

The Tech:Forward recipe for a successful technology transformation

Successful transformations rely on mastering the complex set of interdependencies between systems and initiatives.

This article is a collaborative effort by Anusha Dhasarathy, Thomas Elsner, Naufal Khan, Adi Pradhan, and Sriram Sekar, representing views from McKinsey Technology.



With companies facing a period of renewed uncertainty on the heels of the COVID-19 pandemic, businesses are shifting their gaze once more to technology. In addition to meeting the voracious digital appetites of consumers and customers during COVID, the technology function's goals also need to include lowering costs and optimizing productivity.

While most companies have embarked on a tech transformation of some kind, many of the outcomes are depressingly familiar: long delays, cost overruns, and underwhelming results.

At the core of many of these issues is one central truth: because there are so many interdependencies in today's modern enterprise, successful technology transformations require companies to do multiple things well. Our latest CIO survey, in fact, clearly showed that top performers were more likely to have executed multiple initiatives and actively managed their interdependencies.¹ Want to migrate systems to the cloud? You need to rework your operating model, transform your talent pool, and rethink cybersecurity. Want to accelerate your product development? You need to organize your people around products and platforms, build up your engineering talent, create a flexible architecture, and revamp long-standing financing and budgeting practices.

Through our analysis and work with companies on hundreds of tech transformations, three learnings have emerged:

- Companies tend to focus narrowly on a small set of initiatives, lacking a clear view of how big, in fact, the tech-transformation landscape is.
- Successful transformations rely on mastering an often-complex set of interdependencies between systems and initiatives across IT and the business.
- A set of recipes has emerged for delivering successful tech transformations.

The tech-transformation landscape is bigger than you think

CIOs, even those at companies that are well along the path of a tech transformation, should have a clear view of all the possible tech initiatives and areas of focus. Detailed conversations with more than 1,400 CIOs as well as our own experience helping businesses execute complex technology transformations have yielded a broad array of insights, best practices, and guidelines. We've synthesized them into a Tech:*Forward* framework that highlights three interconnected vectors, within which are eight specific "plays," or domains of activity (Exhibit 1).

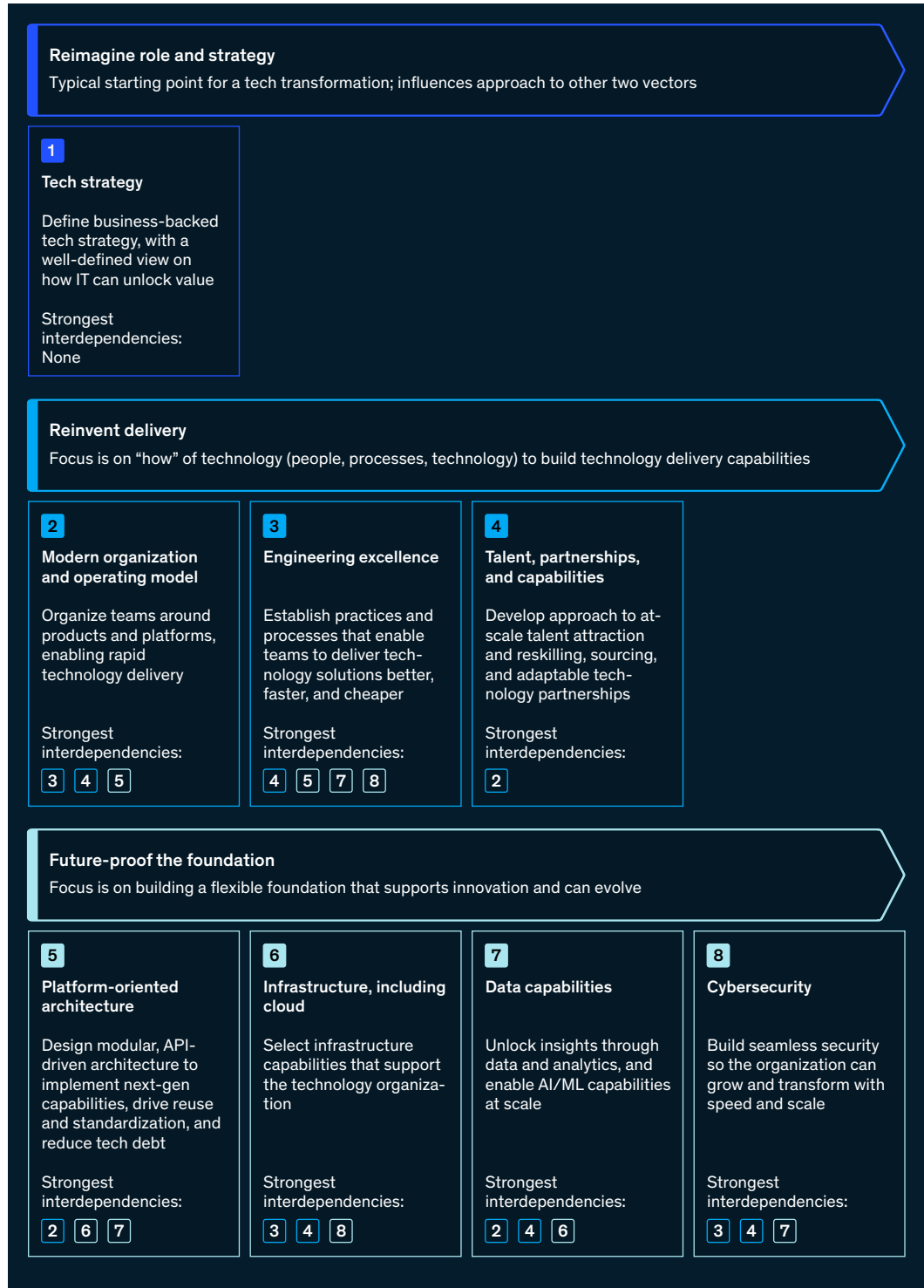
It is important to call out that the identification of the activities themselves isn't the main reveal—CIOs will be familiar with most if not all of them. This Tech:*Forward* model has proven most useful, however, in helping organizations understand the scale of needed change and think through interdependencies 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 and technology functions becoming the steward of digital user journeys, given their unique perspective across business functions such as marketing, sales, and operations. In organizations that have truly reimagined technology's role, the role of the CIO is also often elevated.
- *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 (including in budgeting), teams prioritize and carry out activities that have the greatest potential to realize performance gains. They also partner

