

How to become ‘tech forward’: A technology-transformation approach that works

Getting value from tech relies on tackling multiple interdependent programs at once.

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For executives looking for lessons in the wake of COVID-19, one has emerged clearly: every company needs to become a tech company.

Whether it's been the shift to online working, the spike in online demand, or the increase in cyber assaults, technology has emerged as a critical business capability. That reality has injected a renewed importance and new urgency into modernizing the technology function. Companies can no longer afford the long timelines and often-disappointing business returns that have hampered many of the large tech-transformation projects of the past.

Instead, some technology leaders have pursued a new approach that is comprehensive enough to account for the myriad interlinkages of modern technology joined at the hip with the business so that change delivers value, and self-funded so that the scope of the change can continue to expand. We think of this comprehensive approach as “tech forward.”

Counteracting the most devastating tech-transformation failure modes

Some companies are starting to see real impact from their tech transformations. In a recent McKinsey study, some 50 percent of surveyed companies reported moderate to significant impact on realizing new revenue streams, almost 70 percent reported impact on increasing existing revenue streams, and 76 percent reported impact on reducing costs.¹

Tech transformations, nonetheless, remain notoriously difficult and complex. Though many companies are transforming their tech organizations, about 50 percent of them report that they're still in the pilot phase (small tech teams working with advanced technologies but isolated from the rest of the technology function).²

To understand better what successful tech transformations look like—as well as what the most

important pitfalls are—we spoke with nearly 700 CIOs at some of the largest companies across the world. These conversations illuminated a number of consistent factors that most consistently kill off even the most promising tech transformations and revealed antidotes to address them. Following are three of the most common failure modes.

Piecemeal activity and limited scope

There is no shortage of technology-transformation initiatives, all of them with good intentions and promising payoffs. In fact, our latest analysis shows that companies are expanding the range of tech-related transformations (Exhibit 1).

But too often companies focus on a series of initiatives without accounting for crucial dependencies that need to be in place to enable the change. Simply migrating systems to the cloud without also thoughtfully implementing cyber strategy, agile, and DevOps, for example, would leave a company unable to take advantage of the automation, scale, and flexibility that cloud-based systems offer. The other side of the coin is that activities in one area can have unintended consequences in another, often breaking or disabling tangential systems. Modernizing the architecture, for example, changes how development teams deploy to it; using old methods results in errors and delays. Successful CIOs, in contrast, are explicit in identifying system dependencies and deliberate in managing them so that the full scope of potential benefits can be captured.

No link to business value

New technologies continually hit the market, many with tempting promises to solve many of tech's ills. Unfortunately, many of these “shiny objects” in which technology functions invest have limited value to the business due to limited partnering between technology and the business, the inability of technology to communicate the value of tech to the business, and an often unclear sense of the business value at stake.

¹McKinsey Global Survey on IT and the Business, August 2020.

²Ibid.

Exhibit 1

Companies are pursuing a larger range of transformations and moving beyond modernizing infrastructure.

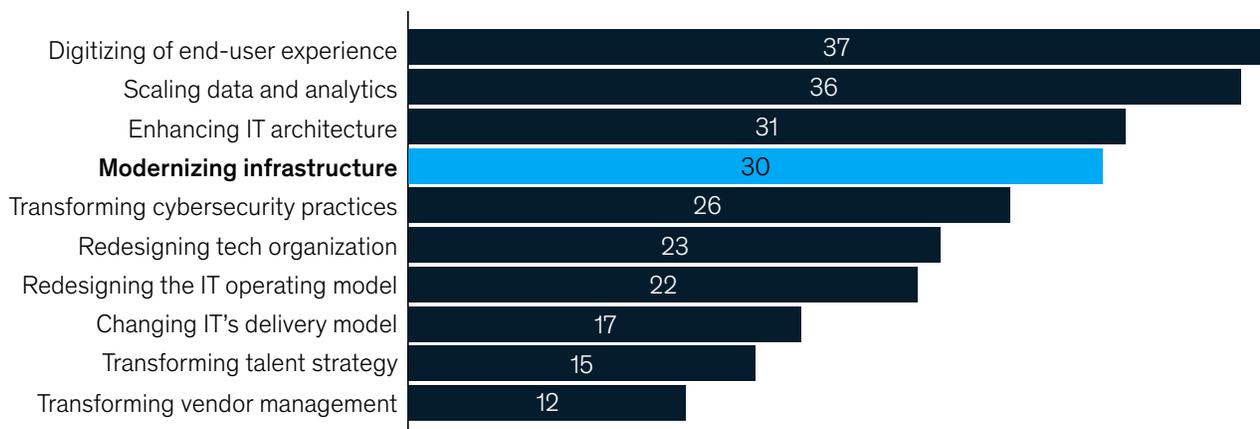
Over the past three years, infrastructure transformations have led the way as the most-cited type of transformation pursued in the past two years by

60%

of respondents¹

... but **this year, respondents are planning a wider spread of transformations**, with more focus upward along the tech stack

Types of transformations most likely to be pursued over next two years,² %



Companies that modernized their infrastructure have a more modern, stable, and flexible infrastructure in place—and are ready to pursue new types of transformations.

