CIO INSIDER

The CIO's Innovation Agenda

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How CIOs can improve their ability to drive innovation within and outside their organization

As scientific and technological disruptions fuel business growth, the CIO is expected to be the catalyst of innovative new business capabilities. Often this directive comes from executive management without clear expectations or outcomes. As part of Deloitte's recent CIO survey,[1] 58 percent of CIOs said that "helping in business innovation" is a core expectation of the IT organization. Yet innovation remains a nebulous concept for many organizations and their CIOs, who consequently struggle to understand their role and mandate. There are ultimately a number of ways in which CIOs can contribute to and drive innovation within their organizations.

Why innovation matters

With digital upstarts upending long-standing business models and technology-fueled disruptions affecting all industries, CEOs have to focus their corporate agendas on innovation. In a recent large-scale executive study, CEOs identified technology as the most important factor shaping the future of their enterprises.[2]

This emphasis on technology has shifted the conversation for CIOs, who are expected to drive business value *and* sustain innovation over the long term. In our Global Survey, CIOs rank innovation among their organization's top five business priorities, on par with customer, performance, cost, and growth initiatives. And this dependence on technology-led innovation will likely increase; CIOs will be expected to deliver not only ongoing operational efficiencies but also new approaches to customer engagement, products and services, and even business models. Increasingly, CEOs and boards will view a CIO's leadership in innovation as crucial to their organization's success.

Traditionally, CIOs have been focused on innovation within IT—finding ways to uncover efficiencies or develop innovative solutions to support back-end systems and processes. Moving forward, there are three distinct levers of innovation CIOs may consider:

- **Incremental technology innovation**: New ways to implement, manage, upgrade, and maintain systems and processes that help support and evolve back-office operations, including technology innovations like the cloud, artificial intelligence (to optimize data centers), Internet Protocol version 6, solid-state drives, and virtualization

- **Workforce-enabling innovation**: Mobile and social tools that can enhance productivity; on-demand access to data, which can improve decision making; and HR and learning tools, which can increase employee engagement

- **Disruptive business innovation**: Innovation in customer experience, digital transformation, and end-user products and services, and ecosystem involvement to monetize IT assets.

Each of these innovation types has its place in the organization. The challenges for CIOs are, first, to develop innovation maturity within each type to fulfill business objectives and, second, to establish clear goals and expectations with business leaders concerning innovation efforts. CIOs, in other words, should evangelize their innovation by creating new strategies that drive change while building innovation capabilities.

The need for a mature innovation capability

It's no secret that innovation is an underdefined capability in many IT organizations. In the course of Deloitte's CIO Program Transition Lab sessions,[3] more than 100 CIOs were asked to assess their "current innovation capability" and then to define their "ideal state." Nearly half (47 percent) said

innovation capabilities are nonexistent or nascent in their organizations. Slightly more than a third are currently building innovation capabilities, while only 5 percent have "excellent" capabilities in place. (figure 1) Nor are the CIOs setting a high bar for the near future—almost half (42 percent) said their desired best state for innovation is "defined"; only a handful are seeking "leading" capabilities.

Figure 1: CIOs innovation maturity level

Where would you rate your organization's current innovation capability and what is your ideal state?
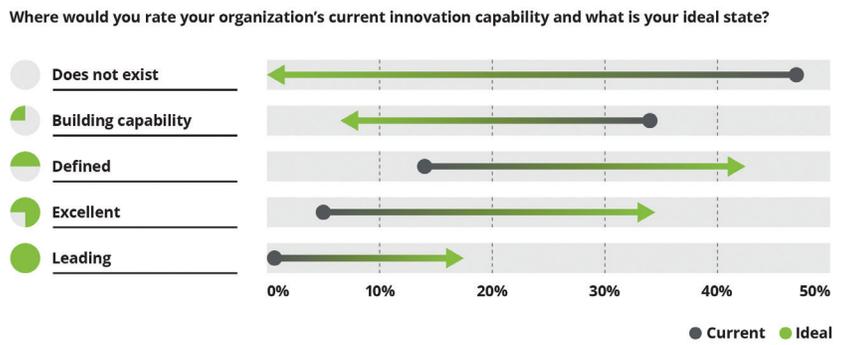
N=113 CIOs surveyed. Source: Deloitte CIO Program Transition Labs, February 2016.

