

A HARVARD BUSINESS REVIEW ANALYTIC SERVICES REPORT



**Harvard
Business
Review**

DRIVING DIGITAL TRANSFORMATION: NEW SKILLS FOR LEADERS, NEW ROLE FOR THE CIO

Copyright © 2015 Harvard Business School Publishing.

sponsored by  **redhat.**

SPONSOR PERSPECTIVE



What does it mean to be a “Digital Leader”? Is it a title reserved for only technology giants or businesses with seemingly bottomless budgets? The truth is that any business can excel at digital leadership and management, regardless of its size or budget. But doing so requires more than just savvy IT leaders. It requires leaders across the business who understand why digital technology is important and how to use it.

When companies encourage digital leadership within their organization, they see higher profit margins and revenue growth. They also typically have something else in common—they have a CIO in a highly strategic, visible, and collaborative position within the company.

The Harvard Business Review Analytic Services research Red Hat sponsored as part of The Enterprisers Project makes clear that understanding digital technology is no longer a skill reserved for IT. In today’s digital age, it’s imperative that business leaders also grasp the strategic possibilities of new technology. Yet less than half of the respondents who participated in this research feel they personally have the technology knowledge they need to be successful in their jobs.

Enter the CIO.

To us, this research is a call to arms for CIOs to be proactive about educating and empowering business leaders with quality digital learning support. CIOs at companies the report calls Digital Leaders are significantly more likely to mentor business leaders to improve their digital skills. These are the business-minded CIOs Red Hat calls “Enterprisers.” They consider it their job to inspire and educate their C-level peers and the business at large on what is possible with digital technology. Conversely, CIOs who do not embrace this role—turf protectors who regard IT as their exclusive domain—are preventing their organizations from using technology to adopt better business processes and seize opportunities.

When we launched The Enterprisers Project in 2013, we sought to give forward-thinking CIOs a voice. The Enterprisers Project is a community where IT leaders can engage with each other and learn from their strategies, successes, and even failures. We believe this research report can help you make a case for increased digital learning throughout your organization. And we hope The Enterprisers Project is a place you’ll turn to to find helpful ideas and solutions to your problems.

Jim Whitehurst
President and Chief Executive Officer, Red Hat

DRIVING DIGITAL TRANSFORMATION: NEW SKILLS FOR LEADERS, NEW ROLE FOR THE CIO

EXECUTIVE SUMMARY

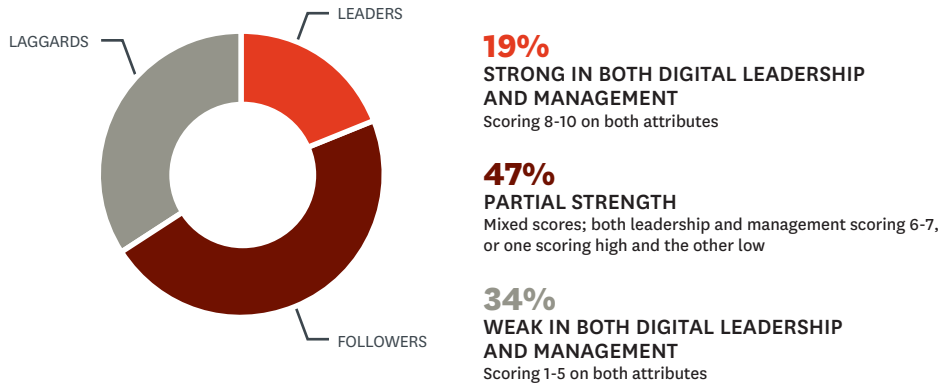
Digital acumen is essential for business leaders in today’s hyper-competitive, technology-enabled world. But most companies lack the knowledge and skills needed to succeed in the digital aspects of their business, according to a new survey of 436 business leaders by Harvard Business Review Analytic Services.

The global survey found that while CEOs generally understand the strategic opportunities and threats of digital business, many have yet to build and communicate a vision for their companies or to develop a strategy to make that vision a reality. And most organizations’ functional leaders lack the skills and knowledge they need to execute a digital strategy, even if there’s one in place.

But strong digital leadership matters. The survey found that companies that rate highly in both digital leadership and management (putting in place and managing the people, processes, and technology to execute the digital vision and strategy) have better business results than their peers, with stronger revenue growth and greater profit margins. Just under a fifth of survey respondents fell into this “Digital Leader” category, while over a third were deemed “Laggards”—weak in both digital leadership and management. Close to half had mixed scores and were rated “Followers.” [figure 1](#)

FIGURE 1
FEW EXCEL AT BOTH DIGITAL LEADERSHIP AND MANAGEMENT

Please rate the following aspects of your company’s digital maturity.