¹"Prioritizing technology transformations to win," McKinsey, March 24, 2022.

Exhibit 1

The Tech:Forward framework defines eight interdependent tech plays across three vectors.



thoughtfully with a variety of vendors, ranging from hyperscalers to software-as-a-service (SaaS) firms to niche engineering organizations, for help in building or augmenting capabilities that are more challenging to develop or scale, with incentives to deliver business outcomes rather than output.

- *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 built around platforms and products to serve the business. 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. It also enables tech teams to integrate security and privacy protections as they develop solutions, rather than adding them after solutions development is complete.

Having an approach that is both this comprehensive and detailed was instrumental in aligning one large OEM's tech-transformation goals. Previous efforts had stalled, often because of competing priorities across various business units, which frequently led to a narrow focus on each unit's needs. One might want to push hard for cloud, for example, while another wanted to cut costs. Each unit would develop its own KPIs and system diagnostics, which made it virtually impossible to make thoughtful decisions across units, and technical dependencies between units would often grind progress to a halt.

The company was determined to avoid making that mistake again. So it invested the time to educate stakeholders on the Tech:*Forward* framework, detail the dependencies within each part of the framework, and review exactly how different sequencing models would impact outcomes. In this way, each function developed confidence that the approach was both comprehensive and responsive

to its needs. Meetings with the CFO, for example, explained in detail how an integrated operating model that embedded IT with the business cut down on mistakes and accelerated delivery.

The Tech:*Forward* framework essentially became a road map that everyone understood and could use as a common reference, cutting off unhelpful discussions and reducing miscommunication. Not only did the board approve the tech-transformation plan, but the workers' influential union representative endorsed the program to all the company's IT employees. Since then, the leadership team has implemented quarterly review cycles, using the Tech:*Forward* framework to track progress, break through barriers, and align on the next round of initiatives.

Mastering interdependencies is the core of successful tech transformations

To better understand how companies most effectively work across multiple initiatives, we developed the Technology Quotient (TQ). The TQ provides a useful benchmark of competency and progress across all plays, but, more importantly, the data revealed combinations of plays that are most effective:

- Tech leaders (those in the top decile by TQ score) tend to activate multiple plays at once. We find, in fact, that they have a greater than 60 percent likelihood of scoring high in terms of their ability to work on multiple plays (compared to about 25 percent for laggards). The data shows, for example, that leaders exhibit a high correlation between developing a next-generation organization and operating model and building out a platform-oriented architecture. Laggards' scores across plays are highly inconsistent, suggesting that a piecemeal approach to transformation is holding them back. This finding matches our experience.
- Industries such as banking, insurance, and retail, where consumer-facing technology is key to value delivery, score higher in terms of current capabilities across all plays than do B2B industries such as mining, pharma, and defense.

