CIO

FROM IDG

With digital transformation well under way, IT leaders are expanding their roles to take on business strategy responsibilities, identifying new areas of growth and opportunities for competitive differentiation.

BY BETH STACKPOLE

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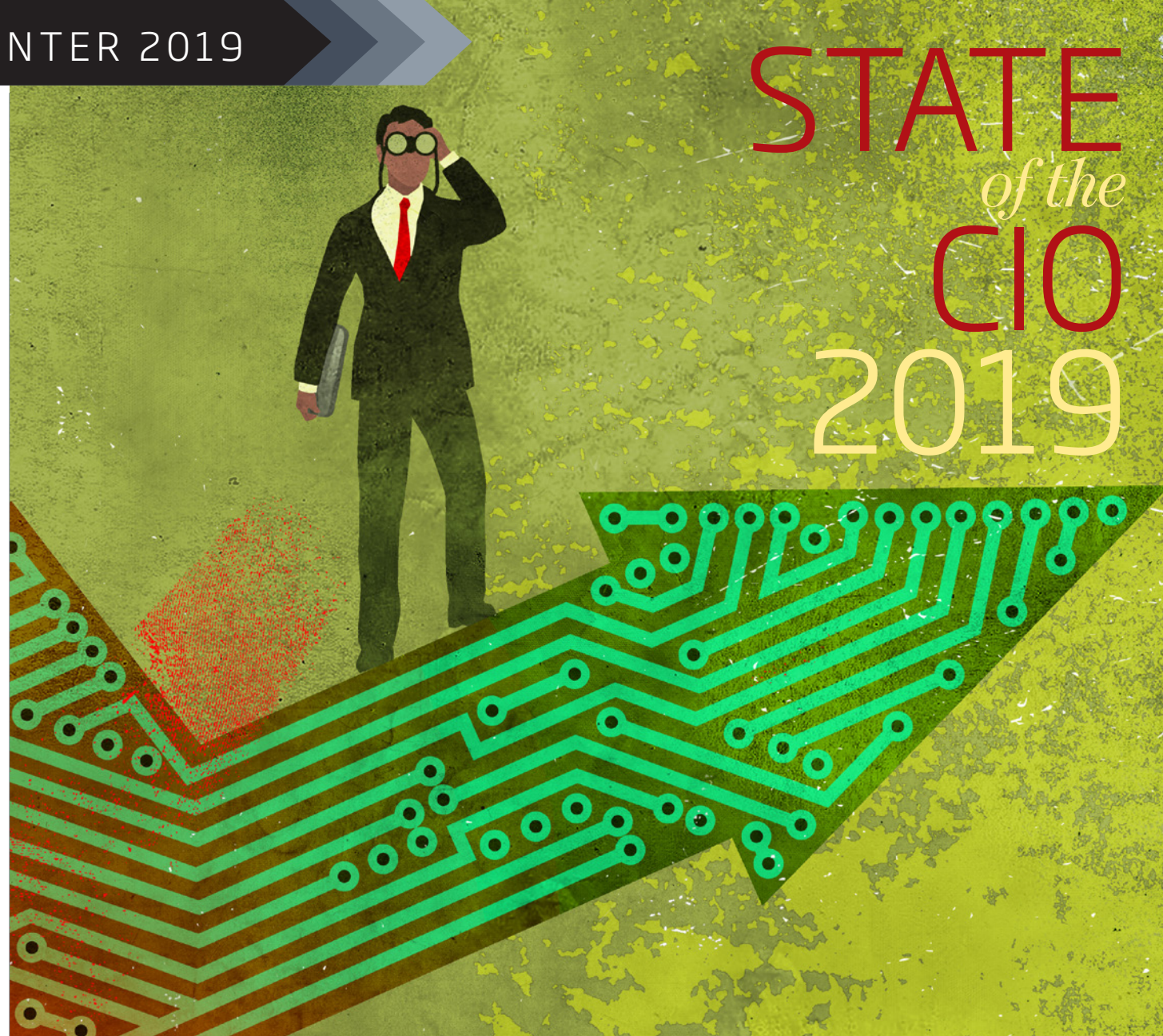
cover story | **STATE OF THE CIO 2019**

CIOs get strategic

As digital business heats up and the lines between technology and business blur, **CIOs are becoming more strategic, taking over new disciplines and serving as a key force** behind digital innovation. **12**

BY BETH STACKPOLE

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COVER ART BY SAM WARD

Cozying up to the cutting edge

How to identify startups that will fuel innovation and transform your business.

BY STACY COLLETT

Restaurant chain TGI Fridays is rolling out a customer offering at its restaurants that none of its competitors has — at least for now. It's an AI-driven virtual bartender guests can access from a smartphone or tablet to take a short quiz on what they're in the mood for, the occasion, and their tasting likes and dislikes. The virtual bartender then suggests a unique libation.

"If you're not going after startups, **you might get incremental improvements** from the established players, **but not exponential improvements**."

–**NORM FJELDHEIM**, SVP AND CIO, ILLUMINA

Perhaps most appealing of all, it can speed the process of ordering a drink at a busy restaurant.

In the highly competitive restaurant sector, it's crucial to set yourself apart, and that means seeking out startups with leading-edge ideas like this one, says TGI Fridays CIO and Chief Experience Officer Sherif Mityas. "We want to be first, and we want to be innovative."

Competitive advantage is just one motivation behind a growing trend that sees CIOs looking beyond traditional vendors to seek out startups to fuel innovation. CIOs are finding that startups can help their organizations grow both financially and technically. However, working with fledgling companies isn't for the faint of heart. Organizations must have a strong stomach for risk, the willingness

to fail fast and the time to invest in the process. CIOs offer the pros and cons of dancing on the cutting edge with tech startups.

A mandate for growth
Startups can help fulfill a growing mandate for CIOs, says Khalid Kark, U.S. CIO Program research leader at Deloitte. Companies look to CIOs more than ever to help transform business operations and grow the business, but the vast majority of CIOs don't think of these as core capabilities, he says.

"In most cases, business leaders demand IT leaders to step up and drive this process because they recognize that technology is a strong component of delivering that growth," Kark says. Working with "a startup or being engaged

with some ecosystem partner or external party would continue to bring CIOs ideas" and that outside-in view, he adds.

What do companies look for in a startup? CIOs say the No. 1 criteria is whether it can add value to the business. Then they look at the strength of the company, its backing, vision and people, and how mature its technology is relative to the value that it brings.

"If you invest early" in a bleeding-edge solution, "that may bring more risk, but if you wait to have a proof point before you start investing," that can be a safer route, Kark says.

Into the Shark Tank
With the technical landscape continually evolving, Mityas saw startups as a unique way to bring innovation to the table. So, in 2017,

he launched quarterly *Shark Tank*-like competitions where five to six startups could present 20-minute pitches to TGI Fridays.

One winner is chosen for investment and piloting at TGI Fridays restaurants. About 75 percent of startups' products have made it to full rollout nationwide, but they must agree to an exclusivity period that prohibits working with competing restaurants for about a year. "I'm getting something that no one else is using because no one else knows about these guys," Mityas says. "It gives us a very strategic advantage, at least for a short period of time."

