

The five behaviors that accelerate value from digital investments

6th Annual Digital IQ Survey

March 2014



The path to true digital transformation

Today, all roads lead to digital. From business strategy to execution, digital technology has become the foundation for everything we do. Nearly every organization lays claim to being a digital enterprise, but as our study revealed, only a minority are truly there. How do we define “digital”? We think about it in terms of a company’s acumen at understanding, valuing, and weaving technology throughout the enterprise—what we call Digital IQ. And this has been the focus of our research for more than five years.

20%

Companies rated themselves having an ‘excellent’ Digital IQ — understanding, valuing, and weaving technology throughout the enterprise.

Our Digital IQ survey is unique. It is the only one we know of that analyzes perspectives of both business and IT executives—almost 1,500 in all—and ties them to the business value of digital technology investments and behaviors. We see the Digital IQ as a proxy for measuring how well you can generate value from your virtual value chain, the information

description of your entire business. At the most basic level, the virtual value chain provides better visibility into your business activities, while more mature organizations will use their virtual value chain to mirror their physical one, such as digital delivery of products to their customer base. And then there is what is becoming the Holy Grail for many companies: Exploiting their virtual value chain to alter business models and capture new markets.

Digital’s undeniable role in 2014 makes this year’s survey even more relevant than in the prior years we have fielded it. We have identified the five key behaviors that make for a high Digital IQ. These five behaviors are what give companies the edge, enabling them to maximize their use of digital technology across the business and position them for better performance. Those businesses in our study that have a strong Digital IQ, the byproduct of leveraging these five interlocking behaviors, were 2.2 times more likely to be top-performers in revenue growth, profitability, and innovation.¹

¹ Top-performing companies are those in the top quartile for revenue growth, profitability, and innovation.

The 5 interdependent digital behaviors that make a difference



Source: PwC, 6th Annual Digital IQ Survey, 2014

Just how important is raising your Digital IQ? Consider the sizable investment your organization is making in digital technology. Gartner forecasts that the worldwide dollar-valued IT spending forecast will grow 3.1% in 2014, reaching \$3.8 trillion.² That's the equivalent of more than 5% of the forecasted world gross product of 75.0 trillion.³ Understanding what it takes to extract real value from that investment could very well position your business to outrun the competition. And given that just 20% of the companies in our study had a very strong Digital IQ, your chances may be even better.

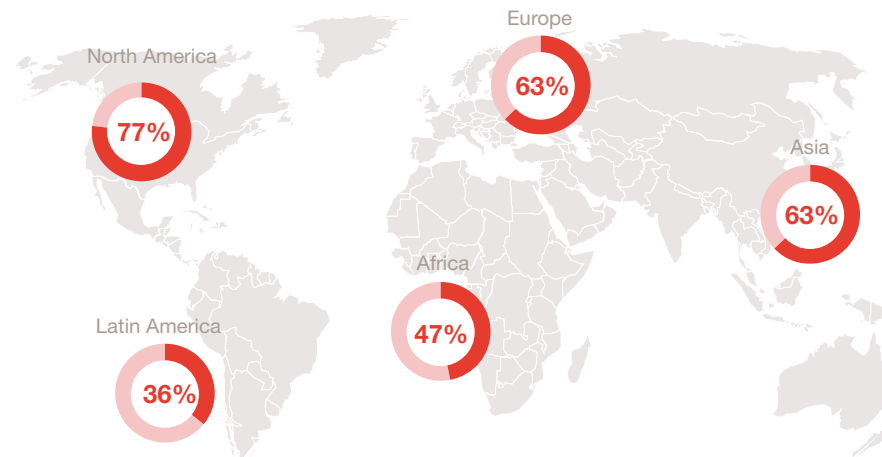
In the following sections, we analyze what makes up each of the five Digital IQ behaviors, share insights from the 1,500 executives (split equally among business and IT executives) we surveyed, and outline what it takes to become a high-performing digital enterprise.

In short: If you want to boost your company's performance, raise your Digital IQ by developing these five behaviors.

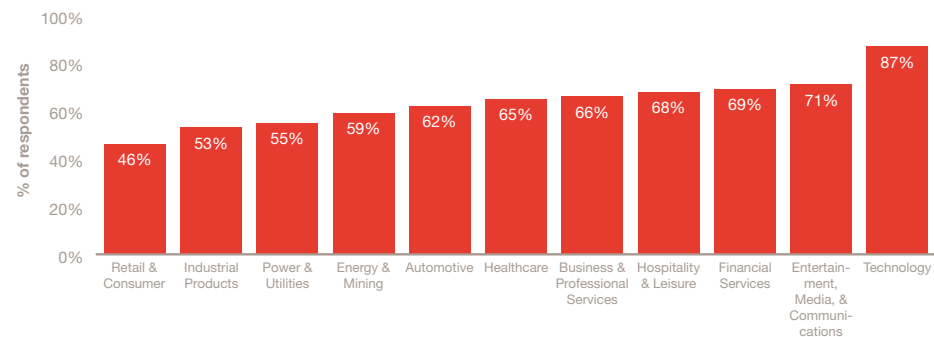
² Gartner Forecast Alert: IT Spending, Worldwide, 4Q13 Update, December 7, 2013.
³ Forecast Alert: IT Spending, Worldwide, 4Q13 Update, December 7, 2013.

