

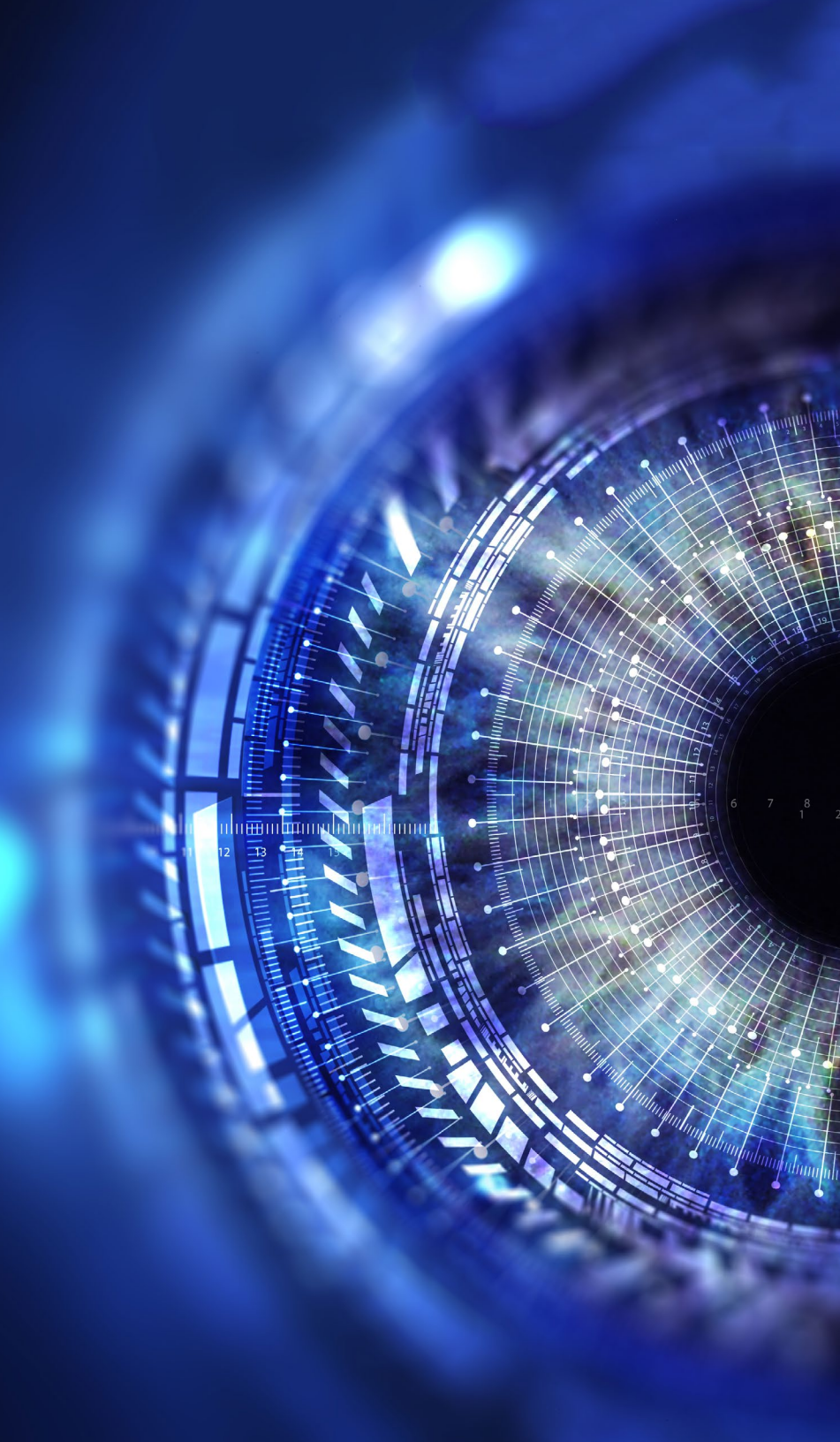


Technology Industry CEO Outlook

**Digital transformation, ESG,
and supply chain are in focus
as new risks emerge**

KPMG International

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Foreword

Technology company CEOs continue to navigate their businesses through the uncharted territory of the COVID-19 outbreak, ongoing economic uncertainty, and social unrest across the globe. The global CEO Outlook study was conducted in two phases. KPMG initially surveyed CEOs in January and February of 2020, before many key markets felt the full impact of the virus. In July and August, KPMG conducted a follow-up survey to understand how CEO thinking evolved over the ensuing months.

The Outlook finds a shift in the agenda of global technology company leaders. They are using this moment in history to enhance relationships with their employees, suppliers, and society at large. COVID-19 has also accelerated strategies that were already in place in the following areas:

- Digital transformation
- ESG (environmental, social, and governance) practices
- Supply chain resiliency

Global technology company CEOs remain confident about their company's growth prospects over the next three years. However, given the uncertainty of the moment, tech CEOs are also focused on managing risk and attracting and retaining talent resources to help sustain and grow their businesses.

Technology companies are using this moment in history to enhance relationships with their employees, suppliers, and society at large.



Alex Holt
Global Head of Technology,
Media, and Telecommunications
KPMG International

Talent, supply chain, and territorialism top the list of concerns

Tech sector leaders recognize there have been new challenges to contend with since COVID-19 started. When asked about the biggest current risks to their organizations' growth, they equally identified talent risk, supply chain risk, and a return to territorialism as the main threats. Concern about talent and supply chain risk have risen from the bottom to the top of the list since the beginning of the year.

Perennial risks such as geopolitical, cyber security, and climate change have not abated, but human concerns have been given greater priority by senior executives as a result of the pandemic. CEOs recognize that losing key employees and attracting specialized talent can have a significant impact on future growth. And under the "social" component of ESG, leadership teams acknowledge their responsibility to facilitate the mental and physical health of their employees and play a role in addressing the needs of the communities hardest hit by the fallout from COVID-19.

On the supply chain front, many organizations have been impacted during the pandemic by instability among foreign suppliers and are now taking steps to secure their supply chains in the future.

Greatest risk to technology company growth

Risk	Follow-up survey	Initial survey
Talent risk	1 (tie)	9
Supply chain risk	1 (tie)	10 (tie)
Return to territorialism	1 (tie)	1
Cyber security risk	4	3
Environmental/ climate change risk	5	2

Source: KPMG 2020 CEO Outlook COVID-19 Special Edition

Partial list of responses shown.

