



**Harvard
Business
Review**

OPERATIONALIZING DIGITAL TRANSFORMATION: NEW INSIGHTS INTO MAKING DIGITAL TRANSFORMATION WORK



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Technology has transformed how entire industries interact with clients, from executing transactions to communicating quicker to selling products and services. This study provides a global snapshot of how digital transformation is rolling out across industries. The results show that front-runners in operational transformation via technology may have a significant lead over a larger group of laggards—companies that haven't wholeheartedly committed to digital transformation or have felt hindered by too many daunting obstacles. But despite slower starts, persistence is prevalent. Eighty percent of those surveyed agree that the biggest risk associated with digital transformation is not embracing it.

No Industry Left Untouched

Technological innovation is certainly having a big impact on our (re)insurance industry. An entire Insurtech movement is developing around us. We're excited to be an active participant through the investments of our venture capital fund, XL Innovate. Internally we've launched Accelerate, a team of XL Catlin experts focused on harnessing our collective knowledge and capabilities to deliver innovative solutions and services that help our clients focus on their core business. This includes the constant evolution of our insurance products—such as cyber coverages—that our clients need to manage the risks associated with technologies that are helping transform their businesses.

Transformative Talent

As this study notes, the right talent drives digital transformation success. Collaborators who understand both the technology and the business to help us connect the dots and achieve our goals using the appropriate technology are key to success. It's people like our new chief data officer, Dr. Henna Karna, who for the past 20 years has been leading data-driven, digital innovation and positive disruption in the insurance industry. Such talent, combined with other areas of expertise, like underwriting, helps us make full use of data, analytics, and innovation to be a market leader that delivers superior (re)insurance products and services.

Strategy in the Driver's Seat

No two companies will benefit from the same digital strategy. In fact, it's a business' strategy that needs to lead digital transformation, not the other way around. Otherwise, all we are doing is following shiny objects. Adoption of new technologies has to be driven by business goals; it has to be implemented, not just for its own sake, but because using it is going to help businesses achieve their vision.

Keeping a Steady Pace

Digital transformation takes considerable time and investment. We certainly intend to keep the steady pace of our own digital transformation. Throughout history we've seen plenty of come-from-behind victories. Today's digital transformation laggards could be tomorrow's leaders. If we learn from each other, seek out the right talent, and keep our digital transformation plans aligned with our strategies, we'll continue moving in the right direction.

OPERATIONALIZING DIGITAL TRANSFORMATION: NEW INSIGHTS INTO MAKING DIGITAL TRANSFORMATION WORK

DEVELOPMENTS IN DIGITAL TECHNOLOGY over the past two decades have transformed the way businesses work. In some instances, the advances have been stunning. Top finance organizations can close the company books in days, not weeks. Banks can make credit decisions in minutes. New companies utilizing new technologies and business models can spring up seemingly overnight, quickly disrupting entire industries.

Still, the benefits of digital transformation have not accrued evenly. Digital transformation leaders—those smart and fortunate enough to embrace the right technologies at the right time, and to have executives and employees able and willing to take advantage of them—have enjoyed immense benefits: a better understanding of their customers, automated processes, lower expenses, higher sales, and profits. Others are still struggling to achieve those outcomes.

This new study by Harvard Business Review Analytic Services identifies what differentiates the leaders and the laggards in digital transformation. In doing so, it offers a way forward for other companies seeking to duplicate and build on the leaders' success. Among our key findings:

- Digital transformation leaders use digital technology not only on the front lines, to get closer to customers, but also behind the scenes to more tightly integrate supply chains and distribution networks, and to improve operations.
- Leaders are quicker to adopt digital technology, more willing to pay for it, and more amenable to hiring new employees to secure the skills needed to take advantage of it.
- Leaders more readily embrace an open organizational structure in which data is widely shared not only internally but also with external partners.
- Leaders have executive teams that champion digital initiatives and have a vision for how digitization can transform their companies.