Digital IQ by region and industry

Business and IT leaders in North America are more confident about their digital acumen than their counterparts in other regions.



Surprisingly, customer-facing industries varied widely when it came to rating themselves as having a strong Digital IQ, placing in the middle and back of the pack.



Q. Please rate your organization's Digital IQ, defined as how well companies understand the value of technology and weave it into the fabric of their organization.

Respondents who stated "strong" or "very strong"
 Base: 1,494
 Source: PwC, 6th Annual Digital IQ Survey, 2014

Behavior 1: CEO actively champions digital

CEOs have made it clear that they see both the promise and the peril of digital technology.⁴ And we believe that charting their company's course in the digital age is the number-one challenge business leaders will face in 2014 and at least the next few years.

“Technology plays a significant role in all of our business decisions.”

Business Executive, South America

In considering how digital technology will transform their companies and industries, business and IT leaders shared strong concern about a number of threats to growth, with the inability to quickly understand and adopt the technology essential to remain competitive as the most pressing. But for all the talk about digital's potential and the challenges they face, the majority of companies have yet to begin addressing digital challenges in their company strategy.

In top-performing companies, however, we see a different picture. Company leaders are more likely to

be addressing these threats in their corporate strategies than their non-performing peers. For example, 63% of top performers were tackling issues around gathering, understanding, and acting upon data about customers, products, company, and employees, compared with just 44% of their lower-performing peers.

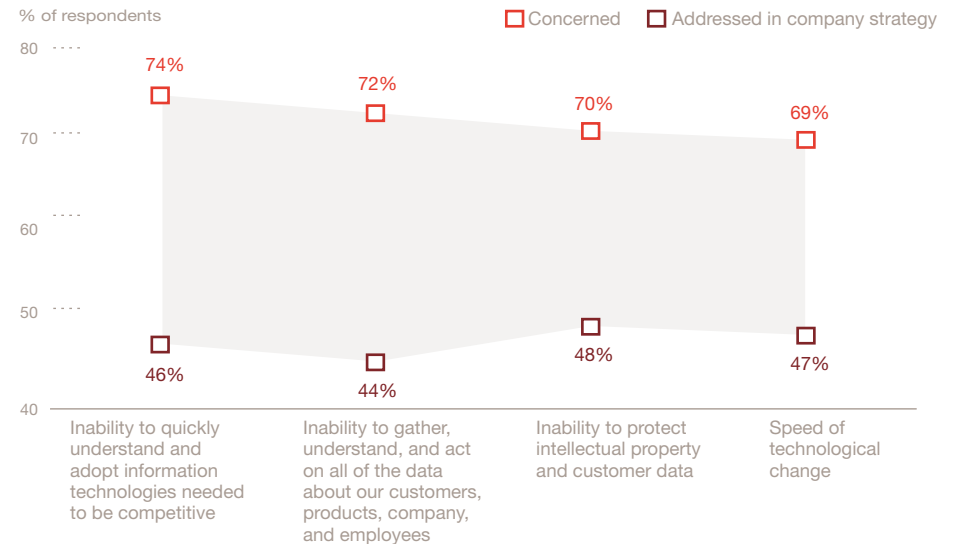
How are they closing this gap between knowing and doing? The important thing here is a CEO who is a digital leader. He or she doesn't delegate digital or view it as a separate strategy. A digital CEO sets and steers the company's digital vision and addresses the inevitable challenges that come with new ways of doing business. Our analysis revealed that 81% of top performers say their CEO is an active champion in the use of IT to achieve business strategy, compared with 68% of other companies.

“We find that when the CEO is involved, it helps give us an advantage over our competitors.”

IT Executive, United States

Digital disconnect: Gap between knowing and doing

Most business and IT leaders are worried about digital technology challenges—yet only a minority are directly addressing these concerns in their strategies.



Q. How concerned are you, if at all, about the following potential threats to your company's growth prospects? Are these threats you identified previously addressed in your corporate strategy?