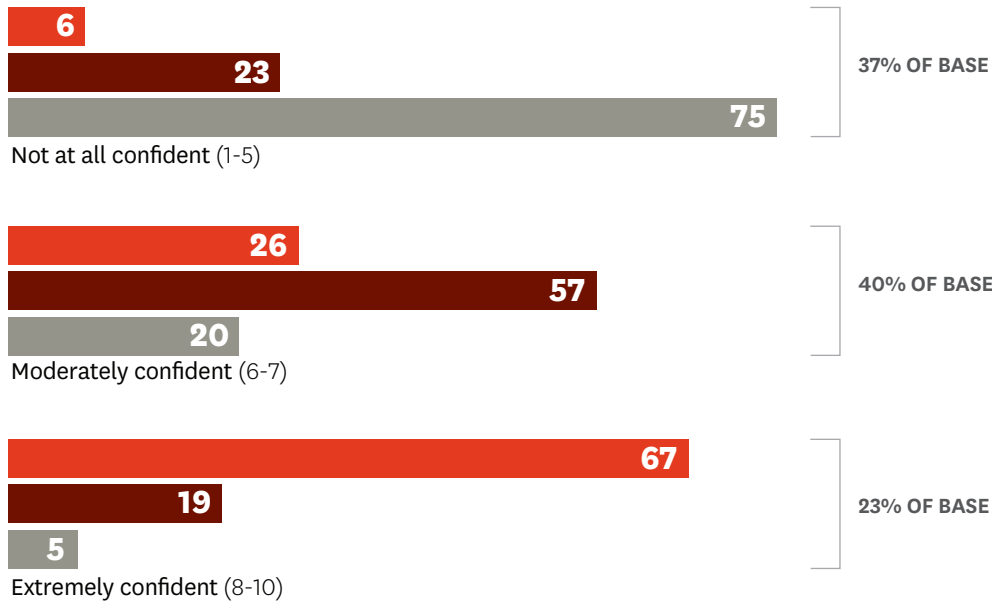
DIGITAL LEADERSHIP: Creating and communicating a compelling vision and strategy
DIGITAL MANAGEMENT: Putting in place and managing people, processes, and technology to execute strategy

FIGURE 2

CONFIDENCE IN ORGANIZATION TECH KNOWLEDGE AND SKILLS

Percentage who are confident that their organization has the right level of technology knowledge and skills to succeed when it comes to the digital aspects of the business.

● LEADERS ● FOLLOWERS ● LAGGARDS



Clearly leaders across the business must learn about and stay abreast of digital trends, the implications of those trends for their business, and how to leverage the new technologies. That doesn't mean they have to know how the technology works, but rather why it's important and how to use it.

CIOs can play a key role here—as evangelists, leaders, and digital coaches. Some best practices emerged from this research. These include embedding IT staff in the lines of business so that

learning happens during the course of work, not just in special meetings or training sessions. Leading CIOs help their business colleagues understand which digital knowledge and skills need to reside in their function, and which they can leave to IT. They and their teams communicate in language that makes sense from the perspective of business activities and outcomes. And they partner closely with key business leaders—often the CMO—to bring together the best from both domains.

CIOs can't do this alone; it takes a whole team of digital ambassadors and coaches. One roadblock that surfaced from the research is that many IT organizations are not well-equipped to fill a teaching/coaching role. They need to improve the way they communicate, as well as carve out the time and create the forums for digital learning. While the human resources department would seem a

DIGITAL LEADERS ARE MORE LIKELY THAN FOLLOWERS OR LAGGARDS TO HAVE:

- Revenue growth over 10%
- Profit margins that are greater than the industry average
- A CEO who understands digital opportunities and threats
- A CIO who is a digital master or digital coach
- A clearly defined digital vision and strategy
- Digitally proficient leaders at multiple levels

natural partner in this, HR leaders were rated the weakest of all the function heads when it comes to their own digital acumen.

DIGITAL ACUMEN REQUIRED

Digital acumen is becoming a critical enabler of business on all fronts and at all levels. But there’s a huge gap between what’s needed and the current state inside companies today. Less than a quarter (23%) of survey respondents are confident their organizations have the necessary knowledge and skills to succeed in the digital aspects of their business.

However, Digital Leaders are significantly more confident that their organizations have the knowledge and skills they need—67% are extremely confident, compared with only 19% of Followers and 5% of Laggards. [figure 2](#)

Digital leadership starts at the top. The good news is CEOs for the most part get it—69% of all respondents said their CEO understands digital opportunities and threats. This is especially true among Leaders and Followers. [figure 3](#) But only the Leaders have translated that understanding into a clearly articulated digital vision and strategy. Laggards are particularly weak at execution and have been left far behind.

Digital Leaders’ CEOs don’t delegate this important step. For example, when one of the large credit card companies began its digital journey, the CEO went on the road to personally paint his vision of the future for leaders in different markets and regions, telling them, “We have to digitally disrupt

FIGURE 3

DIGITAL LEADERS FOLLOW THROUGH

Percentage of all who agreed with each of the following statements about their organization.

