



# 2020 CIO Survey

## Technology industry insights



### IT in the New Reality for Technology

As a sector better described by its sub-sectors, the technology industry continues to experience high-growth as well as diversification in membership. While there is no agreed composition of this industry, hardware, software, semiconductors, networks, and internet are the core of the segment. With the majority of survey respondents reporting a significant acceleration in business transformation powered by technology, many companies in the technology sector experienced a surge in demand for their products and services. The near-universal shift to remote working and new interaction models through digital channels as the only viable means of consumer interaction overnight caused an uptick in network, hardware, cloud solutions and collaboration tools which are now here to stay.

In the long-term, many sectors are looking to technology to digitally transform their businesses and achieve strategic goals. At the core, investments for key foundational technologies — such as cloud, modern networks, automation, data insights, and AI/ML — are being made as businesses strive to become digital leaders. For numerous technology businesses, these are boom times: nearly half the sector (43 percent) is in ‘surge’ mode, and the challenge is to service demand, keep ahead of competitors and remain agile to react to market developments. But while companies are benefitting from the surge, there are still challenges for a tech sector company, especially linking up their middle and back office functions to improve responsiveness and time to market. Some technology-based gig economy platforms have seen a drop-off in business due to lockdowns and physical movement restrictions. While start-ups who had not yet fully established themselves in the market may struggle to gain traction and face reduced capital and constrained budgets. It is not quite a one-way street — even if the traffic is in full flow. No matter how a business is faring post-pandemic, technology has become more crucial than ever in one way or another.

### Board priorities & investment

The top three business issues boards in this sector are looking for the technology function to solve are telling: customer engagement (52 percent), new products and services (45 percent), and agility/speed to market (40 percent). It is all about delivery, innovation and the customer experience. As a result, two areas are set to dominate tech firm investment: software as a service and distributed cloud. Many tech companies are either cloud-native or at scale with their adoption of cloud and modern infrastructure. Further adoption of SaaS solutions to run and scale the enterprise is a clear priority for organizations that do not require application modernization. Expanding to everything-as-a service (XaaS) by stitching together an ecosystem of solutions and external partners will be essential routes to agility and faster service delivery. Where IT and technology is often inseparable from the end-product, CIOs and CTOs in this sector are doubling down on a modern multi-cloud backbone that will have easy to connect applications and APIs that are streamlined from the user perspective and built on cloud-native, fast, and frictionless networks. The challenge for tech firms will be to continue innovating their offerings and bringing forward new, differentiated value propositions to rising customer expectations while still containing costs across a wide-variety of platforms. Partnerships, alliances, and acquisition activity will continue to be a core strategy to increase the best-in-class products and services that differentiate the leaders in this space.

#### Top three business issues that management boards are looking for the IT function to address

*Technology vs. overall*

##### Technology

- 1. Improving customer engagement
- 2. Developing new products and services
- 3. Improving agility and speed to market

##### Overall

- 1. Improving operational efficiency
- 2. Improving customer engagement
- 3. Enabling the workforce

#### Three most important technology investments

*Technology vs. overall*

##### Technology

- 1. Security and privacy
- 2. Customer experience and engagement
- 3. Automation

##### Overall

- 1. Security and privacy
- 2. Customer experience and engagement
- 3. Infrastructure/Cloud

Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International



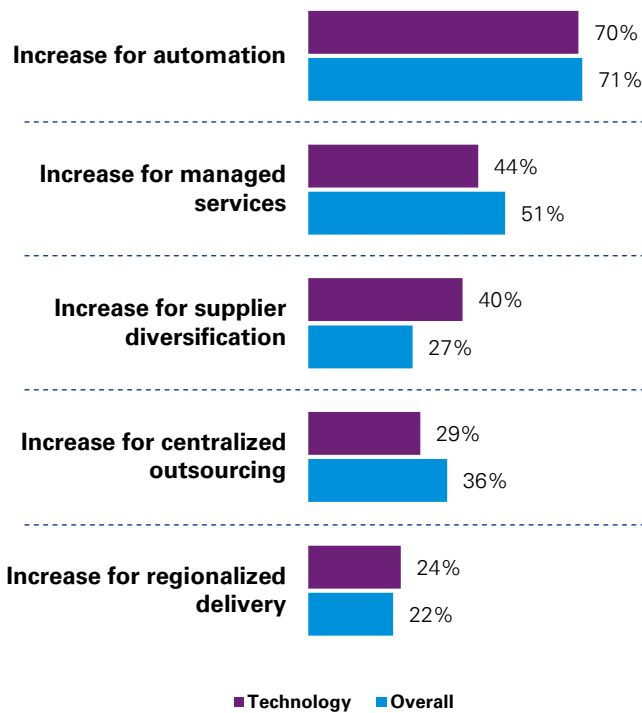
## Strategy & operating model

COVID-19 has put nearly half of tech businesses into 'surge' mode. For many, IT strategy has become all about enabling the business to meet demand, be it through scaling digital channels or enabling speed to market through automation (70 percent) is a manifest priority. One concern is that unpredictable geopolitical forces and regulatory developments may affect firms' operating models. While there are no global regulatory standards, ethical use of data, consumer privacy, and cyber security are demanding a rethink of corporate infrastructure, controls, and IT governance.

To reduce cost and focus on strategic skills, many tech firms are looking to increase the use of managed services (44 percent) or centralized outsourcing (29 percent) to help integrate middle and back office functions. Digital leaders in tech have a clear advantage over their peers, performing significantly better across every key metric including time to market (62 percent vs 29 percent) and customer experience (70 percent vs 49 percent).

### Expected change to service delivery model:

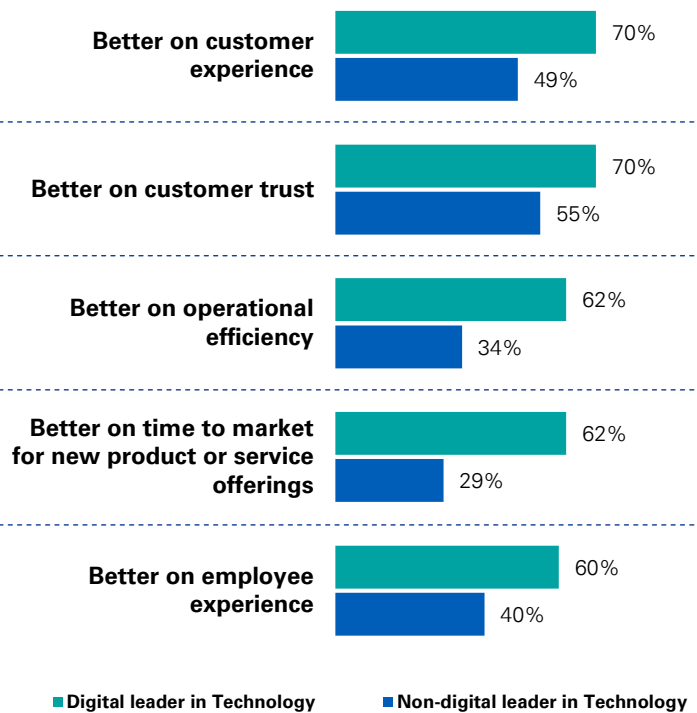
Technology vs. overall



Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

### Organizations performing better or significantly better than competitors on the following metrics:

Digital leaders vs non-digital leaders in Technology

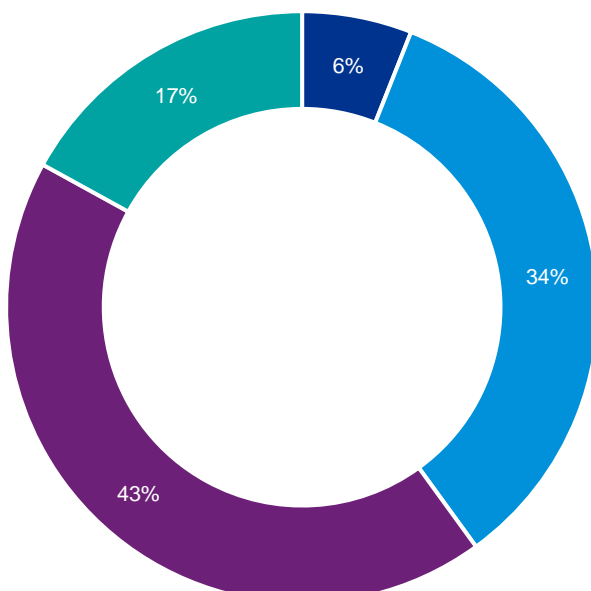


Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

**Digital Leaders**  
are respondents who report being "very" or "extremely" effective at using digital technologies to advance their business strategy