Digital Transformation

▶ **Technology underpins nearly every change triggered or accelerated by COVID-19. Correspondingly, the vast majority (89 percent) of technology company leaders report that the digital transformation of their businesses has accelerated.**

Digital transformation is key to improving operational resilience

COVID-19 has reinforced the importance of driving enterprise transformation enabled by technology. Tech CEOs are betting on digital transformation to make their companies more resilient, agile, and customer-focused, with 89 percent reporting that their digital transformation initiatives have accelerated since the onset of COVID-19. The biggest advancements have been in the digital transformation of operations, where 36 percent of survey respondents say that progress to date has put their company years ahead of where they expected to be right now. Thirty-two percent also say digital transformation has accelerated the creation of new business models and revenue streams by years compared to their original timelines.

Analog Devices Inc. (ADI) develops solutions that integrate hardware, software, data computing, and artificial intelligence between the physical and digital worlds. “As the pace of innovation and degree of product development complexity increases for our customers, we need methods to bring our products to market that tame the inherent complexities,” says Vincent Roche, ADI’s President and CEO.

“We are continuing to invest in software tools to help both our customers and our workforce,” Roche continues. “For customers, we are focused on creating an end-to-end digital customer experience where they can research, prototype, and then deploy our products in an easier, faster, and more efficient way. Internally, we are investing in centralized hardware and software platforms that enable us to balance the needs for innovation and execution.”

Iron Mountain, an information management service company, operates in a hybrid world of physical and digital document storage and retrieval. “The crisis gave us an opportunity to step back and say, how valuable is it to our customers today to receive a box of physical documents within 24 hours versus receive them in electronic forms?” says Iron Mountain’s President and CEO, William Meaney. “Digitizing retrieval allowed us to increase efficiency and provide a more valuable, modern service.”

Darren Yong, KPMG Asia Pacific Head of Technology, Media, and Telecommunications, echoes these sentiments. “As clients in Asia Pacific and across the globe navigate through the uncertainties of the new reality, they are continually looking for new ways to digitally engage, onboard, and service their customers. The digital agenda has accelerated to take center stage, as we help clients pivot to new business models that will enable them to emerge post COVID-19.”

The biggest advancements have been in the digital transformation of operations, and

36% say that technological progress has put their company years ahead of where they expected to be right now.

Prioritizing technology investment

In terms of allocating funding, 61 percent of tech CEOs say they are investing capital in technology enhancements and 39 percent say they are investing in their people. The technology industry is slightly more focused on prioritizing investments in human talent than other industries (39 percent vs. an average of 33 percent). This makes sense given the fact that tech CEOs report the greatest challenge to advancing their digital transformation agendas is lack of IT skills. Most tech CEOs (79 percent) also plan to increase their use of digital collaboration and communications tools going forward.

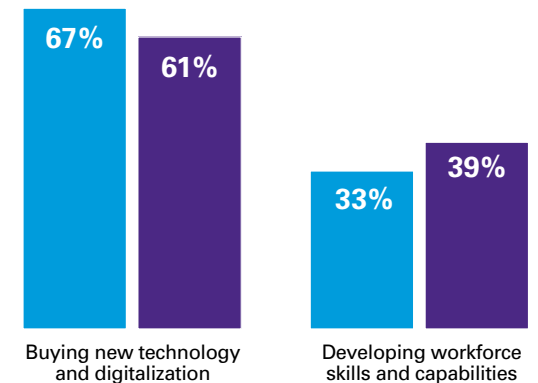
“Using digital tools, I firmly believe our communications have never been stronger at all levels of our company,” says Rob Johnson, CEO of Vertiv, a digital infrastructure provider serving the IT industry. “I would encourage other leaders to continue to find creative ways to connect online with their employees—from town halls to listening sessions to Q&As to informative videos. We used to think we had to do these things in person, but I believe we’ve adapted very well to meeting remotely. Our efforts have been very effective and, quite frankly, we’ve been able to connect more frequently using online tools.”

Ian West, Head of Technology, Media, and Telecommunications at KPMG in the U.K., believes that people have been looking more clearly at digital, because it’s a faster way to execute. “Six months ago, if you didn’t turn up in person [for an important meeting] you may have been perceived as not being interested or engaged in the topic of discussion,” West states. “That’s no longer the case—it’s not considered disrespectful to decide that it’s more efficient to video call into the session instead. Several months of video calls from kitchen tables and spare rooms has removed the stigma of remote working and also given the digital transformation agenda a boost.”

However, the rising customer preference for digital channels, whether out of convenience or because of COVID-19-related restrictions, has also exposed shortcomings. West continues: “There are organizations coming back to us as clients who thought they were in a good position for digital, that they provided a pretty good digital customer experience. But when the pandemic came along, they found that the experience was one that the customer was merely tolerating.”

Technology company CEOs’ investment priorities

- All industries
- Technology industry



Source: KPMG 2020 CEO Outlook COVID-19 Special Edition

Greatest challenges technology companies face in accelerating digital transformation

Lack of skills and capabilities in the IT organization

29%

Lack of insight into future operational scenarios, e.g., new ways of working

21%

Moving from pilots and experiments to scaled deployment

18%

Source: KPMG 2020 CEO Outlook COVID-19 Special Edition

Partial list of responses shown.

Technologies that are rebooting the enterprise

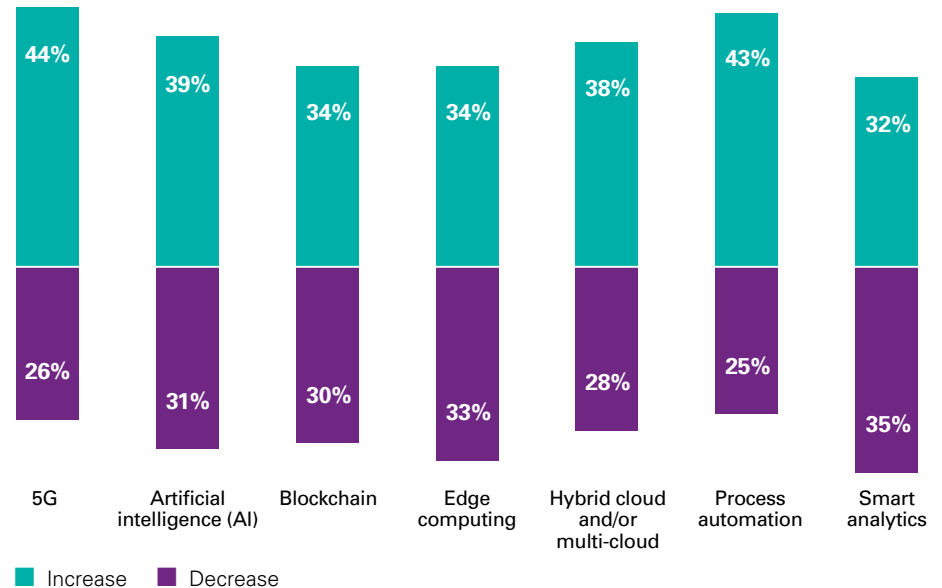
Emerging technologies that enable automation, artificial intelligence (AI), powerful computing, connected devices, massive data transfer, collaboration, and business resilience are helping enterprises recover from the initial impacts of COVID-19 and set a strong foundation for the future. A recent report by KPMG International and HFS Research, [Enterprise Reboot](#), discusses how COVID-19 has increased interest in emerging technologies that can deliver quick cost savings or growth. Enterprises are focusing on the “have to haves” over the “nice to haves,” prioritizing projects designed to strengthen business resilience and protect the company’s future. The primary focus of current investments is on more mature technologies such as cloud, automation, and analytics that will help organizations respond to current problems, drive quick ROI, and maintain their future trajectories.