● LEADERS ● FOLLOWERS ● LAGGARDS



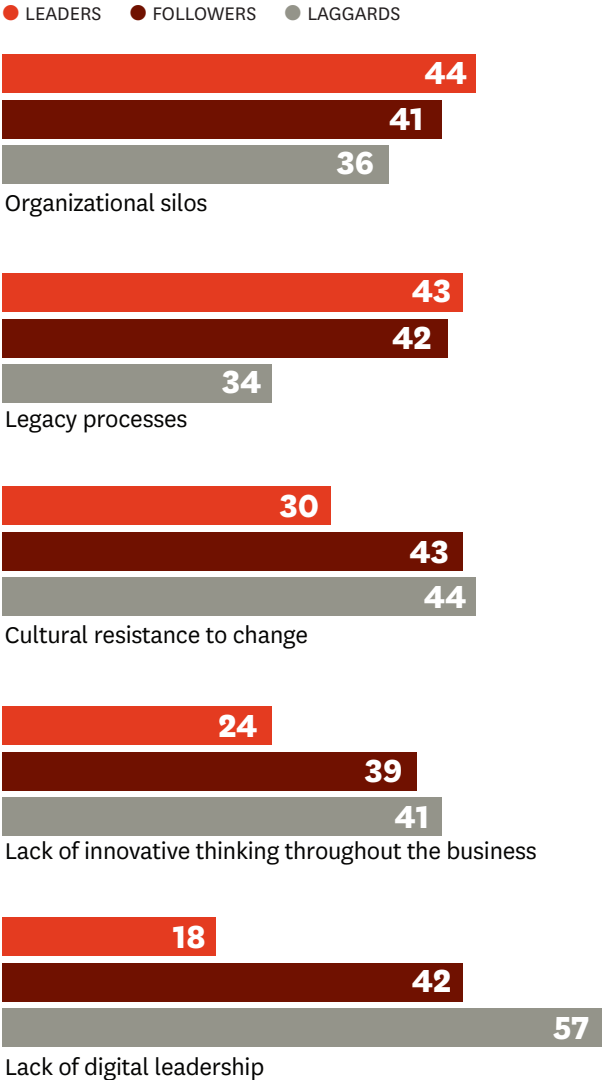
ourselves,” according to a marketing leader at the company. Senior leaders then went through “growth mind-set” training (simply, the idea that ability is not inherent but can be acquired and developed), and they began to cascade the digital call to arms inside their own groups.

So far, such strong leadership is the exception, not the norm. The lack of leadership is the number-one issue holding companies back when it comes to digital business, particularly among Laggard companies. [figure 4](#) Laggards also have little confidence in their functional leaders’ digital knowledge and skills. This is not just a problem for Laggards; across the board, anywhere from a third to

FIGURE 4

KEY BARRIERS TO DIGITAL BUSINESS DEVELOPMENT

Percentage who said, when it comes to digital business, these are the primary issues holding their organization back. [CHECK UP TO THREE]



a half of respondents rated functional leaders' digital acumen as weak, with a rating of 5 or less on a 10-point scale. The exception to this is IT; only 18% rated their IT leader's digital acumen as weak.

Once again, there is a huge difference between Digital Leaders and the rest, with half or more rating their IT, R&D, marketing, and customer services heads as having exceptionally strong digital knowledge and skills. What's more, while less than half (45%) of all respondents said they personally had the technology knowledge they need to succeed in their jobs, this rose to 70% at Leader companies. [figure 5](#) Clearly there is a link between strong digital leadership and higher digital acumen throughout the organization.

All of this matters because digital leadership pays off. Digital Leaders were significantly more likely to have seen revenue growth of 10% or more over the past two years (58% of Leaders vs. 43% of Followers and 38% of Laggards). Laggards were twice as likely to have seen revenues decline (18% vs. 9%). [figure 6](#)

IS I.T. NOW EVERYONE'S JOB?

There's been a lot of attention among technology analysts and the trade media on shifts in IT spending, with budgets moving out of IT into other functional areas—particularly marketing. This research confirms those trends—and also brings to light some cause for concern. More than two-fifths of respondents (41%) said that IT spending outside the IT organization has grown over the past two years, and there is little variation in that between Leaders, Followers, and Laggards. In and of itself, having budget ownership shift to the business areas that IT is enabling is a good thing; it makes business owners more accountable for results. But this has to be managed in partnership with IT, not run in a vacuum. Given the low levels of digital knowledge and skills outside IT—especially at Follower and Laggard companies—it's troubling that close to half of all

FIGURE 5
INDIVIDUALS AT DIGITAL LEADER COMPANIES ARE CONFIDENT IN THEIR OWN SKILLS

Percentage who are confident that they have the right level of technology knowledge and skills to succeed in their job as their business becomes more digital.