No two companies will benefit from exactly the same digital strategy. But adopting the approach of these digital leaders could help many companies capture the benefits their more successful competitors have already realized—and become leaders in their own right in the years ahead.

The vast majority of survey respondents—81 percent—say they plan to boost their spending on technology over the next two years as they fight to remain competitive.

MUCH ACCOMPLISHED, BUT MUCH TO BE DONE

Corporations and other large organizations have been digitizing their business processes for many years now, often with impressive results. Over the past decade, the gains have been particularly transformative in customer-facing operations. Thanks to advances in digital technology—the Internet, affordable high-speed mobile communications, big data, advanced data analytics—companies today can interact with their customers virtually anytime and anywhere, collect previously unfathomable amounts of information about those customers, and use that information to tailor goods and services ever more closely to what customers need and want.

Unfortunately, becoming a truly digital organization remains for many companies a distant goal. A new survey by Harvard Business Review Analytic Services finds that only a minority of companies are actually getting what they hoped to achieve, which, in addition to better insights into customer needs and expectations, includes cost savings, higher revenues, and fatter profits.

To be sure, no major transformation process gets completed overnight. Given the relentless advance of technology, shaping the modern digital organization promises to be a long and continually evolving undertaking. Still, for companies that are not getting what they need today from their investments in digital transformation, the potential consequences could be grave:

- Nearly 40 percent of survey respondents say their core business is at risk of digital disruption from other businesses that may be further along the digitization path or quicker on the draw.
- Nearly 50 percent say they will, at the least, lag behind their competitors if they fail to do a better job of interconnecting the various parts of their businesses digitally.
- More than 80 percent of companies say the biggest risk associated with digitization is not embracing it.

Given these findings, it's not surprising that companies that have not yet achieved their digital transformation goals are not giving up on them. The vast majority of survey respondents—81 percent—say they plan to boost their spending on technology over the next two years as they fight to remain competitive.

Their challenge, of course, will be to spend that money wisely, and to do all the ancillary things that will be necessary to deliver the full range of benefits digitization has to offer. For many, this will require focusing more closely not only on the front end of the business, where company meets customer, but also on the back end, deep within the business, including operations and all the functions that support it. It will also require a stepped-up investment in people with digital technology skill sets.

THE BIG PRIZE: DIGITIZING OPERATIONS

Early efforts to take advantage of new digital technologies like big data and advanced data analytics focused largely on customer-facing activities, but our newest survey data indicate that digitization leaders are employing digital technology in operations, too. A study by IDC Research Inc. helps to explain why. IDC surveyed more than 2,000 businesses in a wide variety of industries around the globe, and compared the financial rewards available to those investing aggressively in new data and analytics capabilities (“leaders”) with the opportunity available to those investing minimally (“others”). The study found that “leaders” could expect to reap nearly \$1.6 trillion more in net benefits from digitization than “others” over a four-year period. Perhaps more strikingly, the study concluded that operational improvements would account for \$486 billion of the benefit, while customer-facing improvements would account for just \$158 billion. The rest of the gains were expected to come from support function improvements (\$674 billion) and innovation (\$235 billion).¹

Operational benefits from digitization—benefits that come from things like better use of data, Internet of Things technology, artificial intelligence, machine learning, and robotic process improvement—can come in a variety of forms, including reduced downtime and other productivity improvements. Along with using advanced analytics, companies may be able to improve their capacity utilization numbers and become more flexible in responding to customer demands and other external events.

¹ IDC, “Capturing the \$1.5 Trillion Data Dividend,” May 2014

“If you don’t create an end-to-end solution, you’re simply not going to be able to deliver the full benefits of digital technology,” says Gianni Giacomelli, chief innovation officer for Genpact Ltd., which helps other companies apply digital technology and analytics to their business processes.

Looking back on how we reached the current state of digitization, Giacomelli says companies tended to focus on customer-facing applications first for two reasons. For starters, much of it was greenfield technology. Customer relationship management software, for example, often didn’t really replace anything but paper and pencil. Later, websites became disposable items; as technology made it easier to connect with customers over the Internet in a more robust fashion, companies found it easy to toss obsolete websites and build new ones from scratch.

