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A REPORT BY HARVARD BUSINESS REVIEW ANALYTIC SERVICES

The Leadership Edge in Digital Transformation

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EXECUTIVE SUMMARY

A company's ability to innovate and effectively exploit information technology is crucial for survival in today's turbulent business environment. But in new research from Harvard Business Review Analytic Services, roughly half of 750 business and technology leaders said their organizations had missed out on new technology-enabled business opportunities because their IT department was too slow to respond.

With opportunities and threats evolving faster than ever before, companies that can innovate quickly with technology are gaining a competitive edge. Executives who said their IT departments are highly responsive—about 20 percent of respondents—said their companies were successfully leveraging technology, seizing opportunities, and making the transition to digital business much faster than their competitors. From retailers who are moving quickly to create immersive multichannel marketing experiences to manufacturers who are retooling their supply chains, these companies are able to increase both innovation and speed in transforming their companies.

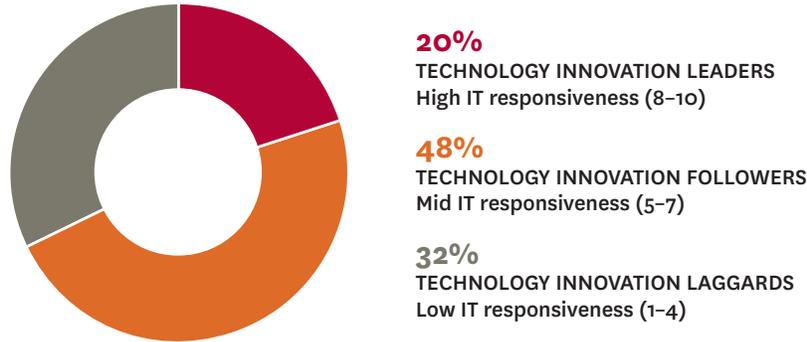
What's helping the leaders move ahead in digital transformation and what's slowing down the laggards? Many factors go into creating responsive IT—having sufficient funding and the right skills and taking a more agile approach to technology development, to name just a few. However, the research revealed two unanticipated factors for success. First, collaboration and communication between IT and other stakeholders in the business is critical to effectively exploit IT for business advantage. Respondents from companies who were leading in technology innovation reported high levels of collaboration, while close to two-thirds of companies with slow-to-respond IT say they have a poor track record in this area. [figure 1](#)

.....
In a digital age,
business agility
depends on
responsive IT.
.....

Figure 1

How Responsive Are IT Organizations?

How responsive (or quick to act) is your IT organization to ideas initiated by the business for fast-moving technology innovation?



Second, companies that were focused on innovation and faster time to delivery reported working with a mix of internal and external IT providers, making better use of partners so their internal staff can focus on new development and innovation. Respondents who said they preferred to work exclusively with internal IT said security and reliability were their drivers—NOT innovation and speed.

Clearly, responsive IT is critical to company success, and effective cross-functional collaboration and the ability to work effectively with both internal and external providers are key enablers of that responsiveness. For CIOs, innovative thinking and knowledge of emerging technology surfaced as the two most important attributes for IT leaders today. Knowledge of legacy systems was deemed to be the least relevant attribute when it comes to adding value to the business. That's not to say keeping the engine of the company running smoothly is not important; of course it is. However, many business leaders—and CIOs themselves—have come to consider that as “table stakes” in this era of digital disruption.

Digital Transformation and Business Survival

The world is changing—fast. Businesses must respond quickly to new digital opportunities, but for large, established organizations, this can be incredibly challenging. Cultural resistance, fixed processes, and outdated IT systems get in the way. CIOs are at the center of this dilemma, as most companies today depend heavily on IT. In fact, 75 percent of respondents said their company's survival depends on their ability to successfully exploit information technology, with 41 percent strongly agreeing that this is so. And it's not just IT leaders saying this; more than half (53 percent) of executives and senior managers in marketing and sales strongly agreed.

