The widening digital divide

How leading companies are thriving in the new reality

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The digital agenda has long been recognized as critical. Now, it's even more important than that...

...successfully executing digital transformation has become a matter of either prospering or struggling to survive as an organization. There is no longer a question of pursuing a digital agenda or not—rather, there is a growing divide between digital leaders and everyone else. KPMG research shows that digital leaders are twice as likely to be very effective at scaling innovation as their peers and three times better at providing positive customer and employee experiences.[1] Surviving in the digital economy is about bridging this divide so as not to be left behind.

The COVID-19 pandemic accelerated what was an already occurring event, an era defining shift from an industrial economy to an information-centric one. The disruption to traditional market channels and ways of working has super-charged the significance of the digital agenda.

According to a KPMG recent study of IT leadership, companies that had already made meaningful investments in digital technologies such as cloud, automation, and artificial intelligence,

are poised to accelerate those investments in the coming year. In contrast, companies that were in the early exploratory phases or had not yet started, are less likely to invest in the near term—their hands tied by limited capital, poor execution, or an inability to change rapidly enough.[2]

In the new reality, the accelerated shift toward new technology-powered products and business models is set to become ever more pronounced. IDC predicts that by 2024, over 50 percent of IT spend will go towards digital transformation and innovation, up from 31 percent in 2018.[3] Organizations will also look for greater efficiency in their budgets by shifting to less labor—and capital-intensive operating models, notably by leveraging cloud. KPMG research finds that nearly half (47 percent) of IT leaders believe COVID-19 has permanently accelerated the adoption of emerging technologies.[4]

According to Steve Bates, Global Leader, KPMG CIO Center of Excellence, and Principal, KPMG in the US. "We are seeing an accelerated and widening gap between the

"digital-haves" and the "digital-have nots." The result is a growing competitive chasm, between companies and across sectors, countries, and territories. Even more profound is the divide between the digital leaders and the rest of the pack, with our data showing that they are spending 25–50 percent more on technology than their competitors."[5]

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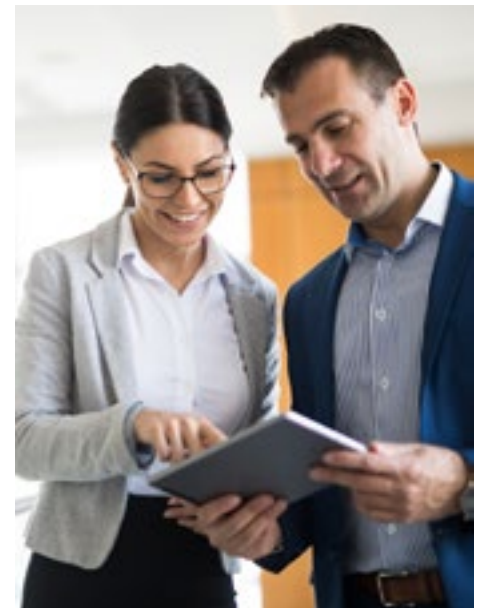
[1] Harvey Nash/KPMG CIO Survey 2020

[2] Harvey Nash/KPMG CIO Survey 2020

[3] IDC FutureScape 2020 https://www.idc.com/getdoc.jsp?containerId=prUS45613519

[4] Harvey Nash/KPMG CIO Survey 2020

[5] Harvey Nash/KPMG CIO Survey 2020

Digital leaders performed significantly better than their competitors across several key business metrics.

2X better at gaining customer trust

3X better at providing a positive customer and employee experience and increasing stock price

3.5X better at increasing revenues and increasing profits

4X better at improving operational efficiency

5X better time-to-market for new products[6] or service offerings

"

For some companies, the danger is that the gap will soon become simply too wide to bridge—and the difference in experience doing business with, or working for, a digital leader compared to another organization will become almost painfully apparent. In some sectors, the digital leaders are setting up a winner-takes-all market.

—Steve Bates
Principal and Global Leader,
KPMG CIO Center of Excellence

[6] Harvey Nash/KPMG CIO Survey 2020

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Essential attributes of a digitally fluent IT function

The key to digital leadership is hitting the right notes across all the dimensions of the operating model that support digitally native technical capabilities and deliver value for the business. The most mature organizations have reimagined IT, and the role of technology and consistently demonstrate these key attributes:

Dynamic investment
Adjust funding policies to account for new ways of working and show the financial connection between IT spend and business value.

