



HFS

Enterprise reboot

Scale digital technologies to grow
and thrive in the new reality

2020 Global Emerging Technology Survey Report

A collaboration between KPMG International
and HFS Research

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Are you
ready?

Cloud. Automation. Analytics. Artificial intelligence. Blockchain. 5G. Low-code software. The potential impact of each of these emerging technologies is unquestionable. And when they converge, their impact on organizational growth is almost inconceivable.

New technologies are no longer just about doing things better, faster, and cheaper. They now have implications for survival and growth in a new business reality. Emerging technologies are transforming every industry, requiring legacy businesses to radically reinvent themselves—faster than they ever imagined.

The COVID-19 pandemic has further reinforced the importance of driving enterprise transformation using technology as an enabler. Technology underpins nearly every change triggered or accelerated by the crisis. Emerging technologies that enable automation, artificial intelligence, powerful computing, connected devices and equipment, massive data transfer, collaboration, and business resilience are heroes in these turbulent times, helping enterprises recover from the initial impacts of COVID-19 and set a strong foundation for the future.

For example, many industries are fast-tracking the use of automation and robotics to supplement human labor. The need to ramp up digital commerce offerings has spurred wider adoption of cloud-enabled digital, analytics and machine learning technologies. Companies are investing in myriad technologies, such as IoT, blockchain, AI, predictive analytics, drones and extended reality, to make supply chains more resilient and transparent. From work-at-home models to more effective supply chains, technology is emerging as a core component of how every company operates.

The impact of the pandemic is affecting every industry, but in very different ways. Through this unprecedented change in the way we engage, some industries are surging and experiencing strong growth, while others are on the verge of collapse absent significant intervention. Following the shutdown, when human contact was not possible, companies that were able to remotely connect with employees and customers and manage current operations demonstrated a level of resilience that increased trust in the business. Markets gained confidence that these businesses would not only survive, but perhaps even thrive.

The collaborative study between KPMG International and HFS Research underpinning this paper helped to prove that, no matter the industry or the path to recovery, the financial and social impacts of the pandemic are driving a massive shift in business priorities and objectives. The path forward requires an accelerated digital transformation of organizations' business and operating models in order to ensure long-term growth and margin improvement. Hesitant organizations are likely to be flattened by savvy competitors that push the edges of innovation.

Burning platform for digital transformation

At the same time, however, enterprises are challenged to keep pace with the exponential rate of technology innovation and the need to quantify the return on their investments. While COVID-19 has created a burning platform for digital transformation, companies' knee-jerk reaction after the pandemic shock has been to reduce technology investments and question technology's ability to drive value across the enterprise.

Despite the challenges of emerging technology adoption and deployment, there is no turning back. Navigating through today's challenges, and seizing tomorrow's opportunities, requires enterprises to reboot their vision, strategy, and operating models to capitalize on the evolving technology landscape.

To help guide the way, KPMG and HFS Research are pleased to share *Enterprise reboot*, a research report focused on driving tangible value from emerging technologies in the new reality. Drawing insights from global survey data and first-person interviews, the report seeks to assess the current and future state of emerging technology adoption, explore the challenges of value realization, and reveal how organizations can fully capitalize on technology's promise. Our research reflects the perspectives of hundreds of enterprise technology leaders around the world, as well as KPMG and HFS Research thought leaders, and global luminaries.

These are challenging times, with technology advancement creating both immense disruption and opportunity, as well as lingering uncertainty about where to focus resources. We hope this report delivers greater clarity about the future and a practical roadmap for arriving there stronger than ever.


Big questions existed before the COVID-19 crisis. Now they have more urgency than ever.

- How can we take full advantage of emerging technologies to drive competitive advantage?
- What should our emerging technology roadmap look like?
- How will we capture and measure the true value of our emerging technology investments?
- What is the best approach to managing emerging technology risks?
- To what extent can we accelerate digital transformation across the enterprise?
- Where do we start?



Cliff Justice

Global lead for Intelligent Automation and U.S. lead for Digital Capabilities, KPMG International



Phil Fersht

CEO and Chief Analyst, HFS Research

Research methodology

In March-June 2020, KPMG International and HFS Research conducted two global, cross-industry quantitative surveys. Nine hundred business and technology executives were surveyed about the enterprise’s investment and adoption of emerging technology. All respondents held executive-level positions at Global 2000 enterprises with US\$1B+ annual revenue, operating across nine business sectors and nine countries (Australia, Canada, France, Germany, India, Japan, the Netherlands, the U.K, and the U.S.). Survey data was supplemented by qualitative, in-depth interviews with enterprise leaders who oversee the investment and adoption of these emerging technologies in their organizations. The margin of error for this research is +/- 4.6 percentage points (4% on Survey I and 6% on Survey II) at the 95 percent confidence level.

Research was conducted in two phases: a March-April 2020 survey conducted when many countries were starting to see the impact of the COVID-19 pandemic (Phase I) and a May-June 2020 survey conducted when many economies and societies were shut down due to the virus (Phase II). The sample between the two survey phases was primarily balanced by industry and revenue. By conducting two phases of research, we sought to achieve a fuller picture of the impact of the pandemic on enterprise approaches to emerging technology adoption and the sentiment toward the evolving emerging technology landscape. To ensure consistent interpretations throughout the survey and between the two phases of research, we presented respondents with definitions of each technology covered in the survey, including process automation, artificial intelligence (AI), smart analytics, hybrid cloud, multi-cloud, blockchain, 5G, edge computing, Internet of things (IoT), augmented/virtual reality (AR/VR), cyber security, quantum computing, and trusted data backbone.

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Key findings

Business priorities have shifted overnight.

57% of executives say **COVID-19 has significantly changed their organization's strategic priorities for emerging technologies.** The immediate focus is survival, which has become the #1 objective for most emerging technology investments. Meanwhile, making the business case has emerged as the primary challenge to realizing value from emerging technologies.

Resiliency requires a completely new playbook.

59% of executives say **the pandemic has created an impetus to accelerate their digital transformation initiatives,** yet average investments in emerging technologies have been slashed. COVID-19 creates a burning platform for organizational change, but with enterprises facing a cash crunch, there are fewer funds available to invest in enabling technology. Only 13 percent expect to "significantly increase" investments in emerging technologies as a direct result of COVID-19.

Spending cuts for enabling technologies are likely short term.

OVER THE NEXT 12 months, executives expect to increase spending across nearly all technology areas as they seek out ways to reboot the enterprise and get fit for the new reality. So, while edge computing, blockchain, AI and 5G are seeing deeper investment reductions during the pandemic, these spending cuts aren't permanent.

The crisis is driving clarity in technology investments.

56% of executives agree that **cloud migration has become an absolute necessity.** As they plot a path toward recovery, many enterprises are zeroing in on mature technologies such as cloud, automation, and analytics that will drive quick ROI. These three technology areas are gaining additional focus.

The power of AND is greater than the power of OR.

64% of executives believe that **the combined use of emerging technologies is much more beneficial** than using any of the technologies in isolation. "AI-powered" and "cloud-enabled" are emerging as the foundation. They are featured in more than 1/3 of all technology solutions.

With higher investments comes more realized value.

MORE THAN 80% of companies are investing or planning to invest in emerging technologies. Organizations in the highest investment quartile are seeing substantially greater returns than organizations in the lowest investment quartile, in some cases achieving more than 20 percent greater value from their emerging technology investments.

New technology essential for survival

From the earliest stages of the crisis, COVID-19 illuminated a clear link between digital preparedness and business resilience. Our survey found that enterprises with the right digital-centric mindset prior to COVID-19 have been much more successful at weathering the storm, recovering quickly at scale, and building a strong foundation for the future business environment.

Now, as enterprises deal with the prolonged fallout from the crisis, there is growing recognition of the importance of emerging technology to the future business. According to our survey, nearly 60 percent of executives agree that COVID-19 has created an impetus to accelerate digital transformation initiatives.