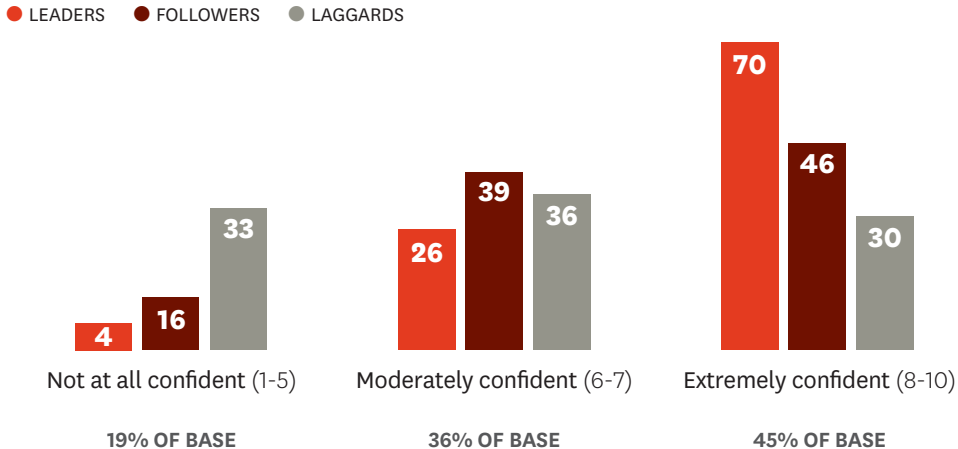
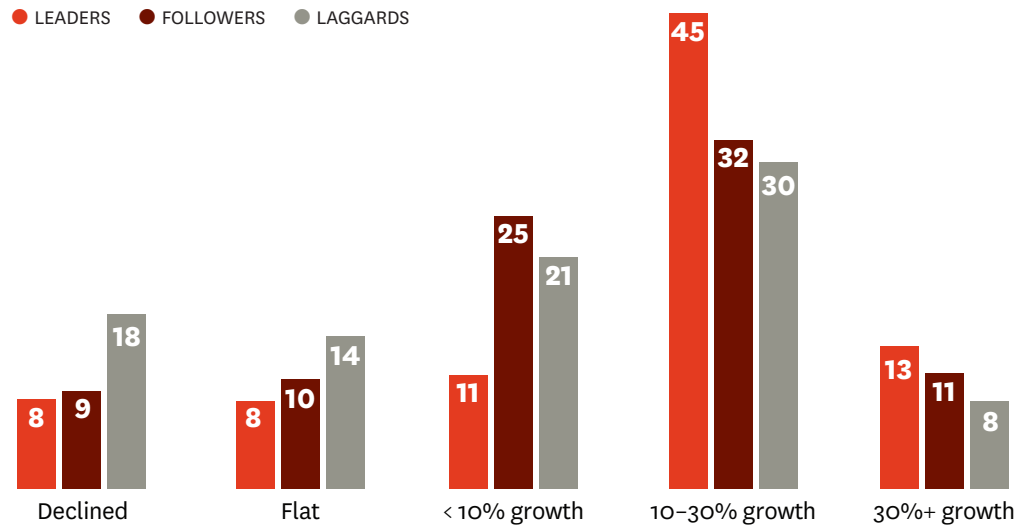


FIGURE 6

REVENUE CHANGE OVER LAST TWO YEARS

Percentage saying how their revenue changed in the past two years.



respondents (49%) said their department occasionally or frequently initiates IT projects with little or no direct involvement of IT.

This is especially alarming when we compare the importance respondents assign to digital knowledge and skills in various functional areas and how they rated the knowledge and skills of the current leaders of those functions. [figure 7](#) There’s a huge delta at Follower and especially Laggard companies. They know these skills are essential; they simply don’t have them.

Part of the problem lies in what “these skills” really are. This research explored who really needs to know what, and how the increasing need for digital acumen is changing relationships inside organizations.

First, let’s be clear: IT is not everyone’s job. Functional leaders do not need to become IT experts. Rather, they need to know how to use the technology and what it can do for the company. The chief information officer at a large media company described the challenge this way: “My business partners need to be great consumers of technology—curious, aware, engaged, and willing to experiment in their own lives so they come armed with great ideas,” he said. For example, they need to understand platforms like Instagram—not technically but socially—why people are sharing photos. “They call that technology, but it’s more a social trend enabled by technology. For them it’s more of a usage thing; they don’t need to know how it works.”