Adaptive workforce
Develop an IT workforce strategy that matches evolving technology skills with organizational growth, while accommodating changing employee expectations and ways of working.
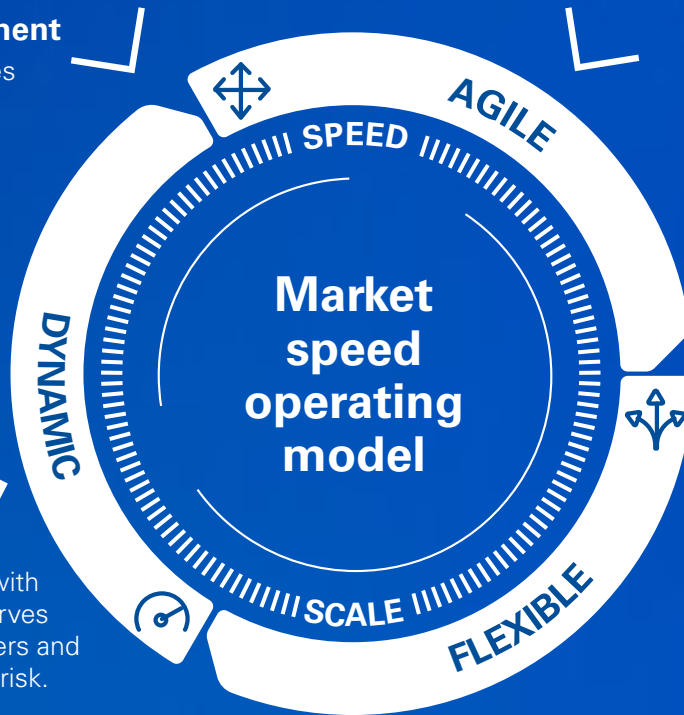
Customer trust
Build technical trust with an IT function that serves and protects customers and manages technology risk.

Market speed operating model

SPEED
AGILE
DYNAMIC
SCALE
FLEXIBLE

Modern delivery
Leverage modern delivery techniques, like product management, Scaled Agile, and DevSecOps, to accelerate design and delivery of key products.

Data as an asset
Unlock the value of information with a data-capable workforce that uses new tools and data sources to create business insights.

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The market speed operating model

Surviving and thriving in the new reality requires businesses to continuously and safely deliver the products, services, and experiences at the speed that customers expect. To enable this, the IT operating model of tomorrow needs to be agile, flexible, and dynamic—adapting to organizational and market demands while delivering capabilities at varying speeds and scale. This tailored variability is a critical enabler without which business efforts to transform performance, customer responsiveness, and productivity are unlikely to succeed.

Foremost, the market speed operating model is portfolio driven—meaning the entire operating model from how people are organized and governed, through to the technology architecture that supports it, should be designed around the specific value streams of the business and the unique speeds, attributes, and characteristics of those value streams.