Our observations with clients also support this finding. As we help businesses respond to and recover from the impacts of COVID-19, it has become evident that an organization's ability to harness and leverage emerging technologies in transformation efforts will determine their ability to thrive in a changed business environment. We have seen that industries with strong digital transformation execution, such as online retail, telemedicine, food delivery, and streaming media, had the opportunity to scale aggressively during the recovery, which should last going forward given changing consumer behavior during the pandemic.

The pandemic is also proving that emerging technology can deliver much more than a slight competitive edge—it often spells the difference between success and failure.

Fifty-seven percent of executives say COVID-19 has significantly changed their organization's strategic priorities. The objectives of emerging technology investments are shifting in step. In the Phase I survey, growth goals like cost reduction, improved brand value, and clearer decisions were all at the top of the list. In Phase II—when many economies and societies were shut down due to the virus—objectives have become much clearer: The number one aim of emerging technology investments for nearly all companies surveyed is future survival.

57% of executives surveyed said COVID-19 significantly impacted their businesses' strategic priorities.

INDUSTRY INSIGHT: PHILIPS

COVID-19 has accelerated new technology adoption and prompted enterprises to use technologies that were already available, however overlooked or underutilized. Philips' teleradiology solutions have been on the market for more than a decade and the technology is now being used at scale to help a growing number of radiologists do remote readings from the safety of their homes.

AI and predictive analytics promise to become key tools in the fight against the COVID-19 virus itself. Leveraging imaging and monitoring solutions, Philips is working with clinical partners to create models that anticipate patient needs for medical equipment and ICU beds and plan accordingly. By gathering signals from early stage diagnostics and other health information, the technology could enable hospitals to predict how many COVID-19 patients will need to be admitted to an ICU or put on a ventilator.

“*Systems for teleradiology have been available for years. But COVID-19 has dramatically expanded the number of hospitals and medical practices that leverage teleradiology at scale, with radiologists working from home or remotely. We now see these technologies being used to help overloaded radiologists on the front lines of the COVID-19 crisis manage suddenly heavier workloads safely and efficiently.*”

– **Hans-Aloys Wischmann,**
Program Manager for Artificial Intelligence,
Precision Diagnosis, Philips



Since the pandemic began, emerging technologies all along the spectrum have been embraced out of necessity. As a result of COVID-19, more companies are leveraging technology to make immediate operational changes (such as enabling remote work, diversifying the portfolio, expanding delivery, and automating processes) than to drive new growth (such as pursuing acquisitions). Meanwhile, as the pandemic has progressed, making the business case has emerged as the primary challenge to realizing value from emerging technologies.

Developing the business case and securing commitment from the C-suite have emerged as **the top 2 challenges** to realizing value from emerging technologies.

Additionally, companies are no longer afraid of failure. **Risk of failure** has moved from the **secondary challenge to number seven** on the list of challenges to realizing value from emerging technologies.

Business case is far more critical as enterprises face cash crunch

Top 10 challenges in realizing value from emerging technologies

	Ranking in Phase I Survey (Mar-Apr 2020)	Ranking in Phase II Survey (May-June 2020)
Developing the business case	6	1
Commitment from C-suite/board	4	2
Changing the organizational culture	1	3
Not sure which metric(s) to use to quantify impact	8	4
Lack of talent	3	5
Lack of data quality and availability	5	6
Risk of failure is high	2	7
Lack of robust data management	7	8
Cybersecurity and data privacy concerns	10	9
The technology is too new, waiting for it to mature	N/A	10
On-going governance	8	N/A
Lack of funds to invest	9	N/A

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.

Investment objectives narrowed during COVID-19: The focus is now on future survival.

“Essential for survival” rose to the #1 ranking objective across a majority of technologies.

Emerging Technology	Top objectives for investments in Phase I (Mar-April 2020)	Top objectives for investments in Phase II (May-June 2020)
Process Automation	Cost reduction, improve brand value, top-line growth	Essential for future survival
Artificial Intelligence	Cost reduction	Essential for future survival
Smart Analytics	Improve decision making	Essential for future survival
Hybrid and/or Multi-cloud	Cost reduction	Essential for future survival
Blockchain	Foundation for infrastructure modernization, improve decision making, cost reduction	Improve competitive positioning
Edge computing	Improve brand value	Improve competitive positioning
5G	Essential for future survival, improve decision making	Essential for future survival

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.

Technology and trust:

two business success drivers

“ *COVID-19 is driving massive market shifts around the world, creating new ways of working, accelerating the surge in digital commerce, and renewing focus on supply chain localization. In working with clients and tracking marketplace signals, KPMG professionals are seeing two business success drivers that are being pushed to the forefront during these unprecedented times: technology and trust.*

The fact is that rapid development, adoption and integration of technology does have the potential to increase risk across the business. And we know that trust is essential for digital transformation to go forward, but it was already eroding prior to COVID-19. Now, the crisis has intensified prior trust challenges and generated new ones. Visible trust gaps for emerging technologies such as AI, blockchain and IoT continue to remain significant barriers to adoption.

I believe that organizations will have to get trust right for successful deployment of emerging technologies to recover from the crisis. Even before COVID-19, clients who had established sophisticated trust and risk management infrastructures capable of responding dynamically were the ones thriving. It is these organizations that are likely to navigate through the recovery in better shape.”

— Steve Hill,
Global Head of Innovation,
KPMG International

Variations on the road to recovery

Many industries will be forever changed by the shift to digital modes of operating that were established during COVID-19. KPMG's assessment of COVID-19 on global market signals reveals enduring impacts beyond the initial response on ways of working, digital commerce, supply chain and manufacturing, labor force, and more.

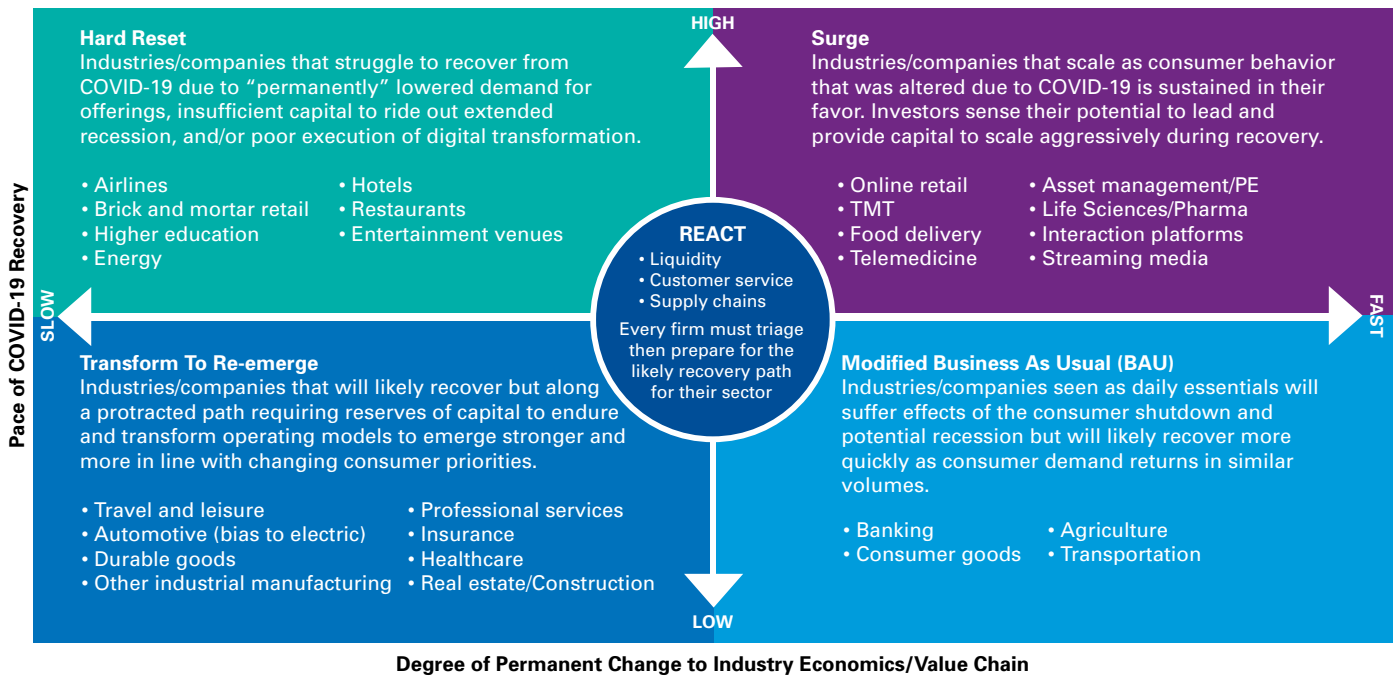
As companies work to reestablish resilience and adapt to life during COVID-19, there is no one-size-fits-all path forward. The depth and duration of recession will vary by company and sector.