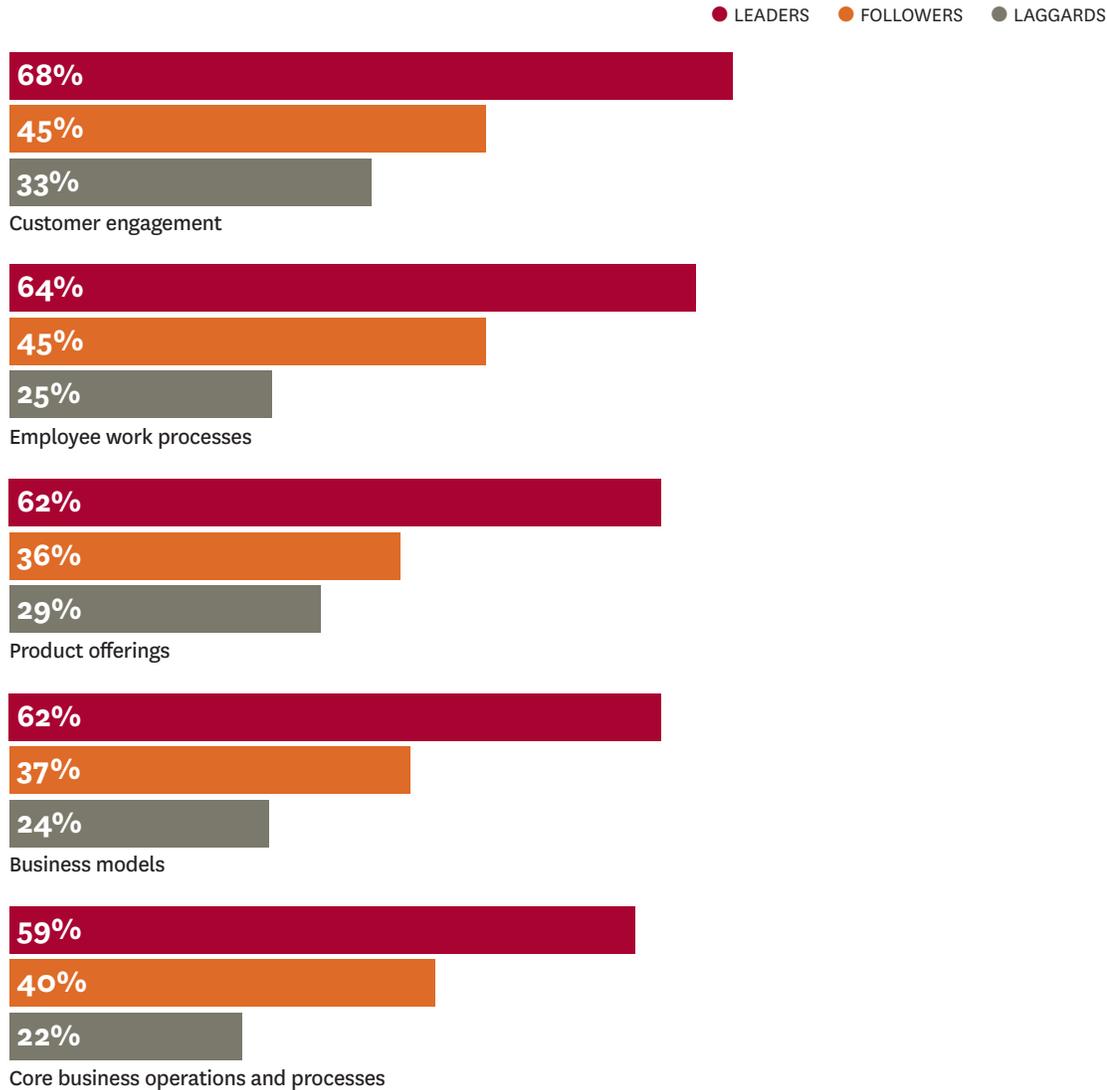
New technologies and the expectations of digitally savvy customers are having a profound impact on all aspects of business. We see this most dramatically in the ways companies engage with customers, but also in the ways in which employees work, the products/services companies offer, their business models, and even core operations and processes. [figure 2](#)

Companies are using IT in areas where it has never been used before. For example, a luxury goods retailer in Europe, whose high-touch business historically depended very little on IT, is engaging customers

Figure 2

New Technology's Impact on Business

To what extent is the confluence of new technologies (e.g., cloud, mobile, data analytics, social networking) changing the following in your organization? [TOP BOX SCORES, 8-10, 10 = COMPLETELY TRANSFORMED]



with video storytelling, interactivity, embedded calls to action, and the ability to make a purchase on the spot—and this is happening across multiple channels, including online, mobile, print, interactive TV, and physical stores. The goal is to “capture the imagination at the first point of contact, then follow through,” said the CIO. “We’re very time poor, and we live in a society that is impulsive,” he explained. “People don’t necessarily save up for things. We need to capture the consumer at the point of greatest desire.” Consumers who encounter a product in a magazine piece can scan a QR code to “engage with an off-the-page experience,” he said. Viewers of interactive TV will be able to stop the ad and click through to a purchase. In physical stores, the same videos will play across store windows.

This innovative approach has implications across the business. For IT, it has meant moving multiple brands to a new ecommerce platform on the front end and then converging them. On the back end, the company is migrating to a single ERP. It is currently halfway through a five-year transformation; when it’s complete, online, store systems and ERP will all be linked for greater efficiency and a more compelling and responsive customer experience, affecting product design and development, supply chain, and more.

Digital innovation is not just about the front end, however. For a European manufacturer, the real value of IT comes from being able to marry demand with suppliers’ capabilities in order to quickly roll out new products. Most of the retailers the manufacturer works with don’t have the data or the analytic capabilities to provide accurate insight into what the market is doing, according to the manufacturer’s strategic supply chain consultant. Distribution centers can’t ship product if they don’t have the right packaging on hand. Making a single change to packaging could cause seven or eight renegotiations with suppliers, further slowing things down as the company goes through its own inventory, supply of paint, the size of the mills needed, etc. So the manufacturer is using Big Data not only to augment the information they get from retailers but to simulate what’s happening on the supplier end to determine capacity and constraints and propose a new plan based on that information rather than go through the negotiation process again. “The trick is not to forecast but to become adaptive and operate in real time,” he said. This will enable the manufacturer to shift from a six- to seven-week lead time to making commitments with suppliers on a rolling-week basis.