¹Q: Of the following types of IT transformations (large-scale change efforts that are more comprehensive than short-term improvement programs), which, if any, has your organization pursued in the past two years? (n = >450). Data for "Scaling data and analytics" not available for 2017 and 2016.

²Q: Which of the following IT transformations, if any, is your organization most likely to pursue in the next two years? (n = 487).

Top organizations instead are deliberate in developing a governance program tied to the business, grounding each initiative in an explicit P&L result and building in specific metrics to track progress against business targets. This becomes even more critical in a post-COVID-19 world in which budgets are tightening and return on investment (ROI) is essential.

Too expensive to sustain

Tech transformations are expensive. When their ROI lies too far in the future (or is disappointing, as has happened in the past), critical investment is too often pulled back. That doesn't need to happen.

Successful transformations, in contrast, frontload activities that unlock value quickly. Those activities

can include agile sourcing strategies, clean-sheeting the portfolio, or optimizing the balance of engineering and non-engineering roles—changes that often unlock millions of dollars.

What a ‘tech forward’ transformation looks like

Detailed conversations with CIOs as well as our own experience helping businesses execute complex technology transformations yielded a broad array of insights, best practices, and guidelines. We’ve synthesized them into a “tech forward” model that highlights three interconnected vectors, within which are ten specific “plays,” or domains of activity (Exhibit 2).

It is important to call out that the identification of the activities themselves isn’t the main reveal—CIOs will be familiar with most if not all of them. This tech-forward model has proven most useful, however, in helping organizations understand the scale of needed change and think through interdependencies across vectors and plays.

Vector #1: A reimagined role for technology that’s focused on the business

Effective technology functions maintain close ties with other business functions, but best-in-class CIOs take this a step further, with technology *driving* the business. That requires reimagining technology’s role through technology-led business models (play #1), a

Exhibit 2

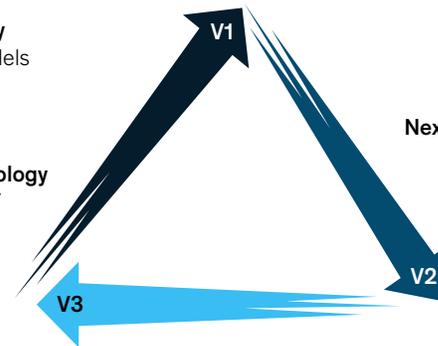
Successful technology transformations span three vectors of activity, each consisting of a specific set of plays.

Vector 1: Reimagine role of technology

- 1 **Tech-forward business strategy**
(new tech-enabled business models or customer-facing products)
- 2 **Integrated business and technology management** (no silos, product/platform orientation) with strategic spend allocation
- 3 **Steward of digital user experience** (design thinking, user-centricity, seamless integration with analog)

Vector 2: Reinvent technology delivery

- 4 **Agile@scale** software delivery
- 5 **Next-generation infrastructure services**
(cloud, end-to-end automation/NoOps, platform as a service)
- 6 **Engineering excellence** with top talent (both internal and external); do more with less
- 7 **Flexible technology partnerships** (capability-focused, outcome-based)



Vector 3: Future-proof the foundation

- 8 **Flexible, business-backed architecture** rehaul delivered iteratively (open architecture, microservices, application programming interfaces)
- 9 **Data ubiquity and advanced analytics** enablement
- 10 **Defenses that preempt evolving threats** (cyber, data privacy)

product- and platform-centered operating model with ingrained strategic funding allocation (play #2), and technology functions becoming the steward of digital user journeys (play #3) given their unique perspective across functions such as marketing, sales, and operations. In organizations that have truly reimaged technology's role, the role of the CIO is also often elevated.

This vector of change often isn't the first one we see. Rather, this reimaged role for technology develops over time as the other two vectors begin delivering value and the credibility of the technology function grows. However, this aspiration for technology to drive business value must be explicitly defined up front or the results may fall short, as they often do.

Vector #2: A technology delivery model built for flexibility and speed

Modern technology functions set up their delivery models to keep pace with the fast-evolving needs of customers and employees. Using agile methods, tech teams prioritize and carry out activities that have the greatest potential to help their companies realize sought-after performance gains (play #4). Next-generation infrastructure services based in the cloud accelerate delivery and stabilize the tech environment by automating development, testing, and deployment processes (play #5). To improve the quality and efficiency of their work, modern tech functions hire highly skilled engineers to deliver mission-critical engineering in house (play #6). They also partner thoughtfully with a variety of vendors, ranging from hyperscalers to software-as-a-service (SaaS) firms to niche engineering organizations to large-scale systems integrators, for help in building or augmenting capabilities that are more challenging to develop or scale, using contracts that reward vendors for producing business outcomes rather than merely augmenting in-house capacity (play #7).