Respondents who stated "extremely concerned" and "somewhat concerned"

Base: 1,494

Source: PwC, 6th Annual Digital IQ Survey, 2014

When it comes to looking at the behavior by industry, Healthcare had the highest level of active-champion CEOs, which is not surprising given that the focus on technology to transform patient care and reduce costs has been a key focus there

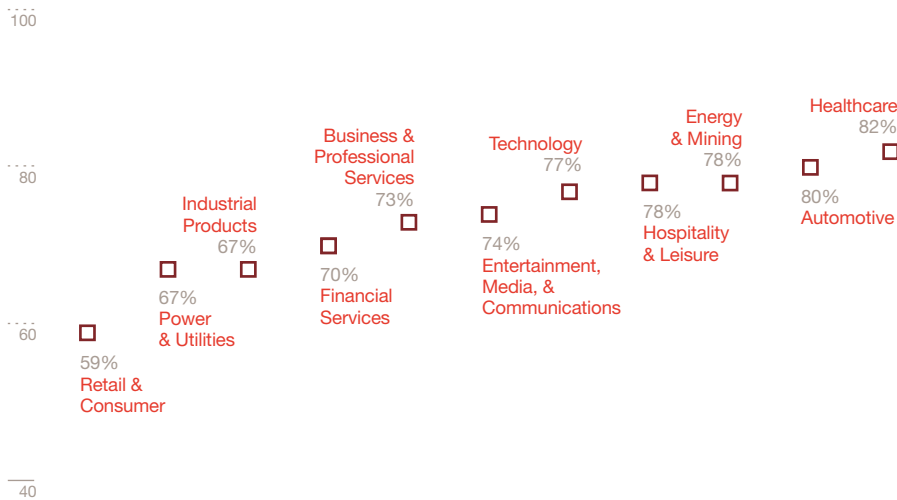
for more than a decade. Looking by region, Asia has the highest penetration of CEOs who are digital leaders, which follows given the concentration of high-tech products and services firms in those regions.

⁴ PwC, 17th Annual Global CEO Survey, 2014.

Digital CEOs by industry

The majority of top-performers in our study had a CEO who was an active champion of using digital technology to achieve strategy.

% of respondents



Q. Please indicate your level of agreement with the following statement about your organization's strategy: Our CEO or senior-most business leader is an active champion in the use of information technology to achieve our strategy.

Respondents who stated "agree"

Base: 1,494

Source: PwC, 6th Annual Digital IQ Survey, 2014

Implications

1 CEOs need a digital strategy that considers the dimension of everything the business does—its growth and cost goals, products and services, partnerships, marketing and customer engagement, talent acquisition and retention, operations, and more. For every strategic question, the CEO must challenge: What are the digital opportunities here? Does digital introduce new challenges?

2 CEOs must rethink the multi-year and annual planning processes to ensure that the proper questions are asked and answered at the right times to consider the potential of digital capabilities.

3 Once the company has determined its strategy, the CEO must define clear roles, accountability, and governance for how the strategy is executed. The scope should address who is responsible and how the functional or business unit leaders will work together—for example, what the CMO is responsible for in a customer initiative, what the CIO does, and together what they will deliver and when.

Behavior 2: Strong CIO-CMO relationship

When it comes to Digital IQ, we know that strong relationships among senior executives are essential to success. Last year, in fact, our study drew out the importance of strong relationships among an organization's CIO and the rest of its business leaders, including the CEO, CFO, CMO, and business unit leaders. Companies with strong C-suite relationships and "digital conversations" in the C-suite were 4 times more likely to be top performers. This year, the correlation stands: Companies with strong C-suite relationships were 2.4 times more likely to be top performers.

"It takes team work and a lot of effort to achieve the changes expected from technology."

Business Executive, India

But what's really notable in 2014 is just how critical the CIO-CMO relationship has become: 70% of top-performing companies say they have a strong CIO-CMO relationship, compared with just 45% for non-top performers. It is also noteworthy that many consumer-facing industries

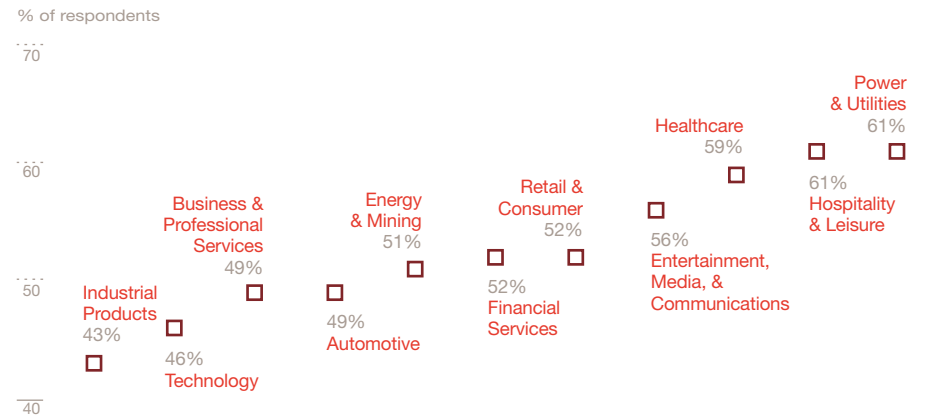
show average or below-average relationships, possibly indicating a more palpable CIO-CMO tension where digital marketing is at the forefront.

