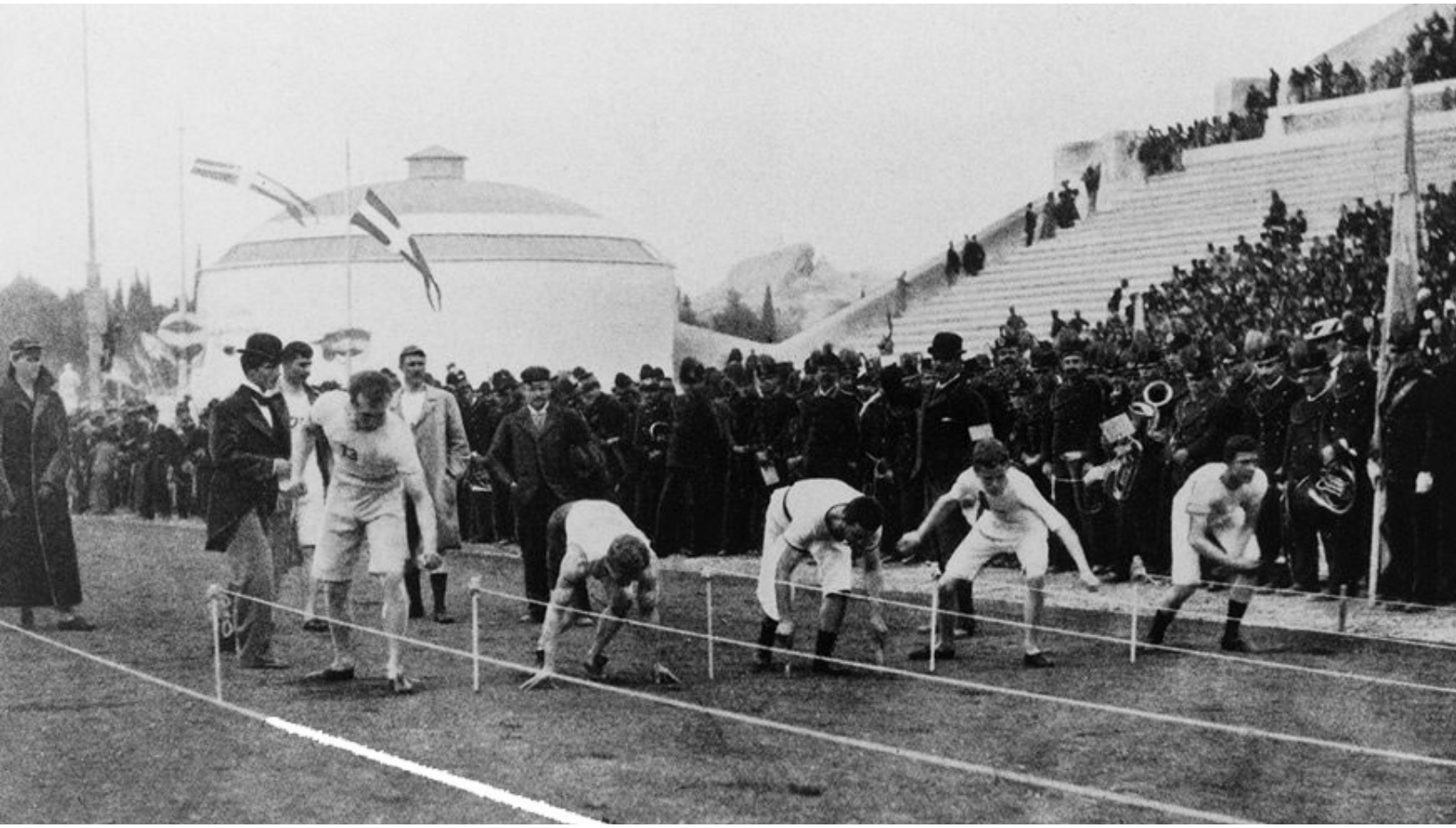
Had these organizations put the question horse before the data-collection cart, they surely would have achieved an impact sooner, even if only portions of the data were ready to be mined. For example, a prominent automotive company focused immediately on the foundational question of how to improve its profits. It then bore down to recognize that the greatest opportunity would be to decrease the development time (and with it the costs) incurred in aligning its design and engineering functions. Once the company had identified that key focus point, it proceeded to unlock deep insights from ten years of R&D history—which resulted in remarkably improved development times and, in turn, higher profits.

Think really small . . . and very big

The smallest edge can make the biggest difference. Consider the remarkable photograph opposite from the 1896 Olympics, taken at the starting line of the 100-meter dash. Only one of the runners, Thomas Burke, crouched in the nowstandard four-point stance. The race began in the next moment, and 12 seconds later Burke took the gold; the time saved by his stance helped him do it. Today, sprinters start this way as a matter of course—a good analogy for the business world, where rivals adopt best practices rapidly, and competitive advantages are difficult to sustain.

The good news is that intelligent players can still improve their performance and spurt back into the lead. Easy fixes are unlikely, but companies can identify small points of difference to amplify and exploit. The impact of "big data" analytics is often manifested by thousands—or more—of incrementally small improvements. If an organization can atomize a single process into its smallest parts and implement advances where possible, the payoffs can be profound. And if an organization can systematically combine small improvements across bigger, *multiple* processes, the payoff can be exponential.

Just about everything businesses do can be broken down into component parts. GE embeds sensors in its aircraft engines to track each part of their performance in real time, allowing for quicker adjustments and greatly reducing maintenance downtime. But if that sounds like the frontier of high tech (and it is), consider consumer packaged goods. We know a leading CPG company that sought to increase margins on one of its well-known breakfast brands. It deconstructed the entire manufacturing process into sequential increments and then, with advanced analytics, scrutinized each of them to see where it could unlock value. In this case, the answer was found in the oven: adjusting the baking temperature by a tiny fraction not only made the product taste better but also made production less expensive. The proof was in the eating—and in an improved P&L.



The variety of stances among runners in the 100-meter sprint at the first modern Olympic Games, held in Athens in 1896, is surprising to the modern viewer. Thomas Burke (second from left) is the only runner in the crouched stance—considered best practice today—an advantage that helped him win one of his two gold medals at the Games.

When a series of processes can be decoupled, analyzed, and resynched together in a system that is more universe than atom, the results can be even more powerful. A large steel manufacturer used various analytics techniques to study critical stages of its business model, including demand planning and forecasting, procurement, and inventory management. In each process, it isolated critical value drivers and scaled back or eliminated previously undiscovered inefficiencies, for savings of about 5 to 10 percent. Those gains, which rested on hundreds of small improvements made possible by data analytics, proliferated when the manufacturer was able to tie its processes together and transmit information across each stage in near real time. By rationalizing an end-to-end system linking demand planning all the way through inventory management, the manufacturer realized savings approaching 50 percent—hundreds of millions of dollars in all.

Embrace taboos

Beware the phrase “garbage in, garbage out”; the mantra has become so embedded in business thinking that it sometimes prevents insights from coming to light. In reality, useful data points come in different shapes and sizes—and are often latent within the organization in the form of free text maintenance reports or PowerPoint presentations, among multiple examples. Too frequently, however, quantitative teams disregard inputs because the quality is poor, inconsistent, or dated and dismiss imperfect information because it doesn’t feel like “data.”

But we can achieve sharper conclusions if we make use of fuzzier stuff. In day-to-day life—when one is not creating, reading, or responding to an Excel model—even the most hard-core “quant” processes a great deal of qualitative information, much of it soft and seemingly taboo for data analytics—in a nonbinary way. We understand that there are very few sure things; we weigh probabilities, contemplate upsides, and take subtle hints into account. Think about approaching a supermarket queue, for example. Do you always go to register four? Or do you notice that today one worker seems more efficient, one customer seems to be holding cash instead of a credit card, one cashier does not have an assistant to help with bagging, and one shopping cart has items that will need to be weighed and wrapped separately? All this is soft “intel,” to be sure, and some of the data points are stronger than others. But you’d probably consider each of them and more when you decided where to wheel your cart. Just because line four moved fastest the last few times doesn’t mean it will move fastest today.

In fact, while hard and historical data points are valuable, they have their limits. One company we know experienced them after instituting a robust investment-approval process. Understandably mindful of squandering capital resources, management insisted that it would finance no new products without waiting for historical, provable information to support a projected ROI. Unfortunately, this rigor resulted in overly long launch periods—so long that the company kept mistiming the market. It was only after relaxing the data constraints to include softer inputs such as industry forecasts, predictions from product experts, and social-media commentary that the company was able to get a more accurate feel for current market conditions and time its product launches accordingly.

Of course, Twitter feeds are not the same as telematics. But just because information may be incomplete, based on conjecture, or notably biased does not mean that it should be treated as “garbage.” Soft information does have value. Sometimes, it may even be essential, especially when people try to “connect the dots” between more exact inputs or make a best guess for the emerging future.