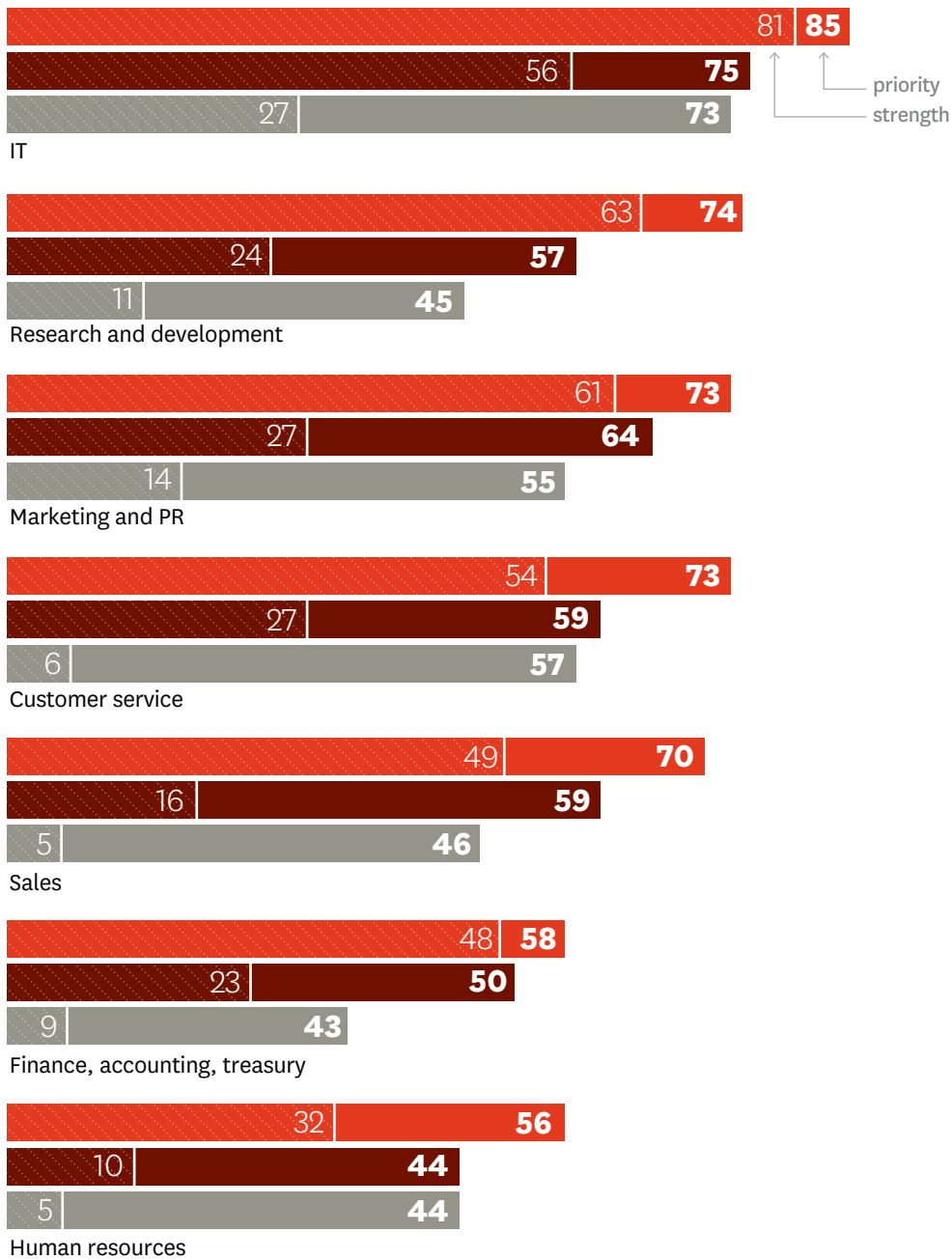
The marketing leader at the credit card company agreed. “I would never tell IT to roll out a particular piece of technology,” he said. Rather, they engage in a discussion of trends—“This is what I see, do you see the same thing?” He describes the experience they want to deliver to the customer and leaves it to IT to figure out how to make that work.

FIGURE 7

DIGITAL KNOWLEDGE: NEED VERSUS STRENGTH

Bold numbers reflect percentage of respondents who said digital knowledge is a high priority in this function at their company (score of 8-10); light numbers reflect the percentage who said the leaders of those functions have strong digital skills (8-10).

● LEADERS ● FOLLOWERS ● LAGGARDS



Companies that are born digital have a lot more blending of roles. For example, the CTO at an online financial services company said all the function heads are quite tech savvy. “The general counsel understands the legal issues that come up in an online business because she comes from an online startup,” he said. And when it comes to marketing, “it’s hard to look at our teams and know where IT ends and marketing begins; the CTO and CMO bleed into each other.” But again, that doesn’t mean the CMO is engineering systems; it means she knows what data is important, what’s possible when it comes to analytics, and how to use the tools the CTO’s team provides.

Part of IT’s job is to make that as easy as possible. “End users are always going to want to use Excel,” said the CTO. “Once you accept that and get over it, it’s easier to create solutions.” In his case, that meant working with finance leaders to understand what insight they were looking for and using data cubes to put information into Excel.

The need for such accommodation is changing as the next generation of leaders comes into organizations. For instance, younger marketers are embracing data visualization tools that make it possible to understand the huge volume of data flowing into the organization, said the credit card marketer. This is how things change—through a give-and-take between IT and business leaders as they and the technologies evolve.

DIGITAL LEADERS’ CIOs BUILD TRUST AND SHARE CONTROL

Such tight relationships are predicated on IT leaders understanding the strategic possibilities in new digital trends as well—not the case at Laggard companies. Just as important, it depends on there being a foundation of trust. “Think about agile,” said the CTO of the online financial services company. “It requires that the product people, businesspeople, and engineers work well together.

Agile doesn’t work if you don’t want to have a beer with the person you’re working with.” And it’s not just whether you like someone or not. “It’s about having a conversation, not working up a requirements document,” he said. “That’s how we converge on the right thing. And if we put the wrong thing out, it’s easier to correct that.”

This foundation of trust can also make it easier for business leaders to understand and mitigate the limitations of their knowledge as budget dollars continue to shift. “It’s easy for business teams to get fascinated by shiny objects and vendors that can ‘solve all of their problems,’” said the media company CIO. If a CIO and other company leaders have a close working relationship, they’re more apt to go into those meetings together and avoid going down the wrong path.