Mature digital-first companies are thriving during COVID-19. Their businesses are accelerating and their immediate focus is on scaling faster. Meanwhile, companies that have failed to execute digital transformation are on a downward spiral, losing customers, market share and employees. These companies are

worried about survival. Preserving cash and acquiring the capital they need to transform are urgent priorities.

While the picture is far from certain, driving change through technology will be a critical factor in the ability of all companies to emerge from the lockdown. Underlying this effort will be strengthening of trust—trust that organizations are agile enough to execute the rapid transformation required to ensure workforce safety and confront other COVID-19-related challenges.

Varying degrees of risk exposure to COVID-19-driven shifts will result in a variety of recovery patterns when viewed at the sector/company/country level



Uncertainty threatens current investments

Since COVID-19 has upended business as usual, many companies need to accelerate their use of emerging technologies faster than ever before. Yet they are simultaneously dealing with an unparalleled level of uncertainty across the business landscape. Looming over everything is fear of new spikes in case numbers.

Despite the burning platform for new technology, many enterprises are struggling to find dollars to invest in digital transformation. Average investments in emerging technologies have been slashed by millions of dollars across industries and company sizes. Approximately 4 in 10 executives say they will halt investment in emerging technology as a result of COVID-19. Only 13 percent expect to significantly increase investments.

As cash becomes increasingly critical for survival, companies are turning to the classic recession tactic of instant budget myopia. The need to generate and preserve liquidity is causing organizations to pull back or delay certain emerging technology projects in order to meet immediate financial objectives in the pandemic's wake.

Some industries, such as airlines, hotels, restaurants and brick-and-mortar retail, are in especially precarious positions. Anticipating permanently lowered demand for offerings and with insufficient capital to ride out an extended recession, these industries will need to make a hard reset to recover. Other industries, such as travel, industrial manufacturing, insurance and real estate, also face a slow recovery that is dependent on reserves of capital to transform operating models in line with changed customer priorities.

Traditional digital transformation has always been correlated with more investment. Now industries that were most susceptible to COVID-19 risks must do the opposite: capitalize on emerging technology *without* increasing budgets, and at a pace and scale that is much faster than their usual timeline.

ONLY
13% say their
organization
will invest
significantly more in
emerging technologies
as a result of COVID-19.

“ For those industries facing crisis, managing the transition to a digital business model is imperative. However, doing so is made more complicated in a time where investments are critical, but cash must be preserved. Emerging technologies and new ways of working will play a significant role in the transformation to a more digital economy, helping companies serve their customers even better than before, keep remote workforces connected, ensure their business is resilient and prepared for disruptions, and build a strong foundation for future product and service innovation. ”

— **Cliff Justice,**
Global lead for Intelligent Automation,
and U.S. Lead for Digital Capabilities,
KPMG International

“Expect companies to be more selective in terms of where they invest in emerging technology because the stakes are higher now. Understanding what is possible versus what is not, and when and where to use new technology to drive tangible value, are the key decision points.”

– Oleg Brodski,
Partner, Head of
Lighthouse,
KPMG in Germany

According to Paul Henninger, Partner and Head of Lighthouse for KPMG in the U.K., in many cases, emerging technology proposals are being subjected to greater scrutiny as enterprises cope with immediate financial challenges and prepare for recession. Only investments with crystal-clear goals, laser-focused adoption and deployment plans, and rich return potential are likely to be approved.

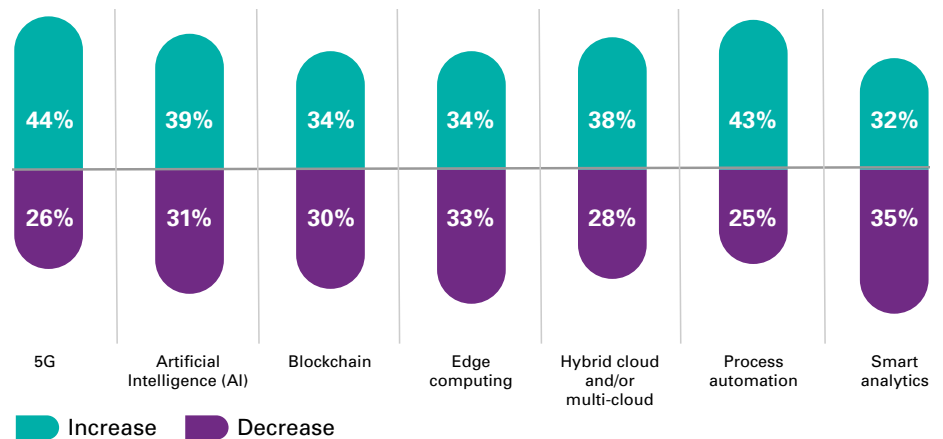
“The transition from COVID-19 response to recovery has initiated a slight return to caution,” Henninger says. “When the crisis began, new technology ideas proliferated as people

came together to innovate solutions to these truly unprecedented challenges. Companies explored a lot of ideas: some good, some bad, some realistic, some unrealistic. Now we are seeing a return to a more pragmatic approach to technology adoption.”

Tim Denley, Partner in Charge of Solutions for KPMG in Japan, is also seeing smaller and more focused emerging technology investments. C-suites and boards are working to optimize the investment portfolio to focus only on projects that will bring real and immediate value.

Spending intentions delayed, but many expect to increase within next 12 months

How do you anticipate COVID-19 to 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.

44% of executives expect to increase spending on 5G in the next 12 months, while 26% expect to decrease it. A similar story for process automation, with 43% of executives expecting to increase spending and 25% expecting to decrease.

“The pandemic has driven a huge change in the perspective and focus around technology,” says Denley. “For the most part, it’s helping refocus efforts in the places that will have the most value. Enterprises are doubling down and even accelerating investments in core technologies such as cloud, AI, and automation given the uncertainty of the environment right now.”