- Developing engineering excellence (play #3), particularly agility, and building up a modern organization and operating model (play #2) are typically correlated with higher scores on other plays. The rapid decision making, frequent feedback, and higher metabolic rate of agile is a key enabler for tech transformations, while the product-platform operating model enables small, autonomous teams to deliver value faster.
- Cybersecurity (play #8) is the most frequently activated play. Our experience shows that thoughtfully integrating cybersecurity into ongoing IT and engineering practices (such as embedding cybersecurity practices into the development flow in a DevSecOps approach) leads to the best outcomes.

Transformation recipes exist

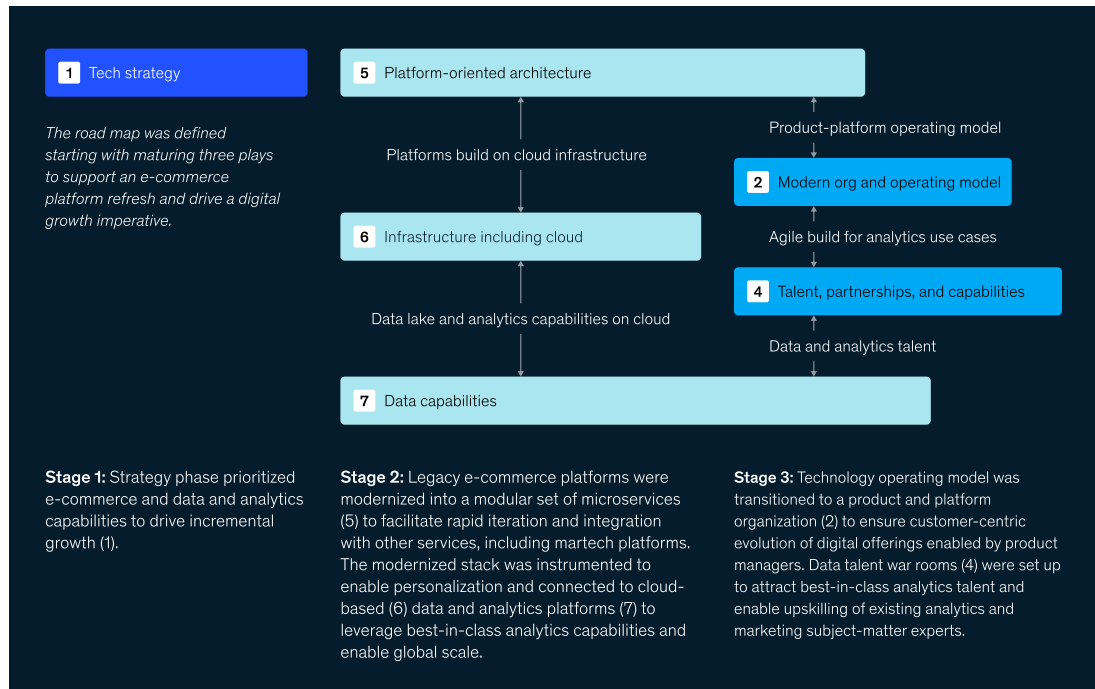
No two tech transformations are the same. However, we do see an emerging set of recipes where plays can be combined differently and tailored to each firm's unique considerations.

Almost without fail, developing a business-backed technology strategy is a common denominator across all successful tech transformations. While this might seem obvious, a surprising number of companies still don't do it, or at least not at the level of clarity and detail that's needed.

Following is an example of how one company did it successfully (Exhibit 2).

Exhibit 2

Case example: Journey of a retailer leveraging the Tech:Forward approach.



A major enterprise in the food and beverage sector was falling behind its competitors, who were continually rolling out improved digital products and channels. To remedy this, the CIO launched a broad transformation in partnership with the business to digitize 20,000 locations across 12 geographies. The CIO developed a tech strategy (play #1) to map out the critical areas of need and dependencies to address in order to make the company's technology systems better able to meet specific business goals, including reducing time to market by half and increasing both same-stores digital sales and digital as a share of overall sales.

