

# Digital Readiness and COVID-19: Assessing the Impact

The TCS COVID-19 Business Impact Survey 2020



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Even before the pandemic, the digital capabilities that companies possessed were rapidly becoming central to their success. As a result, digital transformation initiatives appeared to be happening everywhere. The COVID-19 pandemic, however, has served as a wakeup call. As our new survey found, many companies were not as far along in developing essential digital capabilities as they hoped they would be.

We conducted a cross-industry survey of executives at large global companies to uncover how their companies have fared during the pandemic and their strategy for recovery in the emerging competitive landscape. We found that companies that had embraced digital transformation more whole-heartedly and were further along in their digital evolution have, on average, performed better during the pandemic and subsequent economic downturn. What's more, they expect a faster rebound. Since many pandemic-era business changes will outlast the crisis, these companies are poised to prosper in the long term.

Our report provides data on the most digitally prepared companies, as well as how the rest of our survey sample is racing to catch up. We found surprising insights that will help you plan your next steps and envision your path forward into an economic landscape filled with new opportunities.

Happy Reading!

**Rajashree R,**  
Chief Marketing Officer, TCS



## Executive summary

From the start, digital capabilities like cloud, AI, automation and agile methodologies held transformative potential. Some companies were quick to embrace the promise and raced ahead toward digital transformation. Others embraced the journey more cautiously, preferring to take a wait-and-see approach as the technologies matured.

The majority fell somewhere in the middle – neither fully embracing nor completely dismissing the changes digital technologies were ushering in on an unprecedented scale. But as COVID-19 swept the globe this spring, the digital transformation journey accelerated nearly instantaneously. Timelines shrunk to two options: fast and faster.

To understand the impact of digital readiness and transformation against the ever-changing COVID-19 backdrop, we surveyed nearly 300 senior executives in 11 sectors in Asia, Europe and North America, about two-thirds in organizations with annual revenue over \$5 billion.

In July of 2020, we asked questions in four areas:

- How is the pandemic impacting their business, and when do they foresee economic conditions returning to pre-pandemic levels?
- What are the main changes they anticipate in their business and industry in areas such as the business model, supply chain and customer experience (CX)?
- What are the most important and most difficult actions they have taken or are planning to take, particularly concerning technology investments and pandemic response?
- What digital capabilities do they have today, or are developing or are planning to develop during the pandemic to remain vibrant during and after the crisis?

We expected to learn that the COVID-19 pandemic had inflicted financial loss on many companies across sectors. Our findings largely confirmed this. What was surprising was that despite the revenue declines, **an astonishing 90% of all companies surveyed said they have largely maintained or increased their investments in digital transformation during the pandemic.**

The survey findings underscore what organizations realized – in some cases, painfully – when the pandemic hit: digital capabilities are a business imperative for survival.

## Leaders and Followers

Our analysis identified a small minority that had outperformed the rest (“Leaders”). These Leaders are further along in their digital transformation and have acquired essential digital capabilities that set them apart from the rest. These capabilities include:

- An end-to-end digital customer experience (CX)
- AI-based analytics to continually improve the CX
- Core enterprise systems in the cloud
- Highly automated core business processes
- Digital sensors tracking products
- Key partnerships in digital ecosystems

By and large, the rest of the organizations surveyed lacked these digital capabilities and have further to go in their digital transformations. But those organizations won't lag behind forever. They are implementing digital capabilities at a pace many could never have envisioned before the pandemic. In fact, we found that digital investment is gaining momentum so quickly that in a few years' time, the proportion of Leaders will be far larger than it currently is.

But even as organizations look forward to new beginnings, they're juggling two critical and difficult issues that impact investment decision making: rethinking their strategy for a digital world while tightly managing cash flows. Thus far their investments are favoring the remote workforce, which they largely anticipate is here to stay in one form or another.

Otherwise, there is a profound lack of clarity as organizations rethink their strategies for the post-pandemic world. Uncertainty will likely remain for the foreseeable future. But even as organizations concede the inability to predict what the future will bring, they are united in their belief that the path forward lies with digital readiness.