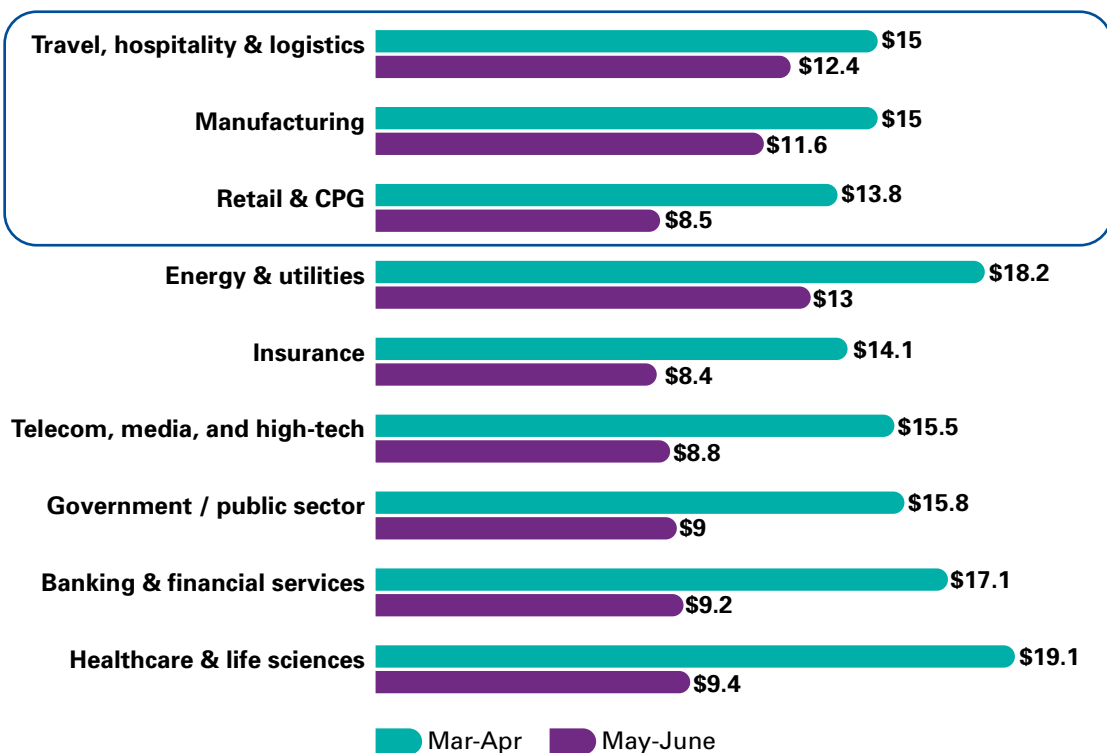
Given this shift in perspective, it makes sense that organizations that have been able to scale up emerging technology initiatives despite the challenges are now focused on longer-term objectives, such as company valuation, brand recognition, and topline growth, as opposed to traditional productivity and efficiency measures.

And the good news is that all recessions eventually end. For most emerging technologies, investment plans have not disappeared for good, but have been pushed to the future. Our research indicates that over the next 12 months, some emerging technology spend is expected to grow, with a focus on AI, 5G, automation, and cloud technologies.

Average investments in emerging technologies have declined across industry

What is your current level of investment for these emerging technologies in your organization (or business unit)?

Weighted Average Spend • \$M



Key insight: The industries most impacted by COVID-19 - airlines, hotels, restaurants, retail - realize they need to boldly seek new solutions, and have only nominally reduced emerging tech spend during the pandemic. An airline executive told us about his company’s need to fast track airport remodeling. A retail executive stressed the importance of rapidly expanding his company’s virtual presence. Since the shutdown, we’ve also seen how logistics companies have become more essential, playing a critical role in transporting supplies and keeping commerce moving.

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.

Investment clarity found

Although some new technology spending is temporarily frozen in some sectors, our research shows that the pandemic is increasing investment clarity. Budget pressures and operating model stressors are forcing organizations to prioritize areas that bring important near-term benefits over technology investments with a longer time horizon to value realization.

Focus on “have to haves”

Generating massive uncertainty, COVID-19 has increased interest in emerging technology projects that can deliver quick cost savings or growth. Enterprises are focusing in 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 the future trajectory.

Cloud floats to the top of the list

Cloud computing is at the heart of emerging technology discussions. Reflecting the fact that COVID-19 revealed the power of digitally native processes, 56 percent of executives agree that cloud migration has become an absolute necessity. Instead of piecemeal migrations of small datasets, many companies are now intent on moving an entire function’s data to the cloud at scale.

Hybrid cloud models top the agenda, far surpassing other cloud strategies, including multi-cloud, that dominated pre-crisis. Major enterprises are planning to adopt this architectural cloud approach in the future to reduce risk of service disruption, extend the corporate network and functional workloads, take advantage of the best available services and features, and improve overall flexibility and interoperability of the business.

According to Priya Emmanuel, Managing Director of Cloud Strategy and Transformation at KPMG in the U.S., KPMG professionals have recently seen more dynamic cloud transformation because companies can really see how cloud enables working in a virtual environment.

Emmanuel says most companies understand the tangible benefits of cloud: as a platform for the convergence of technologies, it is ultimately a vehicle for value creation, collaboration, and competitive advantage. The daunting task is figuring out how to digitally re-architect the business leveraging cloud, while continuing to deliver day-to-day business services.

56% say cloud migration has become an absolute necessity due to COVID-19.



INDUSTRY INSIGHT: AMERICAN EXPRESS

COVID-19 budget pressures have not slowed spending on strategic automation projects. American Express Finance continues to stay strongly focused on its investment in chatbots and natural language processing solutions, which have already delivered enormous benefits to the Finance Division. According to Oulton, chatbots can answer 70-80 percent of customer questions coming in via email and other digital channels, taking the heavy lift off humans and helping employees work more effectively and strategically in the remote world.

“American Express is responding to COVID-19 by focusing on ways we can serve our customers better. That means pushing pause on certain projects, such as non-critical infrastructure work, and repurposing that capacity to enhance digital capabilities across the company. We are reinvesting particularly in the automation space, where we see tremendous potential for cost takeout for years to come.”

–**Todd Oulton**,
Vice President, Automation,
Center of Excellence, American Express, Finance



“When it comes to cloud, many companies have been comfortable moving at their own pace and doing the easy things first—one application at a time, one proof-of-concept at a time. The COVID-19 situation has put into perspective how unprepared many organizations are to suddenly have to do things differently. It is forcing companies to really think strategically and deliberately about changing the way they operate to become more cloud-enabled.”

– Priya Emmanuel,
Managing Director,
Cloud Strategy and
Transformation,
KPMG in the U.S.

Despite the positive outlook for hybrid cloud, companies have a way to go to realize the potential of this newer cloud computing strategy. Only a minority of executives consider their organizations’ capabilities in cloud technology to be strong.

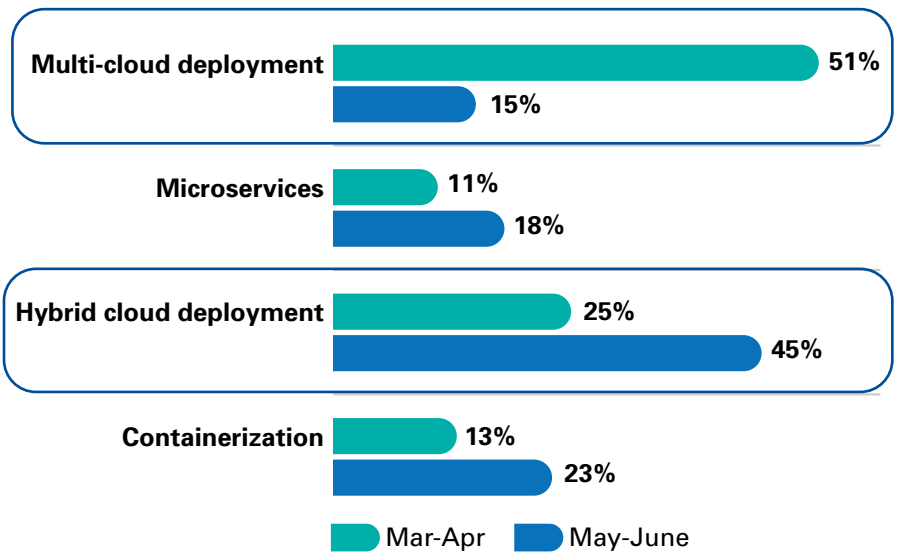
Companies often invest in increasing efficiency through cloud, knowing it will help them reduce costs, but our research shows that they don’t fund and manage IT resiliency and security appropriately. While cloud presents an opportunity for an extra level of security, the complex cloud ecosystem raises the

possibility of doing it wrong and making environments less secure. IT needs to figure out how to keep up with new workloads and tools to make sure they are well functioning, well managed, and well secured.

To succeed with cloud adoption and scale, operating model change is critical. Companies must educate the organization about all of the tangential functions that need to change alongside the technology, e.g., vendor management, upskilling personnel, security, finance, monitoring, and reporting.

Hybrid cloud has been prioritized, while multi-cloud takes a backseat

Most important cloud investment



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.

Short-term wins with low-code automation

Automation is a key building block of future digital transformation—a gateway technology to driving value from analytics, AI, and other emerging technology initiatives. By leveraging automation, businesses can not only improve operational efficiency and effectiveness, but also build a strong foundation for new or enhanced products and services that engage customers and drive revenue growth.