The CIO-CMO relationship is so important because a great many digital technology initiatives like those for mobile apps or customer analytics are driven by marketing needs. The growth in digital marketing spending, often independent of IT, has led to debate among industry analysts whether the marketing organization will soon yield more spending power than the IT department. Companies in our study say that just under half (47%) of their company's IT spend is outside of the CIO's budget.

Yet where the budget resides isn't the real issue. Here's what is: The visibility of digital investments across the C-suite. Without it, companies may make missteps that could cause longer-term damage, such as hampering business analytic efforts, new product and service development, or M&A integration. For example, consider the global consumer products company whose sales and marketing leaders aggressively invested in cloud-

Where the crucial CIO-CMO relationship is strongest

The CIO-CMO relationship is so important because a great many digital technology initiatives are driven by marketing needs.



Q. Please rate the strength of working relationship or collaboration between the following roles in your company: Between the CIO and CMO

Respondents who stated "very strong" or "strong"
Base: 1,494
Source: PwC, 6th Annual Digital IQ Survey, 2014

hosted sales force management tools and collaboration environments, using a variety of vendors. IT wasn't consulted on the projects and when all was said and done, the company had invested millions in these services—investments that collectively couldn't provide an integrated view of its sales activities or channels.

"Every budget in the company is now an IT budget. Our company cannot manufacture, process transactions, or run marketing campaigns without IT."

IT Executive, United States

Implications

1 Develop a digital operating model to remove any room for interpretation when it comes to responsibilities for market-facing digital technology like consumer apps, websites, or customer analytics. Get explicit agreement between the CIO and CMO on who owns the initiatives, the role each leader will take on, and when and how they are expected to work together.

2 Redefine the way that digital capabilities are designed to ensure that the right decision-makers and skillsets are engaged in idea development, designing, planning, estimating, and sourcing. Business leaders cannot overlook the CIO's role with service providers and the value he or she can bring, for example in technology evaluation, architecture design, integration, and prototyping. Clearly articulate how and when the CIO and IT organization will be involved in such projects.

3 Review each of the major planned and in-flight initiatives in both marketing's and IT's portfolios to look for opportunities to get each other's perspectives and revise priorities, plans, and involvement. Doing so may also reveal some gaps and overlaps that need to be addressed.

Behavior 3: Outside-in approach to digital innovation

Innovation is a top priority for many companies. Global CEOs ranked product and service innovation as their top strategy for growth, over increasing market share, entering new geographic markets, M&A, or joint ventures and strategic alliances.⁵ Their top-three priorities in 2014 are to innovate products, technology, and services.⁶ Yet most businesses don't cast a wide enough net in their pursuit. A great deal of innovation occurs beyond company walls such as in government and university labs. Consider the rise of open source-based innovation, explosion of crowd-funded innovations, and the uptick in venture funding. In fact, 2013 marked the highest level of venture capital (VC) Internet investment since 2001, with \$11 billion in funding, while software deals accounted for 37 percent of total VC investment for the year.⁷

Top performers in our study were more likely to look to outside sources to fill their idea pipelines, in addition to internal sources. But all companies tend to rely most heavily on traditional sources like internal planning sessions

“Technology is at the heart of our services and products. We have a strategy to proactively adopt technology for better services, products, go-to market, and customer service.”

Business Executive, Netherlands

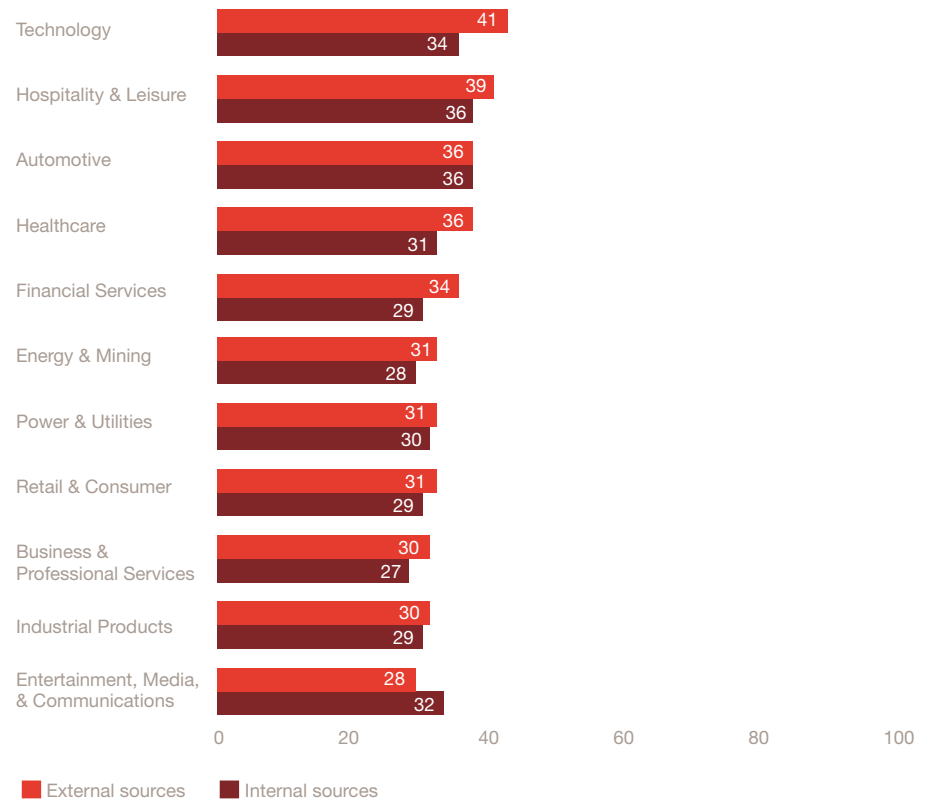
and workshops. A better approach is what we call “outside-in” innovation because it embraces new ideas and experimentation that comes from unlikely sources and industries.