To optimize available information in an intelligent, nuanced way, companies should strive to build a strong data provenance model that identifies the source of every input and scores its reliability, which may improve or degrade over time. Recording the quality of data—and the methodologies used to determine it—is not only a matter of transparency but also a form of risk management. All companies compete under uncertainty, and sometimes the data underlying a key decision may be less certain than one would like. A well-constructed provenance model can stress-test the

confidence for a go/no-go decision and help management decide when to invest in improving a critical data set.

Connect the dots

Insights often live at the boundaries. Just as considering soft data can reveal new insights, combining one's sources of information can make those insights sharper still. Too often, organizations drill down on a single data set in isolation but fail to consider what different data sets convey in conjunction. For example, HR may have thorough employee-performance data; operations, comprehensive information about specific assets; and finance, pages of backup behind a P&L. Examining each cache of information carefully is certainly useful. But additional untapped value may be nestled in the gullies among separate data sets.

One industrial company provides an instructive example. The core business used a state-of-the-art machine that could undertake multiple processes. It also cost millions of dollars per unit, and the company had bought hundreds of them—an investment of billions. The machines provided best-in-class performance data, and the company could and did measure how each unit functioned over time. It would not be a stretch to say that keeping the machines up and running was critical to the company's success.

Even so, the machines required longer and more costly repairs than management had expected, and every hour of downtime affected the bottom line. Although a very capable analytics team embedded in operations sifted through the asset data meticulously, it could not find a credible cause for the breakdowns. Then, when the performance results were considered in conjunction with information provided by HR, the reason for the subpar output became clear: machines were missing their scheduled maintenance checks because the personnel responsible were absent at critical times. Payment incentives, not equipment specifications, were the real root cause. A simple fix solved the problem, but it became apparent only when different data sets were examined together.

From outputs to action

One visual that comes to mind in the case of the preceding industrial company is that of a Venn Diagram: when you look at two data sets side by side, a key insight becomes clear through the overlap. And when you consider 50 data sets, the insights are even more powerful—if the quest for diverse data doesn't create overwhelming complexity that actually inhibits the use of analytics. To avoid this problem, leaders should push their organizations to take a multifaceted approach in analyzing data. If analyses are run in silos, if the outputs do not work under real-world conditions, or, perhaps worst of all, if the conclusions would work but sit unused, the analytics exercise has failed.

Run loops, not lines

Data analytics needs a purpose and a plan. But as the saying goes, "No battle plan ever survives contact with the enemy." To that, we'd add another military insight—the OODA loop, first

conceived by US Air Force Col. John Boyd: the decision cycle of observe, orient, decide, and act. Victory, Boyd posited, often results from the way decisions are made; the side that reacts to situations more quickly and processes new information more accurately should prevail. The decision process, in other words, is a loop or— more correctly—a dynamic series of loops (exhibit).

Best-in-class organizations adopt this approach to their competitive advantage. Google, for one, insistently makes data-focused decisions, builds consumer feedback into solutions, and rapidly iterates products that people not only use but love. A loops-not-lines approach works just as well outside of Silicon Valley. We know of a global pharmaceutical company, for instance, that tracks and monitors its data to identify key patterns, moves rapidly to intervene when data points suggest that a process may move off track, and refines its feedback loop to speed new medications through trials. And a consumer electronics OEM moved quickly from collecting data to "doing the math" with an iterative, hypothesis-driven modeling cycle. It first created an interim data architecture, building three "insights factories" that could generate actionable recommendations for its highest-priority use cases, and then incorporated feedback in parallel. All of this enabled its early pilots to deliver quick, largely self-funding results.

Digitized data points are now speeding up feedback cycles. By using advanced algorithms and machine learning that improves with the analysis of every new input, organizations can run loops that are faster and better. But while machine learning very much has its place in any analytics tool kit, it is not the only tool to use, nor do we expect it to supplant all other analyses. We've mentioned circular Venn Diagrams; people more partial to three-sided shapes might prefer the term "triangulate." But the concept is essentially the same: to arrive at a more robust answer, use a variety of analytics techniques and combine them in different ways.

In our experience, even organizations that have built state-of-the-art machine-learning algorithms and use automated looping will benefit from comparing their results against a humble univariate or multivariate analysis. The best loops, in fact, involve people and machines. A dynamic, multipronged decision process will outperform any single algorithm—no matter how advanced—by testing, iterating, and monitoring the way the quality of data improves or degrades; incorporating new data points as they become available; and making it possible to respond intelligently as events unfold.

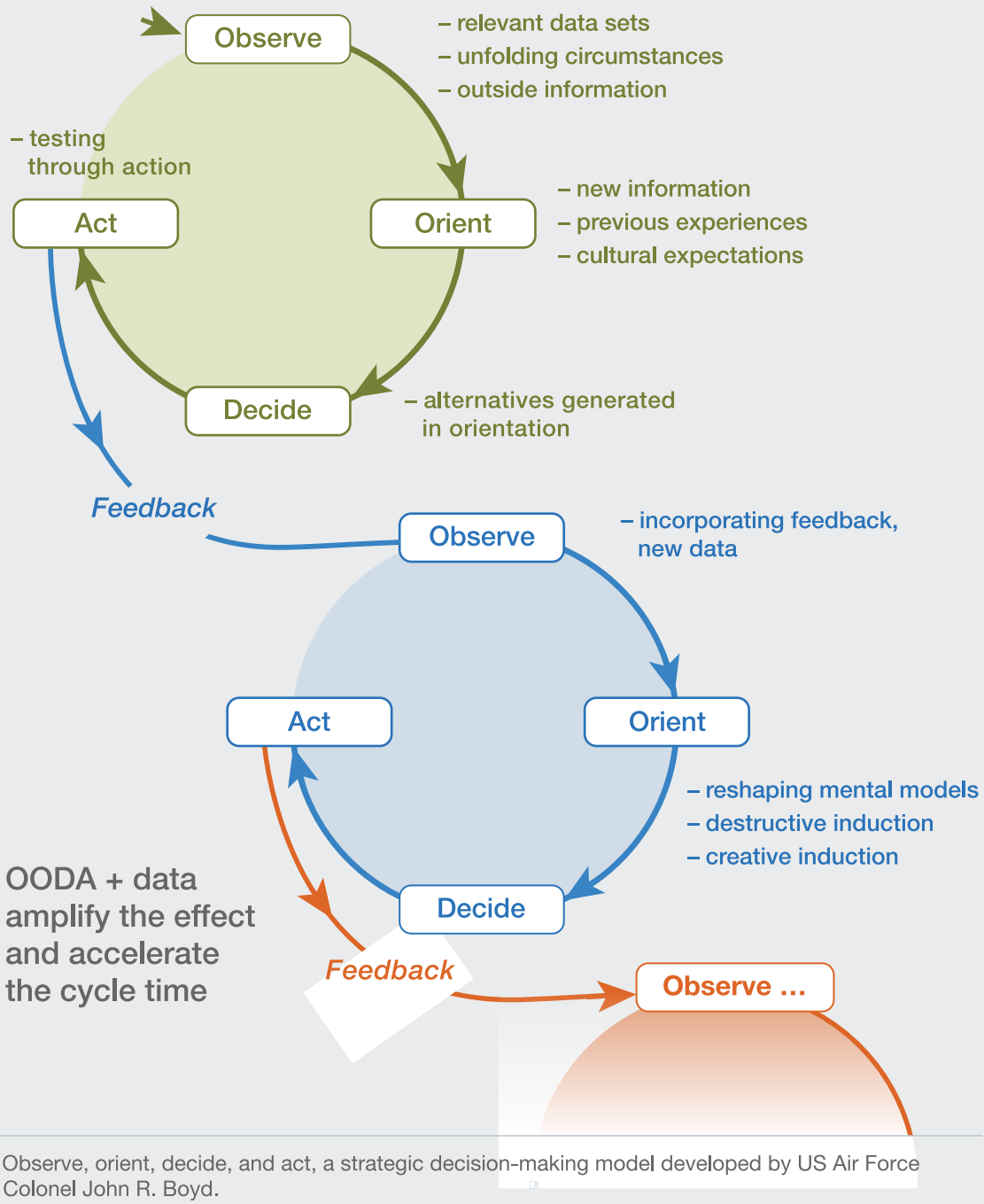
Make your output usable—and beautiful

While the best algorithms can work wonders, they can't speak for themselves in boardrooms. And data scientists too often fall short in articulating what they've done. That's hardly surprising; companies hiring for technical roles rightly prioritize quantitative expertise over presentation skills. But mind the gap, or face the consequences. One world-class manufacturer we know employed a team that developed a brilliant algorithm for the options pricing of R&D projects. The data points were meticulously parsed, the analyses were

EXHIBIT

Best-in-class organizations continually test their assumptions, processing new information more accurately and reacting to situations more quickly.

The OODA loop[1]



[1]Observe, orient, decide, and act, a strategic decision-making model developed by US Air Force Colonel John R. Boyd.

intelligent and robust, and the answers were essentially correct. But the organization's decision makers found the end product somewhat complicated and didn't use it.