## The six essential digital capabilities

Within the survey findings, we identified six essential digital capabilities that proved crucial to responding rapidly to COVID-19 and for the post-pandemic world.



**Offering an end-to-end digital customer experience.** Such a customer experience enables people to seamlessly research, purchase and obtain support on their devices. This boosts revenues by maximizing convenience and enabling customers around the world to fulfill their needs rapidly, around the clock.

Amazon is both a pioneer and the master of this. During the pandemic, its revenues [have surged and its profits have doubled](#), in large part because the e-commerce giant has enabled customers under lockdown to find what they need and order it conveniently and seamlessly, then have it land on their doorstep within days.



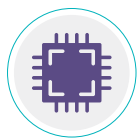
**Using AI-powered data analytics to continually improve the digital customer experience.** AI-powered analytics can ensure that a complex customer-experience system is functioning optimally, and can identify improvements that human analysts may miss.

Online furniture retailer Wayfair excels at this. The company [has more than 2,300 engineers and data scientists](#) building machine learning algorithms to personalize site merchandise and marketing campaigns to more than 20 million customers. It also uses natural language processing to understand how to best curate products.



**Hosting core enterprise software in the cloud** (rather than in on-premises data centers). Cloud hosting provides numerous advantages and efficiencies. It streamlines IT demands, facilitates customization and remote access, and enables data to be extracted for business intelligence purposes.

The Disney+ streaming service, launched in late 2019, is already estimated to be a \$3.7 billion business with 54 million subscribers as of May 2020, and [could reach \\$30 billion](#) in five years. Disney+ uses AWS as a cloud partner, providing numerous benefits and enabling the service to scale at speed.



**Deploying automation to handle a high degree of core enterprise business processes** (such as marketing, sales, service and production). Automation improves efficiencies and frees employees to tackle higher-value tasks.

[Takeda](#), the \$19 billion Japanese pharmaceutical company, is using robotic process automation (RPA) to accelerate clinical trials of a promising COVID-19 treatment. Takeda reduced the time to complete participant-onboarding paperwork from weeks to days. The company estimates that its RPA efforts [could automate 4.6 million hours of office work per year](#).



**Using Internet of Things (IoT) digital sensors to track how products perform for customers.** IoT sensors provide unprecedented insights, enabling engineers to better understand customer needs and improve products — even on the fly. There are already more than 25 billion IoT devices connected to the internet, revolutionizing how products and services work.

When Hurricane Dorian threatened the U.S. East Coast in 2019, Tesla announced it would disable a restriction imposed on its [batteries](#), enabling each car to travel farther on a single charge. It did all this remotely without having to touch a single car. In another example, ship builder [Damen Shipyards](#) is putting 700 sensors into each of the [vessels](#) it sells (about 175 per year) to detect and fix engine and other maintenance issues before they occur, and increase its service business.



**Capitalizing on the digital ecosystem partnerships with key players.** Digital ecosystem partnerships enable companies to identify and seize innovative collaborative opportunities with suppliers, customers, data providers and others within their digital sphere.

By taking advantage of digital ecosystem partnerships, [CVS Health](#) has [transformed](#) itself from a drugstore chain to a wide-ranging provider of health care products and services (including health insurance). It has forged extensive digital partnerships with medical services, product distributors and other ecosystem players, and exceeded [\\$250 billion in revenue](#) in 2019 vs. \$96 billion in 2010.



## Five key findings

The survey revealed that the essential digital capabilities played a dramatic role in organizations' performance during the pandemic. In analyzing the data, five insights stand out. The following sections examine these five findings in greater detail.