His key differentiator when choosing a new technology? "Does this get out of the garage and create meaningful value at scale?" Mityas says. "This has to work in more than one restaurant."

Rising to the challenge

As part of its digital transformation, Northwestern Mutual has sought out innovation through partnerships, startups and venture funding. In 2017, Karl Gouverneur, vice president of digital workplace corporate solutions and head of digital innovation, decided that instead of reaching out to startups, he would put out a set of challenges beyond Northwestern Mutual and have startups pitch the company with proposed solutions.

After coming up with five challenge topics, Gouverneur's team embarked on a road show to tech hubs around the country.

The events drew several hundred people, including entrepreneur teams, individuals and a few vendors. Interested groups had two months to submit pitches. The 40 responses were whittled down to six finalists who were invited to pitch their ideas in person. In January, Gouverneur's team selected startup Social-

Leads, creator of an AI platform that helps financial services companies analyze the value of their social networks. The startup received an $85,000 investment; this fall, it raised another $750,000 in a second round.

The reverse-pitch process has its challenges, Gouverneur says. "You have to bare your challenges" to the public, which can be uncomfortable, he says. Companies might also need to extend their search nationally or internationally when the local entrepreneur pool is small, but the effort is paying off for the company and the community.

Startup 'speed dating'

To be successful with startups, CIOs must be comfortable with failing fast, says Norm Fjeldheim, senior vice president and CIO at Illumina, a provider of technologies for genetics research. He started engaging with venture capitalists (VCs) a decade ago to help get his IT team thinking

about new technologies. Today, he has built deep connections into the VC community around Silicon Valley and has worked with dozens of startups.

CIOs must recognize quickly when to cut their losses, Fjeldheim says. "Proof of concept is

than a student of new technology.

In seeking out startups, Fjeldheim enlisted his direct reports, architects and technology leaders to "speed date" for one day with about 15 startups they wanted to learn more about. Each startup had 20 to 30 minutes to present

ups, you might get incremental improvements from the established players but not exponential improvements."

Fjeldheim takes savings from startup investments and reinvests it in IT. "We focused on new technologies that had changed the

startup environment stays separate it's OK, but if you acquire, how do you meld the cultures?"

Working with a startup also requires constant care and feeding by leadership, Kark says. "The leader has to figure out how and what is going to be allocated from a time, effort, energy perspective."

Investing in startups works well in a high-growth environment where the company demands innovation from IT, Fjeldheim says. "If they're not looking for a lot of 'new,' this may not be the right idea."

"I'm getting something that no one else is using because **no one else knows about these guys**."

—**SHERIF MITYAS**, CIO AND CHIEF EXPERIENCE OFFICER, TGI FRIDAYS

key," he says. "Some companies we brought in didn't get past that phase. But once we go for it, we've had a 100 percent success rate," Fjeldheim says.

CIOs must also have a team that's comfortable with risk, he says. "I found that I had to change out some people because they're very uncomfortable in that risk kind of environment," he says, particularly those who preferred being a guru of older tech rather

ideas, after which Fjeldheim's team asked questions before moving on to the next one, he says. "From there we figured out who we wanted to have a 'second date' with."

Working with startup tech can significantly improve your cost structure, Fjeldheim says. "A lot of time, these startups have a significant advantage in efficiency, capability or cost over what you would see from a legacy provider. If you're not going after start-

labor or the cost of software itself, and we created this virtuous cycle of more savings, invest in something new, similar savings."

Easier said than done

There are plenty of cautionary notes for CIOs inviting startups into their world, Kark says, the primary one being culture. "You can try emulating a startup culture or try to integrate that thinking, but that's going to be hard to change. As long as the

Most of all, cozying up to the cutting edge requires an open mind, Mityas says. "Most CIOs, and I've been there, like to de-risk things and go the safe route," he says. But to remain innovative, "you have to be open to risk, to the unknown, to something completely different, and have no idea (at first) how it's going to work." ♦

Stacy Collett is a contributing writer for CIO.com.

6 practices of influential IT leaders

Influence is a key leadership skill – one that must be developed and honed for success.

BY MARY K. PRATT

CIOs need to sway opinions and build consensus to get work done. In fact, CIOs list influence among the most important leadership skills needed to succeed, now and more so in the future, according to Deloitte's 2018 global CIO survey. It found 48 percent of 1,437 CIOs identified influencing others as a top-five leadership skill over the next three years.

But the ability to influence doesn't come naturally to most. Instead, it's something that's developed and practiced, CIOs, management consultants and leadership experts say.

"It's something that leaders spend time cultivating, just like they learn how to make presentations or build out a network. I've seen leading CIOs make it a priority," says Ron Lefferts, managing director and global leader of the technology consulting practice at management consulting company Protiviti.

Experts say there's no single tactic an IT leader can develop to influence others. Individuals looking to become influential leaders need to find what strategies work best for them.

Still, they point to a range of approaches that IT leaders have used successfully. Here's a look at six practices of influential CIOs.

1 Know your audience

Claus T. Jensen, CTO of health insurance company Aetna, starts working a room before he enters it, learning in advance who will be at each meeting he's scheduled to attend. Then he tailors how he'll present himself, varying his approach to ensure he'll connect with those around him.

"You have to absolutely understand the room. You have to understand the agenda and be clear about what you think your role is in that meeting," he says.

And he prepares based on what he learns.

"You have to paint the right picture of yourself. That sounds really simple, but a lot of people have a hard time with that," Jensen says. "You have to choose what to say and when to talk, because saying whatever is on your mind isn't always smart. You could paint a [false] picture of yourself."

Take introductions. If Jensen introduces himself as simply the CTO of Aetna, his audience knows only his title. Instead, he paints a much different picture of himself if he says he's the CTO of Aetna and it's his mission to turn vision into action.

Jensen coaches others to do the same, noting that people decide in seconds whether they'll listen to your ideas.

"What you chose to add to the title tells people who you think you are, and if you do it well and you back it up with actions, you can be [an influencer]," he says.

2 Demonstrate value

Dan Roberts, CEO of Ouellette & Associates Consulting, draws on the acronym WIIFM, short for "What's in it for me?" Roberts says it's a good question to keep in mind when looking to influence others.

"If you're trying to sell an idea, negotiate a good outcome, provide a moment of truth in the business, you need to understand the WIIFM," Roberts says. "All that

> "**Weave a story that everyone can understand;** draw a picture that will really land with your audience."
>
> – **ERIC KIERSTEAD,** CIO, MATERIAL HANDLING SYSTEMS

means is, go sit on the other side of the table and understand what it's like there. Because if you get what's important to your business partner, the world gets a lot clearer and you're now able to influence and be a leader."

Jensen agrees, saying he works to demonstrate how a particular idea, project or proposal will bring value to others.

"You need to remind people every time a problem happens that 'this is how we can change it,'"

he says. "You shop it around and make sure they understand the value proposition."