We're all human, after all, and appearances matter. That's why a beautiful interface will get you a longer look than a detailed computation with an uneven personality. That's also why the elegant, intuitive usability of products like the iPhone or the Nest thermostat is making its way into the enterprise. Analytics should be consumable, and best-in-class organizations now include designers on their core analytics teams. We've found that workers throughout an organization will respond better to interfaces that make key findings clear and that draw users in.

Build a multiskilled team

Drawing your users in—and tapping the capabilities of different individuals across your organization to do so—is essential. Analytics is a team sport. Decisions about which analyses to employ, what data sources to mine, and how to present the findings are matters of human judgment.

Assembling a great team is a bit like creating a gourmet delight—you need a mix of fine ingredients and a dash of passion. Key team members include data scientists, who help develop and apply complex analytical methods; engineers with skills in areas such as microservices, data integration, and distributed computing; cloud and data architects to provide technical and systemwide insights; and user-interface developers and creative designers to ensure that products are visually beautiful and intuitively useful. You also need "translators"—men and women who connect the disciplines of IT and data analytics with business decisions and management.

In our experience—and, we expect, in yours as well—the demand for people with the necessary capabilities decidedly outstrips the supply. We've also seen that simply throwing money at the problem by paying a premium for a cadre of new employees typically doesn't work. What does is a combination: a few strategic hires, generally more senior people, to help lead an analytics group; in some cases, strategic acquisitions or partnerships with small data-analytics service firms; and, especially, recruiting and reskilling current employees with quantitative backgrounds to join in-house analytics teams.

We're familiar with several financial institutions and a large industrial company that pursued some version of these paths to build best-in-class advanced data-analytics groups. A key element of each organization's success was understanding both the limits that any one individual can be expected to contribute and the potential that an engaged team with complementary talents can collectively achieve. On occasion, one can find "rainbow unicorn" employees who embody most or all of the needed capabilities. It's a better bet, though, to build a collaborative team comprising people who collectively have all the necessary skills.

That starts, of course, with people at the "point of the spear"—those who actively parse through the data points and conduct the hard analytics. Over time, however, we expect that organizations will move to a model in which people across functions use analytics as part of their daily activities.

Already, the characteristics of promising data-minded employees are not hard to see: they are curious thinkers who can focus on detail, get energized by ambiguity, display openness to diverse opinions and a willingness to iterate together to produce insights that make sense, and are committed to real-world outcomes. That last point is critical because your company is not supposed to be running some cool science experiment (however cool the analytics may be) in isolation. You and your employees are striving to discover practicable insights—and to ensure that the insights are used.

Make adoption your deliverable

Culture makes adoption possible. And from the moment your organization embarks on its analytics journey, it should be clear to everyone that math, data, and even design are not enough; the real power comes from adoption. An algorithm should not be a point solution—companies must embed analytics in the operating models of real-world processes and day-to-day work flows. Bill Klem, the legendary baseball umpire, famously said, "It ain't nothin' until I call it." Data analytics ain't nothin' until you use it.

We've seen too many unfortunate instances that serve as cautionary tales—from detailed (and expensive) seismology forecasts that team foremen didn't use, to brilliant (and amazingly accurate) flight-system indicators that airplane pilots ignored. In one particularly striking case, a company we know had seemingly pulled everything together: it had a clearly defined mission to increase top-line growth, robust data sources intelligently weighted and mined, stellar analytics, and insightful conclusions on cross-selling opportunities. There was even an elegant interface in the form of pop-ups that would appear on the screen of call-center representatives, automatically triggered by voice-recognition software, to prompt certain products, based on what the customer was saying in real time. Utterly brilliant—except the representatives kept closing the pop-up windows and ignoring the prompts. Their pay depended more on getting through calls quickly and less on the number and type of products they sold.

When everyone pulls together, though, and incentives are aligned, the results can be remarkable. For example, one aerospace firm needed to evaluate a range of R&D options for its next-generation products but faced major technological, market, and regulatory challenges that made any outcome uncertain. Some technology choices seemed to offer safer bets in light of historical results, and other, high-potential opportunities appeared to be emerging but were as yet unproved. Coupled with an industry trajectory that appeared to be shifting from a product- to service-centric model, the range of potential paths and complex "pros" and "cons" required a series of dynamic—and, of course, accurate—decisions.

By framing the right questions, stress-testing the options, and—not least—communicating the trade-offs with an elegant, interactive visual model that design skills made beautiful and usable, the organization discovered that increasing investment along one R&D path would actually keep three technology options open for a longer period. This bought the company enough time to see which way the technology would evolve and avoided the worst-case outcome of being locked into a very expensive—and very wrong—choice. One executive likened the resulting flexibility to "the

choice of betting on a horse at the beginning of the race or, for a premium, being able to bet on a horse halfway through the race."

It's not a coincidence that this happy ending concluded as the initiative had begun: with senior management's engagement. In our experience, the best day-one indicator for a successful data-analytics program is not the quality of data at hand, or even the skill level of personnel in house, but the commitment of company leadership. It takes a C-suite perspective to help identify key business questions, foster collaboration across functions, align incentives, and insist that insights be used. Advanced data analytics is wonderful, but your organization should not be working merely to put an advanced-analytics initiative in place. The very point, after all, is to put analytics to work for you.

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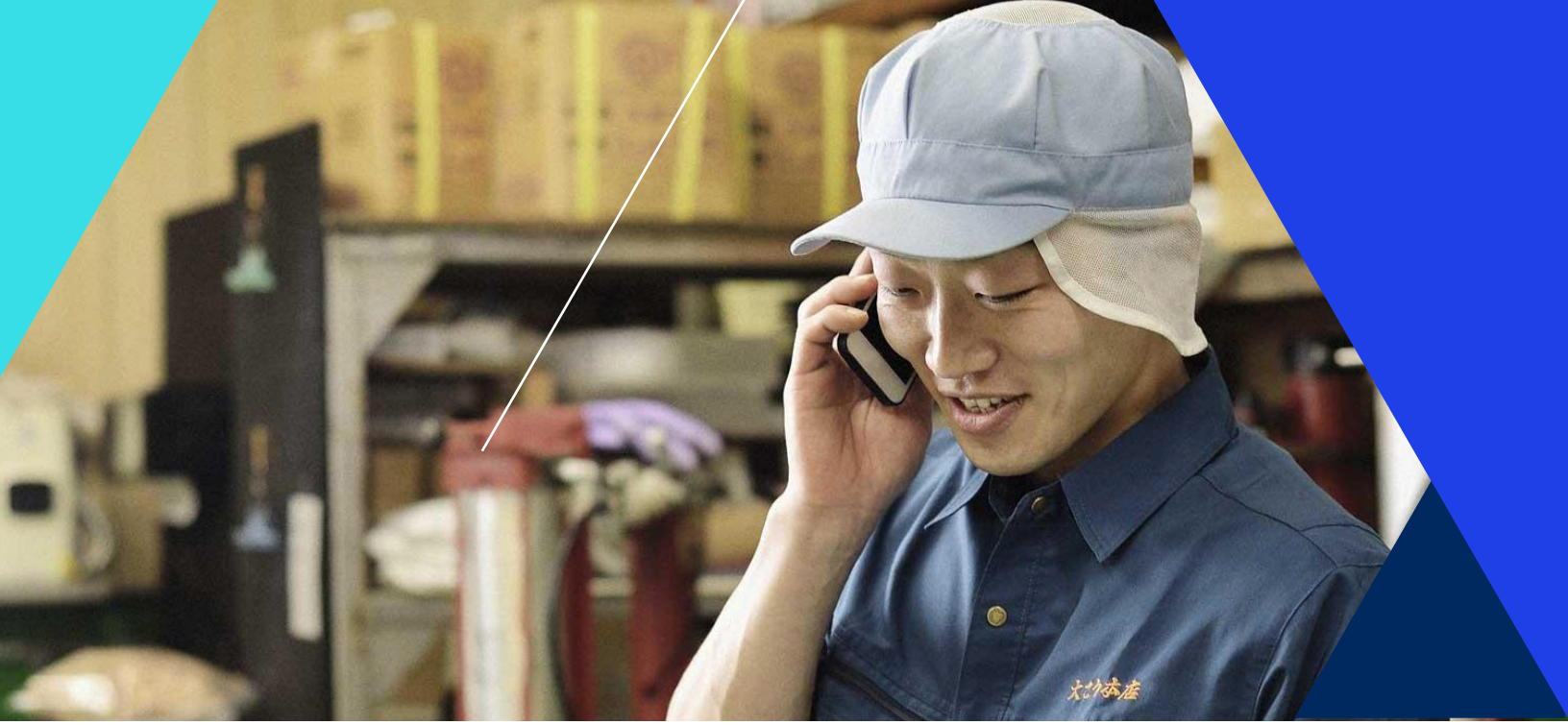
PART 3