Advanced technologies are helping companies maintain customer and stakeholder trust, keep remote workforces connected, ensure their businesses are resilient and prepared for disruptions, and build a strong foundation for future product and service innovation. Many executives are optimistic that emerging technology spending will increase in the next 12 months.

Sixty-four percent of respondents believe that the combined use of emerging technologies is much more beneficial than using any one technology in isolation. “AI-powered” and “cloud-enabled” are emerging as the foundations of more than one-third of all technology solutions.

Darren Yong of KPMG Asia Pacific believes, “Analytics, artificial intelligence and machine learning will be critical for technology companies to enable future platforms. As their use is increasing, we are seeing a growing need for skills that can bridge the technology and business aspects. This ensures more integrated use cases that deliver value for our clients to create more insights and make better decisions around their growth and cost objectives.”

How executives anticipate COVID-19 will impact spending in the next 12 months



Sample: 300 executives (May-June 2020, Phase II sample) and 600 executives (March-April 2020, Phase I sample) across Global 2000 enterprises.

Source: HFS Research in conjunction with KPMG International

The people side of technology transformation

As outlined previously, tech company leaders view talent risk as one of the greatest risks to growth. They are acutely aware that talent will be key to driving long-term growth and building organizations that can thrive in the new reality. New digital skills will be needed to meet changing customer behaviors and needs.

Leaders also name the lack of IT skills and capabilities as the greatest challenge in accelerating digital transformation. Sixty-eight percent also believe the creation of a new workforce model, with human workers augmented by automation and artificial intelligence, has been accelerated by a matter of months or years since the start of the pandemic.

Yet only 39 percent of tech leaders prioritize investment in the workforce's skills and capabilities over investment in technology. Why the dichotomy between talent investment and technology investment? Several of the tech giants have announced ambitious plans to upskill the workforce, but plans are not universal across the industry.

Perhaps the new work-from-home paradigm helps provide an explanation. Sixty-four percent of tech company CEOs state that remote working has widened their potential talent pool, making it easier to buy new skills than retrain existing workers. This view is supported by the recent KPMG report, [The new employee deal in the technology industry](#). When asked, "How is your company preparing its workforce for the adoption and impact of new technologies?", the most frequent response from global technology company leaders was hiring new people from the outside.

How technology companies are preparing their workforce for new technologies

Hiring new skill sets into the organization

91%

Reskilling workers who will experience the greatest impact from new technologies

84%

Planning to use a contingent workforce (i.e., freelancers, independent professionals, temporary contract workers, independent contractors)

82%

Acquiring new skills and competencies via mergers and acquisitions

75%

Source: KPMG 2020 Technology Industry Innovation survey

Next steps: Making sound technology investments

It is important to take action in times of disruption, whether the goal is survival or gaining a competitive advantage. Clients can take concrete steps to help ensure they are prudently moving forward and making smart investments that yield tangible results. These include:



Put survival first

Top-line growth is important but not the same as survival of the enterprise. Today's trying times will force companies to evaluate everything they do across the enterprise to determine which initiatives are essential for survival and then budget accordingly. Emerging technology has clearly become essential to survival. Decision-makers should ask themselves: Are potential technology initiatives competing for dollars with projects totally outside of the technology arena? What trade-offs can we make to get the funds to invest?



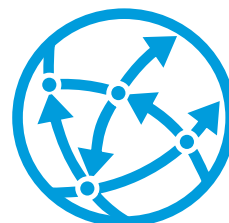
Scale change intentionally

It's time to think differently about how to scale change. Companies need to find ways to break down large-scale efforts, like digital transformation, into small, bite-sized chunks. Without a clear view of what might happen in one, six or even 12 months, it is wise to deploy emerging technologies in areas where there is a fairly strong chance of positive outcomes.



Prioritize investments

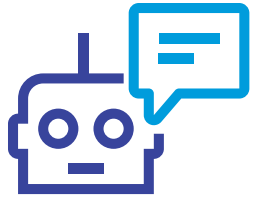
An agile organization focuses on the highest-value actions—right now. Prior to COVID-19, emerging technology investments were scattered. Today, there needs to be more focus. The “have to haves” will take precedence. In other words, what is viable, tangible, and has the strongest business case? Emerging technology projects should be tied to improvements that are measurable.



Take a broad view

Businesses can't look at emerging technology in a vacuum. Given rapid changes in the business environment, the enterprise's ability to quickly implement platforms that combine digital technologies is the real market differentiator. A narrow approach won't drive meaningful change or achieve the resilience needed for success in the new reality.

Next steps: Making sound technology investments (continued)



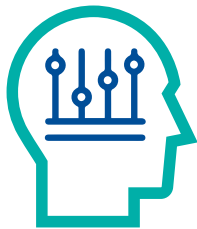
Integrate IT

The boundaries between IT functions and the rest of the business were blurring even before COVID-19, as digitalization and automation moved into the front, middle, and back offices. Now, organizations have to integrate technology into organizational structures and strategies consciously. Doing so will help overcome top challenges to emerging technology adoption, which center on culture, risk appetite, talent, commitment, data, and the business case—not the technology itself.



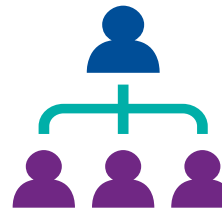
Make trust the foundation

Institutional trust is essential for agility, transformation, and resilience. Trust is even more critical now that organizations have to manage several challenges simultaneously. Organizations that established sophisticated trust infrastructures were the ones thriving before COVID-19 and are in better positions to recover.



Leverage data as an asset

Data will continue to be a critical decision-making tool. It can't be an afterthought. Leading companies recognize that data has value and manage it as carefully as other corporate assets. Organizations should develop and continue to optimize internal policies and principles for the collection, management, and use of data in order to embed data insights into core business operations and increase trust in emerging technology implementations.