3 Tell stories

CIOs must be able to articulate a vision and explain how technology fits into the organization's goals. But the key, according to experts, is to explain their vision, the technology and IT projects in ways that speak to the audience they're trying to win over.

"You've got to influence people who don't typically know or care about technology," says Eric Kierstead, CIO of Material Handling Systems.

To sway opinions, Kierstead draws on the power of storytelling, walking his audience through narrative presentations. "Weave a story that everyone can understand; draw a picture that will really land with your audience," he says.

Kierstead points to a presentation he made as CIO at his former employer, a parcel delivery com-

pany that had limited customer capabilities for tracking parcels. Kierstead wanted to convince his executive peers to invest in the creation of industry-leading dashboards with key delivery metrics. He framed the pitch as a story about competition, saying that offering customers these tools would help the company leapfrog its rivals. That tactic helped him secure funding for the project, which he classified as a huge win for the company.

4 Cozy up to critics

Brian Dickson, vice president of information management at retail developer WS Development, has successfully used this strategy throughout his career. He points to one instance, about a decade ago, when he and his IT team decided to implement a document management system — a project that would require business teams to help organize data for sorting and indexing documents.

> "You have to absolutely understand the room. **You have to understand the agenda** and be clear about what you think your role is in that meeting."
>
> **–CLAUS T. JENSEN,** CTO, AETNA

Dickson decided to work first with a department manager who was typically skeptical about most proposals. Dickson, who had deliberately cultivated a good rapport with this manager, ran the pilot program for the system with the skeptic to demonstrate how the project would help his team.

The strategy paid off: Dickson got the manager's support and used the endorsement to win over others. "I knew if I got his buy-in, it would help me get buy-in from the other division heads," he adds.

5 Put the organization first

CIOs need business acumen to succeed today, and they must know how to develop tech-enabled strate-

gies that help the business grow.

But influential CIOs don't just show they understand the business; they demonstrate that organizational success is their top priority.

Avram Kornberg, founder of Stratecution Consulting, recalls working as a CIO at a company that needed to beef up its cybersecurity. But it also had pressing needs related to core products. Kornberg brought the cybersecurity proposals to the attention of the company's leadership team, acknowledging that his proposals could take a back seat to product-related investments.

"That helped me build credibility because it showed I understood the priorities of the company," he says.

As a result, Kornberg's colleagues trusted he was looking out for the best interests of the organization and trusted that when he put forth new ideas or spending requests, those, too, would benefit the company.

"No one ever said no to me about an investment I requested from that point on, and this was in an organization that was definitely challenged for capital. They understood that I wouldn't ask for it if I didn't think it was important," he says.

6 Be open-minded

Influential leaders are constantly learning, Lefferts says.

"They have a lot of conversations both within and outside the organization to make sure they're

current on issues — particularly issues in their industry or in technology," he says.

Yet the most influential CIOs know not to wield knowledge as a cudgel, experts say.

"Technologists tend to be misled by the idea that the smartest person wins," Kornberg says.

Instead, Kornberg and other leadership experts emphasize building consensus by leveraging rapport with colleagues and IT teams using communication and negotiation skills. Leaders should also keep an open mind, drawing on other perspectives to craft the right solution to whatever problem they're trying to solve.

Gary VonderHaar, executive vice president of operations and technology for processing at Mastercard, says he comes to discussions "with an informed opinion and then I try to get to an answer together. You have to come with the ability to negotiate and prioritize and work through a process to

> "Technologists **tend to be misled** by the idea that the smartest person wins."
>
> –**AVRAM KORNBERG**,
> FOUNDER, STRATECUTION
> CONSULTING

get to the right answer. It's not coming in with the best answer first."

He says he knows who on his team has the knowledge and needed skills and then draws them into discussions so they can add insights that help drive the organization toward that best answer.

He adds, "As an influential leader, you have to know who knows their stuff, and then build a high-performing team and bring the right diversity together." ♦

Mary K. Pratt is a frequent contributor to CIO.com.

CIO LEADERSHIP LiVE

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As the lines between technology and business blur, CIOs are stepping up their strategy role, taking ownership of new disciplines and serving as a key force behind digital innovation.

BY BETH STACKPOLE

CIOS GET STRATEGIC

SARAH NAQVI spent the greater part of her career at HMSHost International, a purveyor of food and beverage services for travelers, starting out in application development as a programmer analyst and working her way up the ranks to become CIO in 2013. >>

ILLUSTRATION BY SAM WARD

"About two years into our more formalized digital strategy, there was recognition by the business that **technology should be used to its full capacity** – not just for operational support, but as an enabler for business transformation."

–SARAH NAQVI
SVP AND CIO, HMSHOST

The early days of Naqvi's CIO tenure was fairly traditional, focused on shoring up infrastructure, implementing enterprise systems, and ensuring operations were up to snuff. As HMSHost, a $3.3 billion company, began to embark on its digital roadmap, however, Naqvi's CIO role took a new turn. Named executive vice president with a direct report to the CEO, Naqvi took ownership of critical business strategy in areas such as digital innovation and customer experience.

"About two years into our more formalized digital strategy, there was recognition by the business that technology should be used to its full capacity — not just for operational support, but as an enabler for business transformation," Naqvi explains. "That's when the focus of my role shifted from making sure operational systems were working efficiently to allowing us to use technology for strategic advantage and for moving the organization forward."

The strategist emerges

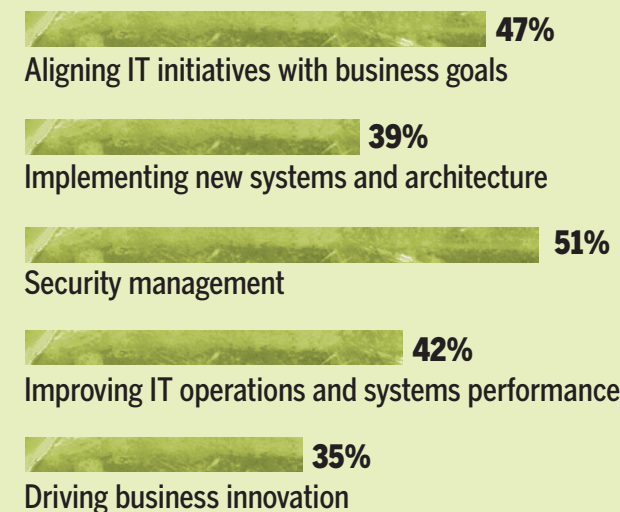Naqvi, like many CIOs on the front lines of digital transformation, is in the throes of a major reinvention, evolving from steward-ing technology as a key enabler of the business to strategizing where and how technology becomes the defining pillar of the business. According to CIO's 2019 State of the CIO research, which surveyed 683 IT leaders, 67 percent of respondents are devoting time to business strategist activities to help drive innovation, create new business models, and grow reve-nue opportunities. In comparison, only 53 percent of IT executives responding to last year's survey spent significant time on business strategy activities, indicating an increased reliance on CIOs as digital business matures into next-phase implementations.

