*your**digital**IQ*

For technology firms, the pressure is on to innovate

Technology Institute

Over the past several years, as technology has advanced at ever-accelerating speed, the technology industry has witnessed the decline of a number of notable leaders. Firms that once stood as icons in the industry have lost considerable market share to new competitors offering sleeker products, more comprehensive customer service, and greater overall value.

What led these and other firms to lose their competitive edge? For one, they fell prey to competitors that were able to deliver innovative new products and services to market faster. But surprisingly, they also forgot to focus on building their digital IQ—*a measure of how well companies understand the value of technology and weave it into the fabric of their organization*. Increasing a firm's digital IQ means more than merely adopting the latest tools or having a large IT budget; it is about integrating technology into the way a company plans, innovates, measures results, interacts with customers and employees, and ultimately creates value. "The irony of the technology industry is that many organizations that create cutting-edge technology often neglect the need to focus on their own internal digital IQ," says Michael Pearl, principal at PwC.

These firms also underestimated the effects of the consumerization of IT—the notion that new technologies and tools are increasingly adopted first in our everyday lives and brought into the business world as a result of employee and customer demand. As we noted in our 4th Annual Digital IQ Survey, "the four key trends of aggressive adoption of the cloud, increased mobility for both the employee and the customer, vast and persistent use of social media by almost all strata of society and unprecedented access to data mean that any company with an 'old-style,' industrial, internally focused approach to IT is falling behind at an alarming rate."

Raising a firm's digital IQ is critical to ensure ongoing competitiveness in virtually all industries. But for technology firms the stakes are even higher. After all, technology companies are at the forefront of innovation and business transformation—they are responsible for creating the very software and tools that disrupt and even destroy traditional ways of doing business. Consider mobile innovation: PwC's Mobile Technologies Index forecasts a 41% CAGR between 2011 and 2015 versus 55% between 2007 and 2011, meaning we can anticipate even more new and rapid mobile innovation in the future (see pwc.com/mobileinnovations). What's more, they are doing so on a global playing field where new rivals emerge almost daily, and from unexpected places.

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More demanding customers and greater competitive threats make digital IQ an imperative
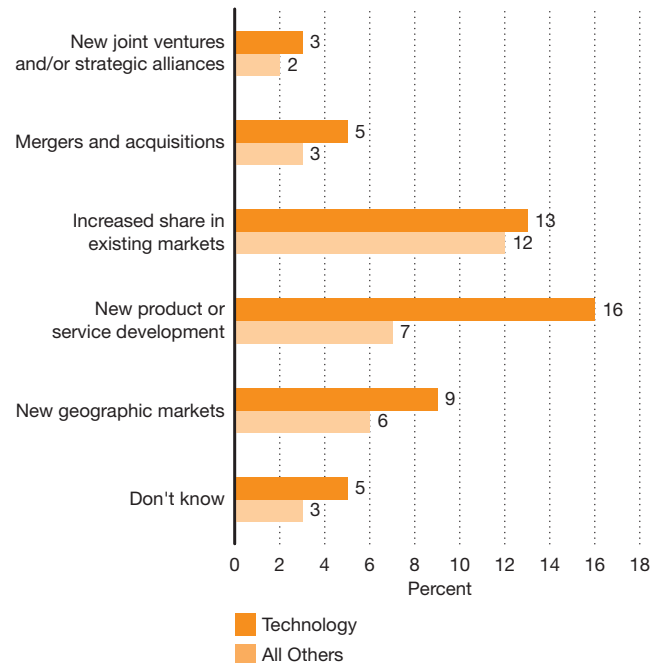
Many technology industry executives are keenly aware of the pressure to innovate. According to our survey, when asked to name the factors that most significantly influence business strategy, tech executives are more likely than executives in other industries to say customer demand (24% and 16%, respectively) and competitive threats (22% and 12%, respectively). The significant difference highlights an important point, says Mr. Pearl: "When we think about the concept of the *Consumerization of IT*, it underscores the challenges facing the technology industry. Consumers are driving a more aggressive and rapid evolution of digital interaction, creating incredible competitive pressure on companies to keep pace."