The company quickly realized that its aspirations were impossible without upgrading its tech talent. The business was largely relying on vendors to provide technical services, but the need to release new and better products and services more frequently required top technical talent in house. It prioritized talent acquisition (play #4), bringing on more than 100 data scientists, cloud and software engineers, and architects in less than seven months—and saving about \$70 million in the process. But it didn't wait for all of them to be on board; with two architects, a data scientist, seven engineers, and a designer, it began working on its first applications.

Knowing that new digital capabilities put tremendous strain on the organization's e-commerce and data platforms, the CIO simultaneously launched an effort to re-platform the e-commerce architecture (play #5). The goal was to create a more modular infrastructure of microservices, allowing teams to deploy new capabilities quickly, easily, and more reliably. This effort included modernizing the tech stack that supported offers, ordering, delivery integration, customer data, and digital reporting. But the limitations of on-premises systems could not deliver the insights the business needed with sufficient quality or speed. In parallel, therefore, the CIO

launched an effort to develop a new cloud-based data architecture (play #6) that took advantage of the cloud service provider's services and capabilities both to power insights into customer behaviors and how to effectively respond to them with personalized offers and to cut costs by retiring its data centers.

The modernization of the tech platform and move to the cloud gave the company the tools and capabilities to work better and faster, but teams were still trapped in legacy work methods that kept them from taking full advantage of them. So the CIO reorganized teams around products and platforms (play #2). Product teams formed around specific consumer journeys, such as mobile, in-store kiosks, and web purchasing, while platform teams were organized around larger enabling functions, such as digital commerce, supply chain, finance, and back office. The CIO built out a standardized API library to allow product teams to use relevant platforms without creating complex point-to-point solutions. The product teams quickly rolled out new payment options, coupon-delivery capabilities, and inventory-management tools. They set up A/B testing capabilities within each store's kiosks to better understand customer preferences.

All the new products hitting the market created waves of new data, which flowed into the data lake and data warehouse that had been set up earlier. To ensure the data was secured and useful to the rest of the enterprise, data governance teams were established (play #7). The CIO also set up a data help desk to support and train users. Marketing could then track the impact of offers and campaigns on individual customers, while finance could use the data for better reporting and forecasting.

In less than one year, the company digitized operations and grew digital usage across its 20,000 stores by 20 to 40 percent. Products made it to market twice as fast, and sales increased.

Next steps for executives considering tech transformations

Like any complex undertaking, a successful tech transformation requires strong leadership, careful planning, and top skills, from design to management to execution. Though each transformation is unique, we have observed that the most effective start with three key principles:

1. *Develop a sound understanding of the business's strategic goals and the technology changes needed to deliver on them.* This may sound obvious, but companies consistently fail to get this basic step right. Often the CIO and his or her team work on the tech transformation on their own. That inevitably leads them to focus on technology problems, not business problems. Unless the technology initiatives are explicitly tied to business value and overall strategy, the tech transformation will not succeed. This requires fundamentally different behavior from the business side. It must not only participate in the transformation but also understand the tech issues, be actively involved in both problem solving and decisions, and commit to working in joint teams with tech colleagues.
2. *Drill into identifying the key dependencies.* Executing a tech transformation starts with a highly disciplined process to drill into “root dependencies” to understand what needs to be in place to enable further progress. If you want to move workloads to cloud, for instance, do you have the operating model to take advantage of cloud's speed? If you want an agile operating model, do you have the talent with both cloud

skills and the ability to work in an agile model? This approach applies a relentless logic to bundling relevant plays and sequencing them so that they effectively build on each other and create forward momentum.

3. *Scope the work to something that's aggressive but manageable.* Tech transformations are large and complex initiatives. Unless they're scoped adequately—not so big that they become too complex to manage, and not so small that their impact is negligible—progress is hard. Hitting this Goldilocks zone requires companies to select a domain (such as a complete customer journey or business function) that is sufficiently broad to account for all necessary dependencies yet discrete enough to be manageable. To both support this work and incorporate lessons that can be carried over to other domains, the CIO also needs to establish a transformation “backbone” of standards (such as architecture guidelines), resources (such as a developer portal to leverage consumable tech products), and capability centers (such as training).

A company's ability to compete and succeed in a digital world depends on its ability to harness its technology effectively. At the core of any successful transformation of a company's IT will be its ability to manage the interdependencies of the modern technology estate.

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