More so than in 2018, today's CIO agenda is consumed by strategic work like driving business

THE EVOLVING CIO ROLE

How do you spend your time currently?

- 47% Aligning IT initiatives with business goals
- 39% Implementing new systems and architecture
- 51% Security management
- 42% Improving IT operations and systems performance
- 35% Driving business innovation

(Multiple responses allowed)

What will you spend more time on in the next three years?

- 37% Driving business innovation
- 30% Developing and refining business strategy
- 29% Identifying opportunities for competitive differentiation
- 28% Developing new go-to-market strategies & technologies
- 30% Implementing new systems and architecture

SOURCE: 2019 STATE OF THE CIO

TAKING ON MORE

Is your role in the organization expanding?

19% NO

81% YES

In what areas are you adding new responsibilities?

- Data analytics — 64%
- Operations — 43%
- Business development — 38%
- Customer service — 32%
- Product development — 29%

(Multiple responses allowed)
SOURCE: 2019 STATE OF THE CIO

WORKING TOGETHER

When other departments use their budgets for technology purchases, what role does IT play in those projects?

- Complete oversight — 24%
- Not applicable* — 13%
- None — 1%
- Advisory — 18%
- Shared oversight — 43%

*IT controls technology purchases

(Due to rounding, numbers may not add up to 100%)   SOURCE: 2019 STATE OF THE CIO

innovation (35% compared with 28% last year) and developing and refining business strategy (23% compared with 21% in 2018). IT leaders are more actively identifying opportunities for competitive differentiation (21%), crafting new go-to-market strategies and technologies (19%), and immersing themselves in market trends and customer requirements to help identify new commercial opportunities (16%). And this move toward business strategist appears to be more than a temporary shift: The 2019 State of the CIO research found that 77 percent of responding IT leaders plan to devote more time to business strategy over the next three years compared with transformational work (74%) such as implementing new systems and architectures or functional responsibilities (58%) like security management or cost control initiatives.

Randy Gaboriault, CIO and senior vice president of innovation and strategic development at Christiana Care Health System, describes the shift as an ongoing evolution of the "CIO-plus" role. CIOs are well positioned to lead strategic transformation in the workplace, Gaboriault contends, as the ingredients to produce a product or service move from analog or physical components to digital elements. Gaboriault is not alone in this thinking — 88 percent of respondents to the 2019 State of the CIO survey agree that CIOs are more involved in leading digital transformation efforts than their business counterparts, and 91 percent agree that the CIO role is becoming more digital- and innovation-focused.

"The role of CIO has changed from strategy participant to strategy enabler — a deep influencer if not strategy shaper," Gaboriault explains. "There's a delta between conceptual strategic thinking and strategic planning as a process, and today, there is a recognition of my role having accountability for both."

The strategist agenda

As part of their strategist agenda, CIOs are playing a central role in creating revenue-generating initiatives, including new products and services — a reality cited by 62 percent of survey respondents. Those CIOs
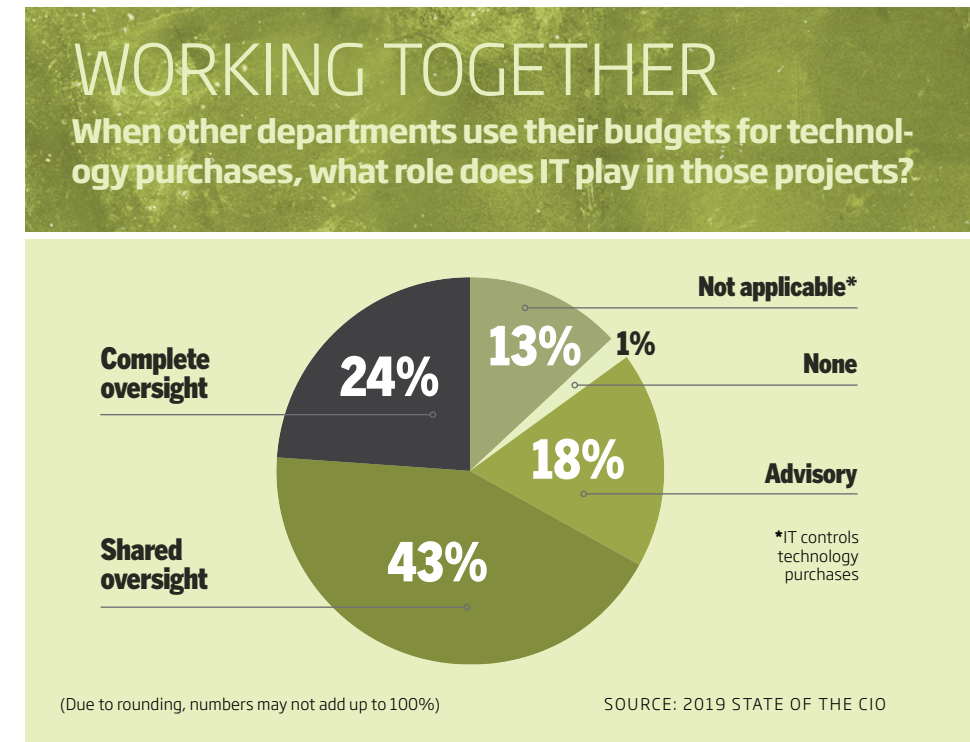
> **"Technology has always been in the DNA of our business** – there isn't a problem or service we offer where it isn't the backbone."
>
> –**CAROL JUEL**, CIO, SYNCHRONY FINANCIAL

either managing or participating in such ventures are stretching their wings by immersing themselves in understanding customer needs (55%), creating teams focused on innovation (47%), and creating business-case scenarios with defined costs and benefits (40%), the 2019 State of the CIO survey found.

A smaller number of CIOs are going so far as to build test labs or spaces to evaluate ideas that haven't fully come together (33%) and cultivating an entrepreneurial spirit (32%). Carol Juel, CIO of Synchrony Financial, is one of those leaders investing time and resources in the test labs approach. After being spun out of GE in 2014,

the consumer financial services and private-label credit company rebuilt its technology foundation from the ground up to support its digital transformation journey — including everything from cloud to security infrastructure. At the same time, it established an innovation framework to help the company and its partners bring new products and services to market faster.
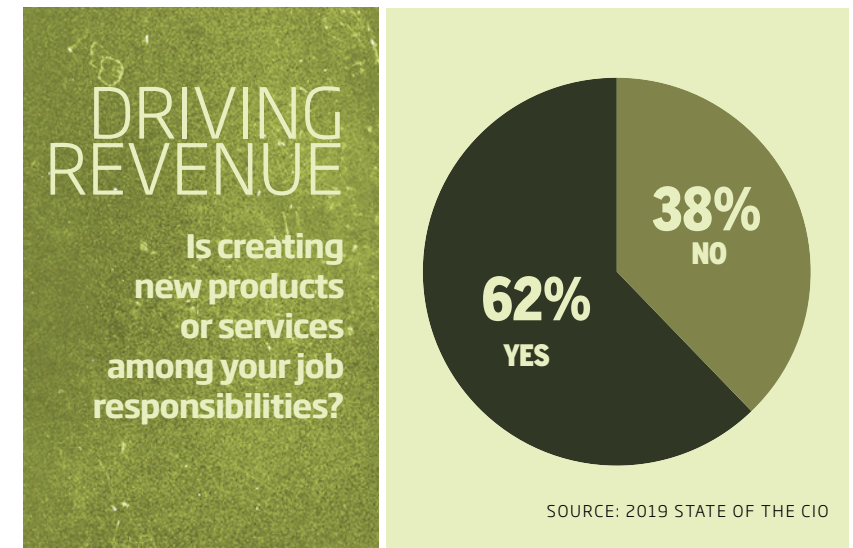
Beyond the bounds

