



April 2019

CIO Insider

Beyond innovation by shotgun

By: Khalid Kark, Bill Briggs, and Minu Puranik

IN THE PAST few years, rapid changes in technology have led to brisk adjustments in business and operating models, making innovation a business imperative. But despite a rich history of brilliant innovation methods and frameworks, many business and technology leaders have not

developed a robust innovation capability. This *CIO Insider* explores the role of technology in innovation and includes pragmatic advice for helping to improve technology-powered innovation capacity and develop a comprehensive process for industrializing innovation.

Challenges of technology-enabled innovation

Many CIOs face a significant gap between the current and desired state of their innovation capabilities, according to data from Deloitte’s CIO Program Transition Lab sessions. Many CIOs (59 percent) are aiming high—they say their goal is to have excellent or leading future-state innovation capabilities. But they have some ground to cover: When asked to assess their current innovation capability, a quarter say their organizations’ innovation capabilities are nonexistent and 41 percent say they are currently building these capabilities. Only 11 percent assessed their current innovation capabilities as excellent or leading (see figure 1).

There are a few reasons for the gap between current and ideal innovation capabilities.

- **Choice overload can lead to choice avoidance.** A well-known behavioral economics concept posits that when many people are presented too many options, they can become mired in decision-making fatigue and, as a result, do nothing.¹ The sheer volume of today’s technology-driven innovations, solutions, business models, and strategies can be overwhelming to

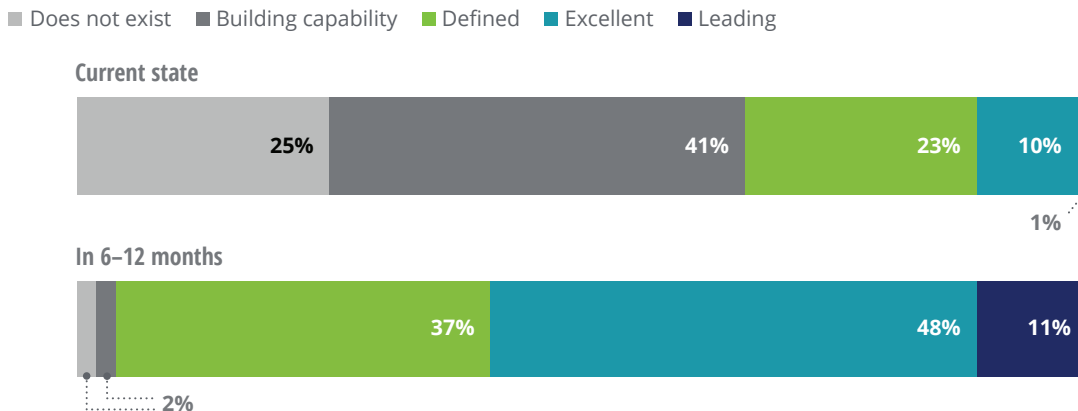
many CIOs and other leaders. Therefore, organizations remain frozen in place or focused on ad hoc innovation—and ultimately achieve nothing substantive.

- **Many business leaders prefer defensive postures.** Many business leaders often view investments in unproven or disruptive technologies as risky; they have a higher level of comfort spending money on enhancements to existing technologies. For example, in a recent Deloitte research report, many board members said when they discuss technology topics, they spend most of their time focused on protecting existing assets at the expense of issues related to growing the business.²
- **Technology and business strategy are not aligned.** In *Deloitte’s 2018 Global CIO Survey*, 75 percent of those surveyed aspire to be either a business cocreator or a change instigator, whose functions are, respectively, to drive business growth and enable business change.³ Technology leaders constantly scout for new and emerging technologies, but they should resist the urge to innovate solely for the sake of innovation. Collaboration with business peers can ensure that innovation plans align with corporate strategy.

FIGURE 1

IT innovation maturity levels

Where would you rate your IT organization’s current innovation capability and where do you want to be in the next 6–12 months?



N=133 CIOs surveyed

Source: Deloitte CIO Program Transition Labs, March 2016–March 2019.