In his classic book, *Creative Destruction*,[4] Richard Foster attributed the life span of a modern corporation to its ability to balance three management imperatives: 1) run operations effectively; 2) create new businesses that meet customer needs; and 3) shed businesses that no longer meet company standards for growth and return. Without a significant and mature innovation capability fueled by technology, businesses cannot survive for long. A 2012 study coauthored by Foster found that an S&P 500 company is replaced every two weeks on average and estimated that 75 percent of the firms that make up the S&P index will be replaced by new firms by 2027.[5] The upshot: If CIOs are not in a position to handle innovation, they likely won't keep their jobs for very long.

In Deloitte's 2015 Global CIO Survey of more than 1,200 CIOs, nearly half (45 percent) of respondents said innovation through the creation of new products and services is a top business priority for the next two years; roughly the same number (46 percent) said that driving business innovation would enable them to have the biggest impact on their businesses. Yet only 16 percent of funds for IT budgets are spent on new products and services to support business innovation and growth, while more than half the budgets (57 percent) are spent on day-to-day business operations.

Getting to the ideal state arguably requires a solid framework for innovation that incorporates repeatable, reusable processes. Before that point, however, it's crucial to lay the foundation by developing maturity across each innovation dimension—innovating within IT, with employees, and with the business.

Incremental technology innovation

IT innovation fundamentally supports the business in its efforts to achieve performance, growth, and other objectives. CIOs face a complex balancing act between delivering IT strategy that supports innovation and optimizing existing business operations. In a recent CIO Magazine poll, 88 percent of CIOs surveyed said their role is becoming increasingly challenging; 71 percent said it's difficult to strike the right balance between innovation and operational efficiency (and security).[6]

Innovations in technologies like storage and the cloud allow CIOs to deliver solutions much more quickly, thereby creating agility for the business, shifting IT spending from capital expenditures to operating expenditures, and positively impacting the bottom line. Some IT organizations are using the cloud as a foundation for process assembly, linking services and data to create new and innovative applications or business processes. Advances in storage are enabling companies to better manage reams of data or decouple capacity and performance. Advances in virtualization,

data center management, and network efficiency have allowed CIOs to offer faster, better, cheaper technologies to their businesses.

With offices and data centers in more than 25 countries, Avanade CIO Bob Bruns faced increasing demands for network reliability and performance. To achieve operational impact—and optimize the company's network for cloud services—Avanade's IT organization launched a hybrid WAN program that has more than doubled network capacity, increasing average bandwidth by 163 percent while cutting recurring network charges by more than 50 percent. The program is saving Avanade $1.2 million annually.[7]

This type of innovation, while essential and business-enabling, is not new for CIOs; it's considered "table stakes." Innovation within IT, however, must be mastered—through enduring architectures, principles, models, and standards that create stable, agile, and secure environments.

Workforce-enabling innovation

Engaging the workforce for innovation can involve everything from introducing incremental changes that differentiate the organization to optimizing existing core products and creating new capabilities that help employees work better or more efficiently. Such initiatives fit well within the CIO mandate. According to Deloitte's 2017 Global CIO Survey, the top three core expectations of the CIO and IT organization are: improve business processes (70 percent); reduce cost and drive efficiency (67 percent); and maintain IT systems (66 percent). While these expectations don't seem related to innovation, they are areas where CIOs can find ways to enhance existing capabilities or provide new ones. C-suite executives and business leaders, for instance, can make better decisions faster with new data streams enabled by IT. Innovation in tools or processes can make the workforce more engaged, productive, and savvy.

Part of Eash Sundaram's mission as JetBlue's executive vice president of innovation and CIO is to empower and engage the workforce through technology innovation. This includes investing heavily in a mobile strategy. As part of that initiative, Sundaram and his team chose an industry-leading approach—the launch of a proprietary satellite in Kazakhstan that provides free, fast Wi-Fi onboard JetBlue airplanes. The Wi-Fi capability serves as the foundation for other devices and technologies, including the rollout of iPads to in-flight crew members and flight attendants.[8] Loaded with applications for employees, the iPads help pilots work more efficiently and stay connected, to work and home, while in the cockpit.[9] They also replace heavy flight manuals for crew members and provide flight attendants with a language translator, a point-of-sale system, and passenger data for personalized services.
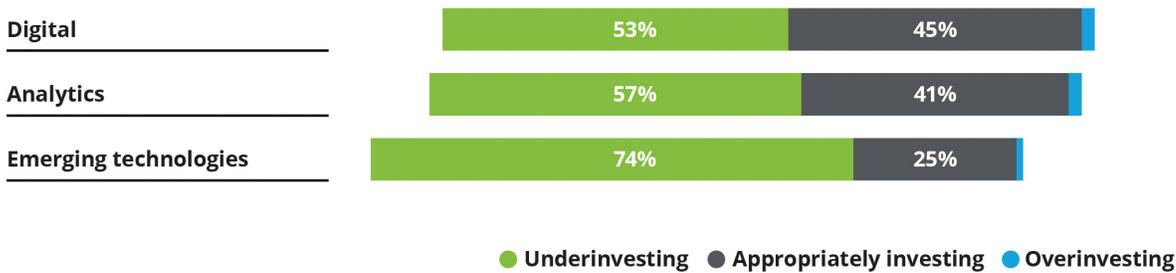
Additionally, Sundaram is engaging employees by providing the tools and IT support that enable them to participate in technology-led innovation. "When you build a platform that allows you to crowdsource talent, then anybody can be a developer," Sundaram said in a CIO.com interview. As a result, three JetBlue pilots are partnering with IT developers to build applications. "The world is changing," says Sundaram. "I don't really look at IT as a skill set anymore. IT is a toolkit. And everyone should have access to the toolkit."[10]