Along with her most active collaboration partner, Synchrony's chief strategy officer, Juel spends a good part of her time mapping out opportunities to harness the robust technology

platform to drive innovation and create new revenue streams. A key piece of Synchrony's framework is a network of four innovation labs in the United States and India, which, in collaboration with Synchrony's retail and merchant partners, ideate new products and experiences using agile processes and put advanced technologies such as chatbots and predictive modeling to work in solving real-world customer problems. "Technology has always been in the DNA of our business — there isn't a problem or service we offer where it isn't the backbone," Juel says.

Along with its focus on revenue generation, the CIO role is expanding to include new areas of responsibility, a trend cited by 81 percent of State of the CIO respondents. Today's CIO strategists are build-

ing out their portfolios to include oversight of new domains such as data analytics (64%), operations (43%), business development (38%), and customer service (32%), the research found.

Carhartt CIO John Hill says his organization now plays a role in demand planning all the way

DRIVING REVENUE

Is creating new products or services among your job responsibilities?

62% YES

38% NO

SOURCE: 2019 STATE OF THE CIO

through supply chain planning in addition to a traditional oversight role over IT and technology initiatives. For example, as part of the company's ERP migration, Hill now oversees all the various line-of-business functions involved

in the initiative, and this year, he's been given responsibility for [overhauling processes associated with improving customer service levels](#) even though it's outside the bounds of his direct jurisdiction.

"My first role is to be a member of the senior leadership team and my second functional responsibility is for technology and planning," says Hill, who is also senior vice president of business planning at Carhartt. "More CIOs are being asked to take the lead on initiatives that really aren't specific to technology because more and more, people don't make a distinction between business and IT."

Driving business value

Gaboriault, who joined Christiana Care Health System in 2010, cemented his strategy role after spending years shaping debate focused not only on technology issues like moving to the cloud or when to upgrade a CRM system, but also on corporate soul searching about market disruption in the health care space. Gaboriault says he made it a mission to always ask the tough questions, whether about competitive market position or pushing the organization to pursue breakthrough objectives, rather than resorting to business as usual.

Gaboriault also advocates for gaining a deeper understanding of the customer by using tools like [journey mapping](#). In that way, he says, IT can understand what it's like to live life as a diabetic, for example, which is instrumental for coming up with new digital care pathways that can help patients meet wellness goals. "In the past, a lot of that would be driven from a clinical perspective and IT would have been pulled along on strategy," he explains. "IT can now serve as the analog process interrupter on behalf of the customer, introducing technology to get it done."

For Shannon Gath, vice presi-dent and head of technology at AMAG Pharmaceuticals, centralizing the technology budget and establishing a formal governance process and cross-functional committee has been instrumental to increasing IT's business strate-gist clout. The centralized budget structure gives the entire organization transparency into where IT spend is allocated, while a formal-ized governance process means every request is evaluated using the same set of criteria.

Rather than make this process overly complex, Gath has boiled down this piece of governance to something she equates to a one-page PowerPoint slide. Project sponsors are asked about the problem they are trying to solve, the direct value to the organization, the major risks

FORGING NEW INITIATIVES
What is your organization doing to become more revenue-driven?

Learning about customer needs **55%**

Creating teams focused on **innovation** **47%**

Creating **business-case** scenarios with defined costs and benefits **40%**

Building **test labs** or spaces to evaluate ideas that aren't fully baked **33%**

Cultivating an entrepreneurial spirit **32%**

Providing space and time to cultivate **creativity** **25%**

Developing customer **personas** **25%**

(Multiple responses allowed)

SOURCE: 2019 STATE OF THE CIO

"**More CIOs are being asked to take the lead on initiatives that really aren't specific to technology** because more and more, people don't make a distinction between business and IT."

–**JOHN HILL**,
CIO AND SVP, BUSINESS PLANNING, CARHARTT

associated with not getting funding, and the actual cost. "It's really forced every investment to be an apples-to-apples comparison … and created a value-centric conversation so IT isn't the bad guy anymore," Gath explains. "It helps everyone get on the same page with how their investments rank against others, how we make tradeoff decisions, and how we execute on that discipline."

That might be so, but Gath and AMAG Pharmaceuticals are in the minority when it comes to centralizing technology budgets. Based on this year's State of the CIO research, only 11 percent of responding IT organizations hold

100 percent of the technology purse strings; on average, IT controls about 51 percent of the total technology investment today, and this is expected to continue to inch up to 55 percent over the next three years. Marketing remains the most prominent functional area in command of its own IT budget (42%), followed by operations (37%), and finance and accounting (35%).

Nevertheless, Gath says the governance process for allocating centralized IT budget dollars has been very effective. The process, coupled with a just-released multiyear enterprise strategy that integrates a business and technology road-

map, has done a lot to highlight the IT organization's strategist chops. "Because the technology organization works across the entire organization, we see everything and know where there is opportunity that would benefit everyone," Gath explains. "We end up forcing the business strategy to be better defined and force a lot of leaders in the organization to think more strategically."

Agents of change

Much like Gath, Brian LeClaire, senior vice president and CIO at Humana, also sees his charter as a change agent who must advocate for technology investments that will drive value for the business. LeClaire, who's been at this helm for the past several years, says there are key signs that an organization is ready to embrace the CIO as a business strategist, starting with the big one: a direct report into the

"We end up forcing the business strategy to be better defined and force a lot of leaders in the organization to think more strategically."
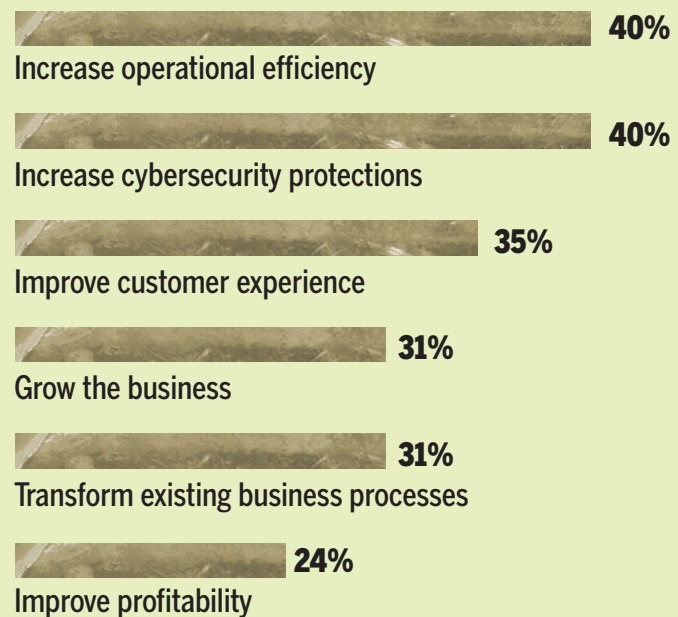
– **SHANNON GATH**
VP AND HEAD OF TECHNOLOGY,
AMAG PHARMACEUTICALS

CEO. Still, fewer than half (43%) of responding IT leaders to the 2019 State of the CIO survey said they report directly into the CEO.