Digital Leaders’ CIOs are much more likely to be characterized as digital coaches or masters (45% compared with 26% at Follower companies and only 14% at Laggard companies). On the flip side, 45% of Laggard companies have “turf protector” CIOs—or no CIO at all. Most Digital Leaders (74%) also have CIOs who support business-led IT—that is, when non-IT business leaders fund, contract, and/or develop technology capabilities. This compares with 64% of Followers and only 40% of Laggards. Respondents who characterized their CIO as a digital coach or master have even higher scores—over 80% of those respondents said their CIO supports business-led IT. This doesn’t mean those CIOs are ceding control; rather, they are sharing it.

DIGITAL LEADERS’ CIOs ARE MORE LIKELY THAN THEIR PEERS TO:

- Understand which digital knowledge is important for functional areas
- Provide useful information about technology to their business colleagues
- Support business-led IT initiatives
- Be identified as digital coaches or digital masters

FIGURE 8

I.T.'S MOST IMPORTANT CONTRIBUTIONS FOR NEXT THREE YEARS

Percentage who see each of the following as the most important contribution over the next three years. (CHECK UP TO 3)



Drive business innovation through IT



Manage security and risk



Establish architectures to support digital



Support business-led IT initiatives



Provide access to tech capabilities (vendor)



Lead and implement most IT projects

One technique successful companies use to create the right alignment and partnership for digital is to think about new opportunities from the customer’s perspective. “Starting with the customer is a fundamental principle for how we operate and engage” with IT, said the marketing leader at the credit card company. “It takes a lot of that petty stuff away.”

Some CIOs are entering this new age of closer collaboration between IT and the rest of the business reluctantly. Almost a quarter of respondents at Laggard companies characterized their CIO as a “turf protector.” What these CIOs are missing is that IT’s mission is changing. Only 21% of respondents see IT’s most important contribution to be leading and implementing projects; rather, they should be driving innovation, managing security and risk, and establishing digital architectures. [figure 8](#)

HOW LEADERS GAIN DIGITAL ACUMEN

The biggest barrier to learning about new technology from IT leaders is the lack of an appropriate forum for this to take place. [figure 9](#) Almost half of the respondent base agreed (45%). Over a third (34%) said their IT leaders are too busy. While Digital Leaders face the same barriers as their colleagues, they are less likely to lack an appropriate learning forum. A key part of the CIO’s focus on digital leadership should include a drive to create appropriate learning forums for employees across the organization.

FIGURE 9

BARRIERS TO LEARNING NEW TECH FROM I.T. LEADERS

Percentage who said the following get in the way of learning from their company's IT leaders about digital technology. (CHECK ALL THAT APPLY)

45
We don't have the right forums in place

34
They're too busy

28
They lack the communication skills

23
They lack the knowledge I need

20
They get too technical and specific for my needs

If CIOs aren't sure where to start their digital education efforts, a good place might be with analytics training. While social, mobile, and cloud get a lot of attention, when it comes to gaps in digital acumen, it's all about the data. Close to three-quarters (73%) rated analytics as extremely important to their area of the business (8-10 on a 10-point scale), with another 17% rating it as important (6-7). But only a fifth (20%) rated their own knowledge and skills in this area highly. And in a write-in question where respondents were asked to complete the sentence "I wish I had more digital knowledge in..." more than a third (37%) cited some variation on data mining and analytics. The next closest answers—social media and marketing—got only 8% each.

The CIO at a large government agency has tackled this demand for insight by creating a common data platform and empowering stakeholders to do their own analysis. Stakeholders both inside and outside the agency can access the data they need (and to which they have access rights). They can then remix and analyze the data and self-publish the results. In this way, "we become more a trusted broker of services and information that we send and receive," said the CIO. "The [stakeholder] organizations become owners of the data and processes." Two parts of the education process are defining these different roles and making sure both business and IT leaders understand them.

Some Digital Leaders have either infused "digital" into existing leadership committees and councils or created new ones. A European travel company set up a digital advisory board with permanent internal and external members (acknowledged experts from outside) to advise the company's executive team and its board of directors. A global car manufacturer has a digital strategy team that briefs the CEO on trends, opportunities, and ideas, including what other automakers are doing.

The preferred method of learning about new digital technology—self-study and independent research—is a great starting point. [figure 10](#) Unfortunately, too many organizations fail to pick up on individual business managers’ interest and leave them to their own devices. Given the current state of digital acumen, this clearly is not enough. Respondents at Digital Leaders are more likely than their peers to prefer engaging with outside experts, at 23%. Since outside experts are ahead in terms of new technology expertise, companies should strongly consider engaging them as a learning solution; CIOs can help by identifying and engaging appropriate experts.

A MULTIDIMENSIONAL FRAMEWORK FOR DIGITAL LEARNING

Given the pervasiveness of digital into all aspects of business, organizations should put together a multidimensional framework for leaders to increase their knowledge and skills.

The marketing leader at the credit card company offers an example of what this might look like. He’s a self-starter: a voracious reader of blogs and articles who seeks out specialists and talks to vendors about digital technologies and trends. Like the head of maintenance at a European airline, he also downloads and tries out applications on his own. He follows a pattern of research: engage, try it, learn.