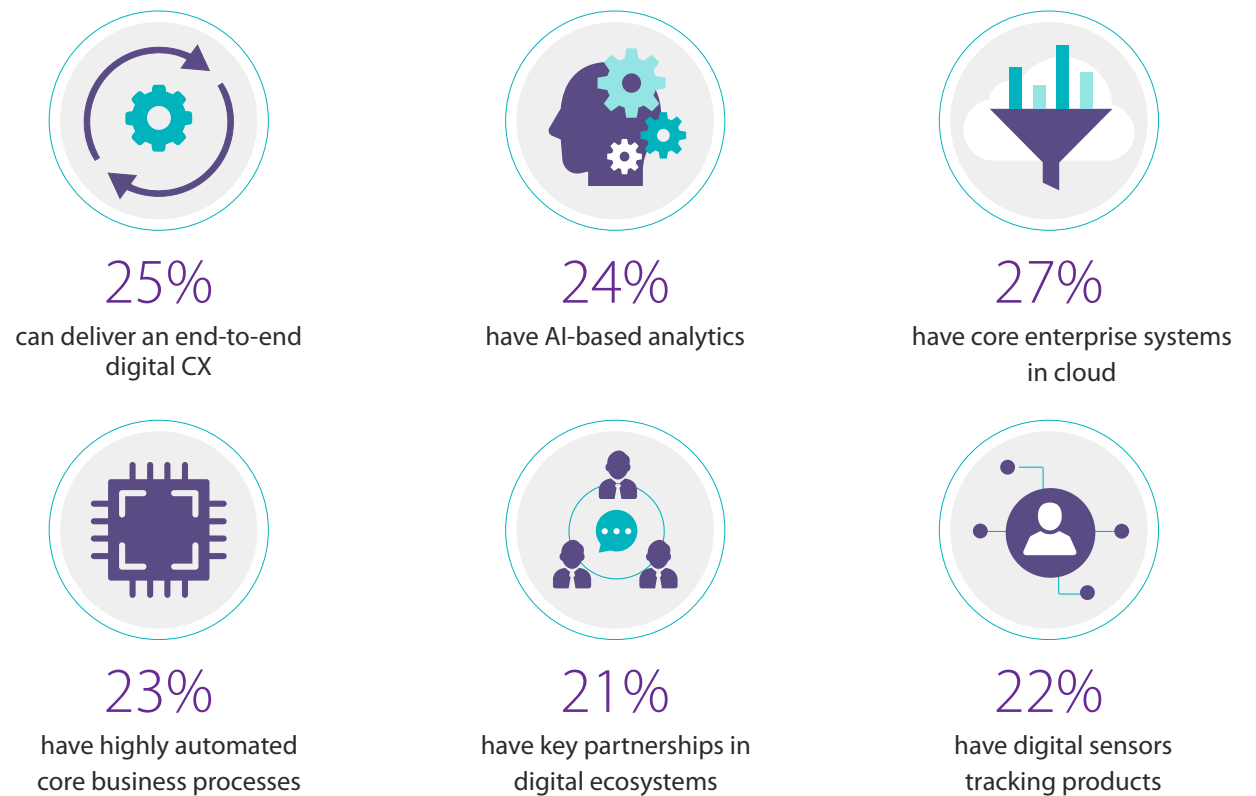


# Finding 1

## Most organizations lack essential digital capabilities, and the pandemic is exposing this as a weakness.

While we found that most companies (66%) had the capability of enabling their workers to work from home, only about a fifth to a quarter had the six essential digital capabilities we identified. (See Figure 1.)

Figure 1: Percentage of companies with six essential digital capabilities



This is proving to be a significant liability during the pandemic. As legendary investor and Berkshire Hathaway CEO Warren Buffett has said, "It's only when the tide goes out that you learn who's been swimming naked." Likewise, it took a pandemic to see which companies had developed strong digital capabilities, and which have yet to get up to speed. The lack of these capabilities has harmed them competitively in a world that, by necessity, has leapfrogged into digital.

Sectors that lead in deploying the six essential digital capabilities include high tech and retail. Those that trailed in four or more essential digital capabilities are government, consumer packaged goods (CPG) and distribution, and public services. (For more, see "Findings by Industry and Region" section.)