Figure 1: Which of the following factors have significantly influenced your need to change your strategy?
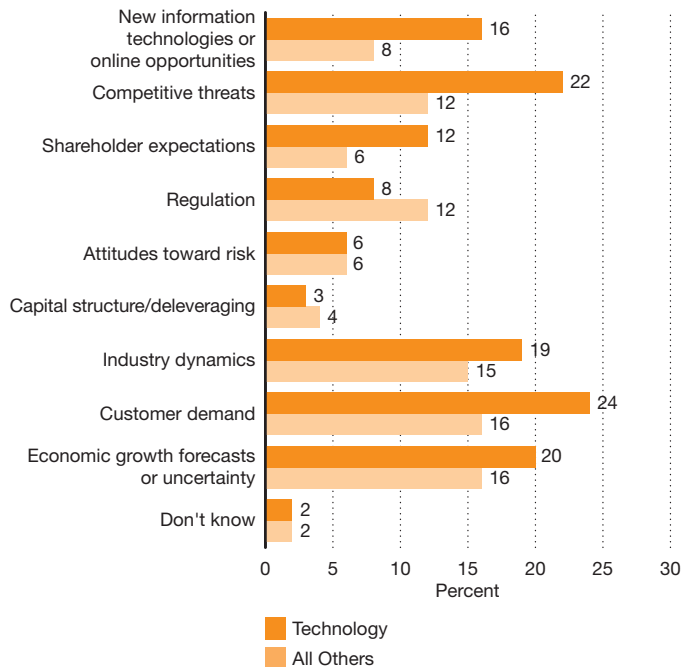
As a result of this pressure, it is hardly surprising that when it comes to business growth, technology firms are focused primarily on new product or service development (16%) and increasing share in existing markets (13%), well ahead of entering new geographic markets (9%), mergers and acquisitions (5%), and new joint ventures (3%).
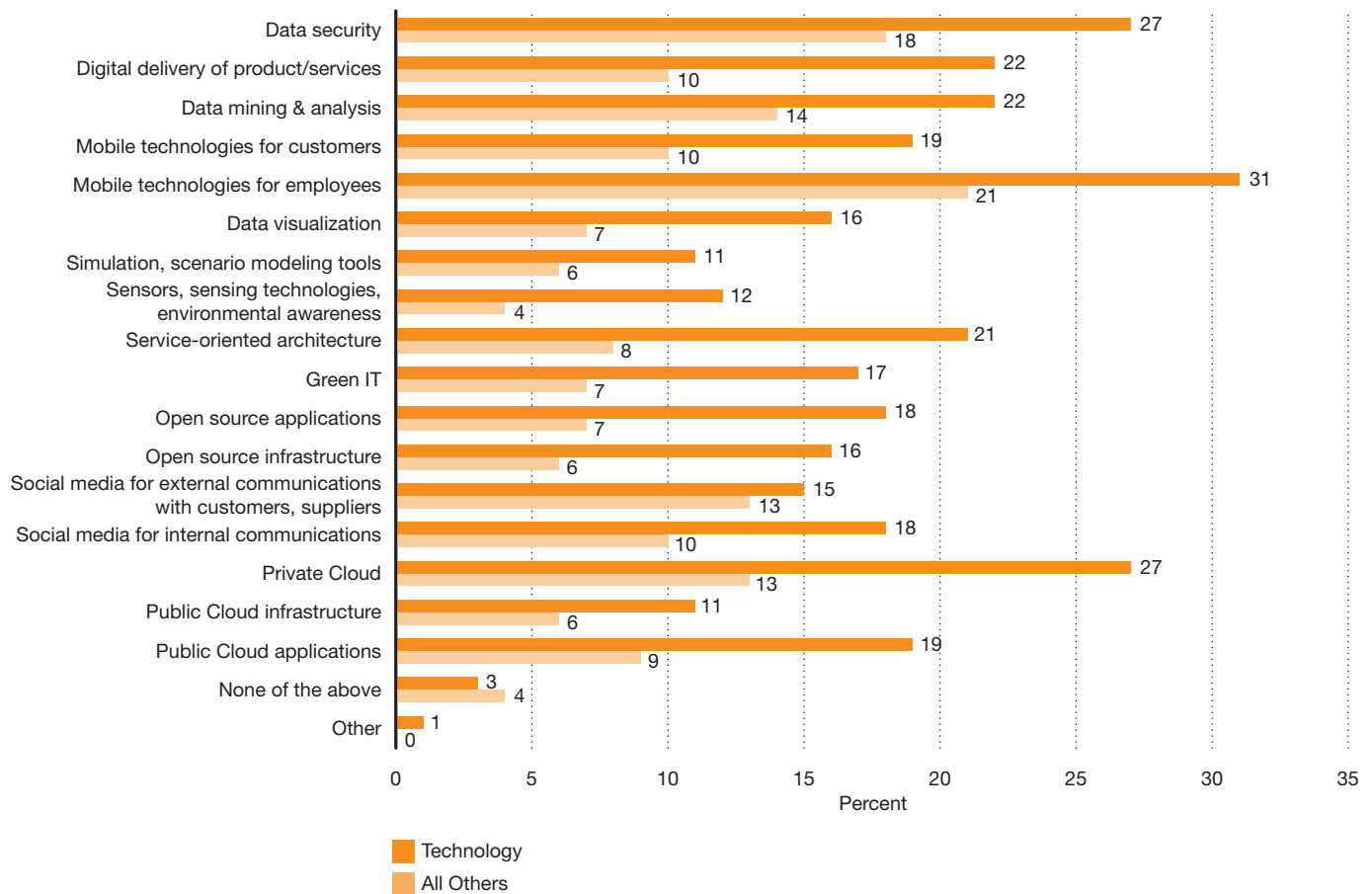
Figure 2: Main opportunities for growth