Foundations to scale your next-generation operating model



Organizing for the future

Aaron De Smet, Susan Lund, and William Schaninger

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

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

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

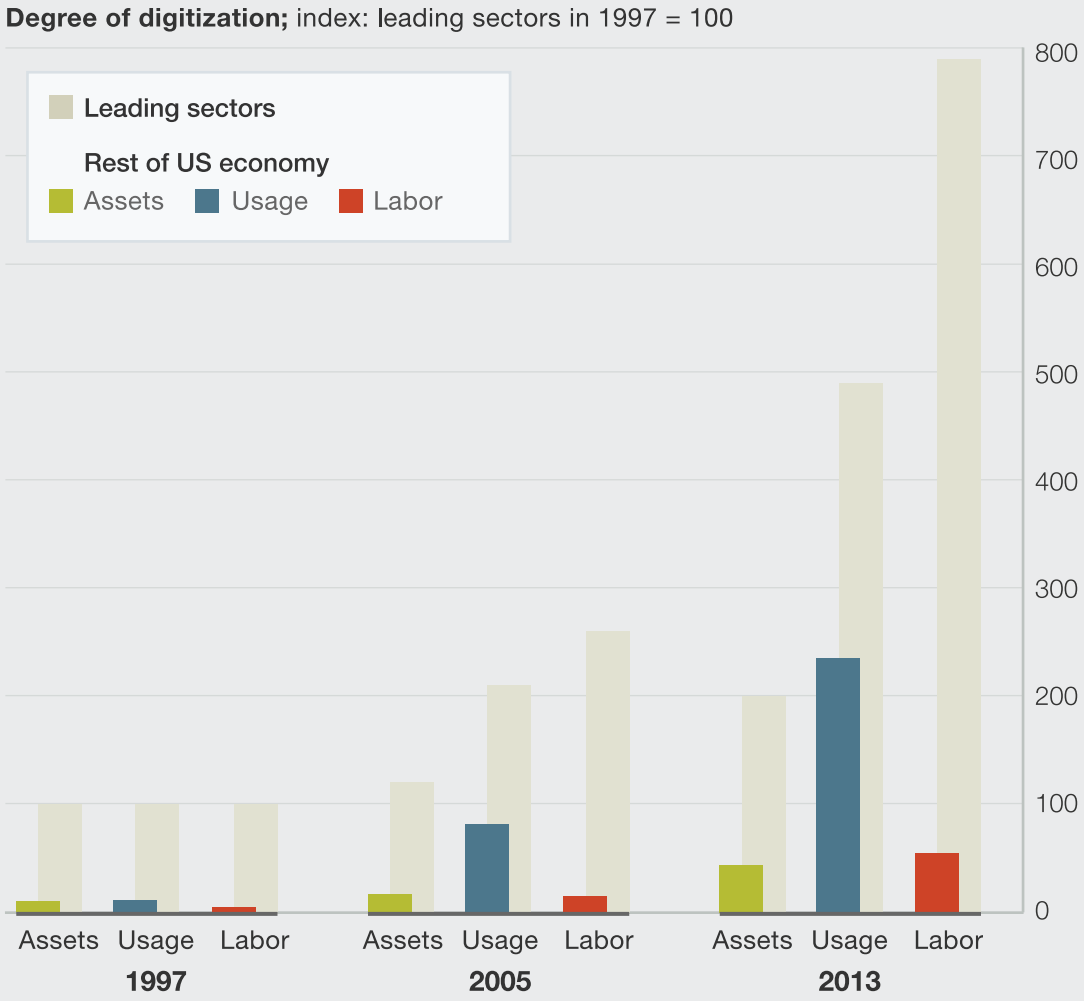
The stage is set for sweeping change as artificial intelligence, after years of hype and debate, brings workplace automation not just to physically intensive roles and repetitive routines but also to a wide range of other tasks. MGI estimates that roughly up to 45 percent of the activities employees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

This coming digitization of the workforce—and the powerful economics of automation—will require a sweeping rethink of organizational structures, influence, and control. The current

1 See McKinsey Global Institute, "Digital America: A tale of the haves and have-mores," December 2015.

EXHIBIT 1

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



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

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

McKinsey&Company

premium on speed will continue, to be sure, even as a new organizational challenge arises: the destabilization of the way people work.

From bedrock to quicksand

The threat to organizational health is plain. As we argue in "Agility: It rhymes with stability" (*McKinsey Quarterly*, December 2015, McKinsey.com), the hallmark of an agile age is the ability to be stable and dynamic, allowing incumbents to make the most of their big-company advantages, while simultaneously keeping pace with quicker-moving disruptors. Like old masonry buildings—such as the Musée d'Orsay in Paris or the Asian Art Museum of San Francisco—that have new glass and steel added to their existing structures, today's leading companies must integrate the contrasting elements of stability and speed to create a more functional, modern whole.

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

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

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

Regaining stability

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

2 See Martin Dewhurst, Bryan Hancock, and Diana Ellsworth, "Redesigning knowledge work," *Harvard Business Review*, January–February 2013, hbr.org.

How can they do so? No doubt, at this early juncture, many possibilities exist. One intriguing approach might work as follows: first split multifaceted jobs into discrete tasks, automating some and determining what can be done more effectively by humans. Then match those needs with the employees who can meet them, where they are, and when they're available.[3] Finally, introduce a market-clearing mechanism to tie everything together.

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

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

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

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

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3 For a more detailed description of this process, see Susan Lund, James Manyika, and Sree Ramaswamy, "Preparing for a new era of work," *McKinsey Quarterly*, November 2012, McKinsey.com.

4 See Lowell L. Bryan, Claudia I. Joyce, and Leigh M. Weiss, "Making a market in talent," *McKinsey Quarterly*, May 2006, McKinsey.com.

5 See "Digital Taylorism," *Economist*, September 12, 2015, economist.com.

Think 'platform,' not 'structure'

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

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

What is a platform?

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

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

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

6 For ideas on creating platforms that invite companywide conversations, see Gary Hamel and Michele Zanini, "Build a change platform, not a change program," October 2014, McKinsey.com.

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

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

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

Matching individuals, teams, and projects

Companies have long had difficulty maximizing the visibility and mobility of their best people. Managers can struggle to find the right person for a specific project, and talented workers can't always see opportunities that might help them grow professionally and develop their expertise. Staffing coordinators have tried to step into the breach, but their efforts, even when effective, are necessarily limited in scale. These traditional shortcomings will soon increase as the exigencies of automation drive companies to break up jobs into their component parts.

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

Consider the uses of workplace platforms in hospital systems. Nurses must constantly be matched to departments and cases, taking into consideration their specialized training, availability,

7 For the full MGI report, see "Connecting talent with opportunity in the digital age," June 2015, McKinsey.com.

doctors' preferences, and technical requirements. Sophisticated software can better deploy the substantial float pool of nurses and per-diem physicians, and the platform's real-time communication tools can help front-line medical personnel access specialists immediately.

Bringing science to talent management

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

Ericsson, Google, 3M, Wells Fargo, Xerox, and other early adopters of digital workforce platforms are finding that they help ground people decisions in hard data rather than gut instinct. The software provider Symantec, for example, used a crowdsourced performance-evaluation process to gain a 16 percent increase in employee satisfaction and engagement.[8] Xerox reduced new-hire attrition and made call-center agents 3 to 4 percent more productive by implementing Evolv's HR analytics software, which sets up a 30-minute online screening test for applicants and compares the results with a profile of top performers.[9] An aging workforce gave 3M a reason to build an integrated workforce-technology platform to plan for succession management, thus increasing its employees' internal mobility and boosting their annual productivity by 4 percent.[10] Wells Fargo used Big Data analysis by Kiran Analytics to identify its most engaged and high-performing front-line employees; the company then designed its hiring processes to screen for candidates with similar traits, raising teller retention by 15 percent.[11] Ericsson globalized its HR processes around an integrated platform designed to regather the tools and processes scattered by decentralization. (For more, see "How Ericsson aligned its people with its transformation strategy: An interview with chief HR officer Bina Chaurasia," *McKinsey Quarterly*, January 2016, McKinsey.com.)

Hard data can support more robust yet streamlined discussions that help companies to reach better-informed decisions. By making it possible to evaluate the performance of employees through multiple sources, digital platforms release managers from lengthy appraisal processes, freeing them to focus on coaching and professional development. They also bring to bear more data, such as the information generated when project teams bid for a particular employee

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

9 Jessica Leber, "The machine-readable workforce," *MIT Technology Review*, May 27, 2013, technologyreview.com.

10 See *Talent Mobility Good Practices: Collaboration at the Core of Driving Economic Growth*, World Economic Forum, in collaboration with Mercer, 2012, weforum.org.

11 Katie Kuehner-Hebert, "Predictive analytics for hiring," *BAI Banking Strategies*, September 6, 2013, bai.org.

with a specific set of skills, pushing up that person's per diem, which in turn gets reflected in the evaluation cycle. Rather than further destabilizing the organization, digital platforms, the markets they enable, and the hard data those markets provide can help to solidify and stabilize it.

Engaging the digital workforce

In a digital world, where switching jobs is easier than ever and top performers are increasingly in demand, it's no surprise that employees have become more mobile.[12] This change might represent a positive dynamic in the broader economy. But many companies face increased rates of attrition, which is not only expensive but also destabilizing—particularly when strategic capabilities, institutional knowledge, and leadership skills walk out the door. Workplace platforms offer new ways to restabilize attrition rates by helping employees become more engaged with their work and flagging early warning signs, so that managers can intervene before high performers leave as a result of low morale or boredom.

