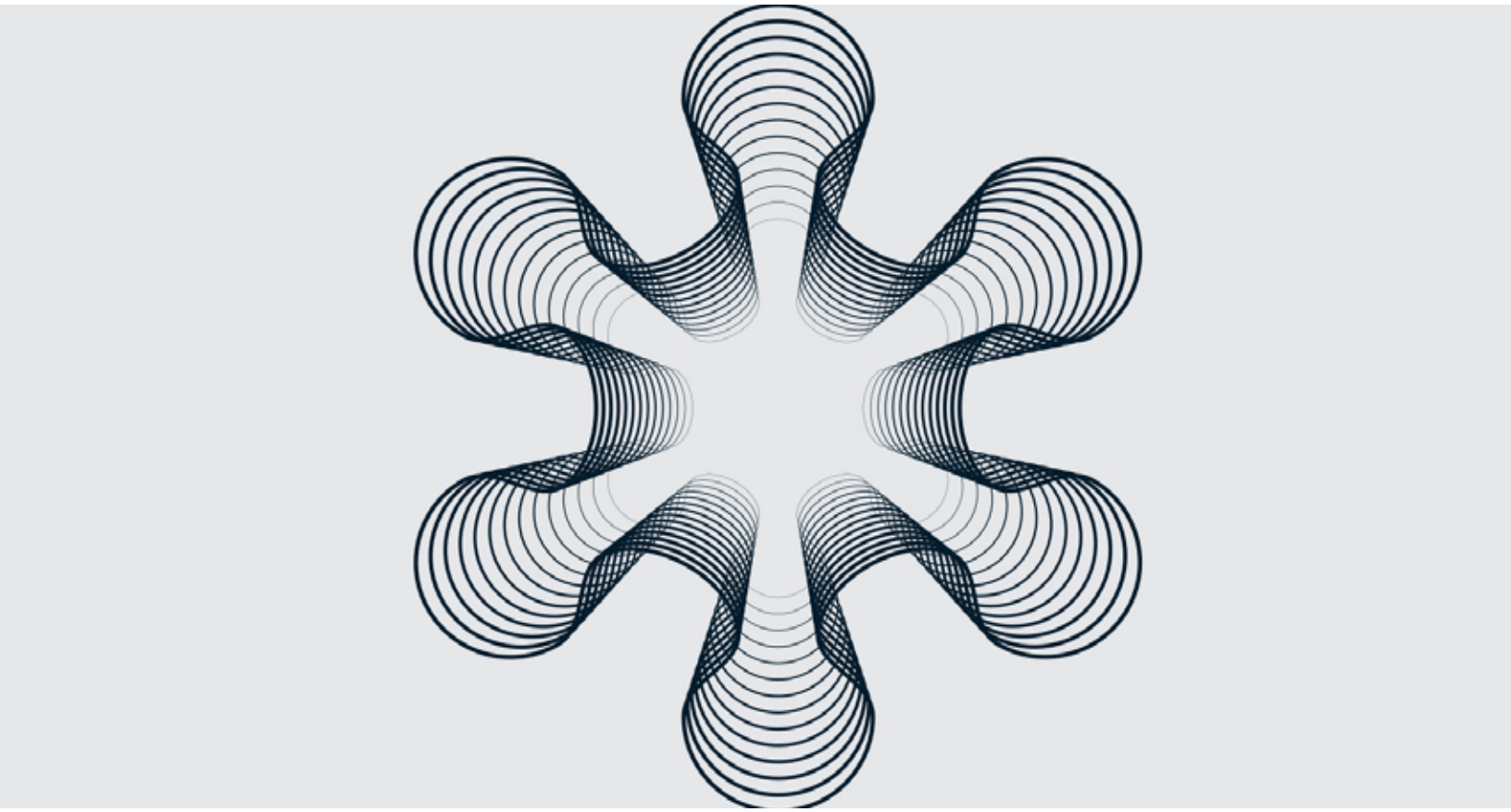
McKinsey Digital

The CIO agenda for the next 12 months: Six make-or-break priorities

With the post-pandemic economy taking shape, CIOs can evolve IT's mission to shape the business.

by Aamer Baig



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"**I'm more concerned about** not being bold enough than about being too cautious." That quote from a CEO summarizes a dominant strain of executive angst as companies emerge from the pandemic amid signs of accelerating economic recovery.