From emerging to disruptive—to opportunity. Given the wealth of potential sources, outside-in innovation will generate a lot more potential ideas. It's crucial for companies to effectively filter and discern which emerging technologies will be the most disruptive to their unique company, market, and customers. Innovation leaders more often use a structured or formal process to winnow the fire hose of ideas, compared with less innovative companies. The result is the short-list of digital disruptors that the company will explore. Here, again, top-performing companies are more likely to work with external groups like third-parties and universities.

Where companies look for ideas—and where they may be missing out

Top-performing companies are more likely to look for innovation outside of the company, but all organizations would benefit from looking more to external sources.

% of respondents by industry



Q. How does your organization gather ideas for applying emerging technologies in new ways in order to solve business problems?

Industry respondents were asked to select all that apply

Bases: 375, 1,119

Source: PwC, 6th Annual Digital IQ Survey, 2014

5 PwC, 17th Annual Global CEO Survey, 2014.

6 PwC, Breakthrough Innovation and Growth, 2013.

7 PwC/NVCA MoneyTree™ Report based on data from Thomson Reuters, Q4 2013/Full-year 2013, 2014.

Another leading practice when it comes to innovation? Measuring it. Top-performing companies focus on a range of measures, and those that focus on number of ideas generated and whether innovation spending is on budget are twice as likely to be top performers.

“[Our] investments in innovation are low and the average time available for each project is short. The result is not always expected and probably will not meet the expectations of the business.”

IT Executive, South America

Implications

- 1** Develop an outside-in learning pipeline. Determine whose job it is to manage outside-in digital exploration, for example product development, the strategy group, or your IT organization. Those in this role will be responsible for seeking out and sharing new ideas and applications for emerging technology from sources outside the company, such as universities, labs, complementary businesses, and vendors.
- 2** Create innovation prioritization and filtering processes that are based on your business priorities. This will enable the company to consistently determine which innovation projects to pursue in order to quickly test their potential and determine whether they warrant a greater investment.
- 3** Define innovation project proposals, phasing, and checkpoints recognizing that early-stage projects aren't focused on traditional return on investment. Instead, measure return by the potential for learning and the opportunity to identify disruptive opportunities.

Behavior 4: Significant New IT Platform investments

A company's IT capabilities and infrastructure face crushing pressure from every direction to meet the daunting demands of the digital age. The IT function must institute massive change on multiple fronts: deepen and reshape business collaboration, overhaul IT skills, relax and reformulate governance approaches, and adopt more flexible and accessible infrastructures while increasing security.

“Digital investments and transformation have top priority, but the speed of execution is sometimes hampered by cumbersome processes.”

Business Executive, Australia

To address these demands, we believe an integration approach is required—what we call the New IT Platform. The New IT Platform addresses how IT's mandate, processes, architecture, organization, and governance must change to keep up with the business.⁸ The new model takes in to account the dynamic business environment

⁸ PwC, *Reinventing information technology in the digital enterprise*, December 2013.

and supports a broad architecture, which gives companies the flexibility to integrate the people, processes, and technologies associated with new mobile workers, new cloud-based services, and new and varied external data sources, while managing risks and external threats to information assets.

Which emerging technologies are in play? When it comes to which technologies they are betting on, all companies in our study agreed that mobile customer technology, private cloud, data mining and analysis, externally-focused social media, and cybersecurity would be of the most strategic importance in three to five years. At the other end of the spectrum, these emerging technologies ranked lower in terms of strategic value: gamification, NoSQL databases, and wearable computing.

“We are executing our strategy with planning and implementation of a wide variety of leading-edge, enterprise technologies and related initiatives in Big Data, digital marketing, cloud computing, and unified communication.”

IT Executive, United Kingdom

Top 5 strategic technologies

While data, mobile, cloud, social, and cybersecurity technologies rank highly for all companies, what's most important strategically varies by industry.