"There are three clear principles around which the market speed operating model is formed," Bates says. "Firstly, everything must be seen through the lens of a value stream and specific business outcomes linked to end-to-end technology portfolios. Disparate point solutions or disconnected pools of capability, 'lacking a clear line of sight to a specific business outcomes, are suboptimal. Secondly, pivoting from siloed architectural and design governance to full-stack architecture based on a modern tech stack, hyper-automation, and open-source standards is important if you are to quickly and safely deliver against business needs while remaining aligned. Finally, it's about 'transforming with intention'—meaning sequencing, scaling, and aligning changes to the operating model through investments targeted at specific business outcomes. Too many organizations try to boil the ocean, creating large-scale complexity and losing momentum early in the program.
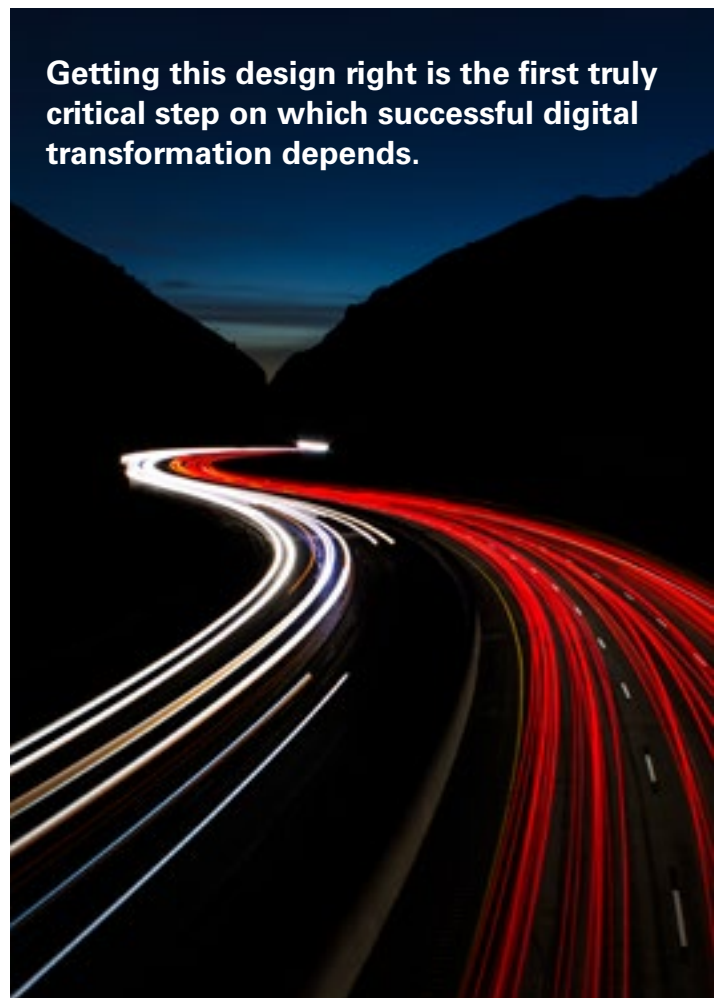
> **The IT function can't proceed at a single pace anymore—it's got to be omni-speed, capable of truly responding to the demands of both the market and employees. Siloed, monolithic structures must be reimagined from islands of projects and activities to full-stack architectures and customer experience teams.**
>
> **—Steve Bates**
> Principal and Global Leader,
> KPMG CIO Center of Excellence

Getting this design right is the first truly critical step on which successful digital transformation depends.

However, for most companies, it is not economically viable (or necessary) to run the entire enterprise portfolio at light speed. Certain legacy portfolios may not require a fully cloud-native, agile, DevSecOps delivery model in order to meet business outcomes. Knowing how to optimally achieve the desired outcome is more important than forcing it into a homogenous digital model—digital leaders avoid one-size-fits-all models and instead apply targeted, nimble, flexible architectures, tool chains, policies, and ways of working to adapt to changing needs.

Adaptive workforce

The IT workforce of the future (inclusive of employees, suppliers and partners) will have a growth mindset. An adaptive workforce is 'an ecosystem' capable of both shifting to meet the changing dynamics of market demands, and of evolving their skillsets to meet the requirements of continuously emerging technologies. Organizations should develop an IT workforce and sourcing strategy based upon transparency into evolving market conditions, and leverage data-led scenarios that enable technology skills to be matched with priority growth areas, while accommodating changing employee expectations and ways of working.

The imperative to transform the workforce is becoming ever more pronounced in today's new reality.

> **The changes to the workforce brought about by the global response to the pandemic have accelerated trends which were already in motion. These changes pose unforeseen challenges to organizations. The dynamics of how we connect, and therefore the structure of the workforce, the expectations of employees and the very future of work itself are being rewritten.**
>
> **—Robert Bolton,**
> Head of the Human Resource Center of Excellence, KPMG in the UK

Digital leaders are managing this new reality in several ways. Firstly, they shape the ecosystem to be future ready by adopting an approach known as "atomizing." Instead of a traditional approach of assigning one job to one person, this model is focused on making skills modular and adaptable and enables a distributed, flexible approach to how work gets done. By disaggregating the task and focusing on the desired outcome, portions of the tasks can be reorganized helping determine which should remain in the firm, which should be outsourced and, in some cases, the location they can optimally be performed from.