In the current fast-changing environment, even companies that were born in the digital age can find themselves playing catch-up. For example, a 16-year-old online media company—one of the first companies in its niche and one of the few companies to survive the dot-com boom and bust of the late ’90s—finds itself getting beaten by newer competitors because its technology has become outdated (slower servers, older database structures), and it was slow to see the shift to mobile. It was not alone. Many companies are constrained by existing technology—41 percent say their legacy systems consume too many of their resources. Close to a third of respondents lack effective mechanisms for prioritizing IT investments.

One finding that is of particular concern for CIOs is that almost half of companies surveyed say they have missed opportunities because their IT department was too slow to respond—and 64 percent of laggards say so. [figure 3](#) Companies with highly responsive IT departments, on the other hand, miss fewer opportunities and are making the transition to digital business much faster than their competitors.

The Highly Responsive IT Department

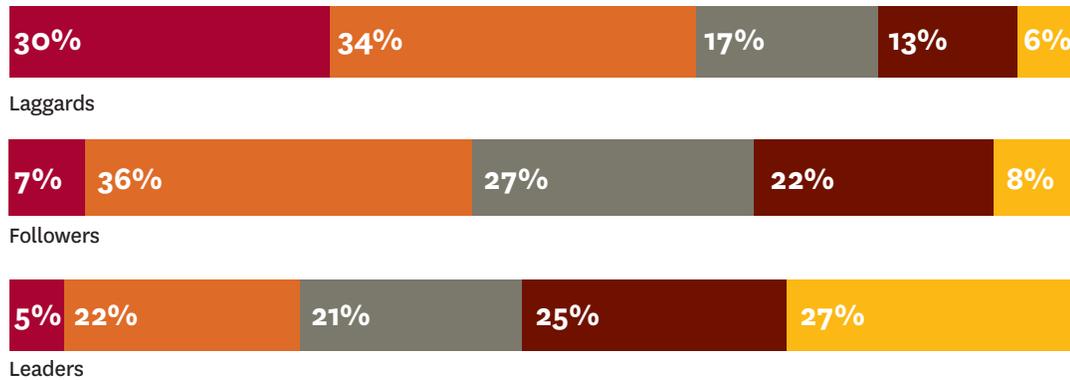
Responsive IT leads to better business outcomes. Forty-two percent of companies with responsive IT departments strongly agree that their IT department is highly successful at leveraging new technology for business advantage, compared with only 10 percent of companies with moderately responsive IT and 4 percent of laggards.

Figure 3

Missed Opportunities—IT Too Slow to Respond

Please indicate the extent to which you agree or disagree with the following statement: Our organization has missed opportunities because IT was too slow to respond.

● STRONGLY AGREE ● SLIGHTLY AGREE ● NEITHER AGREE NOR DISAGREE ● SLIGHTLY DISAGREE ● STRONGLY DISAGREE



So what's getting in the way? Forty-nine percent of respondents said a lack of bandwidth in IT is the primary obstacle to their organization's ability to take advantage of new digital technologies. Being responsive requires offloading non-value-adding work and effectively prioritizing investments of time and money.

Highly responsive IT departments take a different approach to technology, according to the research. This includes:

- Simplifying infrastructures to enable business agility
- Shifting internal IT staff off of maintenance and support so they can focus on new development and innovation
- Making better use of partners
- Moving workloads to the cloud where doing so makes sense
- Using agile development