Adapt the organization

Organizational changes are required to make any transformation work, especially the complex transformations enterprises are pursuing today. Transformations involving combinations of multiple emerging technologies are harder to achieve than isolated deployments of single technologies. Investing in business and organizational expertise alongside technical expertise, and governing the transformation itself, are required to help organizations pursue change successfully.

ESG practices

► **COVID-19 is redefining what good business leadership looks like. It is making demands of CEOs that few could have imagined just months ago. Environmental considerations remain important, but societal impacts have moved up significantly on the corporate agenda.**

Increased focus on purpose and ESG

Corporations have the resources to address societal challenges on a larger scale, and many know that they have a responsibility to lead the way on societal change. Two-thirds (66 percent) of technology company CEOs agree that large corporations have the resources to help governments find solutions to pressing global challenges. Further, progressive ESG initiatives are increasingly called for by customers, investors, regulators, and employees.

The pandemic and recent social equality movements have accelerated global executives' focus on their companies' roles in society and added further scrutiny on business practices. Tech CEOs say recent developments have made them question if their company's purpose meets the standard expected from their stakeholders, with 82 percent stating they have re-evaluated their organization's purpose and 68 percent reporting they now feel a stronger emotional connection to their organization's purpose.

Technology company CEOs who agree with the following statements

Managing ESG factors will be critical to driving long-term growth

80%

Robust ESG reporting is no longer optional for companies seeking a broad investor base

63%

There is significant demand for increased ESG reporting and transparency

54%

Source: KPMG 2020 CEO Outlook COVID-19 Special Edition

Analog Devices' Roche ties purpose to innovation when he says: "It is our moral obligation to support the essential work of organizations making a difference and supporting those impacted by the virus. It is important to capitalize on the extra time we have these days for reflection so that we can create the right environment for true breakthroughs, otherwise known as 'Isaac Newton moments,' to occur."

Environmental factors

The environmental component of ESG considers how a company acts in its role as a steward of nature, such as energy use, recycling practices, pollution mitigation, and natural resource conservation. ESG programs also include assessments of environmental risks and how the company is managing them. Despite renewed emphasis on societal issues, all sectors face risks stemming from climate change, and most tech CEOs (79 percent) feel pressure from employees and customers to institute green initiatives.

Climate change efforts receive momentum from COVID-19

The climate change agenda is far more advanced and accepted than it was during the global financial crisis of 2008. There is a sense that COVID-19 has spurred the momentum of the climate change agenda across all levels of the public, business, and government

Remote workforces, less travel and commuting activity, and smaller real estate footprints have led to a decrease in carbon emissions. Images of newly cleared skies and waterways went viral in the weeks after lockdowns began. Even if some environmental benefits start to dissipate as industries and economies open back up, there is hope that the world will not soon forget the glimpsed possibilities of a cleaner planet. And businesses may see the new reduction in their carbon footprint as an opportunity to rationalize costs during uncertain economic times.

The tech sector can lead

“The technology industry as a whole, perhaps more than any other sector, has the resources, visibility, and influence in our daily lives to be the leader and catalyst on climate change issues,” says Mark Gibson, the KPMG in the U.S. National Sector Leader for Technology, Media, and Telecommunications. “Several leading technology companies have already stepped forward and made public proclamations to become carbon neutral within the next few years.”

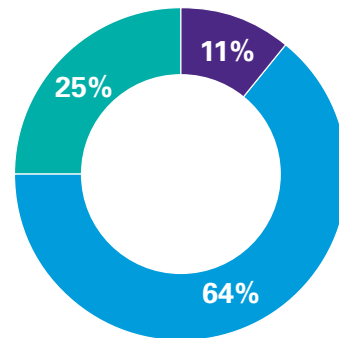
Sixty-four percent of tech CEOs want to lock in the sustainability and climate change gains made thus far due to COVID-19. Additionally, 57 percent recognize that managing climate-related risks will be key to their personal success, i.e., whether they keep their job over the next five years.

“Analog Devices has long been focused on responsible sustainability efforts, but I believe the time has arrived where we not only prioritize sustainability, but also environmental regeneration,” says Roche. “This means our employees will focus on solutions to help restore and replenish natural resources and ecosystems, while reducing our own carbon footprint and the environmental impact of our operations. This focus must also extend to our partnership efforts with our customers, suppliers, and NGOs to reduce the impact on our planet.”

Technology company CEOs who want to lock in sustainability and climate change gains made during the pandemic

● Agree ● Disagree ● Neutral

Source: KPMG 2020 CEO Outlook COVID-19 Special Edition



The state of corporate climate change reporting

The absence of standardized ESG reporting has led to an incomplete understanding of business performance by investors, stakeholders, and customers for some time. This also prevents effective communication about a company’s long-term and sustainable value creation. However, clarity on climate change reporting standards has been given a boost by several bodies over the past few years.

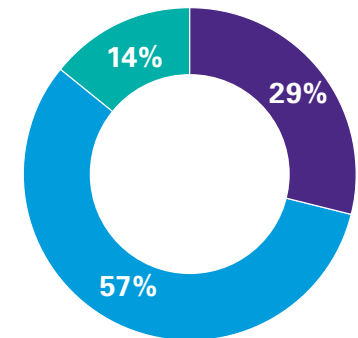
At the request of the G20 Finance Ministers and Central Bank Governors, the Financial Stability Board (FSB) established the [Task Force on Climate-related Financial Disclosures \(TCFD\)](#). The TCFD’s recommendations were published in its 2017 report, in addition to supporting materials, to assist with implementing climate-related financial disclosures. The TCFD is currently supported by over 1,000 organizations.

In 2018, the [Sustainability Accounting Standards Board \(SASB\)](#), an independent, nonprofit standard-setting organization, published a set of 77 industry standards to enable businesses to identify, manage, and communicate financially material sustainability information to their investors.

Technology company CEOs who believe managing climate-related risks will be a key factor in keeping their jobs over the next 5 years

● Likely ● Unlikely ● Neutral

Source: KPMG 2020 CEO Outlook COVID-19 Special Edition



At the 2020 World Economic Forum (WEF), it was announced that the WEF, in collaboration with KPMG and the other Big Four accounting organizations, had prepared a [proposal for common ESG metrics and disclosures](#). The proposal, supported by many of the world's largest companies, recommends a set of core ESG metrics and disclosures that would be consistent across industry sectors and countries.

Emerging technologies are now also being scaled to create a trusted [climate accounting infrastructure](#). Internet of Things (IoT) sensors are enabling growth in environmental data sets. Blockchains are enabling immutable trusted records. Artificial intelligence (AI) enables optimization across the system. These converging technologies can allow companies to effectively measure, account, and report on reductions made to their carbon footprints.