	Automotive	Business & Professional Services	Energy & Mining	Entertainment, Media, & Communications	Financial Services	Healthcare	Hospitality & Leisure	Industrial Products	Power & Utilities	Retail & Consumer	Technology
Data mining and analysis	●	●	●	●	●	●	●	●	●	●	●
Private cloud	●	●	●	●	●	●	●	●	●		●
Cybersecurity	●	●	●		●		●	●	●	●	●
Mobile apps for customer	●			●	●	●	●	●		●	●
Social media for external	●	●	●	●	●	●	●			●	
Digital delivery of products and services		●				●				●	
Public cloud applications				●							●
Robotics			●							●	
Battery and power technologies									●		
Public cloud infrastructure											●
Sensors								●			

Q. Which of these technologies will be of the highest strategic importance to your organization over the next three to five years?

Bases: 375, 1,119

Source: PwC, 6th Annual Digital IQ Survey, 2014

While these lists are directionally interesting, it's important to remember that each company's target list will be different, depending upon the organization's business-driven innovation process. Gamification or wearable computing, for example, could be extremely disruptive to businesses that just haven't considered their potential yet, perhaps because they are too internally focused in their innovation efforts.

Improving IT delivery. To extract the value from rapidly evolving technologies requires a flexible architecture that can accommodate whatever emerging technology is on the company's short-list. That means having strong skills in enterprise and technical architecture in order to seamlessly integrate new digital technologies, apps, data, and services with the company's legacy systems. As expected, top performers led in these

“While end-to-end business processes exist, we are formed by individual business units, and there is no uniform perspective.”

IT Executive, China

areas, with 81% possessing strong technical architecture skills (compared with 69% of other companies) and 70% with strong enterprise architecture skills (compared with 62% in other companies).

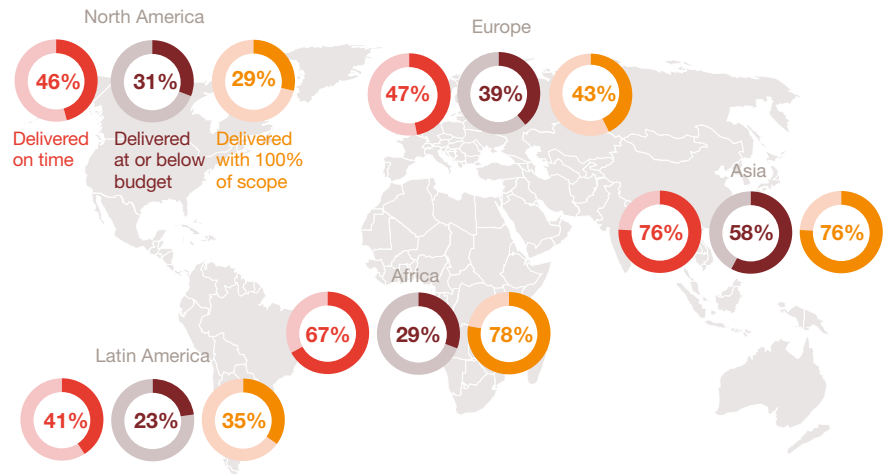
Expectations are high when it comes to rolling out new technology initiatives, but companies are often challenged by legacy delivery processes that are slow and brittle. In our study, while top performers were considerably better at completing strategic IT initiatives on time, within scope, and on budget, they fail to meet delivery goals more than one-third to more than one-half of the time.

We believe that one of the reasons companies are doing so poorly in this area is because they are not engaging multi-disciplinary teams and there's a lack of accountability. Instead of working in silos and engaging “the business” only

Room for improvement: Delivering digital

Companies in Asia and Africa were more likely to use agile processes than their regional counterparts, possibly contributing to more success in delivering IT projects.

% of respondents by region



Q. On average, how often did strategic IT initiatives fall within each of the following delivery categories in the last 12 months?

Respondents who stated “always” and “frequently”