# Finding 2

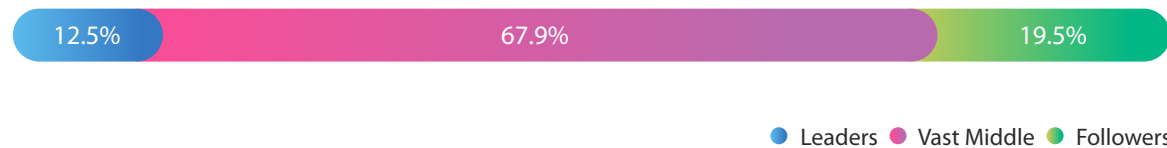
## Organizations with essential digital capabilities are coping better with the pandemic

In analyzing the survey data, we identified Leaders who have strong digital capabilities, Followers who have weaker digital capabilities and a “Vast Middle” of companies that fall between.

### Who qualifies as a Leader?

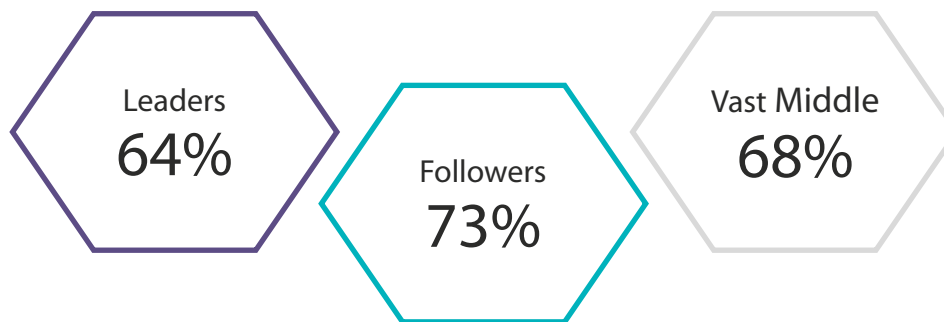
Leaders constitute 12.5% of all 287 survey respondents. To qualify as a Leader, a company must have deployed at least four of six essential digital capabilities. Followers (19.5% of the total) were companies that lacked at least three of these capabilities, or were not developing or even considering developing any of them. Companies in the vast middle (68%) – i.e., neither Leaders nor Followers – were at least planning to develop more than three of the essential digital capabilities, and they may already have two or three in place.

### % of Leaders, Followers and the Vast Middle surveys on 6 essential digital capabilities

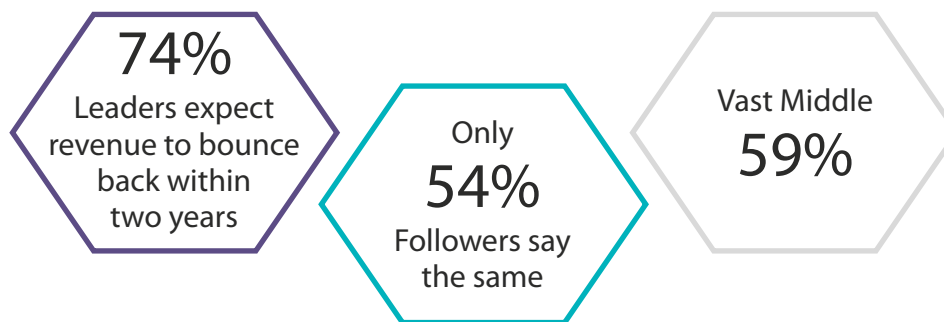


A higher percentage of Leaders have performed better revenue-wise than the rest of our survey participants during the pandemic. They are also showing greater resilience.

A smaller percentage of Leaders have seen revenue declines than have Followers.