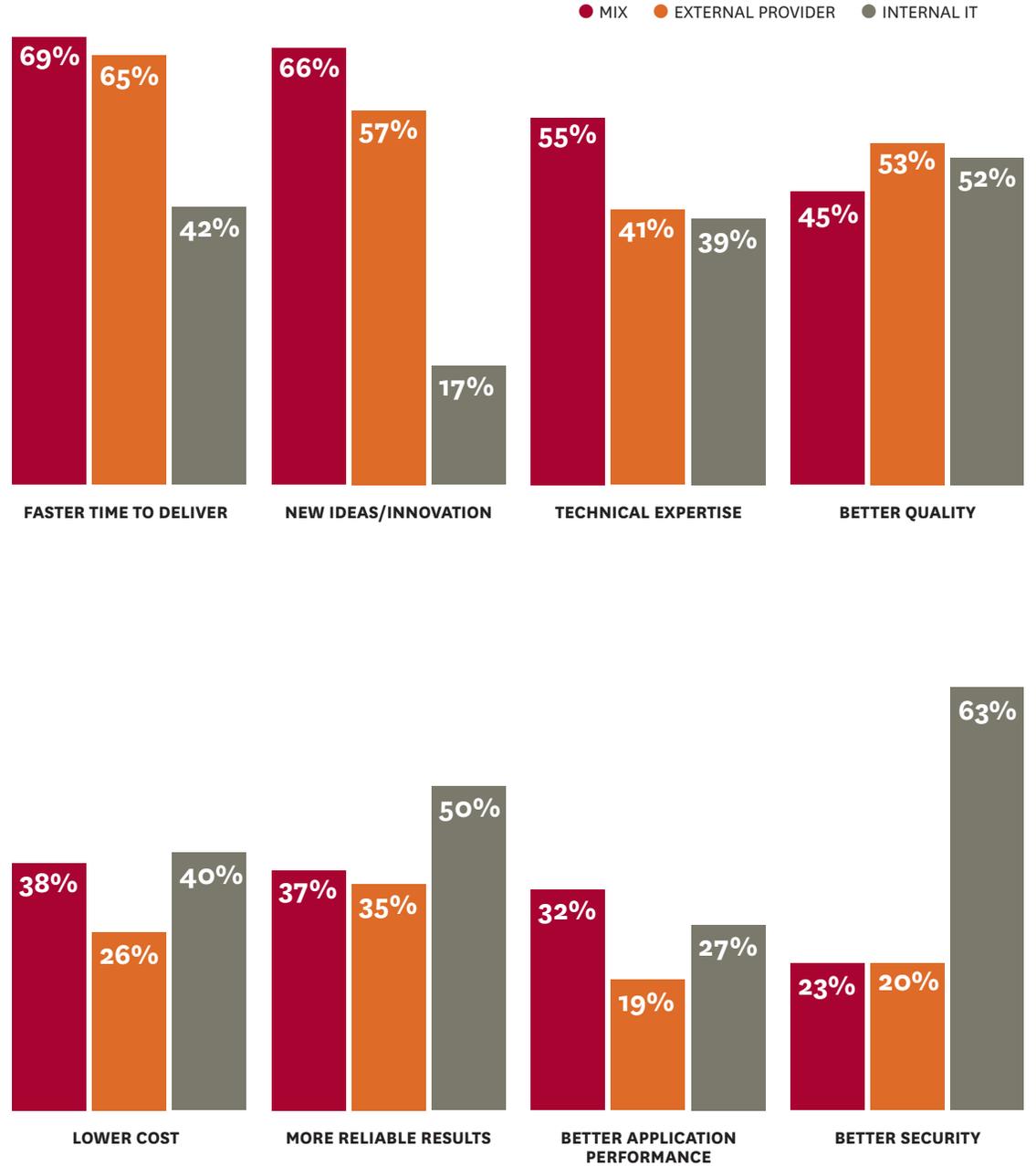
The CIO at a global industrial manufacturing company is a strong believer in the business benefits of simplification. "The more you can drive standardization into your ecosystem, the more agility you can have," he said. "If I've got four or five ERPs, all just a bit different, I can't optimize the supply chain or easily provide insight into the business."

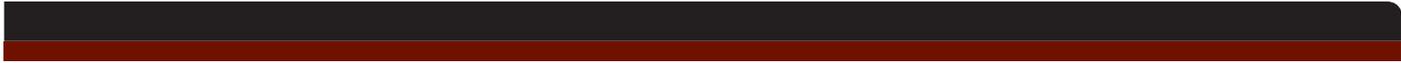
Of course, whether to centralize and standardize systems is a company-specific decision. A large mobile technology company that regularly launches or acquires new businesses and that needs to stay on the cutting edge of technology has adopted a "multi-instance strategy that's set up for speed." It has found that it's faster (though not necessarily less expensive) to spin up a new business and then integrate it into

Figure 4

Reasons for “New Tech” Partner Choice

Why did you select the preferred new technology partner that you did?





the company's control systems than it would be to add new functionality into existing systems. Engineering data is centralized, and the company has a shared product life cycle management system, but front-end systems are run locally. Given the importance of integration, the company has structured IT into three areas—not just applications and infrastructure, but also middleware—and the person who runs integration is also in charge of enterprise architecture. “Our IT architecture is orchestrated for speed and flexibility rather than cost optimization,” said the CIO. “Having a rock-solid integration strategy is very important to our success.”

When new technologies emerge, companies that want to move quickly have two basic choices: hire in the skills necessary if they don't already exist in-house or outsource development to a third party—perhaps with the idea of then bringing the capability in-house at a later date. This is what the online media company did for its mobile development. “We didn't have people who could build mobile apps,” said the director of strategy and analysis, “so initially we outsourced it.”

The luxury goods retailer hired staff from the online trading world who had no experience in retail but knew plenty about high-volume transaction processing. The company is also building out its skills in the digital space, sourcing in London, where a lot of that talent resides. On the back end, it supplement's its internal team with external suppliers. “We're in the midst of transformation right now,” said the CIO. “We don't want to build out the core team to be too big and then have to downsize later.”

Given a choice, most business leaders (62 percent) prefer to work with a mix of internal IT and external providers—and the primary reasons given for that preference are speed, innovation, and ensuring they have the necessary technical expertise to accomplish their goals. [figure 4](#) This reflects a growing shift in the role of IT—from an organization that builds and runs systems to an orchestrator or “broker” of IT services, whether internally developed or not; 41 percent of respondents said this shift is happening at their organizations. Companies that prefer to work exclusively with internal IT (22 percent) are significantly more focused on security.

This shift can also be seen in the role of the CIO. CIOs who lead responsive IT departments are more innovative, have greater knowledge of emerging technologies and integration, and are less focused on legacy systems. [figure 5](#) This is important, as respondents named innovative thinking and knowledge of emerging technology as the two most important attributes for IT leaders today. Knowledge of legacy systems was deemed to be the least desirable attribute, with only 18 percent of respondents naming it.