Disaggregating the work also helps businesses decide which tasks—or aspects of tasks—are better done through automation and augmentation and which tasks should remain human-centric. Using the finance function to illustrate, financial forecasting provides both automation and augmentation opportunities. To create a forecast, manual data gathering and tracking can be replaced by robotic process automation (RPA)—scraping data from consistent sources, such as revenue and expenses, and then running computations and inputting the results. Automating this frees staff from repetitive and nonvalue-adding work and also helps remove the risk of errors. Meanwhile, the creative problem-solving aspects of forecasting are an excellent opportunity for augmentation through machine learning (ML). ML can help push the boundaries of the evaluative and decision-making functions of forecasting—ingesting and evaluating vastly more data, making forecasts more accurate, while, over time, identifying patterns such as price fluctuations and correlations between that which on the surface appear unrelated—such as anticipating through additional signals data the potential disruptions in markets. Harnessing RPA and ML helps increase the focus on value-additive work and achieve better results while enabling staff to push the boundaries of their capabilities.

Secondly, digital leaders reimagine both the employee and the third-party practitioner journey with an inclusive, 360° view of technology skills. The new reality is charting a new course for technology professionals, including ways of working, incentives, and learning. According to the KPMG/2020 CEO Outlook survey, digital leaders rank talent risk as one of the most significant operational risks facing their organization.[7] They differentiate by seeing everyone as a technologist, capable of leveraging tools and data to impact a business outcome. Within the IT function, there is a focus on ensuring the workforce is both technically capable and has the right blend of business acumen to shape technology around the customer journey.

In addition to shaping their workforce ecosystem and re-imagining their employee journey, they establish a leadership culture that emphasizes values, collaboration, and empathy. KPMG research[7] found that strong culture and leadership are now seen as the number one factor in attracting IT talent—even ahead of remuneration. For IT leaders, this means that creating clear and compelling employee propositions is critical. There needs to be an intuitive talent path through which team members can develop their careers, with a strong culture of development, training, and upskilling. A holistic view of skills is needed in order to develop professionals with multifaceted skill sets that support nimble and resilient IT. Flexible working is also a rising priority for many individuals—something that the pandemic has further embedded.

IT leaders themselves have an enormous impact on the culture and constitution of their teams.

> **Leaders should also remember—curate your talent to create the culture you want. Reward leadership, collaboration, and those who have the creativity to harmonize their career focus with the objectives of the organization."**
>
> **—Sanjay Pathak,**
> Head of the Technology Strategy and Digital Transformation Practice, KPMG in Canada

Building an adaptive and highly flexible team—including embedding intelligent automation, and augmenting with machine learning and AI in the right places—is a key focus for any CIO if technology is to truly support the business, not only shifting with required demands, but also anticipating transformational change and meeting it with a workforce that is engaged and empowered to deliver.

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[7] Harvey Nash/KPMG CIO Survey, 2020

Adaptive workforce in action

To keep pace in a rapidly evolving and highly competitive market, one of the world's largest professional services organizations needed to transform its IT workforce and expanded ecosystem to pivot to a new mix off technology-based products and offerings. Operating in over 150 countries and three major businesses, the IT function was designed around a federated operating model with local decision-making but a consistent set of governed platforms, a common digital backbone, future-ready skills and new ways of working. With a shift from a people-based business to a technology and insights-based model, it became clear that the technology workforce, both internally and externally, required a major upgrade.

The organization began by linking their commercial products and services strategy to their technology roadmap. By prioritizing the most transformative and strategic tech portfolios, IT leadership pinpointed which investment areas required the largest shift in technology skills. A transformation program office (TMO) and product management function was established to fully understand what work needed to be done, how and where it should be delivered, and who should perform it. Targeted roles, skills, and learning pathways were created for both internal and external technologists to support specific product types. Unified tool sets were selected that enabled agile, more automated, and integrated working environments. The last mile is to embed a lean governance model across the business to help ensure that cross functional leaders, architects, assurance and security, and the product management team can quickly evaluate risks and opportunities to speed decisions making.

As a digital leader, this organization expects to see increased speed to market with technology-enabled products and services, improved transparency of IT spend and a better understanding of the capabilities across the enterprise. They also expect to create additional career opportunities for IT professionals across functions, including training and experiential learning through rotational programs. As a result, they will have created more competitive firm, enabled by technology that sees clear improvements to IT delivery while reducing the cost.