An important aspect of innovating for the business is having the right technology—and technology budget—to enable agility. In the Deloitte 2017 Global CIO Survey, three out of four CIOs said that analytics and digital technologies will have a significant impact on their businesses within the next year. Yet many are underinvesting in these technologies (figure 2). Nearly three-quarters of CIOs surveyed (74 percent) are investing less than they should in emerging technologies that could contribute to innovation and growth. Nearly a third are underinvesting in legacy and core modernization—significant upgrades that serve as the foundation for growth and innovation.

Figure 2: CIOs are underinvesting in some innovation-enabling technologies

How would you evaluate your current level of investment for the following technology area(s) with respect to your business needs?

	Underinvesting	Appropriately investing	Overinvesting
Digital	53%	45%	
Analytics	57%	41%	
Emerging technologies	74%	25%	

● Underinvesting   ● Appropriately investing   ● Overinvesting

N=1,089 CIOs surveyed. Source: Deloitte Global CIO Survey, August 2016.

Disruptive business innovation

While managing day-to-day operations and innovating within IT to better engage employees, CIOs are now also responsible for directly helping businesses create value. CIOs must consider how to drive business objectives for innovation that essentially monetize IT assets—from digital breakthroughs and data to new technology-driven products and services, including those that create engaging customer experiences.

The role of the CIO in innovation is to create new strategies that drive change and help the business achieve its goals. Traditionally, however, CIOs have either served as sounding boards, providing feedback to innovation teams regarding the organization's ability to deliver a proposed innovation, or as implementers who put systems in place that support the innovation pipeline. While these roles are essential, they don't position the CIO as an agent of change.[11]

Significantly, only 42 percent of CIOs self-identified as coleaders or initiators of business strategy, although 82 percent consider this role to be the ideal (figure 3).

Vanguard CIO John Marcante, for instance, collaborated with leaders in the retail division of the company to create Vanguard Personal Advisor, a virtual advisory service for customers that combines investment methodology, an intuitive online user experience, sophisticated investment modeling technology, and traditional advisory services. Since launching in May 2015, it now has $31 billion in assets under management and has decreased the minimum asset threshold from $100,000 to $50,000. "This is the direct result of our iterative development methodology, which allows us to drive down the costs of serving an individual investor through continuous refinement of our internal systems and processes," Marcante explained in an interview in *Forbes*.[12]

Figure 3: CIOs' role in business strategy development

What is typically your role in business strategy development decisions within your organization?
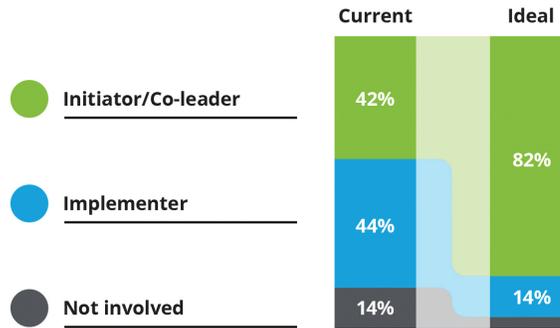
N=1,271 CIOs surveyed. Source: Deloitte Global CIO Survey, November 2015.

It's in the context of engaging the business in innovation initiatives that CIOs should determine how partners and ecosystems can be leveraged to fuel expansion, particularly as explosive growth continues unabated at firms like Airbnb, Uber, and Lyft—organizations with experimental ecosystems that are asset-light and highly decentralized. These companies behave very differently from conventional businesses. Their success means that other organizations, and their CIOs, need to think about connecting with partners and ecosystems so they too can evolve in new ways. A recent IDC report showed that by 2018, Salesforce.com and its ecosystem of customers and partners will generate $272 billion worldwide—2.8 times the revenue of Salesforce.com itself.[13] In the words of one CIO who participated in the 2015 Deloitte Global CIO Survey, "CIOs in the future must do outreach and bring in partners."