For CIOs, the challenge is how to match that boldness so they can not only enable the business's aspirations for growth but also shape them. That challenge is all the more seminal because even a quick glance under the hood of the top goals of many businesses reveals that their goals are unreachable without technology. Like it or not, CIOs are in the spotlight.

Detailed conversations with dozens of CIOs and CEOs over the past year as well as analysis of recent research have highlighted how the IT mission is both changing and needs to change. Large incumbent companies are looking to technology to be as dynamic a force in their business as it is in so many of the start-ups that are reshaping how people work, shop, communicate, make decisions, and live. The clear implication is that CIOs need to make the leap from tech leader to business driver, and the actions they take in the next 12 months will largely determine whether their business can meet its aspirations.

Here we identify six areas where CIOs can focus their efforts to better align IT with business goals.

1. Know your customer as well as you know your technology

"There is only one boss. The customer."

—Sam Walton, founder of Walmart

If you were to imagine an organization as a series of concentric circles with the employees who are closest to the customers at the center, IT would occupy the outer ring. At many companies, it's the product and sales teams that meet with customers; IT just gets the requirements for products and services that are a by-product of those interactions. Without a deeper commitment to understanding the customer, IT and the CIO will continue to be the executors of strategy rather than its shapers. Fewer than half of technology leaders, in fact, believe their organizations have been effective in leading the design of e-commerce and online experience.[1]

That won't do. The further away IT is from the customer, the less it can understand what customers value and what technology's role should be in delivering that value. Tech companies don't operate that way. In those organizations, developers work closely with both product managers and customers. We often find developer teams, in fact, to be as effective at spotting needs as product teams are, with the added benefit that they can act on those observations immediately by translating them into code. This is one reason why Steve Timm, CEO of Collins Aerospace, has made it a priority to have a technology expert with him when he's speaking with clients.

Building this level of integration starts with CEOs making sure that the tech leaders are part of the inner circle and embedding developers into product and sales teams to co-create the things that customers want.

Key questions

- How often do people in IT learn about and interact with your company's customers?
- Does a top leader from the business side of the company have a leadership role in your most important tech initiatives?
- How much value will your top five tech initiatives provide to the customer?

[1] Technology leaders include both CIOs and CTOs; McKinsey Global Survey on technology and the business, 2021. The online survey was in the field from April 13 to April 30, 2021, and garnered responses from 315 participants. Of these, 52 were CIOs or CTOs. The participants represent the full range of regions, industries, company sizes, and tenures. To adjust for differences in response rates, the data are weighted by the contribution of each respondent's nation to global GDP.

2. Put cloud at the center of your tech strategy

"You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."

—Buckminster Fuller, architect, systems theorist, and inventor

Most companies we know are well into their cloud journeys and understand notionally that the cloud offers a big opportunity. But many are struggling to capture the full value cloud offers. As in the adoption of any new technology, of course, hiccups are inevitable. But the fundamental issue is that companies are looking at the cloud as a source of IT productivity improvements rather than as a source of transformative value—which is more than $1 trillion, by our calculations.[2]

Improvements in productivity and efficiency gains through cloud-migration programs can generate significant cost savings, but they essentially represent better ways of doing what IT already does. CIOs have a crucial role in getting the business to focus on the far bigger prize: the new businesses, innovative practices, and new sources of revenue that cloud either enables or accelerates.

One pharma company built its GxP-compliant IT environment on the cloud and uses an ecosystem of cloud services that connect with manufacturing instruments, robotics, and other systems. It has been using a combination of scaling, instance management, storage, workload processing, and data-warehousing services to accelerate vaccine development.