By contrast, introducing new digital technologies into operations running on complex legacy software and systems can be much more complicated. “Companies in many cases have core operations running on systems that have been in place for 10, 15, maybe 20 years or more,” Giacomelli says.

Finally, he says, many executive leadership teams likely found themselves presented with business cases that looked sexier for front-end projects because they promised revenue growth and profit generation. By contrast, the return on investment promised for operations-related technology initiatives typically focused on cost savings. Building a revenue- and profit-oriented business case for operations is possible, he says, but it takes more work and deeper analysis.

OUTCOMES TRAIL OBJECTIVES ... AND HERE'S WHY

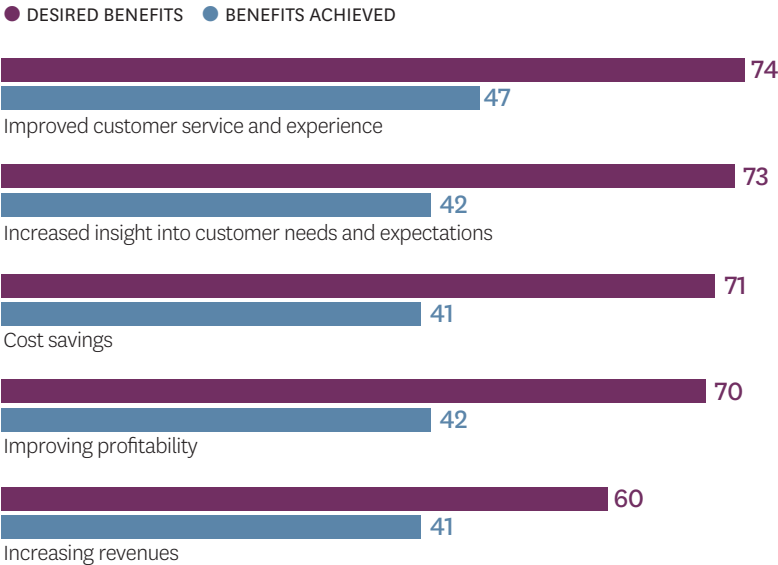
To understand where companies are and aren't realizing the full benefit of digitization, it helps to know what they want from it. Corporate executives say the five most important benefits they are seeking are an improved customer experience (74 percent of survey respondents), better profitability (73 percent), greater revenues (71 percent), increased insight into customer needs and expectations (70 percent), and lower costs (60 percent).

Sadly, many are nowhere close to realizing these outcomes. Only 47 percent claim they have been able to improve the customer experience, and only 42 percent report improved profitability. The numbers are nearly identical when executives are asked about boosting revenue (41 percent), increasing insight into customer needs and expectations (42 percent), and reducing expenses (41 percent). [figure 1](#)

FIGURE 1

OUTCOMES TRAIL OBJECTIVES

Percentage desiring versus achieving the following benefits from investments in digital technologies



SOURCE HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JANUARY 2017

Why the shortfall? Executives cite a familiar litany of obstacles, including the need to replace legacy information systems and the challenge of having siloed operations and information systems. They also blame budgetary constraints, a lack of vision, and a lack of employees skilled in the application of digital technology. [figure 2](#)

Digitization experts cite additional hurdles. Digital transformation expert Matthieu Colas, a member of the Fast Digital Team at Capgemini, an information technology consulting, outsourcing, and professional services company, says too many companies approach data and digitization as a technology issue, for example, rather than focusing on what they want to accomplish.

“It’s understandable, but it’s the wrong way to start designing your digital transformation,” agrees Giacomelli. “The right way is to focus on the key business outcomes you want to change.”

By way of example, Giacomelli says, consider a consumer products company operating in the U.S. Recognizing that the U.S. is a mature market with slow overall growth in most consumer product segments, this company likely understands that its biggest opportunities for growth will come from identifying attractive market niches and targeting the bulk of their efforts at them.