Getting personal

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

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

Designing employee journeys

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

There's a similarly longstanding question for employers, of course: Why should top performers choose to work for us?[14] In response, some companies have begun examining the design of their

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

13 See David Edelman and Marc Singer, "The new customer decision journey," October 2015, McKinsey.com.

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

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

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

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

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

Of course, legitimate privacy concerns must be carefully tended to, though millennial workers, who have grown up with wearable technology, may be more comfortable with potential privacy trade-offs. Using aggregated and anonymous (rather than individual) data will help.

The leader as organizational architect

Recent McKinsey research into the health of organizations finds that the definition of great leadership varies according to context.[17] Certain kinds of baseline behavior that are required

15 See, for example, Martin Dewhurst, Matthew Guthridge, and Elizabeth Mohr, "Motivating people: Getting beyond money," *McKinsey Quarterly*, November 2009, McKinsey.com; and Daniel Pink, *Drive: The Surprising Truth About What Motivates Us*, New York: Riverhead Books, 2011.

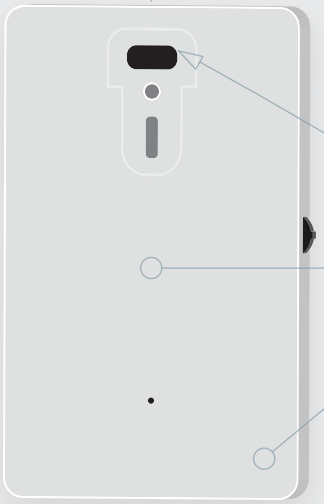
16 For more about these cases, see humanyze.com/cases.html.

17 For more, see "Leadership in context," *McKinsey Quarterly*, January 2016, McKinsey.com.

EXHIBIT 2

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

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



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

Infrared camera
Detects face-to-face interactions with others

Accelerometer
Measures activity level by detecting movement

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

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

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

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

of leaders when organizational health is poor, for example, recede as it improves and other, higher-order forms of behavior come to the forefront. This idea bears a resemblance to Abraham Maslow's hierarchy of needs: people concerned with their own (and their families') physiological health and safety have little or no time for higher-order needs, like self-actualization.

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

CEOs must be alert to how machine learning and advanced analytics will automate some of their own tasks, as well. They will not only have to rethink their leadership behavior but also keep a sharp eye out for their own comparative advantage.[18]

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

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

The broader view required will force CEOs to transcend their own functional or business-unit backgrounds. Former CFOs, for example, have always had to see beyond the numbers on becoming chief executives. Now top leaders will need an even deeper grasp of people, the roles and tasks they perform, and their fears about the future.

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The approaching age of automation, together with the impending penetration of digital technology into the labor force, threatens to destabilize crucial aspects of how employees

18 See Martin Dewhurst and Paul Willmott, "Manager and machine: the new leadership equation," *McKinsey Quarterly*, September 2014, McKinsey.com.

work, by undermining the stability companies depend on to be agile. Executives can resolidify their companies even while making the most of the coming transformation if they adjust their leadership behavior, embrace digital workforce platforms, and deepen their engagement with digitally enabled workers.

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Humanizing dynamic scheduling

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

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

Deploying a two-speed architecture at scale

Sven Blumberg, Oliver Bossert, and Jürgen Laartz

How can companies determine which technologies and processes to fast-track and which to leave alone? They need to identify their desired digital business capabilities and the role technology plays in supporting them.

Today's companies need to be able to roll out digital products and services quickly to address customers' ever-evolving needs. They need flexible technology systems and business processes to do that and to create lasting competitive advantage. For the past several years, many companies have been experimenting with two-speed enterprise architectures to achieve these goals. Under a two-speed model, the processes, software, and other differentiating functions or capabilities that support the customer experience are refreshed quickly and frequently. The capabilities that support transactional back-end functions, meanwhile, are updated more methodically to ensure system stability and reliability.[1]

Companies can reap important benefits from building an enterprise architecture that is simultaneously fast and slow. Such an approach can prompt business and IT leaders to

1 See Oliver Bossert, Chris Ip, and Jürgen Laartz, "A two-speed IT architecture for the digital enterprise," December 2014, McKinsey.com.

look beyond technology concerns and consider the range of process and governance factors associated with managing enterprise architecture. It can ensure that varying system requirements and desired rates of change in different business units and business functions are addressed appropriately.

In many cases, companies have taken a technology-first approach to deploying two-speed enterprise architecture, realizing small-scale successes along the way. The impact of the two-speed approach increases significantly, however, when companies put capabilities first. Indeed, we believe business capabilities must be the central factor for determining which parts of the enterprise architecture—that is, which technologies, working groups, and processes—should be on a fast track and which should remain steady state. IT and business leaders must come together to identify the digital business capabilities desired and how best to support them.

Understanding enterprise architecture

The typical enterprise architecture comprises discrete process, organizational, and technology elements, any of which can be managed on a fast track or a slow track depending on a company's digital strategy. For instance, a company planning to launch a new digital offering would need to consider technology issues (what new types of software or other tools do we need?), as well as process and governance issues (how often should the software be updated, and who will ensure that it gets done?).[2]

The emergence of automation technologies and microservices, as well as the shift toward agile and DevOps methodologies in product and process development, have made it easier for IT organizations to introduce higher-quality operations and deliver software and services more quickly across all parts of the enterprise.

From a technology-based point of view, it would seem that companies could thrive by standardizing on a single-speed enterprise architecture. But in our experience, the enterprise architecture will still need to be managed at different speeds to accommodate process and organizational requirements. Consider a situation at a bank (or, for that matter, a company in any highly regulated industry). It might be perfectly fine for a product-development team to develop and test a good-enough mobile application, roll it back, and relaunch it at a later date. But while the technology elements of the enterprise architecture may allow for this agile approach, the organizational and process elements may still need to be managed differently. In this case, "fast failures" could lead to substantial financial losses or regulatory issues.

Clearly, a two-speed enterprise architecture is necessary, but companies still need to address a fundamental question: Which systems within that architecture need to move faster? To answer this, business and IT leaders need to start with the core business objectives. They must consider how the enterprise architecture supports various business capabilities and adjust technologies,

2 See Oliver Bossert, Martin Harrysson, and Roger Roberts, "Organizing for digital acceleration: Making a two-speed IT operating model work," October 2015, McKinsey.com; and Oliver Bossert, Chris Ip, and Irina Starikova, "Beyond agile: Reorganizing IT for faster software delivery," September 2015, McKinsey.com.

work groups, and processes accordingly. In this approach, technology professionals collaborate closely with business-unit leaders, and technology decisions are aligned with the highest-priority business needs.

Emphasizing business capabilities

So which business capabilities should be fast-tracked within the enterprise architecture? Typically the ones that involve direct interactions with customers and areas where quick changes are required to create competitive advantage. One global bank that successfully implemented a two-speed enterprise architecture determined that, apart from introducing new online applications through which customers could transfer funds or update their personal information, it would need to change the back-end systems that supported the creation or modification of customer data. It wasn't just the front-end systems that got faster; back-end systems of record needed to become part of the fast architecture, too. The result was a new and improved purchasing experience for customers.

In another example, a retailer wanted to improve the system that managed information about its products. Historically, the data within this system would be updated infrequently; in the parlance of two-speed architecture, it was on the slow track. As the retailer considered how it might launch new options for digital products and services, it realized that some of these offerings would require much faster changes. Product characteristics would have to be updated more frequently, and those changes would have to be recorded and reported differently. The retailer separated its product-information-management system into several modules, each of which could be updated at a different speed.

Takeaways

As two-speed models for enterprise architecture take hold, many companies are already seeing how they can be used to improve the customer experience and reduce risk.

But the impact of the approach can be amplified when companies put business capabilities at the center of all decisions relating to the two-speed model.

With a clear understanding of desired business outcomes, business and IT leaders can better determine which technologies, working groups, and processes to fast-track and which to keep at a steady state.

Doing so offers several benefits—not least of which is bringing order and accountability to digital transformations.

Working at two speeds

Enterprise architectures, by their very nature, are complex—and so is the process of transforming companies into digital organizations. But by putting capabilities at the center of their decisions about how best to implement a two-speed model, companies may actually bring order and accountability to their digital-transformation programs.

First, the entire digital transformation would be driven by an approach to enterprise-architecture management that explicitly accounts for the trade-offs among different business capabilities.

Second, a two-speed architecture could help companies balance resources more appropriately. Investing in new technologies, software-development approaches, and top development talent can help companies differentiate themselves from competitors. But it may be expensive to do these things across all business units. The very exercise of building a two-speed architecture can help companies set priorities. For instance, there may be a strong business case for speeding up the processes, technologies, and governance associated with application-development and customer-management groups. It might not be as necessary to do the same in the HR, property-management, or legal functions.