A large agriculture company put into the cloud the vast amounts of data it had accumulated on improving equipment maintenance and used advanced analytics to generate insights that became the basis for a new business offering to growers.

CIOs need to master cloud economics and target business areas that can benefit from cloud's advantages of speed, flexibility, and scale. As importantly, they need to consider how to make the large-scale changes to IT's operating model that are needed to build the capabilities to generate new value.[3] Fewer than 10 percent of technology leaders, however, say they are most focused on hiring cloud talent, placing it at the bottom of hiring priorities. That's a red flag, especially considering that almost 50 percent of CIOs plan to migrate more than three-quarters of all workloads to the cloud in the next two years.[4]

Key questions

— Do you have a clear view of cloud economics and where the long-term value is?

— Has your operating model changed to take advantage of the flexibility and speed that cloud offers?

— Have you used cloud as a catalyst to build new capabilities?

3. Make developer experience the cornerstone of talent strategy

"A successful [technology] implementation depends on a combination of very clear business requirements on one side, very good developers on the other, and nothing in between."[5]

—Bart Schlatmann, CEO of Allianz Direct

Great tech talent can have the largest impact on a business's ability to generate value. Recent research, in fact, shows that changes to people

[2] Will Forrest, Mark Gu, James Kaplan, Michael Liebow, Raghav Sharma, Kate Smaje, and Steve Van Kuiken, "Cloud's trillion-dollar prize is up for grabs," February 2021, McKinsey.com.
[3] Jayne Giemzo, Mark Gu, James Kaplan, and Lars Vinter, "How CIOs and CTOs can accelerate digital transformations through cloud platforms," September 2020, McKinsey.com.
[4] McKinsey Global Survey on technology and the business, 2021.
[5] "A digital-business builder: An interview with the CEO of Allianz Direct," June 2021, McKinsey.com.

and talent strategies are among the highest-value moves companies can make.[6] Many, however, tend to overindex on finding top tech talent rather than focusing on creating a workplace where tech talent wants to work. McKinsey's Organizational Health Index (OHI) research[7] has shown, in fact, that IT functions overall score well below the average for all functions measured by OHI in terms of organizational "health" (the ability to align around and execute strategic goals) and that there is an array of specific challenges for the CIO, including clarity in direction setting and effective leadership. That creates a huge barrier not only to attracting top talent but also to keeping it.

This issue has been exacerbated with the shift during COVID-19 toward remote work, which has suddenly removed location as a barrier to hiring. The tech leader of a large communications company recently described the talent situation as a "crisis." Some 80 percent of tech leaders from a recent McKinsey survey, in fact, said that finding the right talent is the greatest challenge they face in their transformations.[8]

CIOs need to go all out on talent by first creating an internal culture that delights developers. That should start with creating an environment of "psychological safety" (where developers feel safe raising issues quickly, for example), the number-one enabler in terms of technology's impact on business performance.[9] CIOs can role-model and support specific behaviors, such as demonstrating concern for team members as individuals rather than just employees and actively soliciting input from them that cascades down to promote psychological safety.[10] Leading companies further empower developers by providing them with world-class planning and development tools to make their work lives easier. CIOs can support this focus on culture by making the quality of the developer experience a primary metric of success.

Companies also need to use their best developers for the most important work. Just as the military wouldn't have a top fighter pilot doing basic mechanical work, businesses should give their top developers the highest-priority and most-exciting projects. Leading companies invest in low-code and no-code platforms, which free up seasoned developers to focus on the most challenging tasks. CIOs need to put in place a disciplined process to track what top talent is working on and rapidly relocate the most skilled to the most meaningful initiatives.