To navigate the CIO evolution, current IT leaders need to take stock of where they are. If their focus is on cost and transactional activity, they remain in the era of operational efficiency where they will most likely be viewed by lines of business as an order taker,
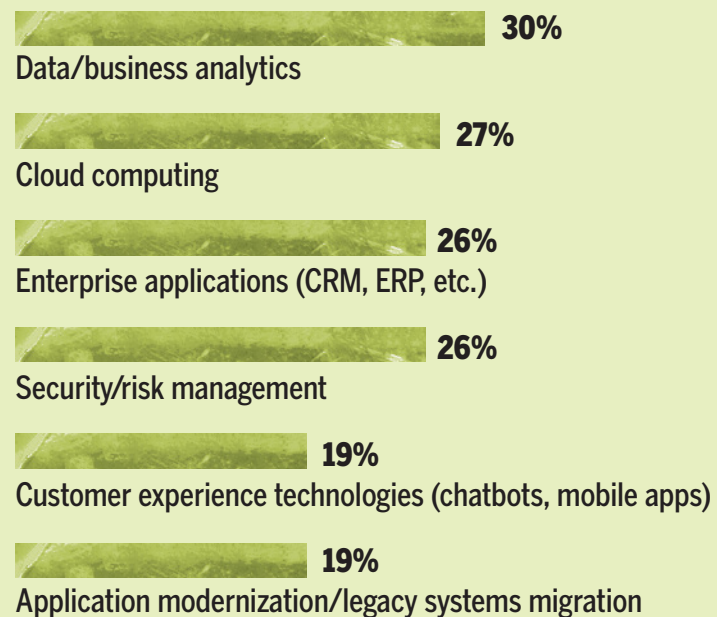
WHAT IS DRIVING IT INVESTMENTS?

Top business initiatives

- Increase operational efficiency — **40%**
- Increase cybersecurity protections — **40%**
- Improve customer experience — **35%**
- Grow the business — **31%**
- Transform existing business processes — **31%**
- Improve profitability — **24%**

(Multiple responses allowed)

Top technology initiatives

- Data/business analytics — **30%**
- Cloud computing — **27%**
- Enterprise applications (CRM, ERP, etc.) — **26%**
- Security/risk management — **26%**
- Customer experience technologies (chatbots, mobile apps) — **19%**
- Application modernization/legacy systems migration — **19%**

SOURCE: 2019 STATE OF THE CIO

LeClaire says. He describes the next level up as a solutions focus with an emphasis on impactful investments intended to grow the business in the context of 24- to 36-month strategic cycles. The sweet spot, LeClaire contends, is the era of business value where technology becomes the product or service, establishing the CIO as a predominant business leader.

"You have to be thinking about the products and services that will make the business successful in the marketplace," LeClaire says. "The warning sign that you're not there yet is when you're thinking about the product and services and then the technology that's required. There's a difference."

While IT leaders are fairly confident they can measure up to these new benchmarks, particularly when it comes to digital transformation and innovating business strategy, many of their line of business (LOB) counterparts are not fully convinced. According to the 2019 State of the CIO survey, 32 percent of IT leaders said IT is essential for helping the various functions identify which parts of the business could be transformed through the use of digital technologies while only 14 percent of LOB respondents said the same. Twenty-six percent of IT leaders view the IT organization's primary contribution as providing technology guidance for accelerating digital business compared with 19 percent of LOB.

LeClaire underscores that it's the partnership between IT and LOB that ultimately dictates a successful technology-driven strategy in service of specific business outcomes. "I'm not being tapped to talk about low-cost delivery of a solution. I'm being tapped to envision collaboratively with the business a set of strategic technology capabilities that will allow us to achieve our bold vision," he says.

Top initiatives taking shape

Much like Humana has, companies continue to make progress on IT and LOB collaboration: Sixty-seven percent of IT leaders report that IT and LOB more frequently share oversight on projects, although that is down slightly from 71 percent in 2018.

Even when LOB and departments fund technology product or service purchases from their

64% of IT leaders say security strategy is tightly integrated as part of the overall IT roadmap, and 82% expect the same three years from now.

own budgets, IT continues to play a critical role. In this year's State of the CIO survey, 43 percent of IT leaders said shared oversight between LOB and IT is the norm at their organizations while 24 percent said IT retains complete project oversight. Just 18 percent said IT plays an advisory role, only providing input upon request.

When it comes to technology guidance, more than half of IT leaders (59%) characterize themselves as a strategic adviser, proactively identifying business needs and making specific provider recommendations. Twenty-three percent view themselves as a consultant, advising on both business need and technology choices. IT's long-standing heritage as the department of "no" is slowly abating — only 4 per-

cent of IT leaders view themselves as the cautious voice of reason, although among LOB respondents, that number is still much higher (18%), the survey found.

For 38 percent of IT leaders, leading digital transformation and digital business efforts is among the top three priorities their CEOs have set out for them this year — up from 35 percent in 2018. Also topping the list of CEO priorities for tech leaders is upgrading IT and data security (32%) and identifying new data-driven business opportunities (30%). CEOs are also all-in on the need for increasing IT/LOB collaboration, cited as a top priority by 28 percent of respondents, and IT leadership's active involvement in hitting goals for corporate revenue growth (25%).

Stepping up security

As with last year, organizations are attacking the security problem by eliminating silos and elevating the security role. Sixty-four percent of IT leaders said security strategy is tightly integrated as part of the overall IT roadmap and 82 percent expect the same three years from now, the survey found. Organizations are also bringing in the big management guns: Thirty-one percent of IT leaders said their organizations now have a CISO and 13 percent have appointed a CSO. Most CSOs (73%) and CISOs (65%) report to the CEO or corporate CIO.