As the new reality unfolds, automation priorities are shifting towards more advanced, strategic, and transformational capabilities. In the Phase I survey, business process management software (BPMS)—tools used to optimize or augment existing processes—ranked as the most important automation investment. In the Phase II survey (after COVID-19 accelerated), respondents ranked

robotic process automation (RPA), low-code/no-code development platforms, and process-mining software as more important. Low-code tools—which bring solutions from across the automation spectrum together under one fully configurable umbrella—show a particularly staggering increase in adoption between survey phases.

According to Todd Lohr, Principal of Technology Enablement & Automation, KPMG in the U.S., low-code automation solutions make it possible for companies to adapt to changing business environments. Truly transforming a complex process or automating large pieces of work require a combination of multiple technologies. Lohr believes that low-code development platforms are literally the strategic tool bench from which enterprises can drive true large-scale digital transformation.

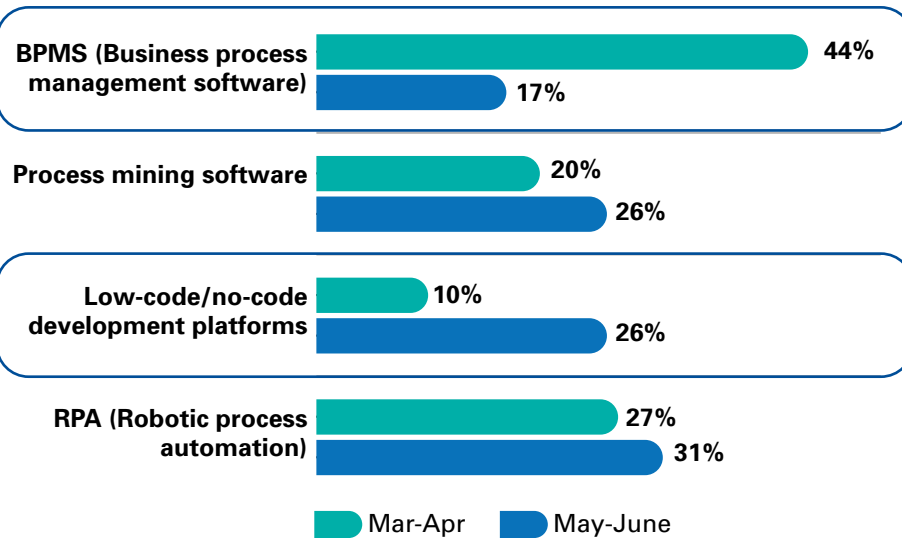
“Most companies had a digital transformation agenda even prior to

COVID-19. But now, with operating models under duress, they need to rapidly accelerate that agenda,” Lohr says. “Low-code technology is an enabler of the digital transformation journey. Bringing in one automation technology is only a short-term stopgap; it’s platforms that allow enterprises to address end-to-end automation.”

For example, KPMG in Canada recently worked with a company that supports hundreds of long-term care facilities to implement automation and other emerging technologies to improve scheduling and staffing of clinical and non-clinical staff. Before the crisis, it took a team of 50+ employees two full weeks to build two-week schedules for each site of care. KPMG in Canada created a technology solution that helped the company schedule 8,000 shifts in 20 minutes.

Investment skyrockets in low-code/no-code, while BPMS drops significantly

Most important automation investment



BPMS ranked as the most important automation investment in the Phase I survey, while Phase II respondents rated RPA, low-code/no-code, and process mining software as more important after the acceleration of the COVID-19 crisis.

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.

“ COVID-19 moved customers from physical points of contact to online channels suddenly and rapidly. Enterprises are trying to understand whether these shifts are permanent and what that means for the business. As people start to leave a much larger digital footprint compared to what was normal and expected one year ago, advanced analytics can play a major role in an enterprise’s ability to understand and take action on customer behavior. ”

– David Slánský,
Partner, Data Analytics,
KPMG in the
Czech Republic

Looking forward, automation will be a key building block of digital transformation—a gateway technology to driving value from analytics, AI, and other emerging technology initiatives. By leveraging automation, businesses can improve operational efficiency and effectiveness, and also build a strong foundation for new or enhanced products and services that engage customers and drive revenue growth.

Analytics: From real-time analysis to predictive modeling

Enterprises have increased their investments in smart analytics since the pandemic hit. Businesses were looking to beef up their data analytics capabilities even before COVID-19 drove customers and employees to virtual touchpoints. Now, with large segments of employees working remotely and more customers interacting with businesses online, enterprises are trying to advance their analytics capabilities to capitalize on insights drawn from widening digital footprints.

The focus for most analytics investments today is strengthening the data infrastructure to create an integrated platform from which to generate, collect, and act on insights. Many organizations are taking the

necessary precursory steps: digitizing company data and processes, building a trusted data backbone, and investing in self-service business intelligence platforms and insight generation.

However, although enterprises are striving to drive value from data, only a minority of executives consider their organizations “strong” across the analytics lifecycle.

Traci Gusher, Principal, Data Analytics, KPMG in the U.S., says there’s significant work to be done from an organizational perspective to gain the digital fluency needed to derive real value from AI and analytics. Analytics initiatives are often mistakenly viewed as a technology issue alone, when they also impact people, processes, ownership, incentives, ethics, and many other aspects of the business. Lack of effective communication and training also prevents analytics investments from reaching their full potential. In many organizations, people across the business are not aware of what they can do with analytics tools and insights, including what questions to ask or how to apply findings.

Maturing enterprise data platforms will set the stage for businesses to capitalize on more advanced analytics and predictive modeling. Poised to become bigger areas of investment, these data-science techniques enable organizations to anticipate future events and outcomes with a high degree of accuracy, providing new opportunities for growth.

Improving forecasting has become an especially critical need during the COVID-19 pandemic. Given the nature of the crisis, historical data no longer points to what the future holds. The only way to realize real forecasting power will be to capitalize on real-time data—including data from outside the organization's walls—in order to predict new signals that indicate future financial, supply chain, inventory, customer demand, and other changes.

As the COVID-19 crisis unfolded, KPMG in Germany leveraged predictive forecasting to improve financial planning in a German manufacturing company. The German firm used data science and mathematical modeling to calculate the

impact of different COVID-19 scenarios on macroeconomic factors such as buying power of the population, prices for commodities, unemployment, etc. Ultimately, they were able to advise the client on what the findings meant for their market, customers, raw materials and costs.

The overall success of analytics initiatives depends on the strength of the enterprise-wide data governance, management and transformation program, says Gusher. A strong program helps build trust in the data, integrate analytics initiatives into business processes, and provide continual oversight as changes in the internal and external environment occur.

“Enterprise-wide analytics require a strong handle on the data. Analytics built on data that is in bad shape can't be trusted. Only organizations that get serious about data governance, management, and transformation can build leading enterprise analytics capabilities.”

– Traci Gusher,
Principal, Data Analytics,
KPMG in the U.S.

New opportunities for promising technologies

With the global economy in recession and financial performance under threat, many enterprises are adopting a “do more with less” mentality, taking dollars away from experimental projects that may not deliver immediate payoff. Many businesses have put investments in cutting-edge technologies on hold, unless there is a specific case for acting right now.

Investment reductions are expected in the near term for certain emerging technologies, such as 5G and edge computing, AI, and blockchain. At the same time, rapidly shifting business priorities are creating new opportunities and use cases for these technologies as the new reality progresses.