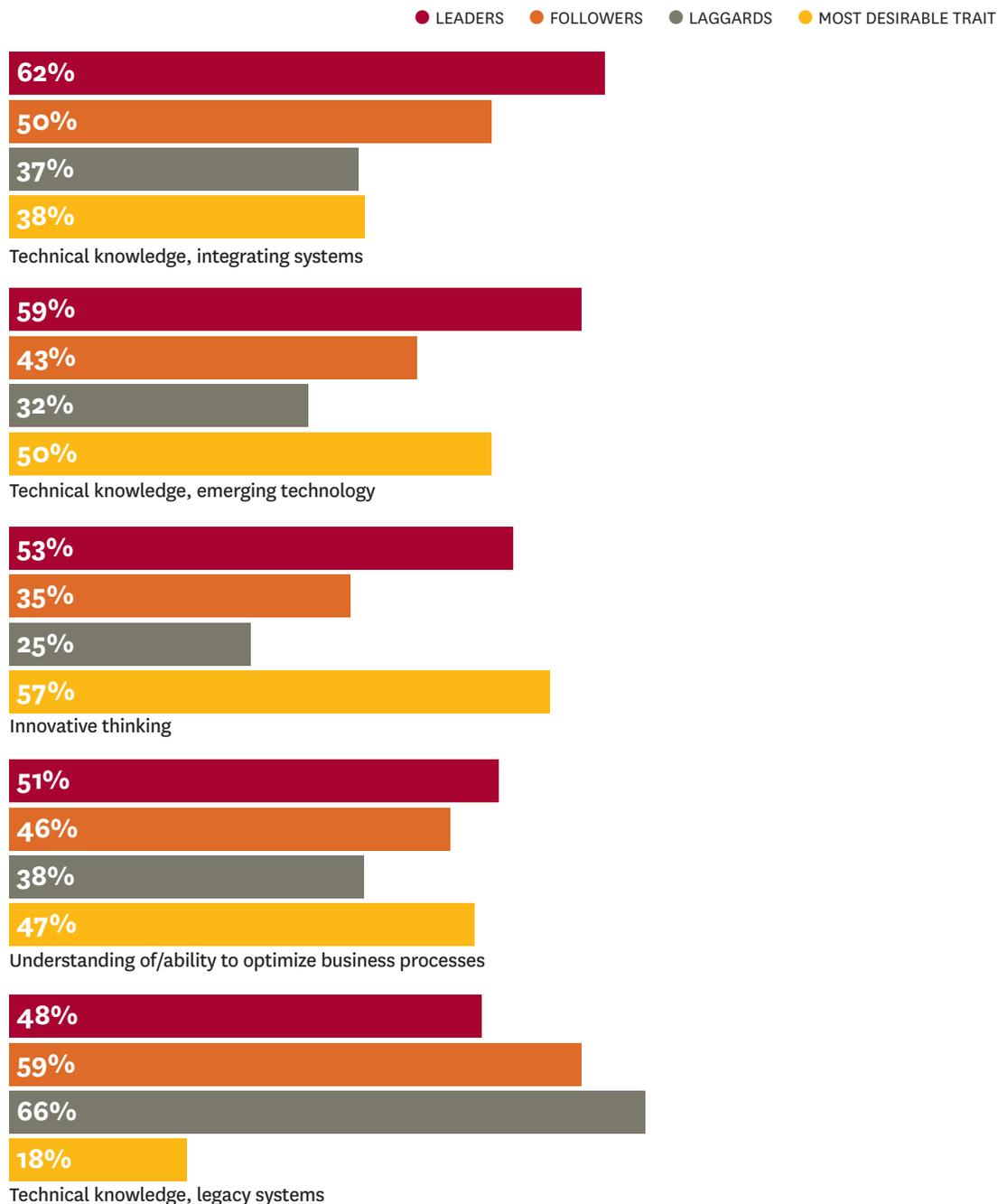
Blurring the Boundaries of IT

There are many stakeholders and many ways to source ideas and technology when it comes to digital business. Cloud computing, for example, has become an accepted part of enterprise IT, with fewer than 10 percent of respondents not using any cloud services. [figure 6](#) Cloud enables companies to move quickly when new opportunities come along and to pay only for the capacity used. Despite some conventional wisdom, there is little evidence in this study that cloud is being used to sideline IT, with only 10 percent of respondents saying business groups act independently when it comes to software as a service (SaaS). In fact, IT is involved in everything from setting standards to negotiating contracts to managing governance and vendor SLAs for SaaS applications. Companies with highly responsive IT departments actually use more cloud; 32 percent have more than half of their IT in the cloud, while only 12 percent of companies with unresponsive IT departments do.

Figure 5

IT Leader Skills Reflect Differing Priorities

Which of the following skills, knowledge, or attributes best characterize your IT leader today? Which of the following skills, knowledge, or attributes would it be most useful for that person to have in order to add the most value to the business?