- **The business may have negative perceptions of IT.** Some IT teams are hindered by the inefficiencies of legacy systems or perceptions of IT capabilities and talent. In addition, establishing operational excellence is likely a precursor to being entrusted with innovation. In organizations with a negative perception of IT, CIOs will likely need to gain the confidence of the business by driving operational discipline.
- **Organizational and cultural barriers can be innovation antibodies.** When innovation is the sole responsibility of a single organization, it can become a siloed effort, hamstrung by organizational and cultural barriers. In fact, the CIO survey identified resistance to change and the lack of leadership commitment as two of CIOs' top barriers to change.⁴ Successful innovation requires a mandate from the CEO, backing from across the business, and support for a pan-enterprise cultural evolution.

Whether technology leaders are driving, supporting, or enabling innovation, it is important to help their organizations build a strong innovation capability. This typically requires them to develop a portfolio mindset, engage in the end-to-end innovation process from ideation to actualization, and embrace the innovation ecosystem approach.

Portfolio mindset: Balancing across the risk/reward spectrum

Seventy-two percent of CIOs say projects that generate revenue or focus on innovation and emerging technology are the most appealing to CEOs and executive leadership, but only 18 percent of technology budgets are spent on these types of projects.⁵

Many technology leaders struggle to justify technology budgets for ad hoc requests and reactionary projects, and business leaders must weigh the value of a technology expense with uncertain outcomes against other critical investments in the business.

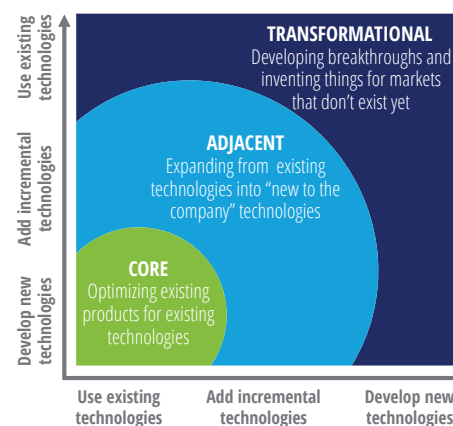
Often, CIOs place too much emphasis either on disruptive innovations or short-term incremental investments.

Deloitte's research and client experience suggest a disciplined portfolio approach can better align innovation to business strategy and risk appetite while producing the most optimal overall value. Companies with effective innovation track records maintain a portfolio that includes three types of innovation initiatives: core, adjacent, and transformational.⁶ The highest-performing companies allocate about 70 percent of their innovation activity to core initiatives, 20 percent to those considered adjacent, and 10 percent to those considered transformational (see figure 2).

Although these percentages aren't dictates, it's important to steer clear of strategies that rely primarily on reactive responses to business requests or random investments in disruptive or incremental changes simply for the sake of experimenting (see sidebar, "Building an innovation portfolio"). Like the investment allocation percentages, companies may realize different return ratios depending on business, customer, and industry context. However, innovation investments should span the risk and reward spectrum, and CIOs should define clear and measurable outcomes.

FIGURE 2

The portfolio approach to innovation



Source: Deloitte Digital/Doblin.

CIOs can allocate investments and other resources across their portfolio depending on strategy, industry, and disruptive forces. The cost savings realized through technologies such as robotic process automation (RPA) and artificial intelligence (AI) to deliver incremental innovations can be reinvested in other innovation explorations.

“In terms of innovation, we’ve been very involved in looking at growth, where our customers need us to go in the future, and what kind of products and services we need to offer. For example, integrating the Internet of Things (IoT) and wearable technologies will be important in terms of looking at loss prevention,” says Carol Poulsen, CIO of The Co-operators Group Limited, a Canadian insurance and financial services cooperative. “But we’re also highly engaged in new ways of driving efficiency and agility through the lens of innovation—for instance, using RPA, AI, and other technologies. So, we’re going beyond the traditional idea of simply cutting out 10 percent of the budget, for example, and looking at

the efficiency gained by change, through the lens of innovation.”⁷

Stanley Black & Decker’s innovation initiatives cross the internal boundaries of IT, manufacturing technology, and product development, according to CIO Rhonda Gass. “In addition to product innovation, we focus on process innovation within our manufacturing facilities as well as front- and back-office capabilities to enable operational technologies for each business unit.”