### Four economic recovery paths:

Technology



Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

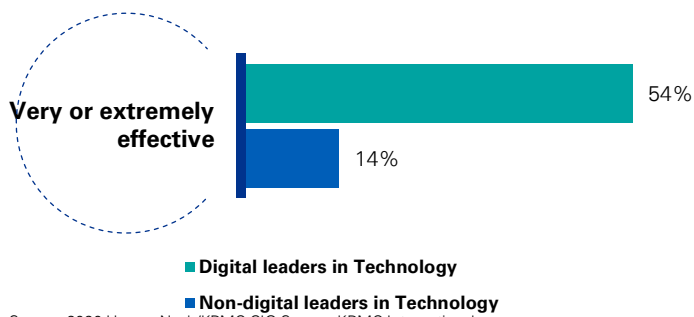
- Hard Reset** — companies that struggle to recover from COVID-19 due to 'permanently' lowered demand for offerings, insufficient capital to ride out extended recession, and/or poor execution of digital transformation.
- Transform to Re-emerge** — companies that will recover but along a protracted path requiring reserves of capital to endure and transform operating models to emerge stronger and more in line with changed consumer priorities.
- Surge** — companies that scale post-COVID-19 as consumer behavior that was altered during the crisis is sustained in their favor. Investors sense their potential to lead and provide capital to scale aggressively during recovery.
- Modified Business-as-usual** — companies seen as daily essentials will suffer effects of the consumer shutdown recession but are expected to recover more quickly as consumer demand returns in similar volumes.



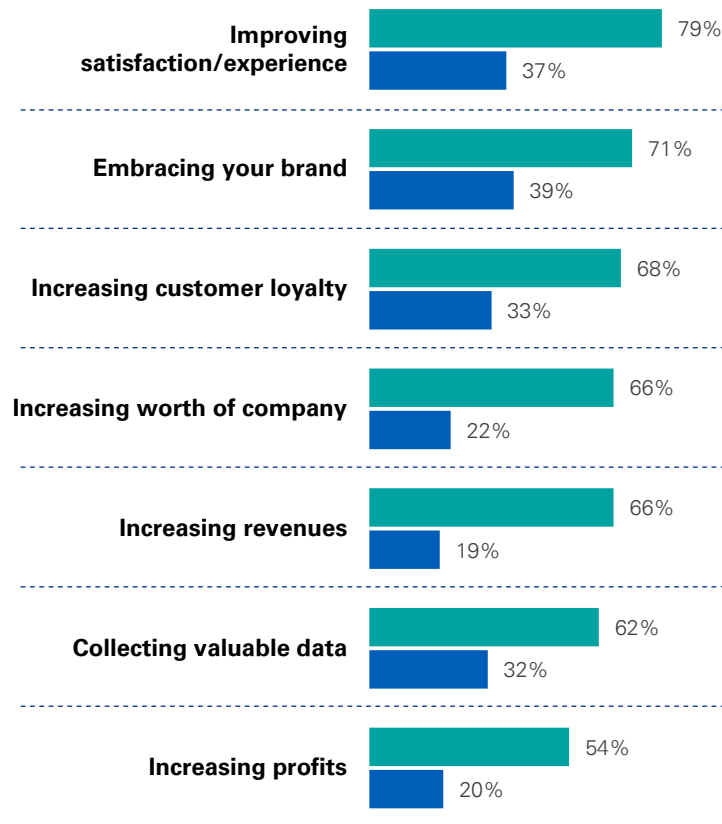
## Delivering value at speed

Innovation, agility, and speed to market are critical to service demand and grow market share — and it's the digital leaders in the technology sector who hold all the cards. They are considerably more effective at pivoting and scaling digital channels than their rivals (54 percent vs 14 percent). Indeed, their most successful digital offerings are far ahead of other businesses, being doubly effective in increasing customer loyalty (68 percent vs 33 percent) and nearly twice as effective at collecting valuable data (62 percent vs 32 percent). To support velocity, we are likely to see increasingly 'blended workforces' with human intervention supported by digital bots and AI to localize production, shorten supply chains, drive efficiency and improve quality of work. Digital leaders are also much more likely to have introduced large-scale implementations of emerging technologies including the use of AI/ML and automation to drive efficiency. What is interesting is which technologies have not yet attracted widespread investment at scale, such as blockchain, augmented reality and quantum computing. Will these come in a later wave?