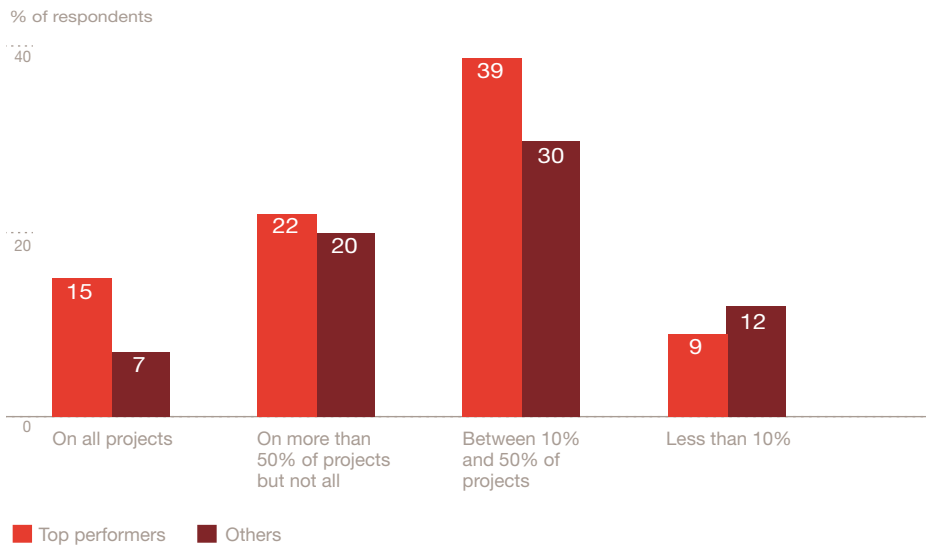
Bases: 375, 1,119

Source: PwC, 6th Annual Digital IQ Survey, 2014

when a question arises, what's needed is a multi-disciplinary approach that forms dedicated teams with the right people, no matter where they sit in the organization. Adopting agile processes is one way to effect this change. Top performers are more likely to use agile processes than their lower-performing peers, but they are doing so only for a minority of projects.

Agile processes improve integrated digital delivery

Companies that used agile processes in any capacity are twice as likely to be top-performers.



Q. To what extent are you currently using agile processes with your organization?

Top performers who replied "Don't know" or "Not at all" totaled 15%; Others totaled 31%

Bases: 375, 1,119

Source: PwC, 6th Annual Digital IQ Survey, 2014

Implications

1 Design an IT strategy and enterprise architecture that considers the increased demands of new and emerging digital channels, your mobile workforce and partners, third-party data, new analytics requirements, and cloud-based business and technology services. Define the IT organization's role in planning, designing, sourcing, executing, and operating the New IT Platform. Determine and fill organizational skill gaps to realize and capitalize on the new platform.

2 Evaluate current project delivery approaches, processes, and success rates. Adopt agile processes for more digital technology initiatives. As the organization does so, recognize that multi-disciplinary teams will be needed and that integration and communication between IT and the business is essential. Consider pilots combining marketing, IT, and analytics skills and teams.

3 Prioritize cybersecurity investments around the data that is of most value to the business. Proactively identify potential threats that come from new ways of working and doing business, especially the use of third-party services and data, and prepare an effective response.

Behavior 5: View digital as an enterprise capability

Companies must begin broadening how they think about their digitally-savvy resources, realizing that it is becoming essential to have a digital capability that is woven throughout the business rather than only centralized in a single function and hidden in the shadows throughout the business. Relevant information technology skills and resources are needed in all areas of the business—for example data analytics expertise residing in the marketing department and user experience skills in product development. Bringing visibility to a single a digital capability across the business runs counter to the “shadow IT” situation in place in many organizations today. In that all-too-common scenario, business units or functions go

around the IT organization and independently acquire their own resources. While this may address the immediate business need, it creates duplicative and disconnected systems, as well as introduces risk.

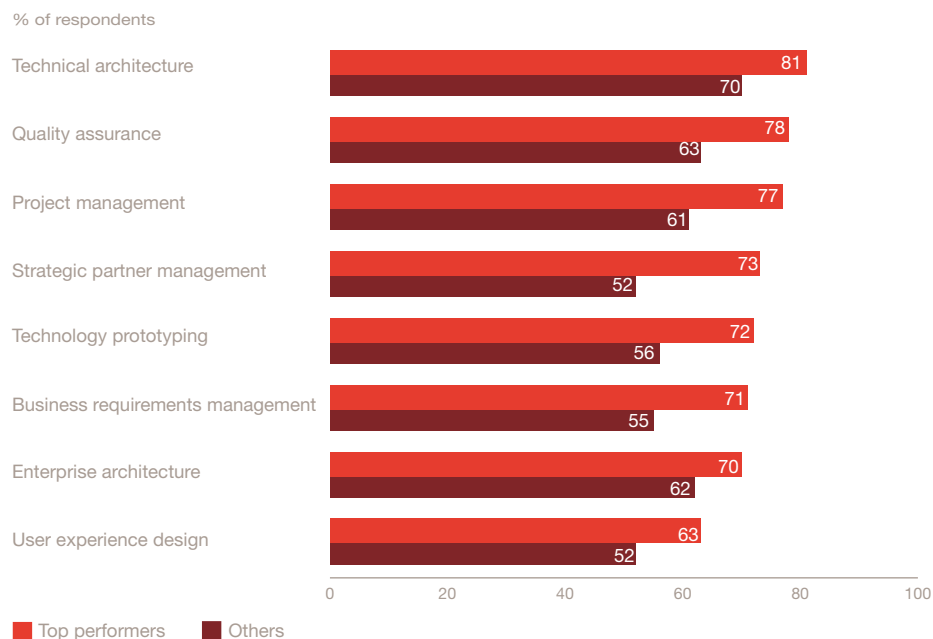
With a balanced digital capability that spans the business, what matters more than where the specific skills or resources are located is having a shared understanding of how it all fits together to accomplish the organization’s goals, who is responsible for each aspect, and a way to keep everyone in the loop. Achieving this level of collaboration requires that IT fully understands all aspects of the business—and business understands relevant aspects of information technology. Our study found that top-

“There is a very conservative approach in the way technology is used across all business lines compared to other banks.”