Gass explains that as operational technology (OT) becomes more technology-dependent IT’s role is not only to enable business process and manufacturing innovation, but also to assist OT with technology delivery challenges. “We need to ensure that our two technology footprints work well together,” she explains. “Plus IT is bringing to the table our knowledge about the delivery of large-scale business process implementations, compliance, privacy and security, solutions engineering, enterprise architecture, review boards, and other aspects of solutioning technology.”⁸



BUILDING AN INNOVATION PORTFOLIO

Allocating investments across the innovation portfolio isn't a one-size-fits-all exercise. Instead, consider developing investment targets based on conscious decisions aligned to corporate strategy, IT budget, business priorities, industry and market development, and other critical factors.

Compare the innovation portfolios of a large pharmaceutical market leader and a large distribution company (see figure 3). To maintain market leadership in a highly competitive industry, the pharmaceutical company focuses half of its innovation budget on core innovation and most of the remaining on adjacent innovation. On the other hand, the distribution company is in a fragmented industry with no viable competition, so its innovation budget is heavily weighted toward core innovation for enhancing existing capabilities, maintaining competitive advantage, and improving efficiency.⁹

FIGURE 3

Comparison of two innovation portfolios

Company	Innovation type	Percent	Approach	Outcomes
Pharmaceutical company	Core	50	Use of cloud services for faster computing power in analyzing research data	Reduction in the time needed to analyze data from weeks to hours
	Adjacent	45	Investment in multiple startups in adjacent markets	Immediate and exclusive access to new markets, products, and developments
	Transformational	5	Potential external partnerships to gain access to customer health data	Drug compliance, deeper view of customer habits/needs, and identification of new market opportunities
Distribution company	Core	90	Development of an industry-leading warehouse inventory management system	More efficient use of inventory plus real-time inventory tracking and analysis
	Adjacent	5	Use of digital channel to serve specific customer segments that were previously not targeted	New revenue stream with lower margins
	Transformational	5	Investment in IoT research to develop the capability to track data on distributed equipment	Ability to predict the condition of equipment and proactively deliver replacements

Source: Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Industrializing technology-powered innovation

Because nearly every innovation today is technology-powered, it's important for CIOs to enable or even drive this effort. Today less than a quarter of technology leaders (24 percent) are involved in sensing and scanning the market and researching technology-enabled solutions; half are actively exploring ways to integrate these technologies into their environments and only slightly more than a quarter (26 percent) are involved primarily in experimenting and scaling those solutions (see figure 4).

Very few technology leaders have implemented a systematic process for innovating within the IT organization that includes all these steps—from sensing/scanning and research to exploring to experimenting and scaling. Instead, many are pursuing innovation by shotgun, dabbling in emerging technologies without considering use cases and scalability, spreading investments across multiple startups without a cohesive strategy, or relying too heavily on their traditional ecosystem of partners and vendors for guidance.¹⁰

A systematic innovation process can allow teams to rapidly explore and experiment with multiple

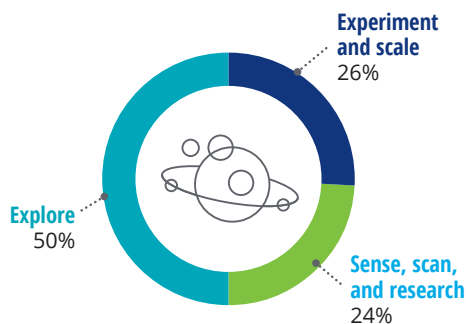
possibilities, leverage needed skills and expertise, and scale up rapidly as needed. For example, Walmart's technology incubator, Store No. 8, is tasked with developing and bringing to market next-generation retail capabilities, such as the use of virtual reality and other technologies to improve merchandising and developing an all-text shopping services.¹¹ Companies within the Store No. 8 portfolio operate as standalone startups, powered by technologies that allow them to experiment and iterate quickly and ensure continuity in process from sensing to scaling.¹²