Modern delivery

The business benefits of a digital transformation enabled by modern delivery are clear. Frequent deployments, shift-left approaches, and automated operations are all IT efficiencies, but these directly translate into business achievements. Digital leaders are twice as likely to hit organizational goals when they use modern delivery methods. In the CIO Survey, 71 percent of respondents report that they expect their service delivery model to change to enable an increase in automation technologies.[8]

71% of respondents report that they expect their service delivery model to change

Leaders in modern delivery deploy code much more frequently, massively shorten delivery cycles, and recover from incidents significantly faster. These attributes encourage creativity, experimentation, and innovation, helping the business adapt to the market and outpace competitors.

> **"Digital leaders that have adopted modern delivery typically realize progressive improvements to product and application delivery efficiency, code quality, and operational support over three to four years, and while increasing employee motivation and commitment. Through the objectives and key results that we have helped customers define, we can see these improvements directly impact the ability of the business to compete in the marketplace. The business results are clear—digital leaders that get this right are twice as likely to surpass organizational performance goals for profitability, market share, and productivity."**
>
> **—Tim de Koning,**
> Global Solution Leader—
> Modern Delivery, KPMG in the Netherlands

While concepts like Agile, Scrum, Product Management, and DevSecOps are not new to technologists, growing numbers of companies are leveraging practices such as SAFe and SRE to scale and sustain the product-centric engine outside the bounds of the IT function.

However, challenges remain. Scalability, security, and integration top the list of issues that arise on the IT side, while the business side experiences challenges such as executive buy-in, cultural shifts, impact on day-to-day roles, and value realization.

[8] Harvey Nash/KPMG CIO Survey 2020

Modern delivery in action

A multinational telecommunications provider, designed a scaling framework that resulted in a transformed labor model that enabled the company to achieve Agile at scale, including third-party providers. To accomplish this, the digital transformation team developed a new labor model in order to fully understand capacity, skills, ways of working, and support breaking down silos to support the shift towards scaled agile. Understanding the importance of gaining the commitment of their major strategic partners, the company renegotiated contracts across the ecosystem to support this delivery shift. The business was able to embrace agile delivery at the application team level as well as the leadership level, truly achieving Agile at scale—resulting in a circa 50 percent increase in speed to market over three years.

Data as an asset

With data sitting at the core of the modern enterprise, utilizing it has become critically important. The ability to separate insights from the noise and unlock value and performance improvement is a distinguishing feature of a digital leader.

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> **While in many organizations the view of the value of data has exponentially increased in recent years, the approach to managing it has not. Frequently, data is still seen as a 'by-product' of business processes and as a management and technology problem rather than something be owned by the business. Seeing the full value of data requires a fundamental shift in the way organizations approach and understand it.**
>
> **—Phil Cozier**
> Head of the Technology Strategy Practice,
> KPMG in the UK

Unlocking data requires both a data-capable workforce across the entire organization and the architecture and frameworks to enable this workforce with the data they need, in a high-quality and readily usable format, enabled by new tools and data sources to create business insights.

In our experience, there are three key principles common to digital leaders with a mature approach to data:

— Develop a modern data architecture built upon cloud, leveraging multiple data sources

— Scaled solutions in analytics, automation, and integration

— Helps ensure clear data accountabilities and establish strong data fluency among employees

To put these principles into action, leading organizations help ensure that they design their data architecture from right to left, meaning they organize it so the design fits the purpose of the business value streams. They build their architecture considering all data sources in their native formats and leverage cloud native tools and ELT to extract and load it into targeted domains or micro-services based on use type. These leaders help ensure their data architecture is simple, adaptable, highly automated, scalable, resilient, and secure. When they select tools and products to help teams manage data, they do so to reduce the amount of time sourcing, preparing, loading, and integrating it across multicloud and on-premise applications. Finally, they focus on culture, driving programs to enhance data literacy across the workforce, while aligning leadership roles and governance polices to the primacy of the underlying data capabilities they are seeking to create.

Unlocking data requires both a data-capable workforce across the entire organization and the architecture and frameworks to enable this workforce with the data they need.