Social issues

The social criteria of ESG examine how well a company manages relationships with employees, suppliers, customers, and the community. Examples of technology company corporate citizenship efforts abounded during the early days of COVID-19. Social ESG initiatives included donations of funds, medical equipment and emergency supplies, volunteering, and discounted products and services. In addition, technology companies put forth herculean efforts to help the world stay connected and productive via e-commerce and social media platforms, cloud networks, and online collaboration and education tools.

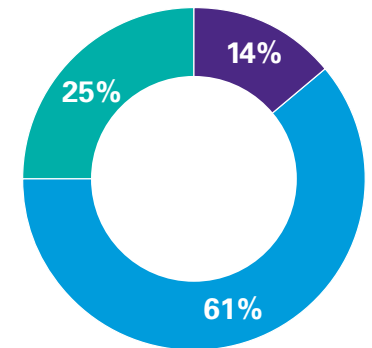
As corporate leaders, 78 percent of tech CEOs believe they are personally responsible for change on societal issues. The pandemic and recent social equality movements have put ESG near the top of the tech CEO agenda, and 61 percent have shifted their focus towards the social component of ESG. Fifty-seven percent say they are now engaging more with their local communities.

The social component of ESG is top of mind for the CEO of Iron Mountain. "We've always had a volunteerism program, but we want to make sure our employees are using it to its fullest," says Meaney. "One of many realizations we had is we are not sure we've done everything we could to encourage our people to support a cause they believe in. We are currently planning to show our support by creating opportunities that further foster volunteerism and community engagement."

Technology company CEOs who believe the pandemic has caused their ESG focus to shift towards social initiatives

● Agree ● Disagree ● Neutral

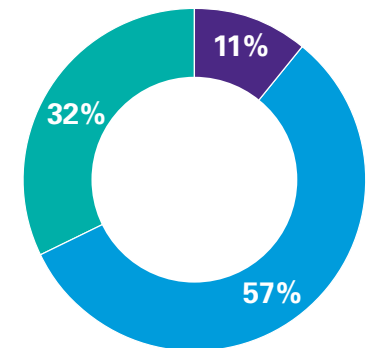
Source: KPMG 2020 CEO Outlook COVID-19 Special Edition



Technology company CEOs who believe they are now engaging more with their local communities

● Agree ● Disagree ● Neutral or N/A

Source: KPMG 2020 CEO Outlook COVID-19 Special Edition



The Kyocera Philosophy

With the economic fallout of COVID-19 a major threat to livelihoods, many organizations are putting employees at the heart of their response to the pandemic, as they look to safeguard them from the worst effects of the crisis. However, at Kyocera—an electronics and ceramics manufacturer that is one of Japan’s most successful companies—this focus on employees has been second nature for over 50 years.

Goro Yamaguchi
Chairman, Kyocera



Chairman Goro Yamaguchi explains how the employee-centric philosophy of the company’s founder, Kazuo Inamori, a celebrated Japanese business leader and management thinker, still permeates the organization today, over 60 years on from Kyocera’s founding in 1959. The philosophy relates to both life and management and its central principle is to “Do the right thing as a human being.”

“Our founder, Kazuo Inamori, came up with the ‘[Kyocera Philosophy](#)’ soon after the company’s founding, and has been disseminating this philosophy to all employees from when the company was still small up to the present day,” explains Goro Yamaguchi. “The philosophy is based on our management rationale, which is ‘to provide opportunities for the material and intellectual growth of all our employees, and through our joint efforts, contribute to the advancement of society and humankind’.”

This determination to ensure that the company’s guiding philosophy is truly embedded in the organization requires a significant effort from the company’s leaders. Goro Yamaguchi is responsible for promulgating the philosophy, which involves him attending employee seminars that take place across the world, including the U.S., China, and Europe. Furthermore, during a dinner that follows his keynote speech, the chairman personally joins tables of employees to engage directly in “meaningful conversations.” “It’s challenging to manage this with such a busy schedule,” he observes. “But it’s a tradition that has been passed down from generation to generation.”

The Kyocera philosophy is also central to the company’s management approach, ‘amoeba management,’ which involves breaking down large organizations into small, collaborative units. This technique is not only used at Kyocera, but also taught at leadership schools in Japan and around the world. “We have the Kyocera philosophy first, and then the amoeba management,” says Goro Yamaguchi. “What we often say is that they are two halves of a whole. Only having one or the other is insufficient, and we need both in order for things to operate smoothly.”

As well as being ahead of the pack in terms of employee focus, Kyocera’s unique approach means that it was also far ahead of the game when it comes to a focus on society and the environment. For Goro Yamaguchi, today’s focus on ESG and Sustainable Development Goals has been part of Kyocera’s DNA for many decades. “We have always valued the idea of ‘Living Together’ and working not only for ourselves but for the world,” he says. “There are three types of co-existence—with society, with the world, and with nature—which we have been maintaining since the 1970s. A company cannot continue to exist without coexisting with society and with nature. We need to be considerate towards our natural environment, and be rooted in each country and each region as a global company.”

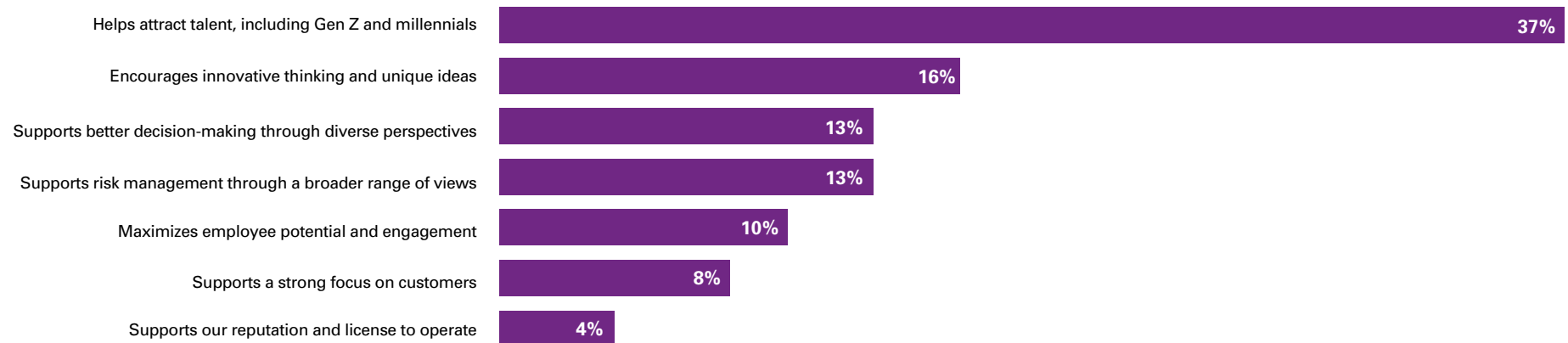
Inclusion and diversity

Inclusion and diversity have been priorities in the technology industry for quite some time, and the recent social equality movements have only added to the urgency. The WEF's [proposal for common ESG metrics and disclosures](#) includes metrics for diversity and inclusion and gender pay equity.