Finally, a two-speed architecture can help mitigate risk. In a typical bank, the architecture landscape today often comprises (mostly) legacy platforms, and the majority of staffers are trained on these older platforms. By using a two-speed IT model, instead of deploying a "big bang" approach to change, a bank could carefully stage its migration to new technologies and digital ways of working, thus mitigating its risk of failure. The bank could train employees on new systems or look outside the company for required expertise. And for those employees who are not comfortable with new methods and procedures, there would be an option to continue maintaining traditional, foundational systems—which certainly wouldn't go away entirely in the midterm.

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Two-speed thinking is not new, but with greater awareness and exploration of the method, it is nearing critical mass. Companies across all sectors are considering ways that two-speed enterprise architectures can help them deliver the best possible experiences for their customers. We believe that, to succeed, these companies need to take a capabilities-centered approach to deploying technologies, digitizing processes, and managing governance issues. The businesses that do can work more efficiently, optimize their investments, and ensure that employees are in roles for which they are best suited.

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Speed and scale: Unlocking digital value in customer journeys

Driek Desmet, Shahar Markovitch, and Christopher Paquette

Digitization is a profound transformation. When a global bank reinvented its onboarding process for commercial clients, for example, the results included dramatically reduced costs, a market-beating customer experience—and an exhausted organization wondering how ambitious it should be. Could it repeat what it had just gone through across the rest of its business? How could it possibly do more than one such project at the same time? Would it take years?

Companies that are achieving digitization at scale have found a better way. They have developed a distinct structure that enables them to digitize their most important customer journeys at scale and at speed—and in a consistent way, with consistent resources, to produce consistent results. In doing so they transform much of the rest of their organizations, from product and process design through to technology and culture, becoming truly digital businesses.

Streamlined, simplified journeys show impressive results quickly, usually on several fronts at once. Faster mobile-phone sign-ups raised a telecommunications company's customer satisfaction by 20 percent and reduced costs by 30 percent. For a European lender, time for account opening and loan approval fell from days to minutes, customer-engagement opportunities rose from once

a month to three or four times a week, and IT became far more agile, delivering new releases in a month instead of a year.

A structure for scale and speed

In much the same way that the leap to digital operations means rethinking how an analog process works, the leap from transforming a single journey to tackling many at once means rethinking how digitization works. Even as the organization is building the new capabilities that digital businesses require, it must deploy its existing capabilities very differently in order to achieve scale and speed. The challenge is to balance all of the conflicting demands.

Start with your story

It begins with a story. From the very earliest stages, the organization needs a consistent way to describe what customers should experience across all the journeys they may undertake with the company. This "enterprise customer-experience story" will be unique to the company and will distill its strategy, brand, and positioning into practical guidelines that together support the rest of the transformation.

For one North American bank, customer focus groups provided direction by identifying two qualities—accessibility and flexibility—as top priorities in banking relationships. These became the central theme of the bank's story and then informed a series of design choices centering on the first steps customers experienced with the bank.

But the bank then had to determine which journeys would, with digitization, most effectively deliver the accessibility and flexibility the story promised. Each journey passed through a series of filters assessing its strategic and customer-experience value, its potential for economies of scale, the regulatory and technological hurdles facing it, and the organization's readiness to commit adequate financial and leadership resources to it.

The final output of the analysis was a roadmap for making the journeys a reality, prioritized according to the filters. For the bank, the top priority turned out to be a new onboarding process that would let customers open a "relationship" without naming a specific product or account type.

Sequence your tech transformation

Of all of the changes an organization must make to support digitization, the ones that are the most challenging, time consuming, and resource intensive are in IT. Nowadays, designing a one-off mobile app is fairly easy. The real challenge is to link that app to all the other channels customers use and to integrate it into back-end systems for everything from authentication to credit scoring and postsale servicing.

But this is what it means to digitize at scale. Companies must resist two temptations. The first is to try to digitize each journey separately, which only recreates the internal silos that most organizations are trying to break apart. The second is to invest heavily in specific Internet or mobile-channel IT, which is usually unnecessary. Instead, once the company has identified the core journeys it will digitize, it should choose its IT components and its sequencing so that the IT architecture changes naturally as the journeys build on one another.

For example, one way to accelerate digitization and reduce overall costs is to identify horizontal components—such as business-process management (BPM) layers, central administration platforms, or externally facing channels—that can be shared across all the journeys. Similarly, standard components such as electronic signature authentication and document scanning and data-extraction systems are easily reused across many different journeys and product types.

These ideas led one organization to use its customer-onboarding journey as its initial test case. The organization reduced rework and extra expenses for later journeys by modernizing its common BPM architecture and mobile front-end framework up front, and by developing reusable e-archiving and authentication components. It also built in an additional interface layer that allowed back-end services developed during later journeys to be easily connected once they were ready. The lessons learned from the test case informed the transformation of the entire remaining architecture.

Build in ecosystem flexibility

Another important element of scaling is to consider how your technology can tie into the broader ecosystem of technologies and platforms outside your company. What makes these ecosystems so valuable is that by plugging into them, companies can quickly get access to an entire network. That could mean finding new customers, tapping into new sources of data, accelerating access to capabilities, and scaling business solutions, among other benefits. This integration of technologies is dynamic in nature, happening in real time with thousands of partners or end consumers. As a result, companies will need to design their next-generation integration architecture to support more dynamic interaction models and enforce open standards, while minimizing cybersecurity and risk issues.

Thanks to advances in cloud computing and infrastructure as programmable software, infrastructure resources such as networks, servers, storage, applications, and services can be rapidly provisioned, managed, and operated with minimal effort. That calls for DevOps (the integration of development and operations) and cloud engineers with the experience to navigate fast-changing program software and cloud-computing ecosystems, as well as data scientists, automation engineers, and enterprise architects.[1]

1 “From IT to ecosystem technology: How CIOs need to expand IT to capture the next wave of business value,” McKinsey, 2017.

Turn, shift, accelerate, and repeat

Leading digital platforms now release major revisions of their operating systems every year, with substantial upgrades every few months. Some update cycles are nearing daily or even hourly frequency, especially for data models and analytics. Such rapid adaptation represents a fundamental cultural shift for incumbents in almost every industry, and especially in heavily regulated fields in which perfectionism and caution are the default behaviors.

First, the pressure for speed means companies must identify a new type of MVP (minimum viable product). They must describe a customer need accurately, without excess scope, and fulfill it efficiently, without excess complexity. And they must make a real change in their perspective. For example, digital's speed alone is a huge advantage: a digital product providing only 80 percent of its analog counterpart's features may still succeed simply by being 10 or 20 times faster. Furthermore, by the time a digital product could reach 100 percent replication, some of those functions would likely be irrelevant. Accordingly, rather than view digitization as a project with an end date, people must understand it as a continual process of finding the right 80 percent that will help customers now.

Track it all the way

To ensure a large-scale digitization effort achieves dramatic business results, it's essential to measure its impact as part of a broader management system. Yet traditional measures of performance go only so far in supporting the new culture and work habits.

First, the metrics themselves must typically change. Some measures, such as short-term return on investment, may in fact hamper the innovation that digitization requires by discouraging employees from taking risks. Other measures may impede collaboration. For example, an organization should abandon promotion metrics that emphasize the number of reports a manager has and instead reward those who reassign team members to high-growth businesses.

Once metrics are aligned with digital's demands, dashboards can report the relevant data as it comes in. Where possible, the organization builds its own version of the network centers that govern utility operations. The resulting insights ensure not only that each transformation delivers what it should but also that leaders know where to prioritize investments.

As part of its digitization process, one manufacturer aggregated a wide range of indicators—from batch quality and inventory availability to number of full-time employees involved in delivery—into a single enterprise-wide real-time dashboard. Management could then divert resources to struggling areas. If a local transformation failed to improve batch quality, leaders could fly in

experts from other facilities that had resolved the issue. And with each facility's transformation results highly visible, the new transparency created a constant imperative for line managers to deliver results.

Putting it all together

So how does it all come together? One of Europe's largest banks is winning the adoption game after fully digitizing an entire series of customer journeys. The initial focus of its digitization story was on relieving retail-banking customers from their most irritating service requests—the lost debit cards, forgotten PIN codes, and similar minor problems that have a major impact on customer satisfaction and bank employees.

Using standardized components, a small cross-functional team redesigned the processes underpinning these requests to assemble a mobile solution within six weeks. Rapid adoption boosted confidence in the organization's newfound digital capabilities, reinforcing the leader's message that digitization would dramatically improve customers' experience. And employees reported that the changes reduced their frustration as well.

The cross-functional team grew to take on more journeys, leading it to redesign the front end of the bank's digital and mobile channels and deploy analytic tools that allow for more precise targeting of support and live allocation of call-center specialists. Over a period of 18 months, the team became a combination of a user-experience center and a digital factory. The unit now employs more than 100 specialists who are tackling complex journeys in such areas as corporate lending and export finance.

The bank as a whole has completed five of its most important journeys, and the factory has reached sufficient scale to work on two major journeys at a time, each taking between four and five months. The end result, across businesses as diverse as consumer credit cards and commercial financing, is that customers report dramatically better experience and higher engagement.