The cloud not only helps with business agility; it enables IT to focus on more strategic activities—and that starts with the CIO. Roughly three-quarters of all respondents say their company’s ability to acquire IT or software as a service has either freed up the CIO to be more strategic (40 percent) or not changed the CIO’s role at all (34 percent). A full 60 percent of CIOs who lead highly responsive IT have been freed up by SaaS to be more strategic. [figure 7](#)

Boundaries between traditional IT and other parts of the business are blurring as well. Highly responsive IT departments are more likely to engage and empower end users in the technology process, with 82 percent providing security and support for technology acquired by end users; 45 percent supporting user-acquired devices with a BYOD policy; and 44 percent allowing frontline staff to propose and develop applications. [figure 8](#) At the European manufacturer, IT runs core systems like ERP and security and provides interfaces so those in the field can do what they want—particularly when it comes to data analytics. “Digital transformation will happen out in the regions to meet local demand,” said the strategic supply chain consultant.

All this is driving a shift in the kinds of skills and mind-sets needed in IT, as companies examine what IT should “own” versus the services it should “broker.” CIOs are increasingly off-loading work and workloads that are deemed not to be strategic to partners that can provide the capability—and keep up with changing technology—with greater reliability for a known cost. In this way they can refocus their internal staff on business innovation and strategic capabilities—like the mobile technology company’s focus on integration or the retailer’s focus on customer engagement and high-volume transaction processing.

Figure 6

Extent of Cloud Usage

To the best of your knowledge, how much of the IT used in your area of the business is cloud-based (i.e., software as a service)?

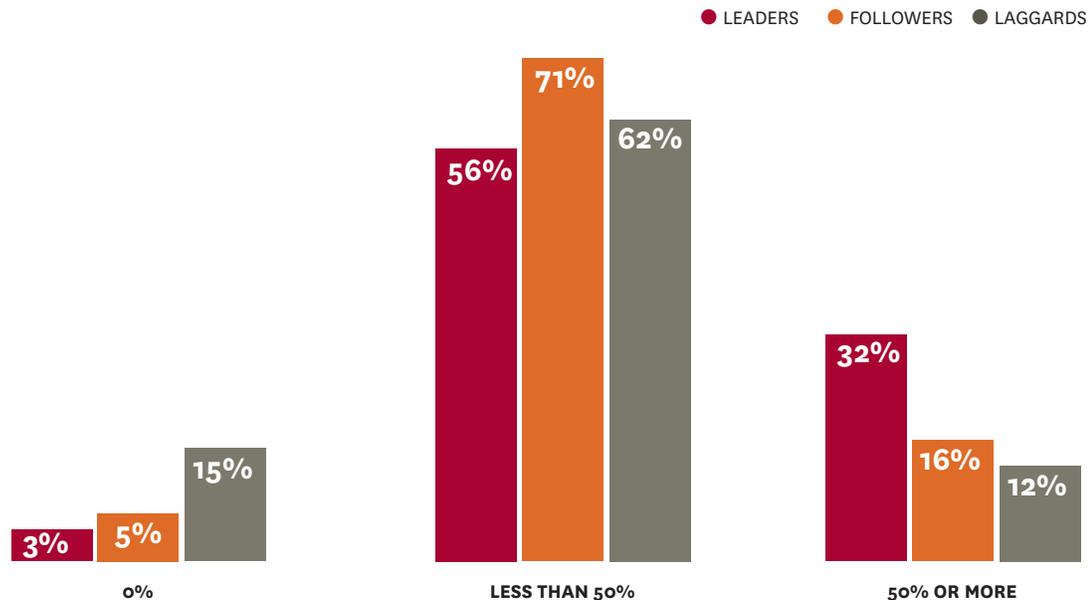
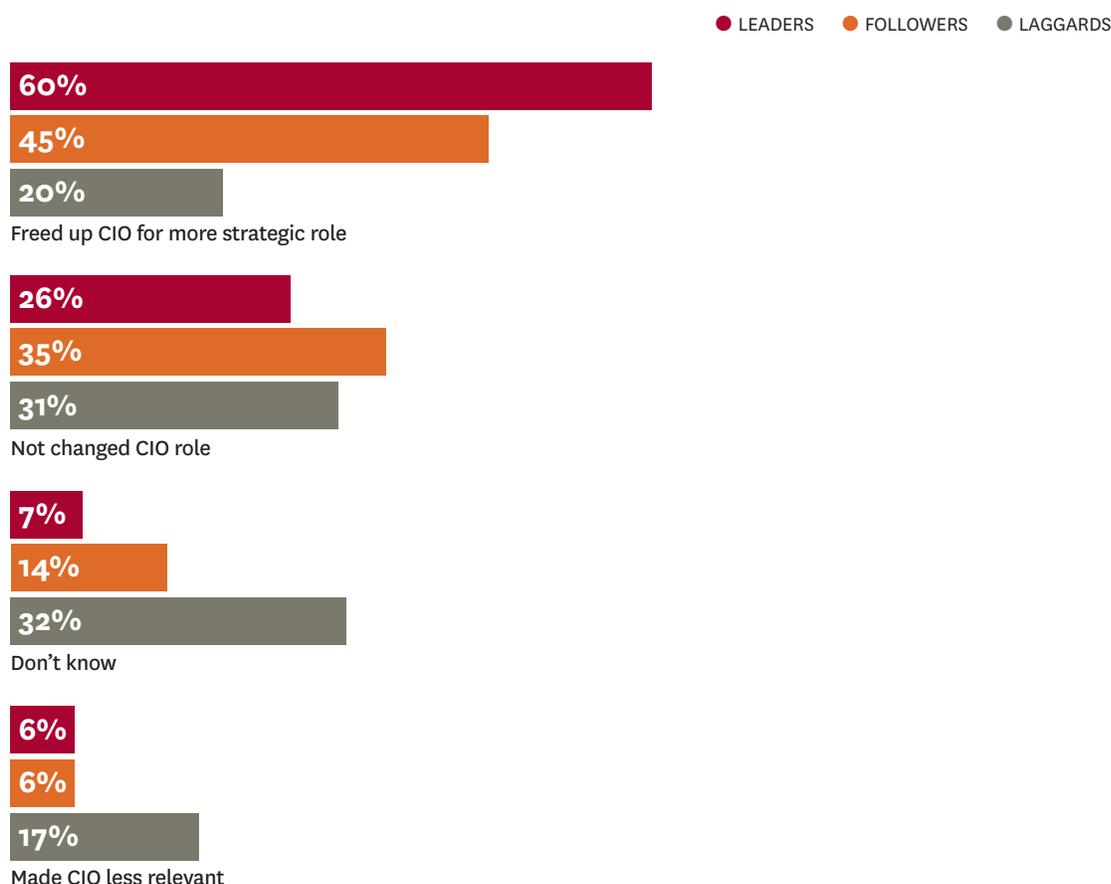