His company also provides both informal and formal support for learning. “We’ve really embraced a coaching framework,” he said. “We have some incredibly smart people who ‘get’ the new technologies and disciplines and who share that with others.” The company has put in place KPIs for sharing knowledge and coaching others. They hold “lunch and learns”—recent topics have included

FIGURE 10

PREFERRED LEARNING METHOD FALLS SHORT

Percentage who said which of the following is their preferred means of learning about new digital technology.



search engine marketing, LinkedIn, CRM, and marketing automation. Team leaders identify topics of interest and seek out experts either from within the company or outside. In one recent popular session, an industry speaker addressed the group on gamification.

Having had that high-level exposure, if someone wants to learn more about a particular technology topic, he or she can make the case for formal training and get funding for anything from a one-day seminar to a full-blown degree program. In fact, this marketing leader is currently enrolled in a master's program in business information technology management.

Such programs are essential if companies expect to keep up. A regional head of services and parts for an automotive company said things are changing so fast in his industry that it's a constant learning curve. Without formal support to manage that learning curve, he taps personal relationships. "I'll call an engineer I used to play golf with" or someone in the technology services group to try to understand a Bluetooth connectivity problem, for example. "If I didn't have those relationships, it would be tough—we could do a lot better if we had something more structured."

THE ROLE OF THE CIO AND THE I.T. DEPARTMENT IN DIGITAL EDUCATION

There's little question that organizations need to do more to increase business leaders' digital acumen. Traditionally, new learning would be the job of the training and development group or human resources. Digital, however, is different. For one thing, HR leaders are among the least well-informed when it comes to digital. [figure 7](#)

Like it or not, expectations of CIOs are changing, and they'd better prepare. While nearly half (46%) of respondents said they would like to learn more about digital trends from their CIO, close to two-fifths said their CIO does not seek to educate and empower line-of-business leaders when it comes to digital, and over a third said IT does not provide useful knowledge about technology or understand which digital knowledge is important to specific functions or lines of business.

While these big-picture numbers are not encouraging, Digital Leaders are doing substantially more to raise the skills bar. Seventy percent have IT departments that provide useful information to employees about technology; 67% have IT leaders who understand which pieces of knowledge are relevant to each area, and 60% have CIOs who are educating and empowering functional leaders in digital knowledge, almost double the proportion of Follower CIOs and triple that of Laggard CIOs. [figure 11](#)

The media company CIO addresses this at a high level by assigning one of his direct reports to every P&L as a single point of contact. This is not a separate role but a carved-out function. "It's good for IT leaders to feel accountable for other executives," he said.

The credit card company embeds business relationship managers in the business not only to "help the business grow through leveraging IT but also to help the business unit navigate the world of IT," said the marketing leader. "We get our best results working side by side."

One of the keys to this working, he said, is that IT leaders "keep themselves unbelievably relevant and they're willing to embrace the assimilation of that throughout the business."

That's not always the case. While IT may be well-positioned to educate, they're not always well-equipped. For one thing, they need to update their own skills and better understand the digital world. While respondents at Digital Leaders rated their IT leaders' digital knowledge highly, with 81% calling them excellent, that's not the case with those at Followers (56%) and Laggards (27%).

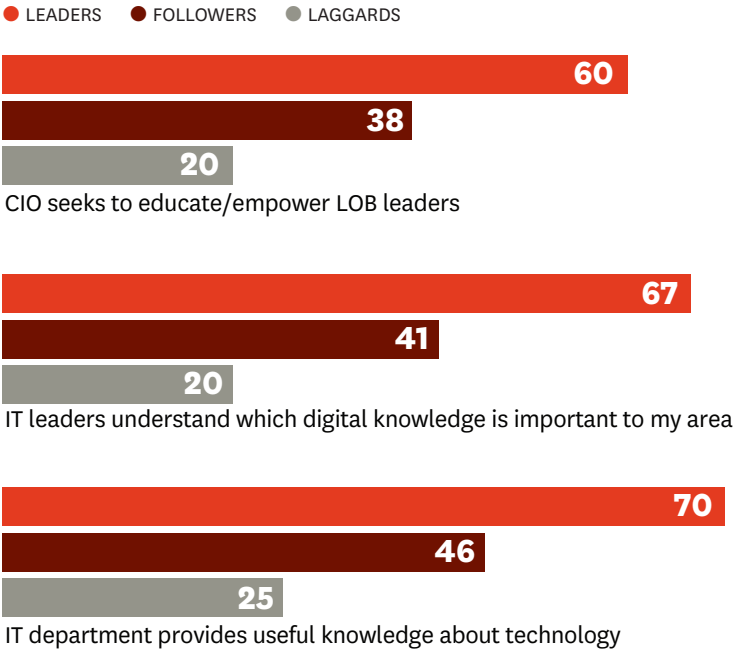
The media company CIO is very aware of the need to drive the digital message down into IT. But he doesn't do this by "messaging." Rather, he spends a lot of time with his direct reports to ensure that they are in step as a leadership team. Then they all engage more deeply on projects with the architects and developers than had been the practice in the past. "We force difficult conversations and ask tough questions to get them thinking in a different way," he said. While this new level of engagement may have been disconcerting to team members at first, he believes it's a more effective way of driving change than issuing directives is.