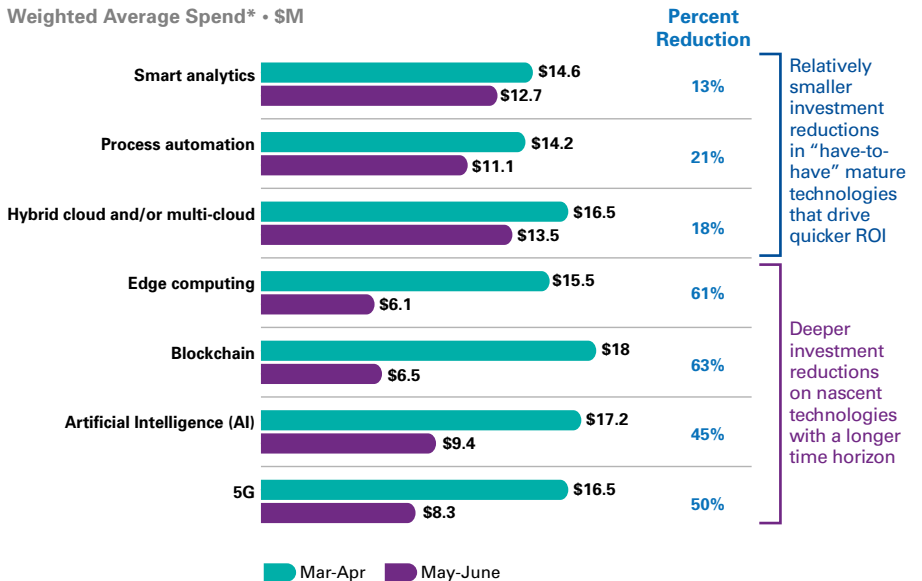
Everywhere, anytime work: 5G and edge computing

The sudden work-at-home environment driven by the COVID-19 lockdown has driven even greater interest in 5G.

5G advocates say the next generation of internet technology will bring about an exponential change in the speed,

Since COVID-19 hit, some technologies are being prioritized while others have seen short-term spending cuts

What is your current level of investment for these emerging technologies in your organization (or business unit)?



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.

scale, and security of the world's digital connections, from people to products to enterprises. The first major shift, already underway, will be a new workplace paradigm: remote work models as productive and rewarding as in-office models.

According to Alex Holt, Global Head of Telecoms and Media, KPMG International, 5G in combination with edge computing will be key to the global economic recovery after COVID-19. 5G provides the capability to support billions of connected devices transmitting huge volumes of data. Edge computing, which moves processing power closer to the user, has the potential to dramatically improve speed, bandwidth, and latency of applications.

Together, these technologies have the potential to transform the way we work in a wide variety of industries. Employees can enjoy a better remote work experience, with increased access and enhanced functionality, which in turn will improve productivity. In addition, data-intensive and other jobs that historically required a physical presence will also have virtual options. "Everywhere, anytime" work, just as effective as it is on site, will truly be possible.

These converging technologies also hold promise to transform industry business models and outcomes. The value of 5G and edge computing across five key sectors is expected to reach more than US\$500 billion by 2023, according to recent research from IDC and KPMG in the U.S.¹

Industry-specific applications include:

–Industrial manufacturing: The world is moving toward highly autonomous factories, where sensors gather and analyze data from every corner and AI

continuously adjusts production to meet demand. Manufacturing performance can be truly transformed by speeding up data transfer to facilitate predictive maintenance, 24/7 asset monitoring, minimal downtime, and improved safety.

–Connected healthcare: The healthcare sector is arguably the biggest beneficiary of better data and AI. Patients can be monitored constantly via sensors that collect and analyze health information and alert physicians and caregivers to issues. The hospital of the future can also track the location and performance of its high-value medical equipment.

–Intelligent transportation: Data from sensors can be aggregated and transmitted to transit operators to alert them to performance issues and problems and keep passengers up-to-speed on schedule times and delays. Traffic management will be easier with real-time updates on hotspots, roadwork, and accidents, while parking will become less of a hassle with instant identification of free spaces.

–Environmental monitoring: Effective monitoring helps detect signs of environmental harm and near real-time transmission of data enables quick mitigation. Environmental and healthcare agencies, as well as local authorities, can access and analyze complex data from multiple sources to make informed decisions related to diverting traffic, limiting access to geographical areas, or acting against harmful substances.

–Gaming: 5G and edge computing will literally take gamers into a new reality. The emergence of AR/VR is creating vivid and realistic experiences that require ultrafast connectivity and very low latency to support advanced

graphics and content streamed to multiple players simultaneously.

AI plays a bigger role

AI is poised to pervade every aspect of 21st-century enterprises, from data to processes to talent to risk management.

Our research shows that the focus of AI initiatives is evolving away from machine learning, which uses algorithms to parse and learn from structured data, *towards* deep learning—artificial neural networks that can learn and make intelligent decisions on their own. Enterprises also plan to ramp up investments in digital assistants, natural language processing (NLP) and computer vision, AI systems that extract information from text, audio, images, and videos.

Many enterprises are now looking for AI to play an even bigger role in the new environment, helping solve challenges that arose when employees and customers went into lockdown. Since the early COVID-19 wave, KPMG member firms have seen a sizeable uptick in interest in large AI projects, such as enterprise-wide, customer-facing conversational agents that have shown they can remove upwards of 25 percent of the workload from call centers.

KPMG in Australia helped a large telecommunications center automate existing call center operations using AI chatbots and voice agents. Previously, the business was struggling to cope with high volumes of new requests as people found the need to update their services due to COVID-19 disruption. The AI solutions created new customer touchpoints and handled greater volume than humans alone could manage.

¹ The 5G edge computing value opportunity (KPMG in the U.S., 2020)

INDUSTRY INSIGHT: MICROSOFT

Microsoft is making many of its technology solutions widely available to its customers and partners. Frontline workers are leveraging Microsoft's Dynamics 365 and Power Platform to automate emergency response. The company also rolled out the HealthBot to reduce misinformation about the virus, enable healthcare providers to better triage care, and reduce stress on the healthcare system. And to support virus research, Microsoft's AI for Health team is providing nonprofits, academic institutions, and governments with data dashboards and cloud computing resources to help scientists and policymakers make more informed decisions.

“We're all in this crisis together, and we believe collaboration is what will get us through it. That's why we're publically sharing our innovative tools for coordinating patient care, maintaining business continuity, and accelerating disease research and vaccine development.”

– **Jaime Pereña,**
Director of Marketing and Strategy,
Enterprise Artificial Intelligence, Microsoft

To capitalize on the promise of AI, enterprises will need to overcome two primary challenges. First is a lack of quality data, which more than 60 percent of executives cite as a significant barrier to value creation. Many organizations continue to struggle with data, says Traci Gusher of KPMG in the U.S. In order to keep pace with a rapidly changing technology landscape, combined with vendor overload, many companies find they do not have a good handle on the data that feeds their AI algorithms. As a result, they cannot trust the outputs of AI-driven processes.

MORE THAN
60% cite a lack of data quality as a significant barrier to creating value

Decision-makers also often think IT can spend a few months fixing important data and that's all it will take to realize AI results. To be effective, advanced data management should be an ongoing activity, involving continuous hard work and governance.

The second challenge is the fact that insufficient policies and actions to ensure ethics around AI are also suppressing results. AI has the power to profoundly change how work gets done and decisions get made, but it needs to be deployed responsibly. For AI to be productive, and accepted in the enterprise, it must be explainable, transparent, and trusted.

MORE THAN
50% of executives say a lack of AI ethics will make widespread business adoption challenging

Digitized trust: Blockchain

Blockchain has moved beyond the hype. It is now emerging as a viable technology for solving business problems related to auditability, security, and trust—the three key blockchain features that are most attractive to executives. Although blockchain suffered the biggest investment loss of all emerging technologies as COVID-19 impacts spread, our survey shows spending will increase in the next 12 months.

According to KPMG's U.S. Blockchain Leader Arun Ghosh, in many businesses the reconciliations between inventory, suppliers, invoices, and other outputs of core processes aren't well understood, let alone trusted. That's where blockchain offers value.

“ One of the major AI challenges is extracting and maximizing the value you get from your people while trying to build out AI to do things that don't necessarily have to be done by humans. Companies need frameworks in place to make sure there are checks and balances in place for new technologies, particularly AI. ”

–**Tim Denley**,
Partner in Charge of
Solutions, KPMG in Japan

“Many initial blockchain pilots failed because the business was focused on what the technology can do. Blockchain investments weren’t approached strategically. The better approach is understanding where the business needs more trust given how it operates within its partner ecosystem and using blockchain to enable trust in those targeted processes.”