Figure 7

Effect of SaaS on CIO Role

How is the ability to acquire “IT or software as a service” affecting the role of the CIO in your organization?



Most survey participants say that ideas for digital innovations come equally from IT and other parts of the business. [figure 9](#) Mechanisms to surface and collect new ideas have become commonplace—typically using company intranets, where any employee can submit ideas. The harder part, according to executives interviewed for this project, is assessing and prioritizing the ideas and then bringing them to fruition. Some companies take a formal approach to this, with cross-functional innovation committees that consider all ideas equally. Others take more of a “patronage” approach. “The person who comes up with the idea needs to be able to articulate it clearly to a line-of-business leader who will then lobby for funding and support it through testing and rollout,” said an executive director at a large global bank. “They need to convey what it will look like and how it will benefit customers and keep us ahead of our competitors.” If this approach sounds parochial, consider this: A recent company newsletter listed over 1,000 new ideas the bank had implemented that got their start on the intranet.

Wherever ideas originate, collaboration and communication between IT and different stakeholders in the business is critical to exploiting new technologies for business advantage—90 percent of respondents hold this view. However, many companies have a poor track record of cross-functional collabora-

Figure 8

Responsive IT Departments Engage and Empower

Which of the following are taking place at your organization?

● LEADERS ● FOLLOWERS ● LAGGARDS



IT department provides security, etc., for tech acquired for end users



Firm has BYOD policy



Frontline staff able to propose and develop apps



IT department becoming more of an IT services broker



IT department uses internal crowdsourcing to decide which apps to support



LOB and functions procure own IT services



We lack the relevant skills

Figure 9

Source of Digital Business Innovations

Are digital business innovations (new products or processes) at your company being driven primarily from the IT organization or from other parts of the business?

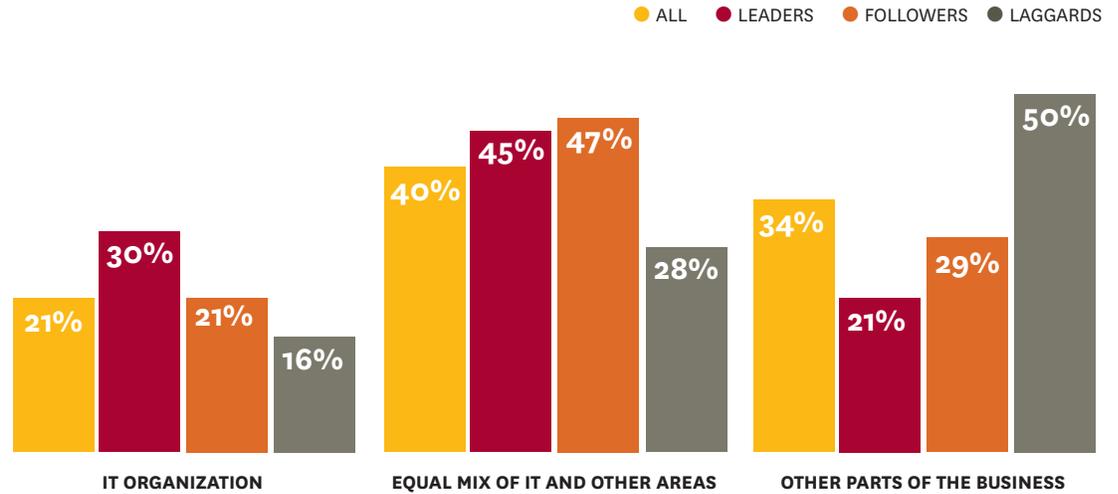
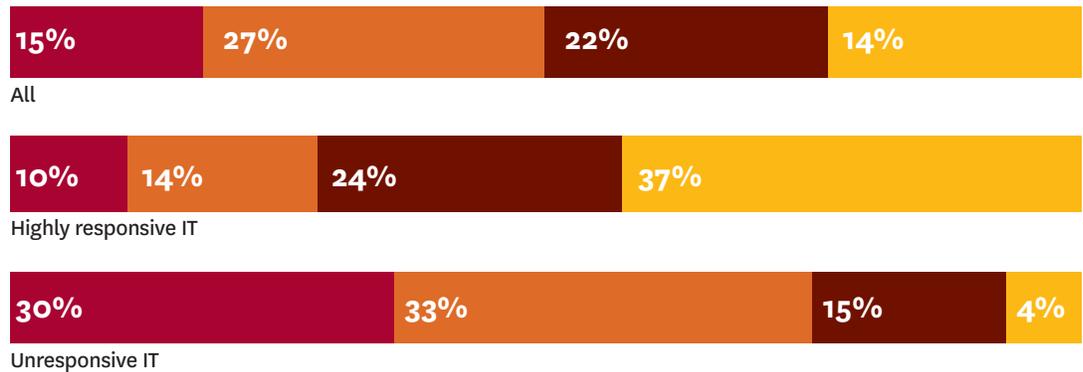