IT Executive, Canada

Digital capabilities require a blend of traditional and new IT skills

Top performers were more likely to have stronger skills in crucial digital areas like enterprise architecture and user experience design.



Q. How would you rate your organization’s IT department on the following skills needed to integrate digital capabilities into your core business?

Respondents who stated “excellent” and “very good”

Bases: 375, 1,119

Source: PwC, 6th Annual Digital IQ Survey, 2014

performing companies had a higher degree of understanding on both sides. Yet for other companies, there is a noteworthy mismatch: They report higher IT skills in the Strategy and Marketing business functions than the Strategy and Marketing business skills of their IT counterparts, highlighting the potential for skills overlaps and lower business-IT collaboration.

Digital keystone skills. Finally, there are the core skills that provide the centerpiece for an organization's digital capability regardless of its sourcing strategy, a group we call digital keystone skills. These skills focus on ensuring that the corporate strategy is accurately defined in project plans and designs and that the associated investments are well-spent and expected value realized. Here again, top performers were more likely to excel at cultivating these critical skills.

“There’s a lack of IT involvement in our business operations.”

Business Executive, Russia

Implications

- 1 Develop a single view of the digital skills required to meet business goals. Creating this comprehensive view requires conversations and collaboration among different functions in order to determine the full range of capabilities needed. This is in contrast to how many organizations approach the situation today, considering only the digital skills needed in a specific function, like sales or product development.
- 2 Create a common talent framework to manage and develop those in digital roles, regardless of where they reside in the organization. The framework also enables the organization to identify gaps or overlaps in its skills inventory.
- 3 Develop a digital sourcing strategy to consider which skills and capabilities should be organizational core competencies and which are better provided by third parties.

Conclusion: Upping your Digital IQ

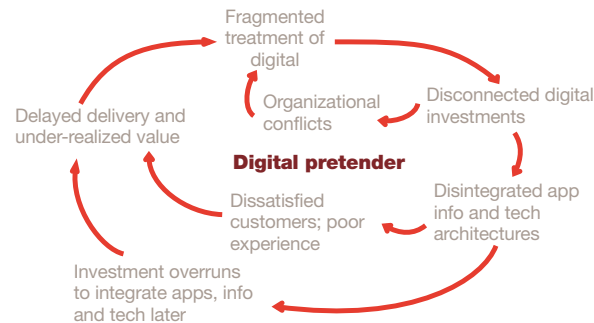
With digital at the top of the agenda for nearly every company, the question becomes: *How do we use digital technology to improve products and services, create new ones, or change our business models—before competitors do?* Our study revealed that five behaviors make the difference in enabling a business to realize sustained value from digital technology. Company leaders ready to ramp up their Digital IQ and develop these interlocking capabilities will find that as they add each behavior, they will be better positioned for high performance. Those who do not are destined to fall further behind.

Success in capturing value from digital investments starts with the CEO and requires that company leadership agree on making digital an enterprise capability, then acting accordingly in everything they do. Those who do will reap the rewards; those who do not will fail to realize the expected returns from their digital investments.

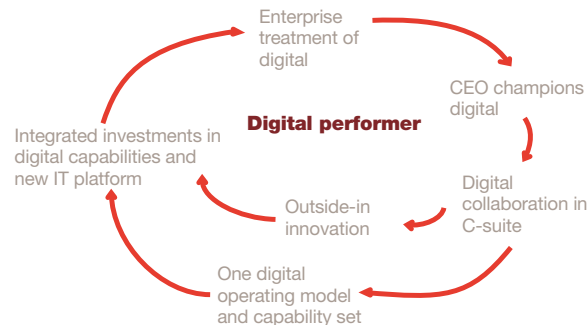
Companies in our study that took this path were twice as likely to be top performers in revenue growth, profitability, and innovation. What is your business waiting for?

How digital adds or subtracts value

A narrow view of digital leads to redundancies, cost overruns and islands of information



...but viewing digital as an enterprise capability links the best of the enterprise and marketplace to drive new value



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About the Digital IQ Survey

PwC's 6th Annual Digital IQ survey was conducted in the fall of 2013. The global survey included 1,494 respondents from 36 countries. Answers were aggregated into five regions and 11 industries. Respondents were evenly divided between IT and business leaders. Two-thirds of respondents work in organizations with revenues of \$1 billion or greater and 37 percent have revenues greater than \$5 billion.

Global survey respondent breakdown
Percent of respondents by region