Leading CIOs are indeed taking this approach. BNY Mellon's CIO Suresh Kumar is reinventing the company's technology development and deployment processes so that the IT organization will behave very much like an innovative fintech startup—no easy undertaking for the more than 200-year-old company.[14] To do this, Kumar is not only engaging with the business to drive innovation, he is developing an ecosystem of global partners to further its efforts outside the company.

In 2012 Kumar and his team began an ambitious digital transformation to better prepare the company for the future, including increasing its ability to be more innovative. The process involved partnering with leading organizations for guidance and building a network of innovation centers around the globe in London, Pune, Chennai, Jersey City, and Silicon Valley. The innovation centers, which employ about 2,000 people, work with cocreators from outside the business to foster partnerships, share ideas, and explore use cases for disruptive technologies like blockchain. They also reach out to the broader technology community, hosting meetups and hackathons and sponsoring events. In a recent article, Kumar explained his partnership approach and learnings:[15]

"For guidance, we looked to other progressive companies, including the technology and innovation leaders in Silicon Valley. We met with startups, fintechs, and venture capital firms, learning what aided their success and seeking out opportunities for collaboration. As we worked with these new colleagues, we learned from them, again and again, the keystones to successful innovation and industry advancement: collaboration, experimentation, sharing, adapting."

Prioritization and access to funding typically depends on the CIO's relationship with the rest of the C-suite, which can pose a challenge for allocating investments. While nearly 70 percent of CIOs surveyed claimed excellent or very good relationships with their CFOs, only half (51 percent) said the same for relationships with their CEOs. And good relationships don't always translate to influence.

For CIOs, becoming effective leaders and playing their preferred role in business strategy development means building influence. One CIO advised that the four ingredients for building influence are "trust, credibility, consistency, and track record." Our global data suggests that a majority of CIOs are not yet truly influential.

Next steps: achieving innovation maturity
For CIOs to become strategic innovation evangelists, it's important for them to lead discussions on how innovation plans will help the company and its customers do things better, faster, smarter, or cheaper. This will allow CIOs to build enough trust and credibility to then effectively promote their plans for innovation.

Prerequisite: Be exceptional in operations and delivery. Before a CIO tries to innovate on a grand scale, the basics must be in place. CIOs can build innovation credibility with reliable, efficient, cost-effective IT operations, which in turn will build influence with C-suite and business stakeholders. Consistent day-to-day delivery of IT services is critical. Innovate within IT first; then look outside the department and the firm for innovation partners.

Know stakeholders and their agendas. New CIOs often conduct listening tours to establish relationships with their stakeholders. This process helps CIOs understand business leaders' agendas and goals for the business and determine which can be supported through technology. It's also important to learn what stakeholders don't want. A multidisciplinary Agile development initiative may not receive stakeholder support, for example, if it's a bad cultural fit or unrelated to key underlying goals. As CIOs get to know the stakeholders, they can make sure there is a consistent process for listening and a focus on identifying and addressing unmet needs and information gaps.

Be creative in funding innovation. Innovation doesn't necessarily require additional funding. The CIO may need to recalibrate IT spending to pay for disruptive technologies or initiatives that have the potential to impact business operations in the digital economy. BNY Mellon's Kumar, for example, saved money in other areas within the IT organization to fund the bank's innovation centers.

Think of innovation as a mindset. Carrying out the innovation agenda cannot be done part time or piecemeal. It is a mindset change that requires consistent investment of time, resources, funding, and, at the end of the day, evangelism. But it is also a cultural attribute that constantly needs to be nurtured by encouraging, motivating, and rewarding the desired behaviors.

Engage with ecosystems. Innovation can't be done in a silo. Look beyond the IT organization for innovation partners to create related, modularized, or adjacent products and services. At the same time, look outside the company's four walls to industry and nonindustry partners, suppliers, and existing ecosystems to fuel innovation. Consider the possibilities in outsourcing, supply chain integration, and joint ventures.[16]

CIOs, with their exposure to processes across business functions, understand how information flows and how technology can shape or support innovation. They are in an excellent position to drive innovation within and outside their organizations. However, CIOs need to master each lever of innovation to achieve expected results, with the understanding that one builds upon the other. For CIOs, that means determining where opportunity exists that can be exploited today—innovating within IT, with the workforce, or with external partners—and building a path to innovation that can propel the business forward.

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