Adding to the sense of urgency tech industry executives face is the notion of speed—not only in terms of how quickly firms can provide new tools and upgrades (particularly ahead of their competitors), but the speed at which technology companies can respond to their customers' queries and requests in order to improve long-term engagement, satisfaction, and loyalty.

These shifts make increasing digital IQ an imperative for technology companies. And in many ways they are further along than companies in other industries: Significantly more so than other respondents, tech firms are likely to be investing in mobile technologies for employees (31% compared with 21%), data security (27% compared with 18%), private cloud (27% compared with 13%), data mining (22% compared with 14%), and the digital delivery of their products and services (22% compared with 10%). In fact, when it comes to potential IT investments, technology firms significantly outpace other sectors in virtually every technology.

Figure 3: What new technology investments are you considering in the near future?

Category	Technology	All Others
Data security	27	18
Digital delivery of product/services	22	10
Data mining & analysis	22	14
Mobile technologies for customers	19	10
Mobile technologies for employees	31	21
Data visualization	16	7
Simulation, scenario modeling tools	11	6
Sensors, sensing technologies, environmental awareness	12	4
Service-oriented architecture	21	8
Green IT	17	7
Open source applications	18	7
Open source infrastructure	16	6
Social media for external communications with customers, suppliers	15	13
Social media for internal communications	18	10
Private Cloud	27	13
Public Cloud infrastructure	11	6
Public Cloud applications	19	9
None of the above	3	4
Other	1	0

But investing in tools is only part of the equation. Perhaps because they are so often at the forefront of business transformation, technology companies also seem to understand the need to embrace change—even if those changes are radical. There are numerous examples of technology companies transforming their processes and organizational capabilities to effectively sell cloud service offerings. Similarly, traditional license based software companies are moving away from their old model of distributing software to the desktop and are now offering versions of their product in the cloud. We see hardware and software providers entering into the tablet market; not merely as a product launch—it's a significant transformation effort to better align with their customers in the post-PC era. These strategic and dramatic course changes are emblematic of the new world of business: fast, always "on," highly adaptive—and ultra-competitive.

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This not only requires a significant investment in new internal systems and tools, but a sweeping transformation of business processes that essentially moves people who

traditionally worked in the back office up to the front lines of the organization, interacting with suppliers, partners, and even customers. Mr. Pearl recalls a recent conversation with the CIO of a software firm that had just released a new suite into the market. "She said, 'For the first time in the history of the company, IT is on the critical path of a product launch.' Instead of burning software to a CD, selling it, and then going through the typical sales and customer-support process, the IT department is now integral in measuring the use of the product—and charging for it," he says.

The story illustrates a larger trend brought on by the rapid development of the cloud, mobile devices, social media, and big data: the shift from creating a product to providing a service. For technology companies, the move to on-demand and mobile computing means that technology companies are no longer merely vendors of software—they must now be on hand at all hours to make adjustments, solve client problems, and make improvements as necessary. "When you do that, you are always connected to your customer," says Mr. Pearl. "As a result, your IT systems need to understand the discrete activities people are doing with your product, not merely that they bought it." It also means that the IT team needs to become savvier about how to communicate with, engage, and service customers across social networks. This is an important change for the traditional IT department.