The innovation process can be designed in many ways, depending on company context and specific problems that need to be solved. Technology company Lenovo's innovation process encourages innovation not only in R&D but also in business operations and transformation, says Lenovo SVP and global CIO Arthur Hu. For example, help desk teams might have opportunities to innovate with natural language processing, AI, or advanced machine learning. "It's great to have the next US\$10 million idea, but it's also a huge success if we can increase the speed of a customer transaction by 10 percent," Hu says. "Our process is important, but we don't want it to send the message that one team should be innovating to the exclusion of everyone else."¹³

FIGURE 4

The role of IT in technology innovation, adoption, and exploration

What is IT's role in the innovation, adoption, and exploration of emerging technologies?



N=809.

Source: 2018 Deloitte global CIO survey.

Engaging the ecosystem: Build, buy, or partner?

Due to an abundance of technologies, talent, and other capabilities, innovation can rarely occur within the vacuum of a single organization. When approached strategically, ecosystems that include internal and external business partners can help reduce risk and accelerate innovation. "Engaging constructively in a win-win way with ecosystem partners is critical and is going to continue to translate into real competitive advantages for our organization," says Catherine Lynch, board member of BlackRock Fixed Income Funds Board.¹⁴

A wide variety of ecosystem partners are at CIOs' disposal, with countless options and possibilities for collaborating (see figure 5). When comparing options, consider partners based on type of innovation. Also consider whether intellectual property will need protection, who should have operational control of the project, the availability of talent and financial resources, and timing, among other factors.

The Co-operators Group opened an innovation lab within a local incubator, seeding it with a combination of full-time employees and students from nearby universities. Its purpose was to develop and test new tools and technologies for streamlining customer experience. The team at the lab also experimented with AI and RPA. "In about six months, we had extensively developed and tested a business case for RPA, which we presented to our CEO, who is now the biggest proponent of RPA in the company," says CIO Poulsen.

Stanley Black & Decker's innovation ecosystem crosses the internal boundaries of IT, manufacturing technology, and product development. It's centered around two internal teams—the core team focused on product innovation and the breakthrough team focused on expanding innovation into adjacent areas. Both teams work within multiple homegrown innovation accelerators, including those focused on digital transformation, Industry 4.0, additive manufacturing, advanced analytics, and exponentially disruptive solutions that need to come to market very rapidly. There's also a strategic venture capital investment arm. Colocated in innovation hubs in Atlanta, Hartford, San Jose, and other locations, these teams have easy access to startups, entrepreneurs, leading academic institutions, and other potential partners and sources of inspiration. The teams collaborate with business units and IT but work independently, says CIO Gass.

FIGURE 5

The innovation ecosystem



Source: Deloitte Digital/Dublin.

“Our aim is to enable innovation teams to nimbly develop the most creative, innovative, and value-driven solutions possible,” she says. “So we created a framework and process that gives them access to the resources and external partner opportunities they need without being encumbered by legacy decisions, vendor agreements, or processes.”

To successfully leverage the ecosystem, companies should be actively engaged with it through ongoing scouting, exploration, and relationship management, as well as precise searches for specific solutions as needed. In other words, a company cannot merely broadcast its interest to work with the ecosystem—it must become a contributing partner that other members want to collaborate with.

IT teams are experienced veterans when it comes to working with contractors and vendors, but working with startup partners and investing in startups using a cocreation mindset is completely different. Teams may find themselves working with multiple startups, developing deeper partnerships with some while establishing traditional vendor relationships with others. Companies may commit to limited investments in some startups and target

others for acquisition. Just as they have a portfolio of innovation initiatives, they can similarly curate relationships with multiple startups that meet different needs based on potential risk and return.