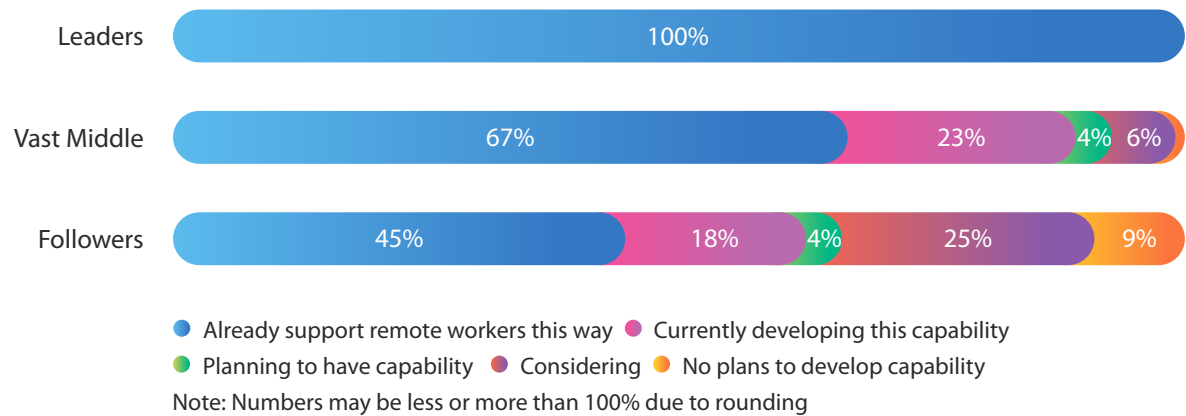
And Leaders whose revenue did decline expect a more rapid recovery.



Leaders were also more confident about predicting the future. While 10% of Followers and 14% of the Vast Middle were uncertain when their revenues would recover, all of the Leaders (100%) made a prediction.

Finally, Leaders were far better prepared to shift work to employees' homes. All Leaders indicated their remote workers operate productively, securely and collaboratively from home. (See Figure 2.) This compares to just 45% of Followers, and 67% of the Vast Middle.

**Figure 2: % of companies where remote workers operate productively, securely and collaboratively from home**



## Which industries are more digitally advanced?

Sectors with the highest proportion of Leaders out of all surveys in their sector were high tech (22% of these companies were Leaders) and insurance (16%). These are among the most inherently digital industries, dominated by complex, intangible services that can be digitized.

Sectors with the highest proportion of Followers were banking and financial services (BFS) (20%), energy (16%), and manufacturing (16%). This is surprising for BFS companies, given that their profit margins can be substantial and that they spend great amounts on information technology. Energy and manufacturing are dominated by huge capital asset investments and are therefore less easy to digitize. Still, there is enormous untapped potential to profit from digital transformation in these sectors, notably in using IoT to monitor equipment in the field.

## Finding **3**

### Many organizations are actively expanding their digital capabilities.

In addition to asking executives about whether their organizations had certain digital capabilities in place, we asked which capabilities were currently under development and which were in the planning stages. We found that while most organizations are behind in having the six essential digital capabilities, a large proportion are now racing to catch up.

We see this as evidence that the pandemic has sounded a wakeup call. Organizations recognize that these technologies are critical for resilience in the face of the pandemic, and that digital capabilities will continue to be essential in the post-pandemic world, given the changes that the crisis has accelerated.

For organizations that don't have the six essential digital capabilities, the ones they are most commonly developing are:



An end-to-end digital CX (44%)



Highly automated core business processes (44%)