Sixty-five percent of tech CEOs agree that progress on diversity and inclusion has moved much too slowly. Sixty-one percent think that the scrutiny of organizations' diversity performance will continue to increase over the next three years. In terms of the greatest benefits of being a diverse and inclusive organization, 37 percent of tech leaders strongly believe that it helps to attract talent.

Technology company employees, for their part, expect a connection between their values and that of their employer. Today, they have higher ESG expectations than ever, and, as part of [the new employee deal in the technology industry](#), are compelling organizations to examine their overall corporate citizenship and specifically their inclusion and diversity efforts. Technology company leaders who embrace this new employee deal and quickly implement corresponding human capital strategies will be well positioned for success in the new reality and their organizations will be better off for it.

Greatest benefit of being a diverse and inclusive organization



Source: KPMG 2020 CEO Outlook COVID-19 Special Edition

Governance practices

The third component of ESG is governance, which encompasses a company's internal controls, audits, leadership, executive pay, and shareholder rights.

The continuous focus on cyber security and data protection

"Remote workforces and distributed operating models demanded by COVID-19 have made cyber security and protecting company and customer data even more important, and more difficult, than before due to an increase in points of network vulnerability," says Mark Gibson of KPMG in the U.S. "Cyber security was named a top risk to growth in both the initial and follow-up CEO surveys."

A report by KPMG in the U.S., [The New Imperative for Corporate Data Responsibility](#), reveals that the vast majority (87 percent) of Americans consider data privacy to be a human right. The survey also revealed the following:

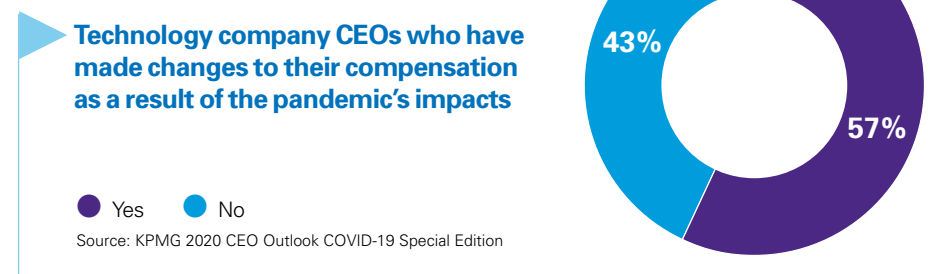


The WEF's [proposal for common ESG metrics and disclosures](#) states that a company's disclosures should clearly identify the principal risks the company faces, and should include "discussion of data security and other emerging principal risks, and should disclose the number of data breaches in the reporting period."

Robust data protection and management aren't optional. Corporations rely on the insights they get from customer data to sharpen their strategies and enhance the customer experience. But with access to that data comes an obligation to protect it. Ultimately, consumers will hold organizations accountable if they fail to do so.

Executive compensation

As the pandemic continues to cause general economic disruption and a myriad of specific company impacts, the compensation of top executives has again come under scrutiny. More than half (57 percent) of survey respondents say they adjusted their compensation due to the economic and social impacts of COVID-19. The most common actions are reducing bonuses and making charitable donations from their salary.



Next steps: Assessing ESG readiness

As [ESG becomes an imperative for technology companies](#), organizations can ask these questions to help assess how well they are adapting to environmental and social changes, along with how well their ESG practices are connected to their financial and operational performance.

- Have we identified, and are we making progress on, our most material ESG issues?
- Is our ESG program maturity reflective of our level of ESG ambition?
- Do we know how to achieve the decarbonization goals we've set?
- Do we understand how to meet the Paris Climate Commitment targets?
- How do our investors perceive social and environmental issues?
- Are we ready to respond to tougher stakeholder demands to be more socially responsible and environmentally conscious?
- Do we have social equality and inclusion and diversity programs in place?
- How have we responded to our employees' and society's needs during COVID-19?
- Do we have confidence in the integrity of the data we report and does it respond to our investors' concerns?
- Are we investing in the innovation of greener products and services to respond to market needs?
- Are our current risk management systems effective at capturing emerging environmental and social risks and opportunities?
- Is our organization's reputation at risk for not meeting our customers' expectations regarding social and environmental performance?
- How would our facilities and supply chains be affected by environmental impacts like extreme weather, water scarcity, etc.?

Are we ready to respond to tougher stakeholder demands to be more socially responsible and environmentally conscious?

Supply chain resiliency

▶ **Even before COVID-19, technology companies were building resiliency into their supply chains due to geopolitical tensions, increasing nationalism, new tariffs, and renegotiated trade agreements. COVID-19 represents the final inflection point to optimize supply chains and reduce risk.**

The litmus test for supply chains

On an unprecedented global scale, supply chains were suddenly disrupted by COVID-19 in early 2020 in several ways including:

1. Weakened demand for some companies
2. Skyrocketing demand for select companies
3. Uncertainty in obtaining raw materials
4. Shortages and logistical bottlenecks in relation to receiving products on time
5. Insufficient workforce capacity to assemble and ship products

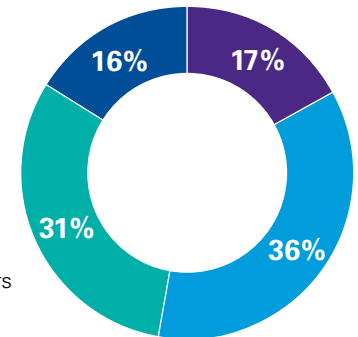
These disruptions provided a litmus test for organizations' supply chain strategies, such as just-in-time inventory and other strategies designed to minimize working capital tied up in warehouse assets. Companies were forced to geographically diversify their supply chains with secondary sources and create plans to account for workforce disruption. The surge in digital commerce made it particularly critical to ensure that ecosystem partners were both financially and operationally viable and were able to pivot to meet new demands and tackle unexpected challenges going forward.

Real-time data related to supplier system status, alerts, and geopolitical events helps organizations manage performance and issue resolution. Unfortunately, according to a recent [KPMG poll](#) of technology company executives, more than half (53 percent) say their suppliers are not integrated into their risk management processes or there is an opportunity to integrate further.