– Arun Ghosh,
U.S. Blockchain Leader,
KPMG in the U.S.

According to Ghosh, blockchain is the “digitized version of trust,” allowing ecosystems to record who did what and when on a secure and transparent ledger. As a decentralized database with autonomy and consensus in decisions, blockchain enables trust at the infrastructure level, building trust all the way down to the data and all the way up to the business itself.

Blockchain has a key role to play in the future of business. The principles of digital trust, with blockchain as the technological underpinning, are inherent to how web 3.0 will evolve, especially in a post COVID-19 world, where we will be more hyper-connected than ever before.

Both public and private blockchains exist, but current enterprise adoption is predominantly focused on private blockchains. Industries are building trust through networks of interoperable, private, permissioned blockchains, with certain actors serving as trust anchors for the ecosystem and security built in through permissions.

Ghosh says one of the top challenges when it comes to realizing value from blockchain is complexity, including understanding what participants you need, what data you need from them, and what incentive models will drive participation. It is hard enough to architect and implement a system that’s intended

for a single organization; implementing something that by nature is intended to connect multiple organizations is that much more complex.

One enterprise alone can’t stand up a trust infrastructure on the blockchain: It takes an ecosystem. In the aerospace sector, for example, thousands of upstream and downstream suppliers and service providers responsible for building and maintaining landing gear, cockpit controls, fuselage parts, tire components, and more need to participate alongside the aircraft manufacturer.

Blockchain is also gaining attention as companies seek to better drive trust in the supply chain during COVID-19 disruption. When global trade networks break down, blockchain helps companies establish new relationships quickly based on data people can verify and trust.

Other applications based on current market conditions include: matching supply chain and availability; helping buyers check the legitimacy and standards of new partners; tracing the distribution of vaccines from manufacturers to end users to ensure authenticity and respond to possible recalls; and tracking COVID-19 loans, grants, and other funding throughout their history to ensure the funds are making their way to the correct parties and are being used for the intended purpose.

The case for higher investment

Companies see significant potential in emerging technology investments. More than 80 percent of companies surveyed are investing or planning to invest in emerging technologies. Four areas—smart analytics, process automation, hybrid cloud, and cybersecurity—are attracting

dollars from virtually every enterprise that participated in our survey (99 percent of executives surveyed). In addition, 46 percent of executives surveyed said their company is making investments to take advantage of opportunities resulting from COVID-19 impacts.

The overall level of investment varies, but approximately one-third of respondent organizations are investing more than US\$10 million, with an average of \$16 million annually per technology.

And yet, despite high expectations and activity, most companies are achieving softer-than-expected impacts from their emerging technology investments. Based on their own internal assessments, less than one-third of respondent organizations are driving tangible business value from emerging technologies, with process automation the lone exception.

Ramping up emerging technology investments across the board may be a solution for those who can afford it. According to our research, the overall level of investment in emerging technologies correlates with the strength of returns.

Companies in the highest investment quartile for seven of eight technology areas achieved significantly greater realized value than companies in the lowest investment quartile. In two areas—edge computing and AI—companies with the highest level of investment were significantly more likely to say they have already seen value from their investment.

“At the heart of each emerging technology adoption challenge is a lack of trust. Gaining trust is a major struggle when it comes to digital transformation because so many tools and solutions are ‘black box.’ Although some so-called emerging technologies have actually been around for decades, many business decision makers lack a strong understanding of how they work, what they can deliver, and what deploying them can achieve.”

– **Brad Fisher**, Global Head of KPMG Lighthouse Data, AI & Emerging Technologies, KPMG International

“The power of emerging technology is so transformative that budget should not be a limitation. More companies want to explore emerging technology now because they know no conventional approach can save them.”

– **David Slánský**,
Partner, Data Analytics,
KPMG in the Czech
Republic

The COVID-19 situation has added further complexity to technology deployment, forcing organizations to reassess the value realized from emerging technology investments and pushing out the time horizon for generating results. In the Phase I survey, a significantly higher percentage of executives said they saw tangible value to the business from investing in emerging technologies compared to the Phase II survey.

According to David Slánský, who leads data analytics for KPMG in the Czech Republic, the time is ripe for enterprises to open their minds to new emerging technology applications. Companies in crisis will often adopt a “nothing to lose” mindset and try things that have never before been tried in their area.

For example, KPMG in the Czech Republic is working with banks to implement a new application of digital twins—virtual replicas of physical entities such as assets, processes, and people. Concerned that economic turbulence due to COVID-19 will cause more customers to default on loans, the financial institutions are developing digital models of customer behavior and automating collection processes based on those analytics.

The power of "and"

64% of executives agree that the combined use of emerging technologies is much more beneficial than using emerging technologies in isolation.

The true power of emerging technologies lies in the transformative capabilities they unleash when integrated together under a common vision and infrastructure.

Sixty-four percent of executives agree with the assertion that the combined use of emerging technologies is much more beneficial than using emerging technologies in isolation. What's more, organizations that strongly agree with the statement are more likely to have realized value from emerging technology investments than those that disagree.

Realizing that the power of "and" is greater than the power of "or," many organizations are now combining emerging technologies to significantly enhance their value. For example, in more than one-third of all emerging technology initiatives, business leaders are using AI-powered cloud solutions and view them as a crucial cog in their digital transformation efforts.

When AI is embedded within enterprise operations powered by a flexible cloud-based architecture, businesses can continuously improve their offerings based on real-time insights and quickly adapt to changing markets and customers to gain and sustain a competitive edge. In working with our clients through COVID-19-related disruptions, we've found that the surge in digital commerce has spurred wider adoption of cloud-enabled digital, analytics, and machine-learning technologies.

Deployment of rapid-insight solutions are also enabling businesses to respond at the rate of change that has taken hold during the COVID-19 crisis. For example, KPMG in the U.K. used a combination of automation, cloud, and analytics technologies to assist the National Health Service with its COVID-19 surge response by enabling hour-by-hour staff reporting of doctors, nurses, and other healthcare resources as they shifted throughout the country to areas of greatest need.

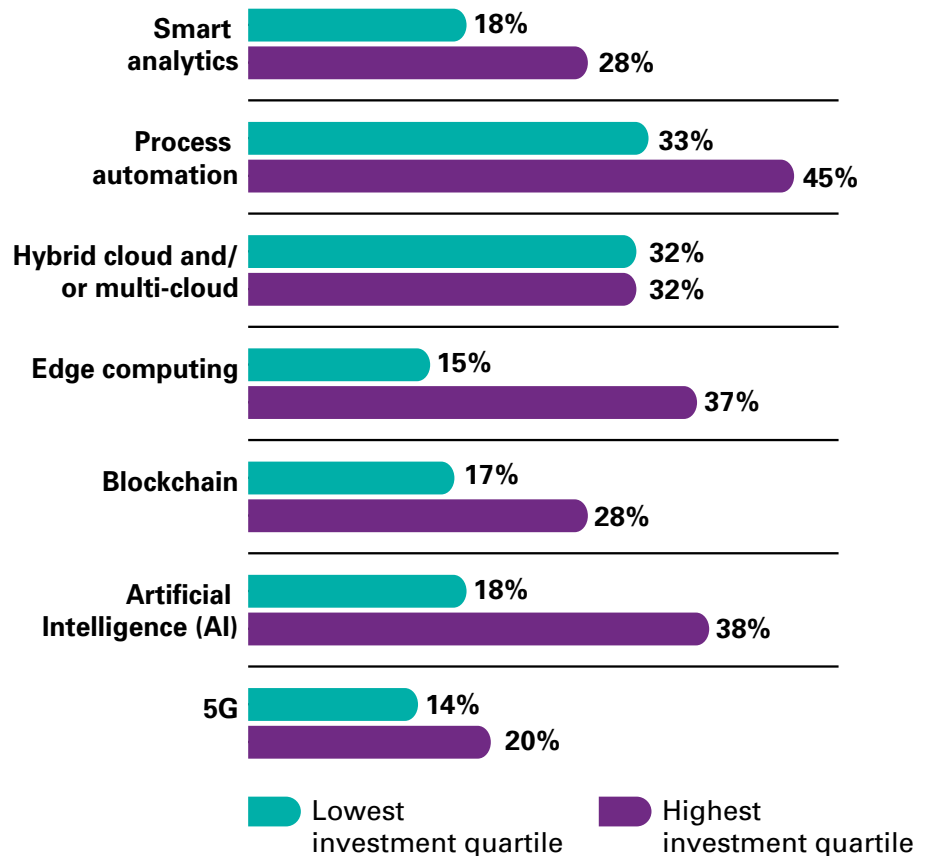
“ Emerging technology solutions are an amalgamation of different things that come together. Each emerging technology alone is just an enabler. When you put them together—combining intelligence with automation, sensors and networking to build autonomous systems—you get differentiated platforms. It’s differentiated platforms that shift the economic model of the business, enabling it to compete better, react to its customer needs faster, and deliver at a lower cost point.”