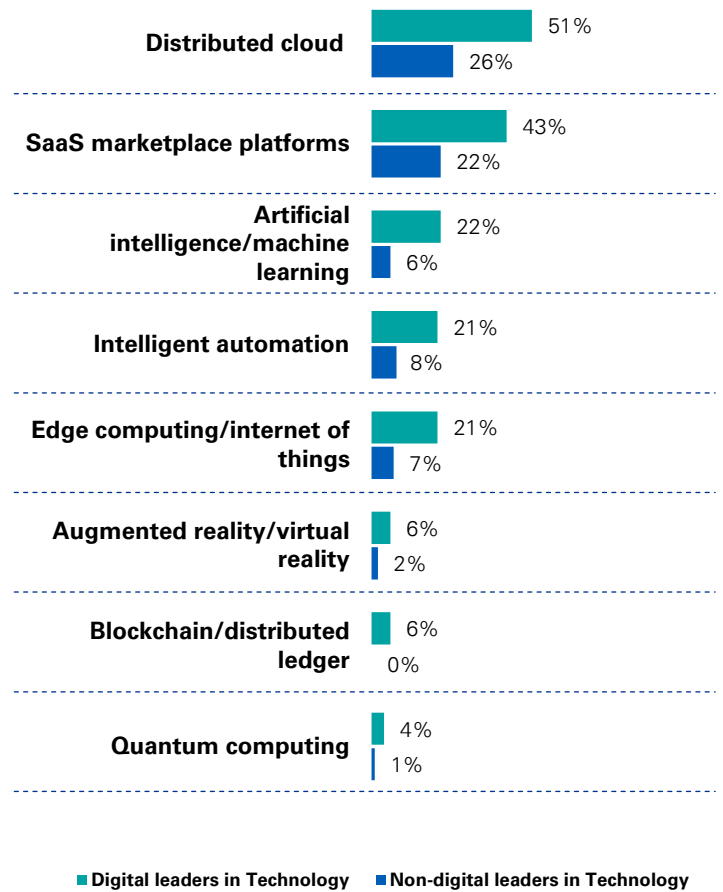
### Effectiveness at pivoting and scaling digital channels: Digital leaders vs non-digital leaders in Technology



### Effectiveness of most successful digital offering: Digital leaders vs non-digital leaders in Technology



### Large-scale implementations of emerging tech: Digital leaders vs non-digital leaders in Technology



■ Digital leaders in Technology ■ Non-digital leaders in Technology

## People & culture

While amongst the most attractive sectors for highly skilled technology workers, addressing skills shortages must be a key priority for any technology business. In line with the overall cross-sector picture, cyber security skills top the shortage list — but DevOps skills are close behind. One significant cultural impact of the COVID-19 pandemic is the shift to a much more remote workforce: many tech firms have prided themselves on their ‘cool’ office culture, with talent co-located and sparking creatively off each other. They will need to find ways to keep such creativity going in the more dispersed new reality. Another important area will be the ESG agenda, which matters to many staff, particularly millennials. Some of the tech titans have set ambitious net zero carbon targets. A clear sense of purpose and values will be needed to keep on attracting and retaining talent — with strong culture and leadership ranking as the number one priority.