FIGURE 2

CHALLENGES TO REALIZING THE BENEFITS OF DIGITAL TECHNOLOGY

Percentage of challenges organizations face in leveraging digital capabilities to improve operations



SOURCE HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JANUARY 2017

WHAT ABOUT RISK?

While digital technology offers companies a wide array of benefits—faster, more efficient, less error-prone operations; better customer insights; closer relationships with customers; and, ultimately, higher revenues and profits—it also invites new risks. Nearly half of survey respondents—47 percent—say digital technology has already opened up their organizations to increased risk. Topping their concerns is reputational risk associated with a data breach, cited as a significant risk by 56 percent of survey respondents. Other key risks—mentioned by more than 45 percent of survey respondents in each case—include protecting the security of customer data, lagging competitors if their company fails to pursue digital interconnectivity, negative impacts on customer experience due to technical failures, and business interruption due to technology failures.

These figures indicate that even as they go about digitizing their organizations, corporations must be mindful of the expanded risks that accompany new technologies, and must implement systems and processes to manage them.

“If I know need to grow at this kind of granular level, I want to know what the digital tools are that will help,” Giacomelli says. “Then I can start having the right discussions about technology. So I begin not by asking what technology is available and how I can use it, but by asking who needs to make decisions about our product assortment? Who decides about R&D? Who decides about product promotions? Who needs data points about where demand is coming from? Why do they need this information? Once I’ve figured out the ‘who’ and the ‘why,’ I can start thinking about the ‘how.’ Most companies still don’t do that, but there is a very high correlation between those who do and those who make digital work. You want to reimagine your processes, figure out how you can use technology to augment human labor, and create a collective intelligence between humans and machines that is totally superior to what either can offer on their own.”

A LEADERSHIP CLASS EMERGES

A significant minority of companies—43 percent—are achieving positive outcomes from their investments in digital transformation, and stand in sharp contrast to those achieving only modest benefits (followers) and negligible benefits (laggards). These leaders are considerably outpacing the other two groups in business performance, with 73 percent reporting increased revenues, versus 20 percent of followers and 12 percent of laggards. Similarly, 68 percent of leaders report improved profitability, versus 25 percent of followers and 14 percent of laggards.

Beyond the usual hurdles to change, the degree of success companies are having with digitization also seems to be related to where they are focusing their efforts. Leaders are more likely to say, by an average of approximately 20 percentage points, that they have achieved a single view of their customers, with increased insight into what those customers need and expect. Yet they don’t appear to be sacrificing one area for another; they also report, by a comparable margin, a tighter

Digital transformation leaders are quicker to adopt digital technology and spend more on it, and are more amenable to seeking out and hiring workers with the skills to take advantage of the technology.

integration with their supply chains and distribution networks than followers and laggards. This suggests their focus has gone beyond the customer interface.

Leaders also say their investments in digitization, including data analytics, have improved their compliance position and compliance transparency.

HOW LEADERS AND LAGGARDS DIFFER

To gain a clearer understanding of why some organizations are reaping greater benefits from their investments in digital transformation, it is helpful to compare how they think about the issue and where they actually invest their time and effort relative to their less successful peers. The differences amount to a road map for organizations that would like to improve their odds of winning the digital transformation race.

Beyond the improvements many companies have made in customer-facing Internet and mobile processes—digitization efforts that make it easier for customers to research their products; place, track, and pay for orders; resolve disputes; and interact with other users of their products and services—leaders use digital technology more effectively behind the front lines, too. As we’ve noted, they also use it to more tightly integrate their supply chains and distribution networks. They also leverage digital technology to improve their compliance activities via analytics and real-time transparency. “The more successful companies,” Colas says, “are using operations data and insights on a daily basis at all levels of the company. That makes a big difference.”