– **Shreeshant Dabir**,
National Leader, Data Analytics and Lighthouse Exponential, KPMG Canada

Organizations investing more in emerging technologies are also more likely to say they’ve already seen tangible value from their investments

How long do you expect before your organization will be able to see significant value/impact from investing in the following technologies?

Percent respondents who say that their company is already seeing tangible value from emerging technology



Sample: 600 executives across Global 2000 enterprises. Source (Phase I sample): HFS Research in conjunction with KPMG International.

Of those executives in the highest investment quartile, 45% are seeing tangible value today in process automation, while just 20% are seeing tangible value today with 5G.

Superheroes and Stragglers

Superheroes average at least US\$25 million in emerging technology investments. They are future-oriented, investing primarily to secure their competitive lead and ensure their continued survival. The industries with the highest concentration of Superheroes are banking and financial services, manufacturing, and telecom, media and high-tech.

More than half of Superheroes are already seeing value from their investments. We've learned that they are now ramping up spending on foundational technologies like analytics, cloud, and AI that will serve as the backbone for enterprise-wide digital transformation. Their approach and capabilities are already mature, and they are poised to continue to deploy emerging technologies at scale and translate their promise into real value.

At the other end of the spectrum are Stragglers, who invest only about one-quarter of the dollars of the average Superhero. They generally focus on ad-hoc projects in specific areas like hybrid cloud, blockchain, and edge computing. Industries disrupted severely by COVID-19—and in dire need of digital transformation—have a higher proportion of Stragglers. They include retail & CPG, travel, hospitality & logistics, and energy & utilities.

By comparing the size and pace of technology investment with the impact of those investments, we are able to segment respondent organizations into four distinct categories of maturity:

- **Superheroes: Significant impact backed by robust investments**
- **Sidekicks: Slightly behind superheroes but lacking confidence**
- **Strivers: Robust investments but not realizing value**
- **Stragglers: Low investments and poor results²**

Stragglers tend to have simpler objectives for emerging technology projects—their main reason for investing is cost reduction—but their efforts are often hampered by internal issues like cultural problems, low risk appetite, and lack of appropriate talent.

When we analyzed the spectrum of emerging technology segments, it became clear that culture stands out as a unique value driver. What really differentiates Superheroes is their policies around data to increase trust,

their recognition and treatment of data as an asset, and their investment in organizational capital.

Superheroes are twice as likely as Stragglers to say their company has invested in business and organizational expertise, set guidelines for emerging technology implementation, developed policies around data ethics, and established clear roles and responsibilities for emerging technology-related activities.

²This analysis is based on a clustering methodology using a k-means algorithm. HFS Research took an average across all disruptive technologies to find respondent groups that best fit six chosen variables: maturity of investment, investment level, growth of spending, value realized, benefits realized, and relative confidence.

Culture is a unique value driver for emerging technology investments

Superheroes are 2X more likely than Stragglers to agree with the following statements about their company:

- Beyond technical expertise, we have invested in business and organizational expertise to deploy in the form of COEs
- We have developed internal policies and procedures that set the rules and guidelines for emerging technology implementations at both a functional and enterprise level
- We have developed internal policy and principles for the ethical collection, management and use of data to increase trust from emerging technology implementations
- We have established clear roles and responsibilities to command, decide, approve, or disapprove the full range of emerging technology-related activities

Sample: 600 executives across Global 2000 enterprises. Source (Phase I sample): HFS Research in conjunction with KPMG International.

What's next?

How do companies join the ranks of the Superheroes, successfully leveraging technology to reboot their organizations?

Digital capabilities are now essential to survival. By exposing weaknesses in digital preparedness and forcing all companies to accept a vastly changed business environment, COVID-19 is pushing Superheroes even further ahead of the pack. Meanwhile, Sidekicks, Strivers, and Stragglers are under pressure to quickly improve their emerging technology capabilities to compete over the long term.

These are unprecedented times and there is no playbook for moving forward. But enterprises at every level of maturity can't afford to stand still. Our work with clients has uncovered best practices for using technology to move forward and realize substantial value aligned to business objectives during times of disruption. For example:

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 budget accordingly. Emerging technology has clearly become essential. Decision-makers should ask themselves: Are potential technology initiatives competing for dollars with projects totally outside of the technology arena? What tradeoffs can we make to get the funds to invest?

Prioritize investments

An agile organization focuses on the highest-value actions—right now. Prior to COVID-19, objectives for 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? With a global recession underway, emerging technology projects should be tied to improvements that are measurable.

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.

Take a broad view

Given rapid changes in the business environment, the enterprise's ability to quickly implement platforms for ongoing digital transformation is the real market differentiator. Businesses can't look at emerging technology in a vacuum. A narrow approach won't drive meaningful change or achieve the resilience needed for success in the new environment. Rather, combining technologies together is the key to enabling game-changing solutions.

Integrate IT

The boundaries between IT functions and the rest of the business were blurring even before COVID-19, as digitization and automation moved into the front, middle, and back offices. Now, organizations have to integrate technology into organizational structure and strategy 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.

Leverage data as an asset

Data will continue to be a critical decision-making tool. It can't be an afterthought. Superheroes 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.

Make trust the foundation

Institutional trust is essential for agility, transformation, and resilience, but it was already eroding prior to COVID-19. Trust is even more critical now that organizations have to manage several challenges at the same time. Recovering trust is paramount to joining the ranks of emerging-technology Superheroes. Organizations that established sophisticated trust infrastructures capable of responding dynamically were the ones thriving before COVID-19 and are in better positions to recover.

Adapt the organization

Superheroes know that organizational changes are required to make any transformation work, especially the complex transformations enterprises are pursuing today. Combining emerging technologies to drive business value is 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 guide organizations to success.

About KPMG

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 helps organizations across all industries 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, we 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.

Our work is enabled by deep domain expertise, experience helping clients and our own global organization address numerous business disruptions, our suite of emerging technology solutions, and a practical approach to enterprise-wide digital transformation.

About HFS Research

Insight. Inspiration. Impact

HFS Research is a widely acclaimed global industry analyst firm covering the critical people, process and technology strategies impacting major organizations. The HFS mission is to provide visionary insight into the major innovations impacting business operations: Automation, Artificial Intelligence, Blockchain, Internet of Things, Digital Business Models and Smart Analytics. HFS defines and visualizes the future of business operations across key industries with its OneOffice™ Framework.

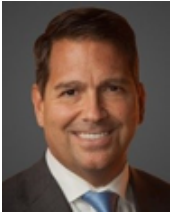
Led by award-winning analyst Phil Fersht with analyst teams based in North America, Europe and Asia/Pacific, HFS is leading the industry with its accessible digital research model that has over two million visitors per year.

HFS influences the strategies of enterprise customers, to help them develop OneOffice backbones to be competitive and to partner with capable services providers, technology suppliers, and third-party advisors. The "As-a-Service Economy" and "OneOffice" are revolutionizing the industry.

For more information, visit hfsresearch.com



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