Key takeaways: Driving technology-enabled business innovation

Keep these tips in mind when taking an active role in building innovation capability:

It’s not *where* innovation reports, but *who* it reports to. Like any major change initiative, innovation needs sponsorship and buy-in from the organization’s leadership. Which business function owns an innovation initiative can vary from company to company, but it should be fronted by a leader with significant visibility, credibility, and influence over his or her peers. For example, it may be more appropriate for a CFO to drive a strategic finance-related innovation initiative than the head of a strategy organization that many in the organization regard as an ivory tower.

CASE STUDY: TD BANK’S INNOVATION CENTER ISRAEL

To strengthen its ability to develop secure applications, Canada’s TD Bank recently launched the Tel Aviv-based Innovation Center Israel. Within 14 months, TD Bank moved from exploration to ideation to launch, including opening a new office space, hiring seven employees, and starting its first proof of concept. Technology and business leadership worked to define the center’s operational model, strategy, organization needs, and governance and set realistic key performance indicators, timelines, and ROI expectations.

The center works within the Tel Aviv innovation ecosystem to identify, evaluate, and onboard cybersecurity capabilities; monitor Israeli cybersecurity and fintech startups and emerging technologies; and hire technology talent. Specific activities include:

- Understanding the needs of different business units and identifying problems
- Researching the market, scouting for potential solutions, and making go/no-go decisions
- Evaluating and qualifying solutions and developing requirements
- Developing and testing proof-of-concept solutions
- Onboarding and integrating technologies into the TD Bank environment¹⁵

Overcome choice overload with a robust innovation funnel. Technology leaders often take calculated technology bets by making reasonable assumptions and using their experience and judgment. In the past, CIOs may have used a stage-gate process that tracked innovations from ideation to launch. Today, with time to market the key determinant of success and innovation capabilities cocreated by and integrated with ecosystem partners, the traditional stage-gate process can be cumbersome. Instead, consider an innovation funnel, with each successive stage of the innovation process filtering out unsuccessful ideas and concepts until only the best are scaled.¹⁶ The funnel can serve as robust framework for quickly making build, buy, or partner decisions; creating capabilities to sense and scan for disrupters and having the ability to quickly iterate and collaborate across ecosystems.

Prototype and scale up in parallel. The traditional innovation process would define prototyping and scaling up as distinct and sequential activities. Today, cloud platforms offer instantly flexible and scalable infrastructure, allowing teams to create prototypes with built-in scalability. Teams that don't consider scaling until after creating a successful prototype may be wasting valuable time and adding risk to the process.

Reward effort more than output. Unlike traditional technology projects—in which costs, risks, and rewards are clearly defined—innovation often requires a leap of faith. For decades, technology organizations have been asked to build reliable systems and environments and rewarded for reducing risks and uncertainty. As a result, many technologists are trained to avoid failure. To equip the IT organization to be more innovative, technology leaders likely will need to change the incentives and IT culture, prioritizing effort over output and encouraging people to learn from failure.

Infuse talent to influence culture. Culture is the biggest obstacle to change, according to the CIO survey.¹⁷ CIOs are making significant changes to funding and talent models to support the need for innovation—for example, they estimate the percentage of technology budget spent on innovation

will jump from 18 to 24 percent in three years.¹⁸ To support this level of funding and focus on innovation, many CIOs are reskilling their existing organizations and hiring for skills like creative and cognitive flexibility. But savvy technology leaders recognize that a culture that breeds innovation is like yogurt—it may need a “starter culture” to jump-start the fermentation process. Look across the innovation ecosystem to determine how to infuse this mindset into existing IT talent and culture—whether through hiring, partnering, or bringing in contractors or freelancers.

Innovation should be a day job. Almost half of the CIOs polled in the CIO survey (44 percent) report their current workload is unsustainable and admit they consistently overcommit on projects and deadlines. Creating the capacity for innovation can be challenging; innovation efforts often are viewed as “skunkworks” projects and bolted on to employees' usual responsibilities. However, dedicating staff to innovation without reducing their workload may doom an initiative to failure.