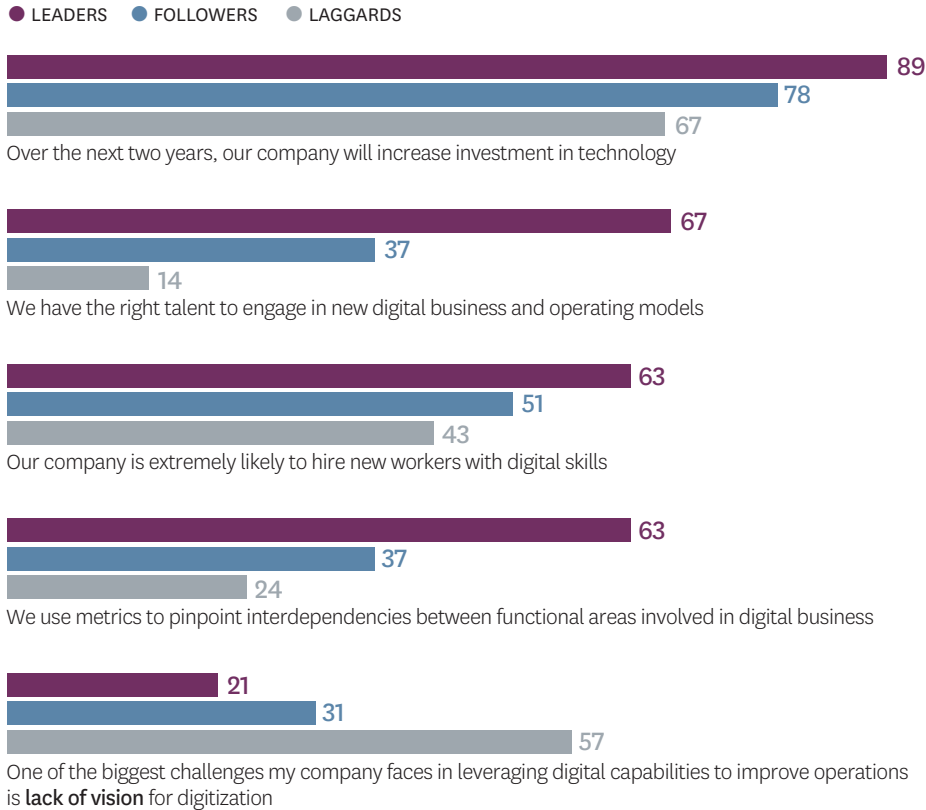
Leaders think and behave differently, too:

- At digital transformation leaders, senior executive teams are more likely to provide buy-in and support for digital capabilities, and to have a vision for how it can transform their companies.
- Digital transformation leaders are quicker to adopt digital technology and spend more on it, and are more amenable to seeking out and hiring workers with the skills to take advantage of the technology.
- Leaders are more likely to use metrics to pinpoint interdependencies between functional areas involved in digital business.
- Finally, by a wide margin, leaders are more likely to believe that becoming a digital business requires a flatter, more open organization, one that shares data not only internally but also with external partners such as suppliers and distributors. [figure 3](#)

FIGURE 3

LEADERS BEHAVE DIFFERENTLY

Percentage in each area agreeing with the following statements



SOURCE HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JANUARY 2017

CHARTING A BETTER WAY FORWARD

Our survey findings suggest that companies still struggling to reap the benefits of digital transformation may need a broader approach to the undertaking, one that addresses not only the front end of the business but also the back end—from R&D through the supply chain, the manufacturing process where applicable, and the distribution network. Right now, planned investments are focused primarily on the IT and sales and marketing functions, which are given high priority by 66 percent and 64 percent of survey respondents, respectively. Somewhat more encouragingly, the area cited as a priority by the next largest group of survey respondents—49 percent—is “general operations.” figure 4

A broader approach to embracing digital technology across the enterprise will also require that corporations revisit the human component of digital transformation, from the commitment and leadership of the senior executive team to the availability of front line employees who have the

skills to take advantage of all that digital technology has to offer. According to survey respondents, the top skills required by the increased focus on digital business include the following:

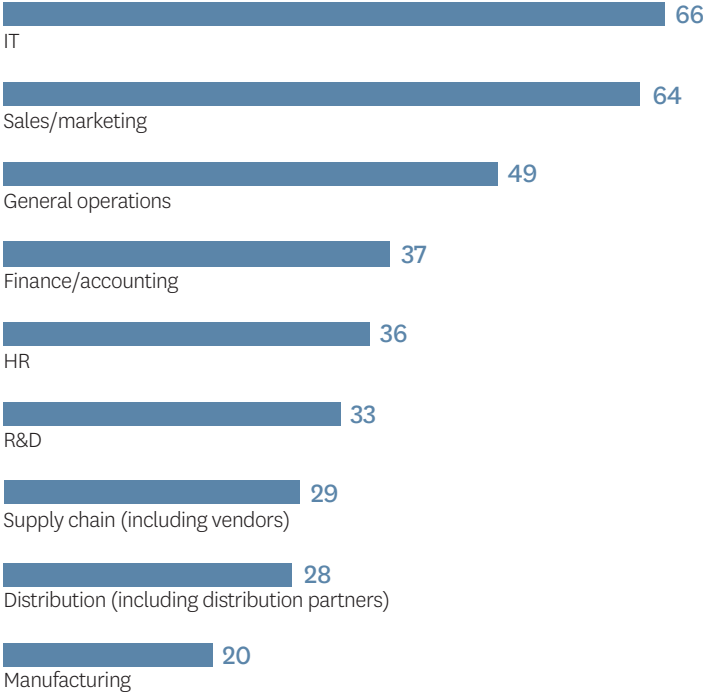
- An ability to adapt to change (cited by 79 percent of respondents)
- An ability to communicate and collaborate (62 percent)
- A customer-focused orientation (61 percent)
- Analytical aptitude (47 percent)

Note that pure analytical chops rank only fourth on this list, an important and telling finding.

“You need the right pool of talent, and you need to enable those employees with the right concepts and frameworks,” says Giacomelli, stressing that companies need a diverse group of people to pursue digital initiatives. This should include not only digital experts but also analytics experts, process design experts, and human resources experts, ideally working together on cross-functional teams. He adds that companies also need, but are often missing, what he calls translators—people who understand enough about technology and enough about business processes to be able to sit in meetings and connect the dots for the rest of the team members who have more narrow backgrounds.

FIGURE 4
DIGITAL INVESTMENTS STILL FOCUSED ON THE FRONT END

Percentage investing in the following areas in further developing digital technology and capabilities over the next 24 months



SOURCE HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JANUARY 2017

Creating a flatter, more sharing organization will depend not just on getting the enabling technology right, but on getting the human side right, too, and that means getting past turf wars and taming internal politics.

“We can get people organized in workshops, but too often the team doesn’t fire because they cannot understand each other; their jargon is different,” Giacomelli explains. “It takes time for them to align with each other and be able to explain things to each other. Translators—people who understand both sides—are incredibly important to overcoming this hurdle. They may not be super deep in either discipline—they may not be able to write the algorithm, or do the Six Sigma job of the process people—but they may be able to say, ‘Hey, I have an inkling that an artificial intelligence engine could be used in this part of the process,’ or ‘This group of people could be helped by being given insight into this bit of data.’”

Not all companies are doing everything they can to secure people with these capabilities. Among digital transformation leaders, 63 percent say their organizations are likely to hire new workers with digital skills as their businesses become even more digital, and the same percentage say they are likely to retrain existing workers. Among digital transformation laggards, by contrast, those percentages are 43 and 40 percent, respectively.

Companies seeking a new approach to digital transformation also must be mindful of their organizational structure, and strive to create an environment in which information from across the enterprise is both readily available and easily shared, not only internally but with suppliers and distributors. “Creating a more collaborative organization is one of the keys to digital transformation,” Colas says. “Being able to have an integrated view of data—operations data, customer data, and R&D data—accounts for a huge part of the difference between game changers and laggards.”