### Most in demand skills:

Technology vs. overall

#### Technology

-  Cyber security
-  DevOps
-  Modern architecture






#### Overall

-  Cyber security
-  Organizational change management
-  Modern architecture
-  Advanced analytics






### Top factors in engaging/retaining technology talent

Technology vs. overall

#### Technology

-  1. Strong culture & leadership
-  2. Good Remuneration
-  3. Training, development, & reskilling opportunities
-  4. Career progression opportunities
-  5. Work location and remote work opportunities

#### Overall

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-  2. Good remuneration
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-  4. Work location and remote work opportunities
-  5. Training, development, & reskilling opportunities

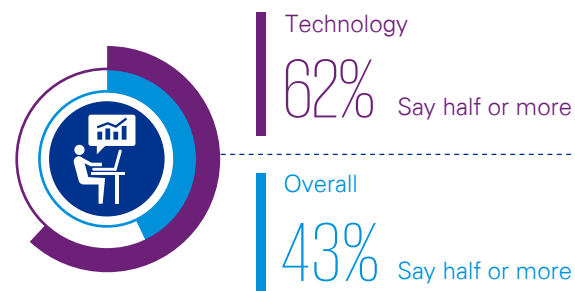
Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

**47 percent** in technology believes **COVID-19 created a culture** of inclusivity in the **technology team**

**More than half** in technology believes **promoting diversity** improves **trust and collaboration, innovation, access to the right skills, engagement with the business, and creating customer focused products**

### Proportion of enterprise that will remain predominantly working from home post COVID-19:

Technology vs. overall



Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

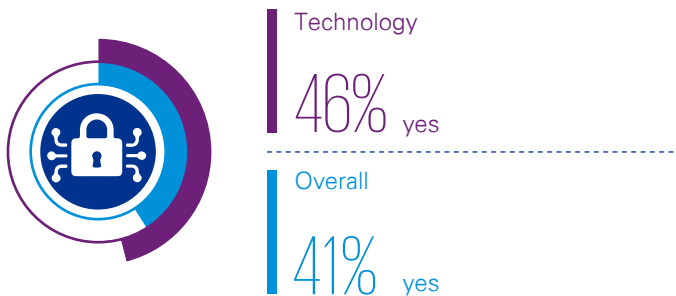
Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

## The rise of cyber

With COVID-19 causing the mass relocation of office workers, organizations' attack surfaces also dramatically grew. As a result, more than four in ten businesses have experienced an increase in cyber security incidents. For technology firms, the biggest increases have come in phishing (83 percent) and malware attacks (68 percent). This is broadly in line with other sectors, although it is noticeable that tech firms have experienced a somewhat greater rise in denial of service attacks (28 percent) than other sectors (21 percent). These are good days for technology firms offering cyber security and privacy solutions. For technology businesses of all kinds, there is a non-negotiable need for impeccable cyber security of their own: with all the consumer and corporate intellectual property data they hold, any hack could have damaging consequences and fatally discredit their reputation.