Consider B2B technology platforms. Technology-enabled business platforms offer unprecedented ability for any organization to drive innovation. To date, technology platforms primarily focus on B2C transactions (e.g., Uber and Airbnb) but increasingly businesses seek to develop B2B platforms, which the World Economic Forum's Digital Transformation Initiative (DTI) suggests could unlock US\$10 trillion in value over the next 10 years.¹⁹ CIOs can consider how they could participate in and benefit from these platforms and which ecosystem partners can help them deliver value.

Startups and incubators are not a panacea. Large companies often find it difficult to work with startups, which typically do not deviate from a narrow business model, are often unwilling to modify products and services, and have entirely different perspectives on resourcing, risk, and revenue. “Innovation teams must work between startups and corporate leaders to provide the ‘last mile’ translation from innovation to application,” says Nishita Henry, Deloitte Consulting's chief innovation officer.²⁰

Compelling metrics are as important as compelling products. Technology leaders should be able to measure, monitor, and articulate the value of innovation investments. These metrics likely will be different from those used to measure the success of traditional business initiatives and should be clearly constructed so they don't thwart innovation. Keep it simple—consider the concept of a “metric of one,” says Rasheq Zarif, the former head of business innovation at Mercedes-Benz research and development, now the technology sector leader for Deloitte's future of mobility initiative. “We had multiple metrics in the early stages of developing the Mercedes-Benz innovation group, but we eventually narrowed it down to what we called a ‘metric of one,’” he explains. “The point was to have one big success that impacted one major business unit in one year. Whether it's one million customers or one hundred million in revenue, a single major

metric is more memorable. It can make it easier to market the value you're providing and gain support across the organization.”²¹

The procurement function is a key innovation partner. The procurement function can fundamentally transform the technology organization's innovation capabilities. Procurement's traditional role has been to control costs and be a tough negotiator. To drive innovation, procurement likely will need to engage with the innovation ecosystem, seek strategic partners, and develop a deep understanding of capability gaps and ways to overcome them. Most importantly, procurement can be the conduit to push ecosystem partners to help the organization develop and execute on new ideas. Finally, procurement should be proactively involved with risks and challenges such as intellectual property disputes and revenue sharing models, which often are inherent to collaboration and cocreation.

Endnotes

1. Timothy Murphy and Mark Cotteleer, *Behavioral strategy to combat choice overload: A framework for managers*, Deloitte University Press, December 10, 2015.
2. Khalid Kark et al., *Technology and the boardroom: A CIO's guide to engaging the board*, Deloitte Insights, February 22, 2019.
3. Bill Briggs et al., *Manifesting legacy: Looking beyond the digital era*, Deloitte Insights, August 08, 2018.
4. Ibid.
5. Ibid.
6. Geoff Tuff, "Managing your innovation portfolio," Dublin, April 10, 2012.
7. Carol Poulsen, interview with authors, January 24, 2019.
8. Rhonda Gass, phone interview with authors, March 28, 2019.
9. Examples based on authors' personal knowledge.
10. Briggs et al., *Manifesting legacy: Looking beyond the digital era*.
11. Ibid.
12. Store No. 8, Home page, accessed April 8, 2019.
13. Arthur Hu, phone interview with authors, February 4, 2019.
14. Briggs et al., *Manifesting legacy: Looking beyond the digital era*.
15. TD Bank case study based on authors' personal knowledge.
16. Alan Holden et al., *Developing innovation portfolios for the public sector: Portfolios for public good*, Deloitte Insights, August 15, 2018 .
17. Briggs et al., *Manifesting legacy: Looking beyond the digital era*.
18. Ibid.
19. World Economic Forum, *Digital transformation initiative: unlocking B2B platform value*, March 2017.
20. Email from Nishita Henry, April 2, 2019.
21. Rasheq Zarif, phone interview with authors, March 20, 2019.