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Data as an asset in action

A digital leader in the oil and gas business in the U.S., had experienced rapid growth in size and assets and saw a critical need to redesign and enhance its data architecture as a result in order to remain a fast and responsive organization. Its first step was to develop data use cases to best understand what data was needed and define clear principles to inform its approach: cloud first, data driven, founded on trusted data, that would enable quick and effective decision-making. This approach helped ensure that their data architecture was designed "fit-for-purpose," meaning it was designed around the business needs and value streams, that it would absolutely deliver the data that the business needed, in a format it needed, and have the tooling and capabilities to leverage it as an asset for the business.

The business then established a data governance reference model and designed policies to provide clarity over the standards and rules by which data would be managed, and created a cross-functional data governance working group to identify and define the requirements for master data prioritization by data domain. The result is a clear process for analyzing, acquiring, cleansing, remedying, and publishing master data resulting in better and more trusted data. Additionally, due to their cloud-first approach, the bulk of their application portfolio can be delivered via SaaS (Software as a Service) or is based upon a Microsoft foundation so that the data can easily integrate and be delivered effectively. The result of these data-driven decisions is a business that can meet its goals of being more efficient and cost effective than its competitors.

Customer trust

Today's customers are more informed and more demanding than ever before. Achieving customer loyalty and longevity can be challenging as a result—the secret to product sustainability in this environment is customer trust.
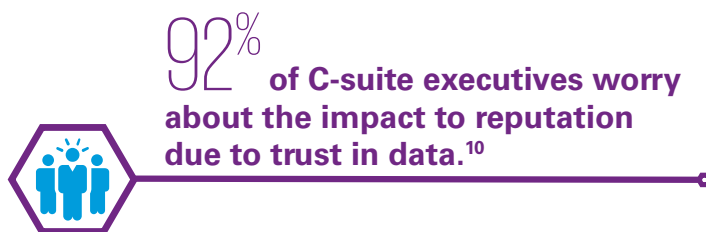
But whereas customer trust used to be a differentiator, today it has become "table stakes" as consumers and businesses increasingly expect the organizations they do business with to protect their interests—or see them go elsewhere.

Increased investments in digital and remote working environments are creating a rapidly growing threat landscape, at the same time as consumers are becoming ever more reliant upon digital interactions and their digital identities. Trust has become the currency that all brands trade upon—it is the crown jewel of the customer-centric experience. By always acting in the best interest of the customer, digital leaders help ensure trust is embedded as a concept from product ideation through delivery.

It is no surprise, therefore, that at a strategic level, investing in customer trust is a clear executive priority: building customer trust is a top-three priority for

The trust focus should extend across the third-party ecosystem—utilizing proven industry leaders wherever possible, establishing clear policies and a program to continuously evaluate providers, and using multiple measures of quality, bias detection, and explainability to help ensure models and data from across the ecosystem can be relied upon.

Front-running organizations are also embracing Trust by Design through DevSecOps, which has emerged as the leading practice to help build and maintain trusted technology. It enables the continuous focus and integration for security across the technology value chain and effectively helps shift-left risk and security processes and capabilities.

There are many facets to embedding customer trust into engineering—DevSecOps, Zero Trust design, containerization, microservices, secure APIs, and continuous testing—but a common denominator is that leaders of the future will likely have both the embedded tools and the unified policy management system that will help IT professionals navigate the modern hybrid environment.

61% of CEOs.[9]

On the flip side,

92% of C-suite executives worry about the impact to reputation due to trust in data.[10]

A building block for this is to have a federated IT organization with centralized governance and processes, while allowing sufficient discretion and flexibility for individual teams to create solutions that meet agreed standards of quality and trust. At the same time, insights should be gleaned through automation—utilizing automated data collection and monitoring to spot emerging risks as they arise. There should be Trust by Design with risk management and security embedded at the outset into the strategy and design of new products and services.