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Scaling a transformative culture through a digital factory

Rohit Bhapkar, Joao Dias, Erez Eizenman, Irene Floretta, Marta Rohr, Kristine Simonsen, and Belkis Vasquez-McCall

In many large companies, using digitization to improve how things get done—whether it's a customer experience or an internal-facing process—has boosted revenue, increased customer loyalty, and removed big chunks of internal costs. The best companies, however, do more than just improve these journeys, they systematically reinvent them.

As many are experiencing, going beyond one or two pilot projects requires a concerted effort to scale a new way of working. One approach that consistently works is to establish what we call a digital factory.

Like its bricks-and-mortar counterpart, a digital factory brings together the skills, processes, and inputs required to produce high-quality outputs. These outputs are generally journeys, a series of interactions to complete a task. They might include a new way to help customers resolve service issues or a new process for applying for a mortgage. The factory models a new way of working to develop new products, which are then introduced and integrated into the broader business. It uses advanced methodologies such as design thinking, zero-based process reengineering, and agile software development.

The way the factory works is defined by a set of standard operating guidelines and methodologies that lay out the required deliverables, governance steps, and working processes—such as which

decisions can be made by factory leaders and which require escalation. The goal is a balance between the structured predictability required to transform a large organization and the flexibility and agility required for a rapidly changing digital world.

This approach enables large organizations to incubate a new digital culture and operating model while allowing the broader business to touch and feel the change and see the power of a new way of working. The process of introducing a new way of working and actively integrating new products into the existing business—which in turn requires people to adopt new ways of working to work with the new product—is a conscious effort to shift the culture of the entire organization.

When executed well, the digital factory provides a blueprint for the future of work that energizes the business and excites employees. It creates a vortex for innovation and creativity that attracts the best talent from inside and outside the organization. And it delivers results. The best digital factories can put a new product or customer experience into production in as little as ten weeks. The innovation can then be introduced and scaled up across the business in eight to 12 months.

Companies adopting this approach need to put in place both a culture that embodies the new way of working and the management practices to support it.

A new culture

We have identified several must-haves for the culture of a successful digital factory.

Act like venture capitalists. Taking a venture capitalist's approach to the digital factory means fast decision making driven by clear objectives and criteria. If the business case for funding each journey takes months to approve, the digital factory isn't going to work. Initial funding for a product (a customer journey or process, for example) should be based on a good idea and a basic case—not endless rounds of analysis. But then the project team needs to show progress at agreed-on milestones in order to get further funding.

The head of the digital factory and the business owner jointly track projects based on set KPIs, working with the team to evaluate and adjust the program in line with real results. If the program makes it through the process, it's transitioned to the business, and factory leaders redirect funding to new products. If, on the other hand, the new journey or process can't achieve its goals by a given milestone, then the leadership team kills it.

At one leading North American financial institution, initial funding goes toward a "scoping sprint"—a one-week process to define KPIs and business objectives and build the case for investing in a journey. If funding is approved, a minimum viable product (MVP) must be built within four months. If that proves successful, the business for which the product is being developed provides further funding.

Get creative to attract top talent. Digital factories require skills that are in high demand and often in short supply at large established businesses, such as customer-experience design, mobile-app design, agile-development coaching, analytics capabilities, and more. And technical capabilities are not the only requirement; digital factories also need to foster a shift in mind-set toward a more experimental and collaborative way of working.

Attracting people with these attributes can be difficult. You may have to overpay to create initial critical mass. You will have to build a consistent value proposition and show new hires that they will work in a creative, fast-paced entrepreneurial environment that's very different from that of legacy IT. Some companies recruit influential "anchor hires" whose standing in the digital community will convince others that working in a bank, say, can be cool. Investing in internal talent is also important, of course. Rotating employees to work with talent in the digital factory and appointing senior people to lead training programs will go a long way toward raising capabilities. But it will require companies to invest in training their employees in these areas and will need to be supplemented with external talent.

To address this issue, one international financial institution set up a hiring "war room." Realizing that it needed to attract new talent, it adopted unconventional approaches: recruiting under the digital factory's brand instead of its own; hosting events in the technology community; using new hires' networks to find other talent; and using LinkedIn to locate the right kind of talent. In addition, the institution tracked the talent funnel for each critical role to understand how many people were being identified, interviewed, and offered a position, and how many of them accepted. It identified low-performing areas of the talent funnel and constantly reworked practices to improve its hiring performance.

Build "squads" of working teams. Success in a digital factory relies on the ability to staff a small group of people (generally 8 to 12) with the right set of complementary skills to work on a given project. Sometimes called squads, these teams often include user-experience designers, developers, IT architects, and "scrum masters" who manage the team. Depending on the project, such teams can be supplemented with other specialists such as analytics experts, lawyers, and compliance experts. Whatever the composition of the team, it needs to have clear lines of communication with other groups throughout the organization and speedy processes to access them. For example, buying a vendor's product often requires a procurement review and legal approval, which can sometimes take a long time to resolve and slow a team's progress. The core squad members belong to the digital factory but work with the business owners for the duration of the project. They should also connect frequently with other squads working on related projects to coordinate and account for the necessary handoffs.

Model collaboration in your workspace. The space a business devotes to a digital factory matters. The company must create an environment that signals that the work done there will break new ground. Such a focus can be crucial in attracting talent. Above all, the space must foster collaboration among team members by providing spaces where people can gather to have the spontaneous cross-disciplinary conversations that foster creativity. That means couches and

coffee areas that create a start-up or garage-style experience. You can't tell people they are going to reinvent your organization if they work in a place that shouts "business as usual."

One leading European bank devoted a full floor of its new office building to its digital factory and invested in creating a collaborative environment. Architects eliminated cabinets between work tables, adding movable panels that act as dividers between different teams and make it easy to introduce and access visual aids such as flowcharts and storyboards. They also created informal areas with couches, ping-pong tables, and eating spaces, all laid out to make it easy for people to relax, catch up with each other, and exchange information. The bank credits this approach with helping to build and reinforce a new culture of continuous active collaboration.

Management practices

A culture cannot be established and thrive on its own. Specific management practices need to be instituted to support them. Here are the ones we've seen to be most effective:

Build with clear purpose. Enterprises are made up of multiple functions. When a company embarks on transforming its internal processes and customer journeys, it first needs to decide whether its primary goal is to reduce costs, increase revenue, drive customer satisfaction to beat the competition, or something else. By aligning on the target, management can prioritize the work that gets done. Any large company will have many digital-transformation projects on its to-do list, so it's vital for top managers to agree on what comes first. Without that alignment, the journey becomes unmanageable.

A team at one leading European bank developed a set of initial priorities and repeatedly iterated them with top management. At the end of the process, management agreed to a roadmap of 40 core customer journeys that were prioritized in line with their potential impact both on the bank's business (such as P&L) and on its digital capabilities (such as automation). Flexibility was built into the process itself as well. The roadmap is refreshed every six months to account for changes in business priorities.

Invest enough for impact. The speed at which a company can digitize and scale its key journeys will depend largely on how much it is willing to spend. Investment levels below a certain threshold won't allow a business to capture the full value of the digital factory at a speed that matches changing markets. What that threshold is depends on numerous factors, but whatever the case, we have found that digital leaders make significant investments in digital. One bank going through a digital transformation is investing between 1 and 3 percent of its annual revenue.

Determining how much to invest in a digital factory depends on a company's aspiration and its level of technological maturity. A diagnostic to evaluate what's in place and what's needed is a good first step.

What does it mean to have an agile culture?

To compete today, the entire company must be agile, which includes cross-functional collaboration, quick decision making, focus on end-users, and a willingness to experiment and take low-stakes risks. That approach needs to be developed and nurtured in the digital factory specifically. But for incumbents to become agile, they need to change their corporate DNA—the values and beliefs that shape how their people behave and create the company's culture. We see three crucial shifts:

- From senior executives driving decisions to autonomous teams empowered to make them. Top-down structures stand in the way of agility because they restrict the pace of decision making. Companies with agile cultures empower on-the-ground teams to make most decisions based on clear principles set at the top of the organization. This is difficult for executives, since they must let go of control even if they don't like all the decisions being made beneath them. Letting go requires the humility to acknowledge that junior employees are actually better equipped to make the right decisions.

- From multiyear projects based on extensive up-front analysis to continuous experimentation and learning that embraces a fast-failure mind-set. Traditional corporate cultures value a complete fact base before any new product or process "goes live." Agile cultures, in contrast, are built on the belief that it is impossible to predict or detail the most impactful solution up-front—you cannot anticipate what customers actually think until you ask them, or even better, observe their behavior. This cultural shift demands that senior management let go of a grand illusion: that through extensive market research and analysis, they can divine market needs and control customer reactions.

- From strict hierarchy with narrowly defined roles, to a flat structure with fluid roles that combine oversight with execution. In traditional companies, employees rarely talk to those above the level of their boss. In agile cultures, employees often sit down with the CEO every week to collectively solve problems. There is no need for vast numbers of middle managers. This means executives have to get their hands dirty, learn, and pitch in. It also means lower-level employees must step up and become owners who take on more responsibility than before.