Additionally, only 24 percent say they currently have a roadmap to close the gaps in their supply chain to address future disruptions.

Degree of integration between suppliers and organization's supply chain risk management process

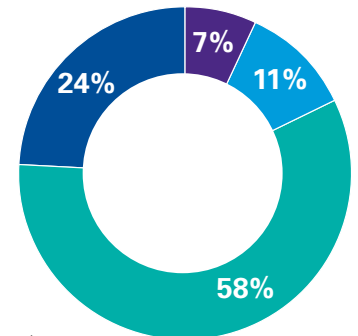
- Not integrated at all
- Some integration exists, however, there is an opportunity to further integrate
- Top suppliers are integrated into the process
- Process integrates with majority of external suppliers



Source: KPMG webcast poll, *Supply chain resiliency – How to manage disruptions*, August 2020. 124 respondents

Degree of supply chain preparedness to address future disruptions

- Little thought given towards future disruptions; current focus is on day-to-day challenges
- Not well prepared but realize efforts are needed
- Have a general understanding of capability gaps but have not considered fully
- Fully developed roadmap exists for gap closure



Source: KPMG webcast poll, *Supply chain resiliency – How to manage disruptions*, August 2020. 119 respondents

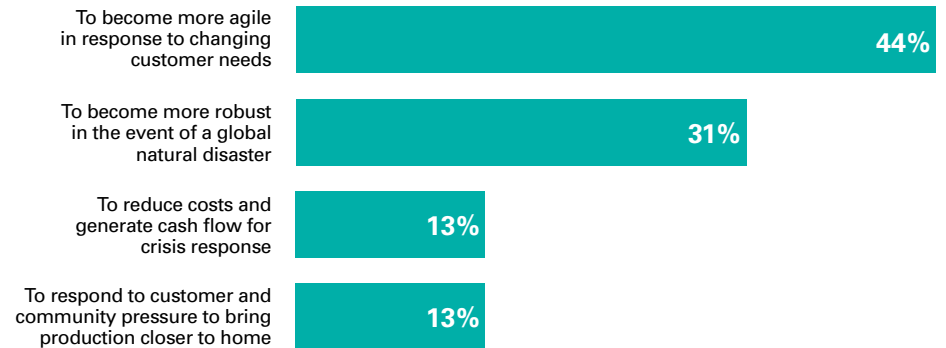
Resilient, customer-centric supply chains

“Cultivating a resilient supply chain means that the organization will be better at anticipating, reacting, and planning against the unexpected,” states Alex Holt of KPMG International. This is accomplished through cross-functional integration and collaboration with ecosystem partners. Companies should focus on building a network of trusted partners (customers, vendors, and suppliers) to manage disruptions and support business continuity. Flexibility and resiliency against supply chain disruptions can be created by:

- Building strong and trusted partnerships with customers and suppliers
- Managing business continuity by leveraging contingent labor to scale up and down as needed
- Enabling enhanced visibility throughout the supply chain and its partner network to better respond to variability in the supply chain and customer demand
- Financing strategic suppliers’ immediate cash flow needs, thus ensuring continuity of supply and business operations
- Collaborating with the existing partner network to build agility to address new and custom lines of business to support new sources of revenue

57% of technology company CEOs say they are rethinking their global supply chain approach in response to events surrounding COVID-19.

Primary reason technology companies are rethinking their approach to the supply chain



Source: KPMG 2020 CEO Outlook COVID-19 Special Edition

Percentages do not sum to 100% due to rounding.

Fifty-seven percent of technology company CEOs say they have had to rethink their global supply chain approach given the disruptive impact of the pandemic. Technology companies should reflect on the early days of the pandemic and ask themselves:

- What could we have done better with our supply chain?
- Should we have already had secondary sources ready?
- Could we have overstocked less expensive components?

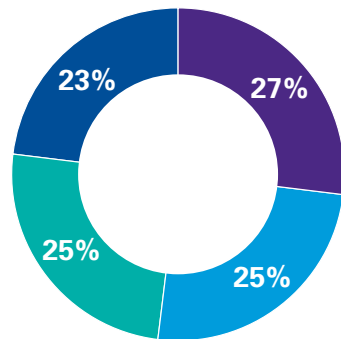
One of the impacts of increasing territorialism and nationalism is the loss of potential customers and markets. Another is increased costs due to tariffs that require the implementation of mitigation strategies. While tech company CEOs are focused on territorialism as a driver for rethinking their supply chain approaches, they don’t specifically mention pressure from the government, customers, or local communities.

Now is the time for a digitally transformed and trusted supply chain

If there were any latent risks or inefficiencies in a company's supply chain strategy, COVID-19 uncovered them. This became evident with the delay of essential supplies, products, and even personal protective equipment. Supply chain digitalization is now needed to enhance real-time visibility into product status and location. Blockchain technology can create an immutable data trail that improves confidence and trust in the quantity and quality of goods that are produced, shipped, and delivered, as well as the carbon emissions associated with those goods across the supply chain.

Degree that organizations are currently leveraging predictive analytics to identify risk in their supply chains

- No predictive supply chain risk technology solution is in place
- Technology solution exists, however, it does not have predictive capabilities
- A predictive supply chain risk technology solution is identified and will be implemented in the near future
- Yes, predictive supply chain risk management technology is in use



Source: KPMG webcast poll, *Supply chain resiliency – How to manage disruptions*, August 2020. 124 respondents

Artificial intelligence coupled with analytics can create not only a predictive, but also a prescriptive, supply chain risk solution. By analyzing past events and hypothesizing about future threats, organizations are able to identify strategic and concentrated supplies that are at risk and recognize when current internal risk capacities appear insufficient. The opportunity appears significant as 77 percent of technology executives say their supply chain does not currently use a predictive risk technology solution, according to a recent [KPMG poll](#).

For Vertiv, the pandemic encouraged them to reevaluate how they approach technology and their supply chain. “The pandemic has affected us in ways we never expected,” says CEO Rob Johnson. “It’s forced us to utilize digital tools more effectively and change our culture to where not everything needs to be done in person. The digital tools we’re all using today would have taken us years to adopt, but we were forced to accept them overnight, and are pleased at how well they’re working. In terms of supply chain,” he continues, “the pandemic has caused us to rethink some things. We’ve always had a basic strategy of manufacturing in region for region, and never has that strategy been more on the money. We continue to reinforce our commitment to that approach as a result of the pandemic.”

Next steps: Building critical competencies into the supply chain

The supply chain model of the future will deemphasize efficiency and lowest cost as the dominant definers of value in favor of a multidimensional value framework.