At Humana, the CISO reports directly to the CIO to ensure cybersecurity is fully infused into IT
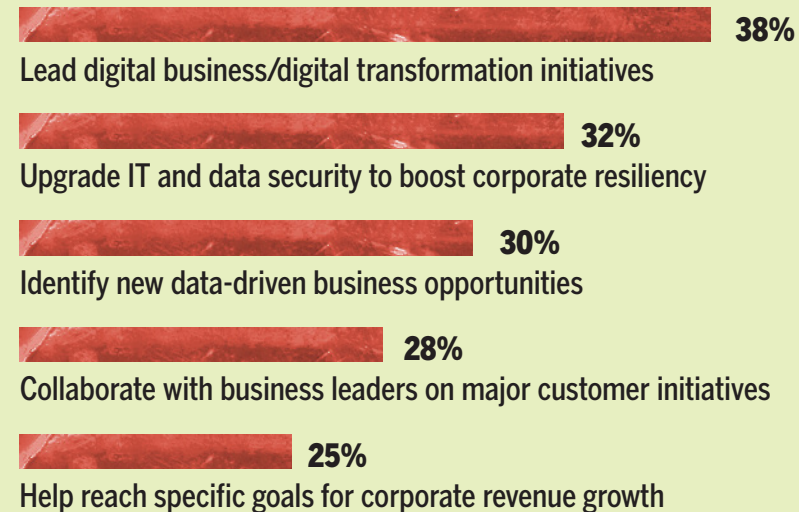
strategy, but the integration needs to go even further than that, contends LeClaire. Four years ago, the team took stock of the company's cybersecurity capabilities and came up with a plan to evolve its maturity level to ensure there is accountability across the entire organization — not just in IT. "Security has to be embraced by everyone in the organization, right from the beginning of envisioning processes, products and services ... so it's not bolted on as an afterthought," he explains. "Security has to make the experience secure while taking security out of the experience. You shouldn't even know security is there."

At the same time, Humana has stepped up its training and communications efforts around cyber-

security so all employees have familiarity with its importance as well as associated processes. "Cybersecurity has to begin with each and every one of our associates — they're our first line of defense," LeClaire says.

Investing in technology

While security/risk management was cited by 26 percent of IT leaders in the 2019 State of CIO survey as an important IT initiative driving technology investment, it took a back seat this year to other areas. Thirty percent of IT leaders said data analytics would drive the most IT investment, above cloud computing (27%) and enterprise applications like ERP or CRM (26%). Increasing operational efficiency tied with cybersecurity protections as the top business initiatives driving IT investment, cited by 40 percent of IT leaders, with the desire to bol-

ster customer experience (35%) and grow the business (31%) also impacting IT expenditures.

For Bayer Crop Science, which acquired Monsanto earlier this year, the digital business strategy is rooted in data analytics and data science. Jim Swanson, senior vice president, CIO, and head of digital transformation for the integrated crop solution division, is spearheading the drive, which includes efforts to democratize data and make it available across integrated enterprise platforms as well as

embedding analytics-driven decision models into every process in an effort to turn data into actionable insights. Under Swanson's direction, Bayer Corp Science researchers, business users and scientists will have digital tools that predict outcomes, from how and when to plant crops to how to increase yields. "We are re-educating the organization holistically around data and digital," Swanson explains.

Just consider the new world of data science applied to the develop-

DUTY CALLS

What are the CEO's top priorities for you in the coming year?

- **38%** Lead digital business/digital transformation initiatives
- **32%** Upgrade IT and data security to boost corporate resiliency
- **30%** Identify new data-driven business opportunities
- **28%** Collaborate with business leaders on major customer initiatives
- **25%** Help reach specific goals for corporate revenue growth

(Multiple responses allowed)   SOURCE: 2019 STATE OF THE CIO

> "You have to be thinking about the products and services that will make the business successful in the marketplace."
>
> —**BRIAN LECLAIRE**
> SVP AND CIO, HUMANA

ment of seeds. Bayer Crop Science plants over 750 million seeds in its research, each with GPS coordinates that track everything from water absorption to root structure. Through embedded models and machine learning, the team can now run billions of simulations to home in on the best combination before ever planting a single seed in the ground, he says. Other areas where machine learning-empowered data analytics are helping Bayer Crop Science blaze new ground include

figuring out the right safety stock for particular offerings, which customers are likely to churn, and how to reduce its carbon footprint and costs via streamlined logistics.

The talent challenge

The biggest challenge to realizing its data analytics-driven vision is not the technology, Swanson says — it's attracting the right talent. It's a problem many 2019 State of the CIO respondents are having. Forty-two percent of responding IT leaders report they anticipate having difficulty attracting data science and analytics talent, while 33 percent expect to have a hard time finding security and risk management expertise and 31 percent say they will struggle to find AI and machine learning professionals.

As Bayer Crop Science retools as a data-driven enterprise, it's looking for talent in places where that talent congregates, including the open source and data science communities, Swanson says. The company is also investing in training, including establishing a curriculum for data science as well as publishing a ladder of required skills so interested employees in other areas like product management know what it takes to advance themselves into the role.

Finding and retaining the right talent to execute on the digital business strategy is what keeps Michael Mathias up at night, says the CIO and executive vice president of customer experience at Blue Shield of California Life & Health Insurance. While the company is headquartered in the heart of Silicon Valley with easy access to a fertile pool of machine learning and data interoperability experts, it faces stiff competition from the big-name tech giants. Just recently, for example, the company's HR department ran a search for a data architect at the same time 27 other companies in the local area were looking for similar talent, Mathias says.

"In the end, technology is not what I want my legacy to be – **I want my legacy to be helping develop the next-generation of business leaders,** not technology leaders."

–**MICHAEL MATHIAS**,
CIO AND EVP OF CUSTOMER EXPERIENCE,
BLUE SHIELD OF CALIFORNIA LIFE & HEALTH INSURANCE

"The technology, we can figure out — it's not overly complicated — but finding the right people for digital is hard," Mathias says. "We're competing with some monster companies here, and we've lost good engineers in network infrastructure to others."

To fill in the gaps, Blue Shield of California Life & Health Insurance is aligning with external partners while debating about setting up sites in other areas to promote geographic diversity. At the same time, it is putting a considerable amount of time and money into retraining its existing talent in the areas it's most lacking.

For Mathias, helping up-and-coming technologists recalibrate their skills is one of the more heartening aspects of the evolution of the CIO role. "The ability to give more people the opportunity to grow beyond the technology ranks is most rewarding," says Mathias, who says he's seen former staffers go off into a business role. "In the end, technology is not what I want my legacy to be — I want my legacy to be helping develop the next-generation of business leaders, not technology leaders." ♦

Beth Stackpole is a regular contributor to CIO.com.

Modernizing IT: Out with the old, in with the cloud

Companies with transformative digital strategies are well on their way to freeing themselves from the costly burden of legacy systems.

BY MARTHA ROUNDS

Recent IDC data shows that 76 percent of companies that are disruptors in their industries plan to replace legacy applications in the next five years, with almost half replacing legacy systems in the next 24 months. Many of them are doing so by moving functionality to the cloud.

Take Land O'Lakes, a $13 billion agricultural cooperative with 10,000 employees in 50 countries. Michael Macrie, senior vice president and CIO, is shedding his company's legacy systems as fast as possible.