Vector #3: A future-proof foundation of core tech systems that support innovation, collaboration, and security

Renewing core systems so they support new digital functionalities, multiple daily production releases, and frequent upgrades can provide significant

performance benefits. Such modern systems are arranged according to a flexible architecture consisting of self-contained applications connected with easy-to-configure application programming interfaces (APIs) (play #8). A modern technology core includes data and analytics systems that provide technology teams across the enterprise with the high-quality information and powerful tools they need to gain insights into customer and employee preferences, design innovative applications, and enrich user experiences (play #9). It also enables tech teams to integrate security and privacy protections as they develop solutions, rather than adding them after solutions development is complete. This approach greatly accelerates delivery while maintaining or even improving information security (play #10).

The challenge in using this model lies not just in coordinating the interdependencies, as challenging as that can be; it's in sequencing the transformation initiatives so that they build value quickly. It is essential that a tech transformation deliver value within a year; beyond that, skepticism builds and support fades. To enable this focus on value, the transformation road map should take on a few interdependent changes at a time, with a series of coordinated efforts, each of which can be completed within three to six months.

Tech forward in action

A consumer-services company transforms its tech function to support better customer experiences

A major institution in the consumer-services sector was losing business to its rivals, who were aggressively rolling out new and better digital products and channels. Working closely with the CEO and other business-unit leaders, the CIO determined IT needed to develop a set of digital channels and products to improve customer retention, increase share of wallet, and improve customer experience (play #1).

With this clear articulation of how new digital products would deliver business value, the CIO was ready to start building them. But he quickly realized

that progress would be difficult unless IT changed how it developed products that customers actually wanted (play #3), how IT worked with the business to ensure that the technology products delivered value (play #2), and how teams collaborated to make better and faster progress. Without these changes, he knew the company would run into the same delays and issues that had dogged its earlier technology initiatives.

Acting on this understanding, the CIO partnered with business leaders to design a new model for how business and technology would partner. That included, for example, creating a single “point of entry” for any technology requests and frequent meetings to jointly review and prioritize them. Each month, they reviewed the tech road map against the business strategy. One result was the creation of a fast track for product requests that didn’t require significant work, a simple solution to the previous monolithic development process that every request had to go through.

Simultaneously, he implemented a new, agile, product-engineering model (play #4) where cross-functional teams made up of people with design, development, operations, and other expertise collaborated around a specific user experience (mobile ordering or setting up an account, for example). To ensure speed and momentum, these teams were trained to use agile ways of working together, such as breaking initiatives into two-week projects (sprints), piloting new products to get user input, and rapidly testing operational effectiveness before scaling. To help focus their work, the teams used design thinking to build clear pictures of true user needs and pain points.

This initial phase of work allowed technology teams to roll out the first set of digital offerings successfully and under budget—and three to five times faster than similar technology projects undertaken in the past.

With the digital-products workstream well under way, the CIO focused his attention on another cluster of critical dependencies: scaling cloud-based services (play #5), modernizing and migrating foundational systems to microservices (play #8), and leveraging data to find new sources

of value (play #9). SWAT teams of engineers and architects came together to anticipate system-reliability issues and their root causes. They tackled the most urgent ones first and managed the backlog. They also actively checked that fixes were working and stepped in quickly to address any that weren’t.

At the same time, another team modernized foundational systems by building out a microservices-based architecture for all new development. To enable this shift, more easily accommodate new digital solutions, and help improve time to market, they worked on updated cloud-based platforms, which allowed them to use cloud-based data services to rapidly process and analyze their data to identify new business opportunities. Working collaboratively, business and IT teams created almost 50 use cases, such as improved demand and inventory forecasting, that have the potential to add as much as \$1 billion of incremental revenue.

Questions that help orchestrate a successful tech-forward transformation

To get the sequence of transformation activities right, executives need to be clear about where they’re going and what their current capabilities are. Companies often have an incomplete understanding of these two elements, which creates confusion in the executive suite and will derail a tech transformation before it ever gets started.

To plot a company’s tech-transformation road map, we find the following questions particularly helpful:

- What is your expectation from technology?
- Which strategic outcomes are most critical (for example, speed and quality of delivery)?
- Which are the most urgent pain points and what causes them?

The following questions help executives understand the current state of the technology

function and its experience with transformation programs:

- Which, if any, of the ten plays from the tech-forward approach are in place, and what is their maturity?
- Is transforming your company's tech one of the top two priorities in your C-suite? If not, why not?
- How well does the technology function support your company's strategic objectives or digital ambitions?
- What tech-transformation efforts has your company launched to date? What effect have they had? What went well, and what didn't?
- What factors might restrict the pace of your tech-transformation efforts? In particular, how much capital and other resources can the company devote to tech transformation?

The current COVID-19 crisis, of course, is having a significant impact on how CIOs and businesses manage tech transformations. Despite the pressures it has added to costs, however, the urgency to get moving and transform has never been higher, according to many CIOs. But while the demands placed on the technology function have grown, so too have the opportunities. Experience suggests that the most effective transformations are not only comprehensive, covering the function's role, delivery model, and core systems, but also sequenced to ensure that changes that reinforce each other are carried out together. With up-front planning focused on business value and careful delivery, a company can bring its technology function forward and gain the capabilities to thrive in challenging digital markets.

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