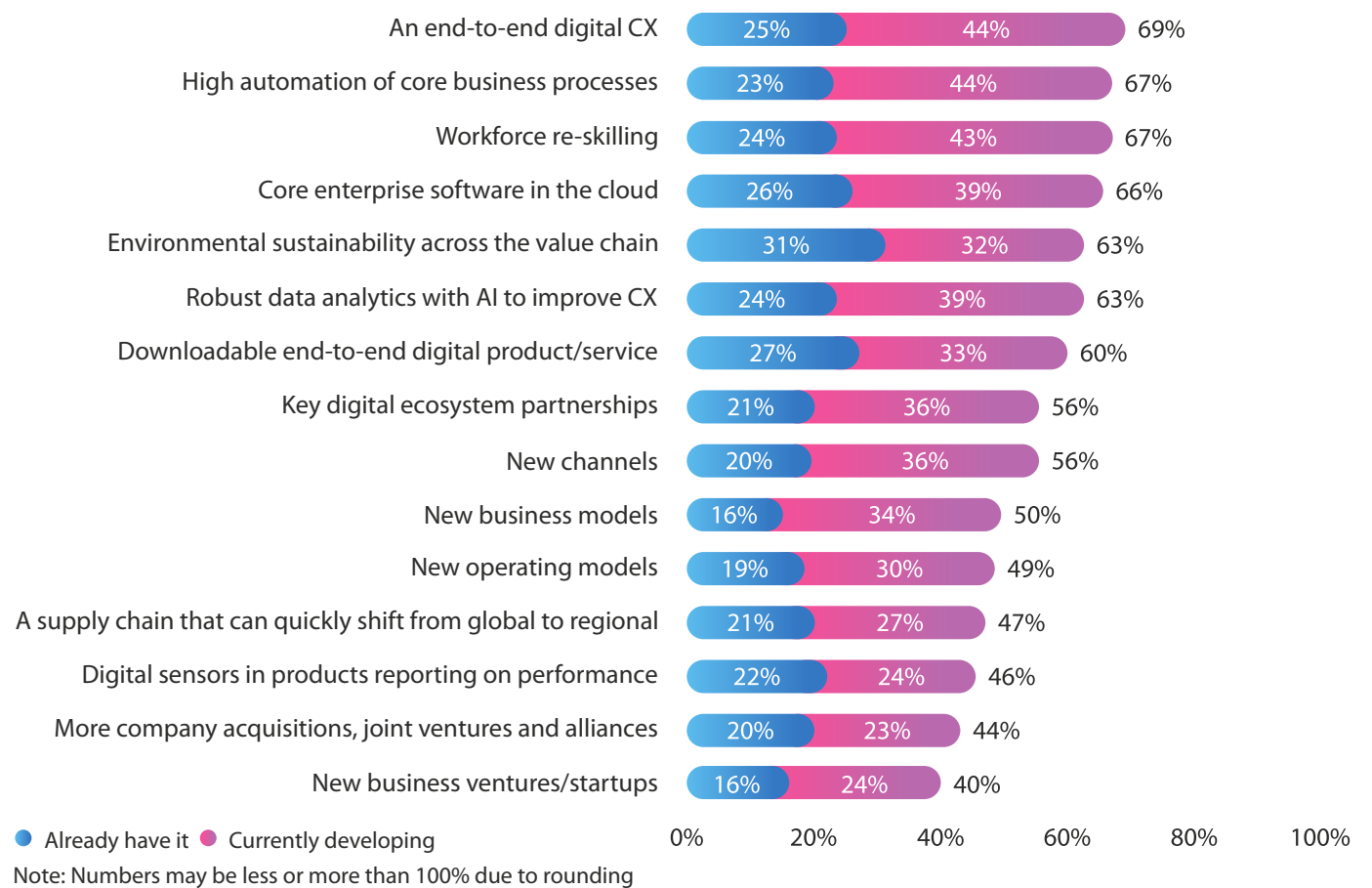
Our findings suggest that if we were to conduct the survey in a few years' time, we would find a much higher proportion of Leaders. If these companies are successful and maintain their budgets throughout the pandemic — which they are expected to do — four of the essential capabilities will have been deployed by about two-thirds (63% to 69%) of companies, including both those that currently possess these capabilities and those that are developing them.

The four capabilities are “robust data analytics with AI to improve CX” (63%), “core enterprise software in the cloud” (66%), “high automation of core business processes” (67%), and “an end-to-end digital customer experience” (69%). (See Figure 3.)

Roughly half will have the other two essential capabilities in place: “partnerships with key digital ecosystem players” (56%), and “digital sensors reporting on product performance” (46%).