> **Building trust, guarding data, respecting privacy, integrating security into the business—these are all clear imperatives for any modern enterprise. For the CIO, it means that trust must be placed at the center of the operating model.**
>
> **—Leah Gregorio**
> Managing Director in Cyber,
> KPMG in the US

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[9] From Customer Trust talkbook slide 7 (note 1) May be this report (but can't see that actual stat in it!) https://home.kpmg/xx/en/home insights/2018/08/an-ethical-compass-in-the-automation-age-guiding-digital-labor.html

[10] KPMG International, Guardians of Trust 2018 https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/02/guardians-of-trust.pdf

Customer trust in action

When your entire brand is built on trust, you need to know you can weather a surge in cybercrime—especially when you're a financial services household name and your customers' money is at stake. In the new reality however, you must make it easy to do business through a variety of digital channels and platforms—even if doing so raises the risk of data breaches. This digital leader was committed to protecting customer trust overall but needed to do it while fueling growth through new channels.

For this digital leader, with a recent shift to DevSecOps, new products and features were being deployed rapidly and across a variety of hybrid platforms. To keep pace, this company knew that they needed a multi-disciplinary team of cyber, forensics technology, financial services, and data and analytics experts to build an enterprise-wide cyber risk platform that learns from datasets. Their newly developed, integrated architecture, triggers alerts and responses, by comparing the top cyber-attacks in real time against the company's customized tolerance levels. As the model evolves, it will start providing predictive recommendations for pre-emptive actions.

Their solution combines open-source libraries, big data platforms, artificial intelligence and machine learning to detect, counter, and prevent sophisticated cyber-attacks in near real-time. As a result, this digital leader can continuously monitor, assess risks and anomalies, and take active measures before they become problematic. By identifying both high-volume and under-the-radar cyber-attack patterns, this prototype solution can protect the company's core business, allowing the firm to pursue new opportunities with agility and confidence.

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Dynamic investment

In a market speed operating model, businesses can rapidly pivot, seize new opportunities, quickly exit poorly performing investments, and derisk large initiatives. For the IT organization to run at speed, reengineering the finance and funding process is one of the most significant areas of focus.

Dynamic investment enables an organization to continuously adapt to change, constantly adjusting direction so that investments are consistently aligned with customers, markets, and the changing types of technology.

Arguably, the most fundamental aspect is replacing the annual budgeting cycle with a much more dynamic process. The goal is to shift from long-range annual budgeting towards funding initiatives on a rolling basis so that investment can adjust to operational, business, or technology conditions.

> It's not about when the reviews happen, every month or quarter, but that they should shift to a rolling and iterative concept—where reviews look backwards 12–18 months or forwards 12–18 months to facilitate better decision-making. This is all part of the dynamic model needed to thrive in the new reality today.
>
> **—Jason Byrd,**
> Managing Director,
> KPMG in the US

Digital leaders apply other key dynamic investment principles such as taking a product-centric approach to IT investment, leaner business cases, more nimble governance, more dynamic capitalization policies, and the use of predictive analytics to support decision-making, to accelerate and unlock value faster and propel organizations toward their most strategic goals.

Dynamic investment in action

A digital leader in the pharmacy sector recognized the need to change the way the business funded technology in order to keep up with the constantly changing market landscape and business demands. Its solution was to use an MVP (Minimum Viable Product) approach to establish a new end-to-end funding model driven by business-owned portfolio prioritization. Instead of an annual budget approach, technology spend is now reviewed on a rolling-quarter basis, with the ability to make ad hoc adjustments. Rather than funding projects, the company is funding persistent teams, with a structured governance model around it. The governance model is organized around a technology funding review committee with stakeholders from the business, finance, and technology, enabling clearer function of their governance processes and expedited decision-making. The business is reaping the benefits of a more dynamic and holistic IT funding approach.

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Accept the challenge

The need for digital transformation was already clear—but in the new reality it has become even more pressing. Digital leaders continue to extend their advantage over their rivals. Delivering on the potential benefits of a future-ready, connected enterprise is challenging, and it requires extensive IT involvement. In many cases, the IT function needs to go through its own transformation in order to be an effective business partner in a digital world. That reimagining of the IT operating model is no small task.

The key attributes that we have outlined in this paper are not new concepts and will be familiar to many leading organizations—but achieving them all simultaneously and in alignment with each other is the real crux of the challenge. However these attributes are not binary—an organization is not entirely "modern" or not. For every organization the new reality will be hybrid; a continual journey of improvement and enhancement towards a desired state that itself flexes as conditions and priorities change. With the stakes rising, all organizations need to expedite their progress along the connected enterprise journey—making do with the status quo is simply not an option.

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