About the authors

KHALID KARK is a director with Deloitte LLP where he leads the development of research and insights for the CIO Program. Kark has served as a trusted advisor to large, multinational clients, and has decades of experience helping technology leaders anticipate and plan for the impacts of new technology. Previously, he led the CIO research practice at Forrester Research. His research has been widely featured in media outlets such as MSNBC, Boston Globe, and CIO magazine. He is based in Dallas.

BILL BRIGGS is the global chief technology officer, helping clients anticipate the impact that emerging technologies may have on their business in the future, and how to get there from the realities of today. He also helps define the vision and strategy for Deloitte Consulting LLP's evolving technology services and offerings. Briggs also serves as executive sponsor of Deloitte's CIO Program, offering CIOs and other IT executives insights on how to navigate the complex challenges they face in business and technology. He is based in Kansas City.

MINU PURANIK is a senior manager at Deloitte Consulting LLP. Puranik leads Deloitte's US CIO Program's Content and Connections team. She is responsible for program alumni sustainment, events and alliances, and thought leadership and research, including the CIO Insider research series and in-depth research reports. She has over 15 years of experience in developing and delivering technology-led programs across many industries and sectors. Puranik is based in Dallas.

Acknowledgments

The authors would like to acknowledge **Rhonda Gass, Arthur Hu, Catherine Lynch, Carol Poulsen**, and other CIOs and innovation experts who shared their valuable time and provided insights on building innovation capacity in IT.

Tal Chen, Mark Cotteleer, Max Delahanty, Jesse Goldhammer, Amit Harel, and **Rasheq Zarif** shared their wealth of experience, providing invaluable background that served as the foundation for key parts of the report.

Kristi Lamar and **Nishita Henry** were diligent and thoughtful in reviewing drafts and providing valuable advice.

Caroline Brown was the lead writer and chief wordsmith.

As always, **Eliz Moore, Allen Qiu**, and **Liz Sarno** provided support with data analysis and survey development. **Jeremy Arnold** was instrumental in helping us with interviews, reviews, and launch planning, and **Tiffany Stronsky** provided her expertise in marketing, public relations, and social media. **Junko Kaji, Rithu Thomas, Preetha Devan, Mike Boone, Kevin Weier**, and the entire Deloitte Insights team continue to provide outstanding editorial and production skills and immeasurable support, patience, and flexibility.

CIOs lead unique and complex lives—operating at the intersection of business and IT to deliver value to their organizations. To help CIOs manage these challenges and issues, Deloitte has created the CIO Program. The program provides distinctive offerings to support the CIO career life cycle through leadership development programs, immersive lab experiences, insight on provocative topics, and career transition support to complement the technology services and solutions we provide to our clients.

Contacts

Khalid Kark

Managing director, US CIO Program
Deloitte LLP
+1 214 840 7754
kkark@deloitte.com

Minu Puranik

Senior manager, US CIO Program
Deloitte Consulting LLP
+1 214 840 7334
mpuranik@deloitte.com

Bill Briggs

Global CTO
Deloitte Consulting LLP
+1 816 802 7350
wbriggs@deloitte.com

Deloitte.

Insights

Sign up for Deloitte Insights updates at www.deloitte.com/insights.



Follow @DeloitteInsight

Deloitte Insights contributors

Editorial: Rithu Thomas, Abrar Khan, Preetha Devan, and Rupesh Bhat

Creative: Kevin Weier and Rajesh Venkataraju

Promotion: Nikita Garia

Cover artwork: Kevin Weier

About Deloitte Insights

Deloitte Insights publishes original articles, reports and periodicals that provide insights for businesses, the public sector and NGOs. Our goal is to draw upon research and experience from throughout our professional services organization, and that of coauthors in academia and business, to advance the conversation on a broad spectrum of topics of interest to executives and government leaders.

Deloitte Insights is an imprint of Deloitte Development LLC.

About this publication

This publication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or its and their affiliates are, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your finances or your business. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

None of Deloitte Touche Tohmatsu Limited, its member firms, or its and their respective affiliates shall be responsible for any loss whatsoever sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the "Deloitte" name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.