Increasing your firm's digital IQ can lead to better innovation

The sweeping changes happening in mobility, social media, cloud computing, and business intelligence create unique opportunities for technology companies—and particularly IT executives inside technology companies—to be more involved in product and service innovation. But are CIOs embracing this opportunity?

The rapid development of mobile devices, big data, social media, and the cloud has led to an important trend for technology companies: the shift from creating a product to providing a service.

According to our study, there is significant room for improvement. While 23% of respondents in the technology sector say their CIO's role in innovation is to improve the efficiency and effectiveness of the IT organization, only 7% say the CIO is significantly involved in developing new products and services. And only 27% agree or strongly agree that IT investments are made primarily to support growth initiatives and leverage emerging innovations such as mobile devices and social media. Among "top performers" in our study (those who rated their company in the top quartile for annual revenue, growth, profitability, and innovation, and reported they had revenue growth of more than 5% in the last 12 months), that figure is 73%.

Figure 4: What is your CIO's primary role in business innovation?
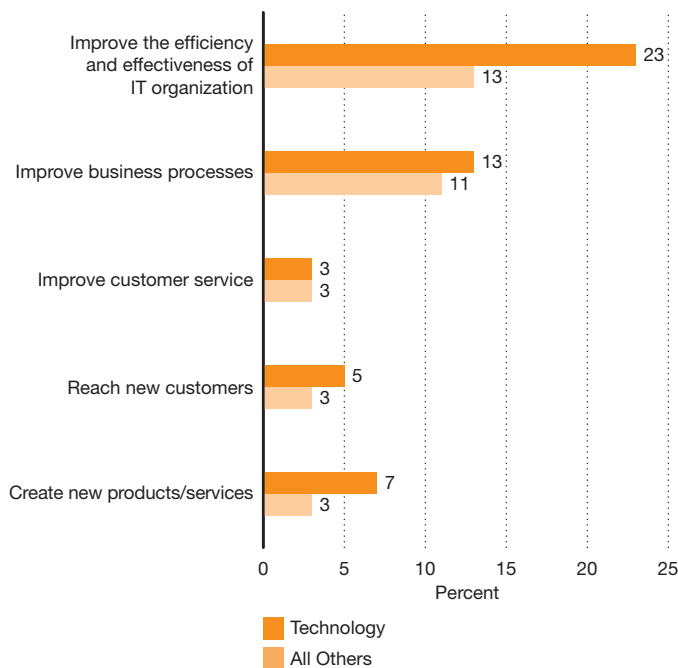
These are important calls to action, says Mr. Pearl. The need to drive innovation in the creation of new products and services can literally mean the difference between success and failure for technology companies. And CIOs are in a unique position to lead their firms through this effort.

But such changes don't happen overnight. Technology adoption alone is not a cure-all, and digital IQ cannot improve without an improvement in processes. To make these changes happen successfully and effectively, technology firms should focus on three key steps:

- **Strategic planning** entails not only setting a corporate strategy that is well communicated across the enterprise, but ensuring that IT is front and center. While most firms in our survey say they have a good handle on planning, less than half say that strategy is well-communicated. For technology firms that figure is 37%.

- **Mobilization** is a critical and often missed second step whereby executives set out a roadmap and financial resources, and establish the team required to execute the corporate strategy. Roughly 65% of technology firms undergo this important process, compared with 57% for all survey respondents.

- **Roadmap execution** is the ability to not only deliver products and project on time, on budget, and within scope, but to ensure that the end result creates overall value for the business. This third step continues to be challenging for all companies; only 43% of respondents say initiatives are delivered on time, and just 36% say that initiatives are delivered with 100% of the planned scope. For technology firms, the figures are 33% and 26%, respectively.

As we noted in our original report, "whether you realize it or not, the 'edge' of your organization has changed radically." For executives at technology firms, the imperative is to think about technology not merely as a product, but as the critical component that sits at the heart of everything. "The trends discussed in this paper have an increasing impact on the technology industry, and organizations' very survival may depend on their ability to drive their internal digital IQ even higher," says Mr. Pearl.

PwC can help

If you'd like to discuss the challenge of raising your digital IQ, please reach out to one of our technology industry leaders listed below.

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