But modernizing skills in IT is not enough; if they're going to play a role in helping the rest of the company move forward with digital, they have to improve their communication skills too. More than a quarter (28%) of respondents said that IT leaders' lack of communication skills was a barrier to learning from them about digital technology. [figure 9](#)

The marketing leader at the credit card company sees this as a two-way street. He's taught IT leaders marketing's language and he's learned theirs. "It's about having a common taxonomy to understand each other strengths, goals, and aspirations," he said.

FIGURE 11
DIGITAL LEADERS' CIOS DO MORE TO FOSTER DIGITAL LEARNING

Percentage rating the extent to which they agreed with each of the following statements.



“We’ve embraced a coaching framework. We have some incredibly smart people who ‘get’ the new technologies and disciplines and who share that with others.”

BEST PRACTICES TO INCREASE DIGITAL ACUMEN

Digital Leaders do a number of things that other companies can learn from. Given that more than 80% of respondents are either Followers or Laggards, there’s plenty of room for improvement. CEOs should personally lead this charge from a vision and strategy perspective, going on the road and sharing the message with leaders in all markets. And there’s a lot that CIOs, often in partnership with other company leaders, can do as well.

ACTIONS FOR CIOs:

- Create a digital advisory board with both internal and outside experts to advise the executive team.
- Learn to paint a picture of the digital future, and use examples from companies in similar industries to make that real.
- Embed IT staff in the lines of business so that learning happens during the course of work, not just in special meetings or training sessions.
- Create a common lexicon to increase understanding, communicating in language that makes sense from the perspective of business activities and outcomes, not IT. It helps to start from the customer’s perspective.
- Partner closely with key business leaders—especially the CMO and the head of product development—to bring together the best from both domains. Identify and make clear which digital knowledge and skills need to reside in the lines of business and which should reside in IT.
- Work with the training and development organization to establish both formal and informal learning forums.
- Embrace a coaching framework across the organization, with KPIs built into individual managers’ performance reviews.
- Identify and bring in outside experts to address specific trends for different parts of the business.

The federal agency CIO believes it's on him to make this connection. "It's incumbent on CIOs to listen and understand [business leaders'] narratives," he said. "If they can articulate what they want to get done, we can help them do it."

CONCLUSION

Understanding new technology capabilities is no longer the exclusive purview of the IT organization. Leaders across the business must learn about and stay abreast of digital trends, the implications of those trends for their business, and how to leverage the new technologies. That doesn't mean they have to know how the technology works but rather why it's important and how to use it. The functional areas that generally have high need but low skills are R&D, marketing, customer service, and sales. The payoff for such effort is compelling: Digital Leaders are expanding into more new markets, growing faster, and increasing their profit margins over their competitors'.

All of this starts at the top. CEOs "get" that digital is important, but most have not yet built or effectively communicated a digital vision and strategy to the rest of the organization. This lack of digital leadership is getting in the way, especially at Laggard companies. While self-starting individuals are finding a way to gain the knowledge and skills they need to do their jobs, company leaders must do more to ensure that the entire organization moves together into the digital age. This starts with a well-formulated digital vision and strategy and then moves into management—putting in place the people, processes, and technology to realize that vision. At the same time, companies should invest in both formal and informal learning forums and provide the means for people to try out new things in a safe environment—another area where IT can help.

CIOs have a central role to play here—and business leaders want their help to better understand digital trends. This starts with being the voice of digital innovation—evangelizing what's possible and what business leaders' peers in other organizations are doing. It means partnering—closely—with business colleagues to develop the right digital solutions. It's become a best practice to embed IT into the lines of business, breaking down walls wherever possible so learning and decision making happen in conversations, not lectures or quarterly meetings. And CIOs can take the lead in defining which digital knowledge and skills businesspeople really need to know versus what they can leave to IT. The bottom line: CIOs should lead.

METHODOLOGY AND PARTICIPANT PROFILE

A total of 436 respondents completed the survey, including 299 who are members of the Harvard Business Review Advisory Council.

SIZE OF ORGANIZATION

Only organizations with 500 or more employees took part in the survey. Forty-seven percent of respondents were in organizations with more than 10,000 employees, 41% were in organizations with 1,000 to 10,000 employees, and 12% were in organizations with 500 to 1,000 employees. A third (33%) of companies had 2013 revenues of \$5 billion or more. Nineteen percent had revenues between \$1 billion and \$5 billion and 48% generated less than \$1 billion.

SENIORITY

Nearly a quarter (23%) of respondents were executive management or board members, just over one-third were senior management (37%), and just over one-quarter (27%) were in middle management. Thirteen percent came from other levels.

KEY INDUSTRY SECTORS

Financial services provided 14% of respondents. Eleven percent worked in manufacturing; the technology sector provided 9%. Other sectors were each represented by 9% or less of the respondent base.

JOB FUNCTION

Fourteen percent of respondents were in general management and 13% were in operations/production management. Other functions were represented by 8% or less of the base.

REGIONS

Thirty-five percent of respondents were from North America, a quarter (26%) were from Europe, and a similar proportion (24%) were from Asia. Fifteen percent came from ROW.

hbr.org/hbr-analytic-services