Finally, CIOs need to give developers the freedom to work. In many organizations, 25 percent of the people in IT are developers and 75 percent coordinators or managers (such as incident managers, capacity managers, or configuration managers). This structure creates layers of bureaucracy that slow developers down. Flip that ratio by giving developers more autonomy, perhaps by setting goals but giving them freedom around how to meet them.

Key questions

— What is your developer satisfaction score (and do you have one)?

— Do your developers believe that the organization has the tooling and culture that enable them to innovate?

— What percent of your most important initiatives are being done by your own developers?

4. Become the fastest learner

"It is not the strongest of the species that survives, nor the most intelligent; it is the one most adaptable to change."

—Charles Darwin

When Gerri Martin-Flickinger, the executive vice president and CTO of Starbucks, was reviewing

[6] "Seven lessons on how technology transformations can deliver value," March 2021, McKinsey.com.
[7] McKinsey's Organizational Health Index (OHI) is a quantitative diagnostic to measure organizational health. OHI analysis is based on more than five million responses. For more, see "Organizational Health Index" on McKinsey.com.
[8] McKinsey Global Survey on technology and the business, 2021.
[9] Shivam Srivastava, Kartik Trehan, Dilip Wagle, and Jane Wang, "Developer velocity: How software excellence fuels business performance," April 2020, McKinsey.com.
[10] "Psychological safety and the critical role of leadership development," February 2021, McKinsey.com.

what made Starbucks' migration to cloud so successful, she credited the focus on learning: "The most important skill we are looking for is a love of learning and being lifelong learners."[11] Businesses that are architected to learn and adapt at speed—whether learning a new coding language, using tech to develop a new business model, integrating a new technology, or adopting a new methodology—will be those that succeed.

This reality requires CIOs to develop an expansive view of learning that goes far beyond training modules and certification programs. It includes developing regular skills projections based on future need and value, rolling out reskilling programs that target people with "adjacent skills" (such as training an enterprise architect to be a cloud architect), working with outside institutions to provide their people with opportunities to develop new skills, and creating a learning architecture that allows people to easily learn and share. Digital leaders, in fact, share test-and-learn findings across their organization far more often than their peers.[12] This has talent implications as well, since the most talented want to be in an organization where they can grow their skills.

The degree to which nontech people in the business, from the CEO and board members to sales reps on the front lines, understand how to use tech will also have a determining effect on how well businesses generate value. For this reason, CIOs need to make tech literacy a priority across the business. Training modules can help, but adults learn best by doing, so CIOs should consider co-investing with business leaders to develop tech champions who help teams solve issues with the tech they already have. They should also create incentives for business units to expand their own tech literacy. Leading organizations, in fact, dedicate time to learn about digital technologies.[13] One best practice in building this proficiency is to put board members through intensive training programs led by top technologists that focus on the business implications of key technologies.[14]

Key questions

— Have you budgeted for learning time in your talent and capacity plans?

— What percent of your organization is regularly upgrading its skills with the same rigor as medical professionals bring to continuing medical education?

— Are you measuring how current your workforce's skills are and what your upskilling needs are for the next 12 to 18 months?

5. Make security an enabler of speed and growth

"It is amazing how many drivers, even at the Formula One level, think that the brakes are for slowing the car down."

—Mario Andretti, legendary race car driver

In many organizations, the security and compliance functions are treated as necessary evils, time-consuming processes that slow down initiatives but are nevertheless understood to be important. It is true that as cyberthreats increase, there is a danger that security concerns simply choke off a business's speed and flexibility. The solution to this conundrum lies in recognizing that security is primarily a cultural and managerial issue rather than a technical one. While almost 90 percent of tech leaders believe their IT organizations have been effective in improving cyber defenses, only two-thirds of the rest of the C-suite agree, implying that there is considerable room for improvement. [15]

The first big shift is to move security from something that is done only by a dedicated team to something for which everyone is responsible. CIOs can provide developers with the education and incentives to build security and compliance

[11] "SXSW 2021: Debunking cloud myths for a better tomorrow," YouTube, May 7, 2021, 13:57–14:03, youtube.com.
[12] Simon Blackburn, Laura LaBerge, Clayton O'Toole, and Jeremy Schneider, "Digital strategy in a time of crisis," April 2020, McKinsey.com.
[13] Ibid.
[14] Celia Huber, Alex Sukharevsky, and Rodney Zemmel, "Five questions boards should be asking about digital transformation," *Harvard Business Review*, June 21, 2021, hbr.org.
[15] McKinsey Global Survey on technology and the business, 2021.

into their code. In addition, security and compliance experts should work side by side with developers to help teams address security issues before they surface.