"You've got to have a solid strategy on where you're moving to the cloud and why, what systems are most important to move and how quickly can you move them," he says. "You've got to take a stand that says you're going to be a cloud-first company and a SaaS-first company — which we did back in 2010. Then, when any upgrade or any major change comes to any of these systems, you ensure that you're moving them closer to the cloud or into the cloud, with every step along the path. You have to stay true to that strategy."

Even in the banking industry, with its well-known reliance on mainframe systems, digital strategy leaders are replacing legacy environments that require significant resources and manual workarounds.

"The first step is analyzing your IT portfolio, identifying the legacy systems and calculating the associated costs," says Anil Cheriyan, executive vice president and CIO at Atlanta-based SunTrust Banks. "We've gone through what we call a 'cost transparency exercise' to understand which applications cost us more money. Then there's a conversation with the business teams to identify which business processes are effective, which ones need to be replaced, the business value of the environment and whether the system is a hindrance."

In Cheriyan's view, the essential question is simple: "What is legacy preventing you from doing?"

New metrics needed

Metrics are essential to this transition, but not necessarily the kind IT organizations have previously relied on. Digital transformation requires organizations to institute new KPIs that measure the core cultural, business, process, technol-

ogy and staffing changes needed for any infrastructure modernization effort. These include:

■ New agile, flexible, scalable and sustainable IT infrastructure created from digital capabilities;

■ The pervasive use of new cloud environments;

■ Continuous integration and delivery models;

■ The new and expanded use of automation and automated processes;

■ Strong business leadership teams that reinvent the budgeting process for technologies that drive products and innovation.

"Moving away from legacy systems requires the CIO to educate the C-suite about the true costs of those legacy systems," says Macrie. "It's critical for CIOs to work with their senior leadership teams to get them to understand that every system comes with a total cost of ownership and a maintenance cost that has to be funded."

Macrie calculates a "run rate"

> ## "The first step is **analyzing** your IT portfolio, **identifying** the legacy systems and **calculating** the associated costs."
>
> —**ANIL CHERIYAN,** EVP AND CIO, SUNTRUST BANKS

— the extrapolation of costs into the future, including the cost to upgrade at the right time — for each IT system and communicates that to the executive team. Otherwise, there's a danger of creating "technical debts that are so large you can't dig your way out," Macrie says. The cost analysis also helps when it comes time to compare the cost of operating a legacy system versus that of cloud-based systems.

"Increasingly, C-suite members are starting to understand the need to break free of costly legacy systems," says Macrie. "They see their world changing and being radically disrupted by small technology innovators, and they want to

stay ahead of them. When you look at what these smaller companies are able to achieve on a shoestring, you've got to start to embrace those techniques — or you'll be in a poor cost position over time."

IDC research is demonstrating a clear connection between digital strategy leadership and modernization and rationalization. In short, companies that are proactively updating their technology portfolios tend to be the same companies that are successfully disrupting their industries. ♦

Martha Rounds is research director for IDC's IT Executive Programs. IDC's Mitch Betts, Ritu Jyoti and Suya Xiong also contributed to this article.

5 ways leading organizations excel at digital

Leadership lessons from digital vanguard organizations.

BY KHALID KARK

With technology integral to business strategy, leading organizations are rewriting the rule book for success. In Deloitte's 2018 global CIO survey, we identified these digital vanguard organizations as having two distinct attributes: a clearly defined digital strategy and an IT organization viewed by the business as a leader in harnessing emerging

Operational stability is expected of any IT organization, but once it is achieved, digital vanguards quickly **shift focus** to **driving transformation** and delivering top-line growth.

technologies and building digital capabilities. Only 9.7 percent of global technology organizations fit this bill.

In survey interviews, we discovered that these digital vanguards differed from other organizations in terms of their priorities, mindsets and cultural attributes. Here is what sets them apart:

1 Growth mindset

Operational stability is expected of any IT organization, but once it is achieved, digital vanguards quickly shift focus to driving transformation and delivering top-line growth. In fact, for 62 percent of them, transformation and growth is their primary mandate. We also found that digital vanguards are less afraid of failure and more likely to fund business

innovation, spending 26 percent of their technology budgets on innovation compared with 18 percent for others.

2 Zoom-in/zoom-out perspective

With technology and business dynamics changing rapidly, many tech leaders feel it is almost impossible to commit to a three- or five-year plan, yet they do. Digital vanguard organizations have solved this dilemma by taking a zoom-in/zoom-out approach, simultaneously focusing on working with their business peers on two very different time horizons: six to 12 months (zoom in) and 10 or more years in the future (zoom out). This process provides the clarity and flexibility that allows these organizations to

address immediate business needs while building a broader business vision and purpose.

3 Culture that attracts top talent

Almost every CIO we talked to in the past year was looking for new talent and finding ways to reskill their existing workforce, and many noted the difficulty of hiring and retaining high-performing talent. Digital vanguards have the same challenges but realize organizational culture is key to attracting, retaining and engaging top technology talent. Fifty percent of digital vanguard organizations say they have a reputation for being an innovation leader, whereas only 20 percent of baseline organizations say the same. More than half

(55 percent) say they are able to retain talent because of their creative and inspiring environments.

4 Solid technology foundation

Digital vanguards have an innovation agenda and inspiring cultures, but it would be a mistake to think they skimp on investing in strong, resilient technology platforms and environments. In fact, we found that they are much more likely to view cybersecurity as a strategic imperative and consider it key to delivering technology capabilities. More than half (52 percent) rate their cybersecurity capabilities as "comprehensive," compared with only 26 percent for others. The majority of vanguards (78 percent) are confident that their architectures will support future business needs. This zoom-in perspective is nicely complemented with a corresponding zoom-out view: Seventy-two percent are already investing in artificial intelligence

The majority of **vanguards** (78 percent) are **confident** that their architectures will **support** future business needs.

and machine learning with an eye toward the future.

5 A strong engagement plan

As a result of IT's historical back-office role, technology organizations have typically had strong relationships with other back-office functions like operations and finance and weaker relationships with sales, marketing and product engineering. Digital vanguards break that mold: Seventy-four percent say their IT function has very strong relationships with sales and 64 percent say the same about marketing — much higher than other survey participants. Instead of developing complex and elaborate governance structures, they spend a majority of their time

understanding business needs and creating agile engagement models, organizational structures and processes that enable them to co-create business solutions.

Digital vanguard organizations are by no means perfect, nor have they completed their transformations. But based on our analysis, they seem to be moving in the right direction and can offer learnings we can use to develop our own zoom-in/zoom-out approaches in 2019 and beyond. ♦

Khalid Kark is a managing director with the U.S. CIO Program at Deloitte LLP.

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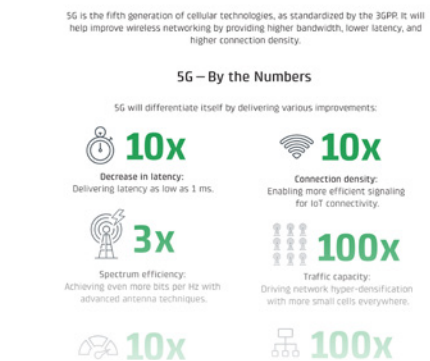
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