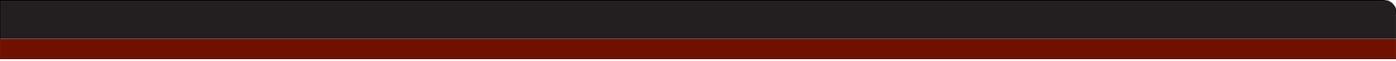
Figure 10

Poor Cross-Functional Collaboration

Please indicate whether you agree or disagree: Our organization has a poor track record of collaborating across functions.

● STRONGLY AGREE ● AGREE ● DISAGREE ● STRONGLY DISAGREE





tion—especially those with IT departments that are slow to respond when it comes to digital innovation. **figure 10** This must change.

“We have a close collaboration between IT and other parts of the business,” said a senior executive at a large petroleum company in Asia. As a result, he said, “we can do things at speed. Our team is very efficient.” One reason collaboration is so successful is that employees move into and out of IT on a regular basis. For example, someone from a business function might move into IT to become certified in SAP, then return to his or her function—or not. The reverse happens as well, with “business information managers” helping to guide business managers in the advantages of using different technologies. This results in a deeper understanding of business requirements and technology capabilities on both sides, improving communication and leading to better outcomes faster.

This need for collaboration is especially strong in areas that are undergoing the most digital change, such as marketing. With technology so intertwined in how the company engages with customers, the luxury retailer has IT staff working literally side by side with the “creatives” as they develop the best possible customer experience.

The issue of who should lead digital transformation is still unfolding. Most say the CIO should lead—42 percent of all respondents say so, as do 64 percent of those who work in IT. But responses of general managers are much less clearly defined. While CIOs still lead at 30 percent, there are also strong votes for the CEO (21 percent), LOB leader (17 percent), and COO (15 percent). IT respondents are more supportive of a chief digital officer than are general managers. There is little support for having the CMO or CFO lead digital transformation.

Conclusion

For businesses to be competitive during this time of transformation, they must increase the speed with which they innovate around new digital initiatives. This requires a willingness to kill existing products and ways of working in favor of the new. It demands higher levels of collaboration and communication between IT and other parts of the business. It requires effective mechanisms for prioritizing IT investments, which a third of respondents lack. And it means simplifying IT operations and engaging and orchestrating services from a variety of providers so the internal team can focus on how their business exploits technology, homegrown or not.

CIOs are well positioned to lead digital transformation and improve their company’s competitiveness and prospects, and their business colleagues are looking to them to do so. The leaders are focusing on speed and broadening their view of where IT begins and ends. They’re rethinking roles and relationships—and their own value proposition. And they’re making sure their company doesn’t miss opportunities because the IT department was too slow to respond.

Methodology and Participant Profile

Harvard Business Review Analytic Services received a total of 750 survey responses, from 363 members of the Harvard Business Review Advisory Council supplemented with 169 HBR enewsletter subscribers and 218 from the *CIO Magazine*/IDG panel of readers.

PARTICIPANT PROFILE

Size of organization

All respondents are from companies with revenues of \$150 million or more. Forty-one percent of companies have revenues of \$5 billion or more, and 23 percent have revenues between \$1 billion and \$5 billion. Forty-six percent of respondents are in organizations with 10,000 or more employees, 16 percent have between 5,000 and 10,000 employees, with a further 30 percent in companies of 1,000 to 4,999. Firms with fewer than 1,000 employees make up 8 percent of the respondent base.

Seniority

Twenty-three percent of all respondents are in executive management or board-level positions; 43 percent are in senior management positions, and 24 percent are in midlevel management positions.

Key industry sectors

Sixteen percent of respondents work in the financial sector; 13 percent work in each manufacturing and technology. Eight percent are in consulting services; other sectors are each represented by 6 percent or less of the respondent base.

Involvement in IT decision making

Almost a quarter of respondents (22 percent) are primary IT decision makers; 38 percent are involved in the decision making; and 28 percent are decision influencers.

Regions

Europe and North America each provided 40 percent of the respondent base. Fourteen percent are from Asia; 6 percent are from the rest of the world.

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