The second shift is to upgrade security operations to improve prevention and resilience. CIOs can best enable this shift by applying a developer mindset to security rather than a compliance one. A DevSecOps working model, where security is integrated into each stage of an agile product life cycle rather than being a check at the end, is one way to do that. CIOs can further harden security by committing to a "security as code" approach that defines cybersecurity policies and standards and then instantiates them as code through architecture and automation.

Key questions

— Do your security and compliance people work in the same agile rhythm as your developers?

— What percentage of your policies are automated?

— What percentage of the products that you've released in the past 12 months have successfully incorporated the DevSecOps working model?

6. Choose better over more when it comes to data

"Water, water everywhere and not a drop to drink."

—Samuel Coleridge, in "The Rime of the Ancient Mariner"

The biggest issue with data is that there's so much of it that companies have tremendous difficulty making sense of it. Data users can spend between 30 to 40 percent of their time searching for data and 20 to 30 percent on cleansing it.[16] The result is often a kind of data drunkenness where companies chase after different ideas in an uncoordinated and disjointed fashion. In effect, they're trying to manage the scale rather than extract the value.

It's not much of an exaggeration to say that no important value-creating initiatives for the business are possible without good data. It is literally the lifeblood of the business and should be treated that way. From that acknowledgement flow two imperatives.

The first is quality (including access and usability) over quantity. Too often the focus on data quality becomes just a set of policies and guidance that an IT support function executes but is not widely followed. The CIO can drive effective data governance through a balance of centralized data-management and governance roles. More than 60 percent of tech leaders from our survey, in fact, say they are planning to scale data, analytics, and AI—more than any other tech initiative.[17] CIOs will need to bring in data and machine-learning operations people to manage this effort.

The second imperative is to develop an orchestration capability to make the many data linkages needed to enable advanced experiences. Take the example of predictive maintenance. When data from sensors indicates that a widget should be replaced, this data needs to connect with inventory data to see if a replacement widget is available, with team-management data to get a crew in the field to replace the widget, with supplier pricing data to track the costs, and with billing data so that the right customer is billed and payment is tracked. This level of orchestration requires data developers to build systems that collect, integrate, and manage target data sets.

One way that CIOs can meet these needs is by standing up a "data and analytics delivery war room" made up of data developers, legal, compliance, and full-stack architects. This team takes inputs from the business, locates key data

[16] Davide Grande, Jorge Machado, Bryan Petzold, and Marcus Roth, "Reducing data costs without jeopardizing growth," July 2020, McKinsey.com.
[17] McKinsey Global Survey on technology and the business, 2021.

sets, and creates a data-orchestration platform to deliver data to any part of the organization.

Key questions

— Do you know what data is most critical for your important business decisions and whether it is being used regularly?

— Are you building a discipline and career for data professionals in your organization?

— How confident are you that your most important data is accurate and timely?

Business in the digital age is impossible without a strong technology platform. The COVID-19 pandemic has provided an important exclamation point to make this reality clear to the C-suite and board. With this foundation, CIOs have a unique opportunity to become business drivers. This doesn't mean it's time to throw out the old playbook; traditional needs of ensuring stability, meeting business requirements, and managing the costs and risks of delivery are all still necessary. But they're not sufficient. CIOs need to write a new chapter in the IT playbook that embodies a new set of bold aspirations to put technology at the forefront of the business.

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