Develop a change-management plan to incorporate the new product into the business.
One of the trickiest phases of a transformation is the process of integrating a newly developed product into the business. No matter how good a new solution is, people need to want to use it, as well as know how. In effect, this becomes a change-management challenge.

To tackle it, businesses leaders and the IT organization need to be involved from the very beginning. IT must know what's coming down the digital-factory line so it can set up and configure systems to support the new journeys and processes. Meanwhile business leaders need not only

to support the program with funding but also to staff it with people from their functional areas so that they are invested in the solution.

The most successful transfer process begins with launching and testing an MVP (minimum viable product) to collect feedback from business owners and demonstrate impact. The gradual deployment of the product requires clear and continual communications as well as a detailed training plan to make sure all those involved know what's expected of them. As people learn by doing, on-the-job training is important, along with a readiness to keep iterating based on feedback. Crucially, the business owner needs to put in place incentives to reward new behavior based on criteria such as collaboration, product success, and internal product satisfaction.

Measure the change. If an organization is to systematically change its way of working and keep track of what's happening, its management systems will need to evolve, starting with KPIs. Nontraditional metrics focused on digital adoption—such as new customer registrations on digital channels or digital-engagement levels for a particular product or service line—are often more useful than traditional metrics like return on investment in tracking the progress of a digital transformation.

The best companies are using their management systems to harvest the surfeit of data generated by employees and processes to create user-friendly dashboards and reports to measure progress, often in real time. When it comes to performance-management systems, the goal is not so much to inform appraisals as to provide employees with feedback that guides their actions and leads to better outcomes. Whatever the metrics may be, leaders need to agree on them early so as to manage the development of new journeys and quickly identify areas requiring management decisions.

Find leaders with the right combination of skills. The executives who run the digital factory must be seen as credible by other organization leaders. They must have in-depth knowledge of the business, its products and processes, and the systems that support them. Some digital factories have two leaders, one who deeply understands the business and another who knows about its technologies and the inner workings of its information systems. These leaders must also have strong support from above—the CEO, CFO, CIO, COO, and business-unit heads. These executives must be prepared to move mountains for the leaders of the digital factory and to resolve challenges along the way.

These dimensions are key to understanding what a digital culture should look like in action, and how to cultivate it so that it takes root in the wider organization beyond the digital factory. How well a business implements these dimensions can make the difference between basic improvements and true reinvention.

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Transforming operations management for a digital world

Albert Bollard, Alex Singla, Rohit Sood, and Jasper van Ouwerkerk

In every industry, customers' digital expectations are rising, both directly for digital products and services and indirectly for the speed, accuracy, productivity, and convenience that digital makes possible. But the promise of digital raises new questions for the role of operations management—questions that are particularly important given the significant time, resources, and leadership attention that organizations have already devoted to improving how they manage their operations.

At the extremes, it can sound as if digitization is such a break from prior experience that little of this history will help. Some executives have asked us point blank: "If so much of what we do today is going to be automated—if straight-through processing takes over our operations, for example—what will be left to manage?" The answer, we believe, is "quite a lot."

More digital, more human

Digital capabilities are indeed quite new. But even as organizations balance lower investment in traditional operations against greater investment in digital, the need for operations management will hardly disappear. In fact, we believe the need will be more profound than ever, but for a type of

operations management that offers not only stability—which 20th-century management culture provided in spades—but also the agility and responsiveness that digital demands.

The reasons we believe this are simple. First—at least for the next few years—to fully exploit digital capabilities, most organizations will continue to depend on people. Early data suggest that human skills are actually becoming more critical in the digital world, not less. As tasks are automated, they tend to become commoditized; a "cutting edge" technology such as smartphone submission of insurance claims quickly becomes almost ubiquitous. In many contexts, therefore, competitive advantage is likely to depend even more on human capacity, on providing thoughtful advice to an investor saving for retirement or calm guidance to an insurance customer after an accident.

That leads us to our second reason for focusing on this type of operations management: building people's capabilities. Once limited to repetitive tasks, machines are increasingly capable of complex activities, such as allocating work or even developing algorithms for mathematical modeling. As technologies such as machine learning provide ever more personalization, the role of the human will change, requiring new skills. A claims adjuster may start by using software to supplement her judgments, then help add new features to the software, and eventually may find ways to make that software more predictive and easier to use.

Acquiring new talents such as these is hard enough at the individual level. Multiplied across an organization it becomes exponentially more difficult, requiring constant cycles of experimentation, testing, and learning anew—a commitment that only the most resilient operations-management systems can support.

Seizing the digital moment

And if digital needs operations management, we believe it's equally true that operations management needs digital. Digital advances are already making the management of operations more effective. Continually updated dashboards let leaders adjust people's workloads instantly, while automated data analysis frees managers to spend more time with their teams.

The biggest breakthroughs, however, come from the biggest commitment: to embrace digital innovation and operations-management discipline at the same time. That's how a few early leaders are becoming better performers faster than they ever thought possible. At a large North American property-and-casualty insurer, for example, a revamped digital channel has reduced call-center demand by 30 percent in less than a year, while improved management of the call-center teams has reduced workloads an additional 25 percent.

Achieving these outcomes requires organizations to tackle four major shifts.

Digital and analog, reinforcing each other

Digitization can be dangerous if it eliminates opportunities for productive human (or "analog") intervention. The goal instead should be to find out where digital and analog can each contribute most.

That was the challenge for a B2B data-services provider, whose customized reports were an essential part of its white-glove business model. Rather than simply abandon digitization, however, the company enlisted both customers and front-line employees to determine which reports could be turned into automated products that customers could generate at will.

Working quickly via agile "sprints," developers tested products with the front line, which was charged with teaching customers how to use the automated versions and gathering feedback on how they worked. The ongoing dialogue among customers, front-line employees, and the developer team now means the company can quickly develop and test almost any automated report and successfully roll it out in record time.

Driving digital, enterprise-wide

Developing new digital products is only the beginning, as a global bank found when it launched an online portal. Most customers kept to their branch-banking habits—even for simple transactions and purchases that the portal could handle much more quickly and cheaply.

Building the portal wasn't enough, nor was training branch associates to show customers how to use it. The whole bank needed to reorient its activities to showcase and sustain digital. That meant modifying roles for everyone from tellers to investment advisers, with new communications to anticipate people's concerns during the transition and explain how customer service was evolving. New feedback mechanisms now ensure that developers hear when customers tell branch staff that the app doesn't read their checks properly.

Within the first few months, use of the new portal increased 70 percent, while reductions in costly manual processing means bringing new customers on board is now 60 percent faster. And throughout the changes, employee engagement has actually improved.

Realigning from the customer back

The next shift redesigns internal roles so that they support the way customers work with the organization. That was the lesson a major European asset manager learned as it set out on a digital redesign of its complex manual processes for accepting payments and for payouts on maturity. The entire organization consisted of small silos based on individual steps in each process, such as document review or payment processing—with no real correlation to what customers wanted to accomplish. The resulting mismatch wasted time and effort for customers, associates, and managers alike.

The company saw that to digitize successfully, it would have to rethink its structure so that customers could easily move through each phase of fulfilling a basic need: for instance, “I’ve retired and want my annuity to start paying out.” The critical change was to assign a single person to redesign each customer journey, with responsibility not only for overseeing its digital elements but also for working hand in glove with operations managers to ensure the entire journey worked seamlessly. The resulting reconfiguration of the organization and operations-management systems reduced handoffs by more than 90 percent and cycle times by more than half, effectively doubling total capacity.

Making better leaders through digital

The final shift is the furthest reaching: digital’s speed requires leaders and managers to develop much stronger day-to-day skills in working with their teams. Too often, even substantial behavior changes don’t last. That’s when digital actually becomes part of the solution.

About two years after a top-to-bottom transformation, cracks began to show at a large North American property-and-casualty insurer. Competitors began to catch up as associate performance slipped. Managers and leaders reported high levels of stress and turnover.

A detailed assessment found that the new practices leaders had adopted—the cycle of daily huddles, problem-solving sessions, and check-ins to confirm processes were working—were losing their punch. Leaders were paying too little attention to the quality of these interactions, which were becoming ritualized. Their people responded by investing less as well.

Digital provided a way for leaders to recommit. An online portal now provides a central view of the leadership activities of managers at all levels. Master calendars let leaders prioritize their on-the-ground work with their teams over other interruptions. Redefined targets for each management tier are now measured on a daily basis. The resulting transparency has already increased engagement among managers, while raising retention rates for front-line associates.

Organizations investing in human and digital capabilities can start by asking themselves several critical questions:

- Do we really understand how customers interact with us now and how they want to in the future?
- How can we give customers the experience they want, no matter which digital and human channels they use?
- How can we speed our metabolism so we can uncover new opportunities for better performance?
- Can our culture become flexible enough for us to collaborate effectively with our customers through constant change?

Capturing the digital opportunity will require even greater operations-management discipline. But digital also makes this discipline easier to sustain. Adding the two together creates a powerful combination.

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