The question, as always, is how to make this happen—how, in this instance, to make this flatter, more connected enterprise a reality. On the technology front, Giacomelli predicts that leading companies will make extensive use of APIs—application programming interfaces—to allow disparate computer systems to share information much more easily than they could in the past.

“Think about all the information housed in supply chains and distribution networks,” Giacomelli elaborates. “A lot of this information doesn’t sit within the same company. And often when it is in the same company, it doesn’t all fit within the same system. You have logistics systems, warehousing systems, production systems, and planning systems, sometimes disintegrated and talking to each other through people and spreadsheets. The problem becomes even worse when you start talking to suppliers or channel partners; all these people have different systems, too. In the old times, pulling that stuff together was prohibitively difficult. Now, with APIs, you can do it. I think one of the biggest advances we’ll witness in the next five years is the orchestration of previously siloed operations, both within companies and across companies, using APIs.”

More than 80 percent of those surveyed say the biggest risk associated with digitization is not embracing it, and that they plan to boost their spending on technology over the next two years.

Of course, creating a flatter, more sharing organization will depend not just on getting the enabling technology right, but on getting the human side right, too, and that means getting past turf wars and taming internal politics. Colas says companies can't do this quickly, by decree, and can't put all of the responsibility for it on the IT department, either. Rather, he says, senior leadership must encourage and nurture a sharing environment over a long period of time. He also suggests that companies create centers of competency for various processes and functions that can help drive the adoption of collaborative technologies.

Many companies already recognize these imperatives. In listing the biggest challenges to leveraging their digital capabilities to improve their operations, surveyed companies cite "siloed operations and information systems" among their top three hurdles. And digital transformation leaders—those realizing the most benefits from digital technology today—are already much more likely to say they are able to share data from one area of their operations to another as a result of that technology.

CONCLUSION

Opportunities for using digital technology to create more efficient, effective, and innovative corporations are multiplying at a dizzying pace. Unfortunately, many companies have failed to capitalize on those opportunities due to a wide range of challenges, including a lack of vision, a lack of implementation skills, and siloed operations.

Companies that are capitalizing on digitization show a way forward for others that would like to join them. Digital transformation leaders are seeking to leverage technology not only in sales and marketing but also in operations, where the opportunity may be even greater. They are willing to pay for digital technology, and to seek out and hire employees with the skill sets needed to take advantage of that technology. They are working to share information broadly across the enterprise and with their supply chain and distribution network partners, recognizing that the benefits of digitization can grow exponentially when the entire organization is working together. Finally, they have leaders who have a vision for how digitization can transform their organizations and who are willing to champion it.

Most companies seem to appreciate that they need to embrace this winning approach to digitization. More than 80 percent of those surveyed for this study say the biggest risk associated with digitization is not embracing it, and that they plan to boost their spending on technology over the next two years.

If they do so smartly—if they pursue digital technologies with a sharp eye on desired outcomes—they, too, will have a real chance to become digital transformation winners.

METHODOLOGY AND PARTICIPANT PROFILE

A total of 335 respondents were drawn from the Harvard Business Review audience of readers (magazine/enewsletter readers, customers, HBR.org users).

SIZE OF ORGANIZATION

Thirty-five percent were in organizations with 10,000 or more employees, 39 percent were in organizations with 1,000-9,999 employees, and 26 percent had 100-999.

SENIORITY

Eighteen percent of respondents were executive management or board members, 36 percent were senior management; 36 percent were middle management; 10 percent came from other grades.

KEY INDUSTRY SECTORS

13 percent were in manufacturing; 12 percent were in financial services, 11 percent were in education, and 10 percent were in technology. Other sectors were each represented by 7 percent or less of the respondent base.

JOB FUNCTION

Thirteen percent of respondents were in general/executive management; 13 percent were in sales/business development, 9 percent were in R&D/product development, 8 percent were in IT, marketing/communications, and production/manufacturing. Other functions were represented by 8 percent or less of the base.

REGIONS

Thirty-one percent of respondents were located in North America; 30 percent were from EMEA, 27 percent were from Asia, and 9 percent were from South/Central America.

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