Business as usual is no longer an option. Yet for some supply chain leadership teams, the path of least resistance will be to react and improvise on a situation-by-situation basis. Such piecemeal contingency plans and management tactics will likely yield lackluster results and skin-deep business resilience. Risk management approaches based solely on process and procedure, but without the data and technology platforms to effectively sense and monitor risks, is another shortcoming. The experience of KPMG firms suggests the supply chain organizations that will emerge strongest are those willing to see current conditions as an opportunity to overhaul their entire operating model.

Leading organizations share common approaches, behaviors, and competencies that have already been proven to be effective. The supply chain model of the future will deemphasize efficiency and lowest cost as the dominant definers of value in favor of a multidimensional value framework that assigns more equal weight to risk exposure, supply alternatives, tax considerations, and channel complexity.

The following are specific competencies that will be critical to tearing down and rebuilding the supply chain operating model:

- Leveraging artificial intelligence and big data to establish a robust supply chain resiliency platform
- Incorporating tax optimization into the footprint analysis
- Defining micro supply chains and applying true segmentation
- Embedding cost-to-serve as the foundational performance metric
- Ensuring an appropriate mix of “make-versus-buy”
- Determining if the inventory strategy should be “just in time” versus heavier assets-on-hand

About the research

KPMG CEO Outlook

The 2020 [KPMG CEO Outlook](#) provides an in-depth outlook of global executives on enterprise and economic growth. The survey offers a focused perspective on the mindset shift of global CEOs since COVID-19.

KPMG initially surveyed nearly 1,300 CEOs in January/February, before many key markets were beginning to feel the full impact of the pandemic. In July/August, KPMG conducted a follow-up survey of 315 chief executives across the globe to understand how CEO thinking has evolved during the crisis. In both instances, all respondents have annual revenue over US\$500M and a third of the companies surveyed have more than US\$10B in annual revenue.

The January/February survey included leaders from 11 key markets (Australia, Canada, China, France, Germany, India, Italy, Japan, Spain, U.K. and U.S.) and 11 key industry sectors (asset management, automotive, banking, consumer and retail, energy, infrastructure, insurance, life sciences, manufacturing, technology, and telecommunications). The follow-up survey included CEOs across the industries mentioned above and from eight key markets (Australia, Canada, China, France, Italy, Japan, U.K. and U.S.). There were 109 technology industry respondents in the initial survey and 28 in the follow-up survey.

Acknowledgments

KPMG and Forbes Insights would like to thank the following individuals for their time and expertise.

- Rob Johnson, CEO, Vertiv
- William Meaney, President and CEO, Iron Mountain
- Vincent Roche, President and CEO, Analog Devices, Inc.
- Goro Yamaguchi, Chairman, Kyocera Corporation

Enterprise Reboot

From March into June 2020, KPMG International and HFS Research conducted two global, cross-industry quantitative surveys. Comprised of 900 total technology executives, the surveys sought to uncover investment and adoption of emerging technology. All respondents held executive-level positions at Global 2000 enterprises with \$1B+ annual revenue, operating across nine business sectors and nine countries, including the U.S., Germany, U.K., Netherlands, Japan, Australia, India, France, and Canada. Survey data was supplemented by qualitative interviews with enterprise leaders who oversee the investment and adoption of these emerging technologies.

Technology Industry Innovation Survey

The Technology Industry Innovation Survey, conducted by KPMG in the U.S. included responses from over 800 global leaders in the technology industry. Twelve countries were represented and 54 percent of the respondents were C-level executives. The online survey was completed in the first quarter of 2020.

The New Imperative for Corporate Data Responsibility

The findings in this report are based on the results from a survey of 1,000 respondents. The sample was balanced to reflect the national representative of age, race, gender, and region. The online survey was conducted in May 2020.

How KPMG can help

KPMG digital transformation

The COVID-19 pandemic has revealed the need for digital transformation at a speed and scale we've rarely seen before. To sustain relevance, enterprises must reboot their businesses and operating models both to achieve short-term wins and to create a roadmap toward longer-term strategic objectives. Technology is emerging as a key enabler for driving competitiveness in a future that looks very different than today.

[KPMG digital transformation](#) helps organizations navigate uncertainty and prepare for what's ahead by coupling powerful new technologies with business model and organizational changes that can help deliver value from investments. Our approach centers on the mindset that it's not just about technology for technology's sake. It's about using technology to drive value in the enterprise and enable growth. Therefore, there are no one-size-fits-all solutions. Instead, KPMG professionals strive to meet clients where they are so they can survive disruption, capitalize on changes in societal dynamics and customer behavior, and plot a course toward long-term resiliency.

KPMG firms' work is enabled by deep domain knowledge, experience helping clients address numerous business disruptions, our suite of emerging technology solutions, and a practical approach to enterprise-wide digital transformation.

Board Leadership Center

[The KPMG Board Leadership Center](#) champions outstanding governance to help drive long-term corporate value and enhance investor confidence. Drawing on insights from KPMG professionals and governance specialists worldwide, the Center delivers practical thought leadership—on risk and strategy, talent and technology, globalization and compliance, financial reporting and audit quality, and more—all through a board lens.

Sustainability services

The journey to a sustainable business model that is responsive, adaptive, and resilient can be challenging. [Sustainability services](#) professionals can help companies navigate the complex and evolving policy, regulatory, and business landscapes to better understand the risks and opportunities related to climate change and sustainability and help them capitalize on the resulting commercial opportunities. [Climate Change & Sustainability services](#) professionals can help companies build long-term value in a rapidly changing world.

[KPMG IMPACT](#) brings together an experienced network of professionals from across the globe to deliver industry-leading practices, research, and trusted client solutions to address the biggest issues facing our planet, having a real and positive impact today and for our collective future. Through KPMG IMPACT, we aim to deliver growth with purpose. We unite the best of KPMG to help clients fulfill their purpose and deliver against the Sustainable Development Goals (SDGs), so all our communities can thrive and prosper.

Supply chain and operations

[KPMG supply chain and operations](#) services are here to support you. Organizations are asking mission-critical questions pertaining to supplier and operations risk that have arisen in the COVID-19 environment. We recognize that during this time, business leaders don't only need solutions, but also reliable consultants. Whatever your sector, more than 2,000 supply chain, strategy, and value chain management professionals from the KPMG firms worldwide can help you address the issues of today from crisis response planning, to rapid diagnostic for supply and demand risks across your operation, to scenario analysis and contingency planning.

KPMG professionals are skilled in all areas of supply chain operations from strategy and analytics, to supply chain risk, planning and execution, and logistics and distribution. We also have the capabilities to help you integrate tax planning into your business operations to help minimize expenses and risk, enhance return on investment, and drive efficiencies across operations.

About the authors



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