### Organizations that experienced an increase in security or cyber incidents due to remote working:

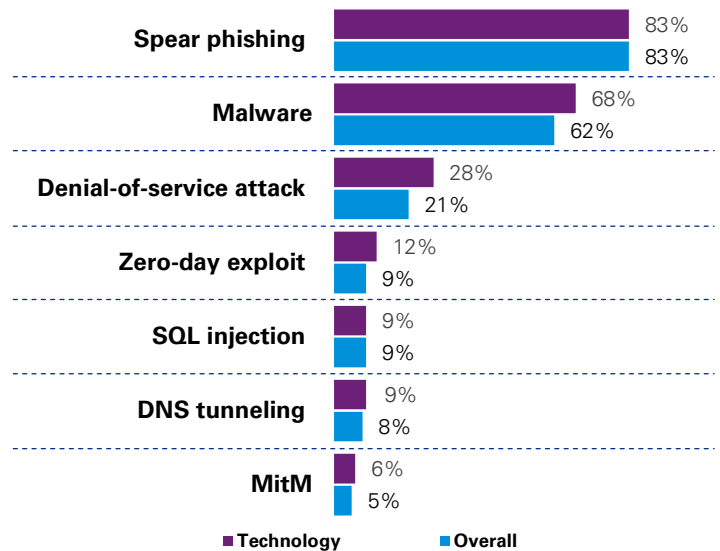
Technology vs. overall



Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

### Increase in types of attacks due to remote working:

Technology vs. overall



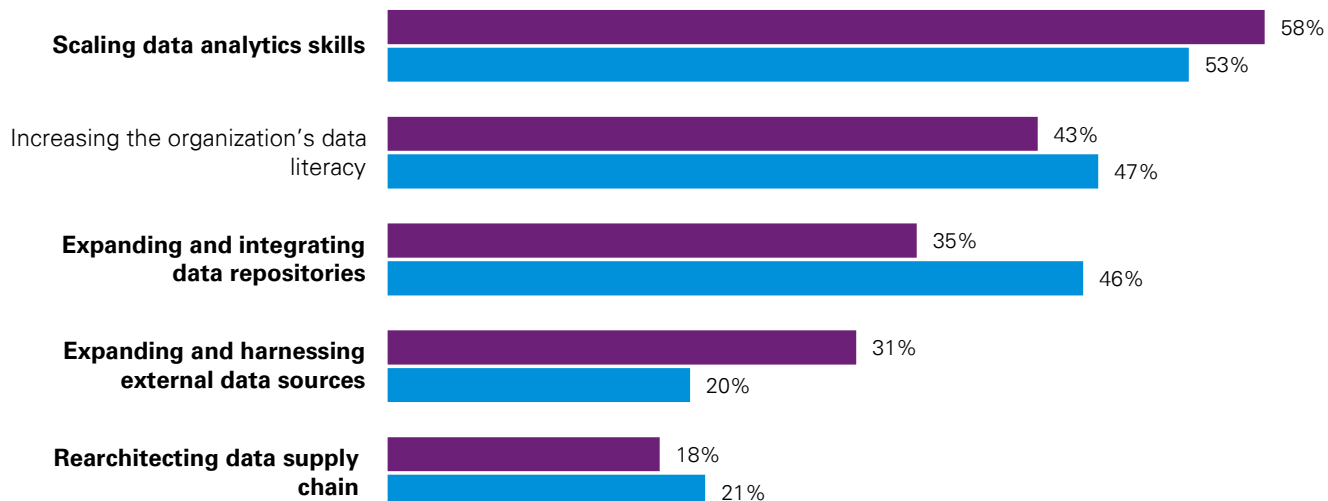
Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

## Analytics & insight

If anticipating and understanding client behaviors and preferences is key, then accessing and analyzing the rich data behind it is critical. Technology firms must be able to quickly gain insights from the data they hold in order to predict and anticipate market demand and increase sales opportunities. But they also need to capture and digest external signals — such as in the press, capital market and competitor actions, analyst reports and social media. For nearly a third of tech companies (31 percent), expanding and harnessing external data sources is a priority — significantly higher than the cross-sector average (20 percent). As tech firms grow and diversify, it will become increasingly important to ensure that there are no data siloes in order to leverage all data for business strategy. While often providing world-class insight services is a significant income stream, tech firms need advanced data analytical capabilities for their own purposes, however for some sub-segments like semi-conductor or hardware, there has been a lag in harnessing their own data.

### Top priorities for your organization's data strategy:

Technology vs. overall



Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

Technology Overall



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## What now?

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COVID-19 has changed the landscape. With technology more important than ever to organizations' ability to survive and thrive, the opportunity for tech firms is clear. But to maximize this, tech firms need to move at market speed to innovate new products and anticipate client needs — with their own front, middle, and back office processes, systems and data seamlessly integrated. Seven in ten IT leaders in the technology sector report increased collaboration between the business and technology teams — this relationship is something that CIOs must build on and leverage to the fullest to be able to respond to changes in client and market needs. As the sector continues to expand its aperture with new services, products, and partnerships, the security, risk and regulatory environment will become increasingly complex. Tech companies wishing to navigate these waters should be mindful of how data is being leveraged, the broad interconnected web of their ecosystem, and the need to apply their own market leading practices to their own enterprise. The technology businesses that live up internally to their own external marketing mantras will be the ones best positioned to reap significant success.

## How KPMG can help

While KPMG member firms are some of the largest providers of services to technology organizations globally, we take a boutique approach to client issues with a focus on flexibility, adaptability, and innovation. We recognize that there are many on-ramps to supporting IT transformation and we've tailored our services accordingly:

### Transform the business

- Strategy and operating model
- Organizational design
- Enterprise architecture
- Portfolio planning
- Merger and acquisition
- Integration and separation

### Run the business

- Scaling agile
- Product management
- DevOps tooling
- IT financial management
- IT service management
- IT asset management

### Modernize and protect

- Cloud strategy
- Data center strategy
- Continuity and resiliency
- Workplace transformation
- Network modernization
- Cyber, risk, and compliance

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