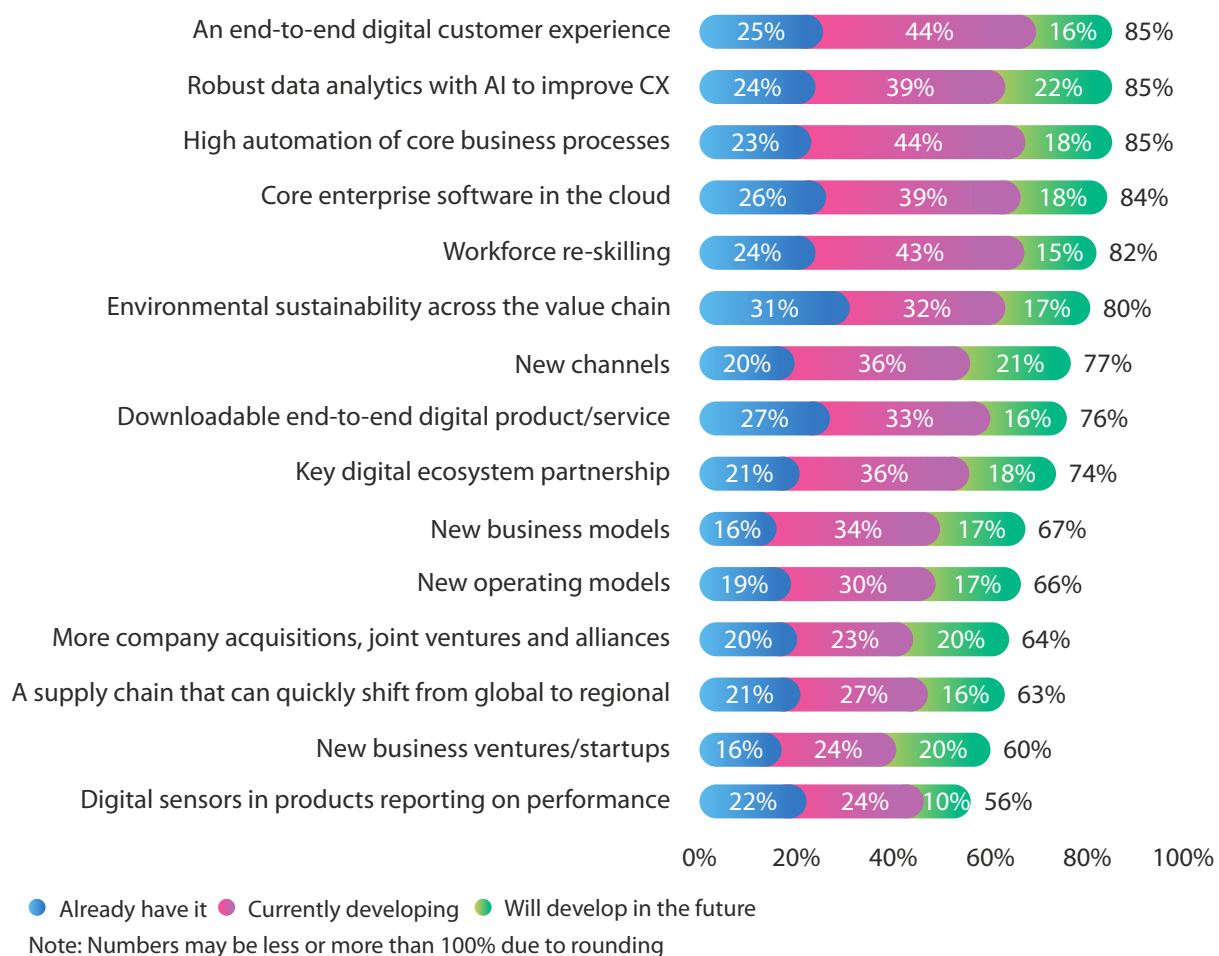
In addition to these essential capabilities, there are other digital initiatives that organizations already have in place or are currently developing. These include “workforce reskilling” (67%), which suggests a long-term view toward transformation rather than implementing point solutions to get them through the pandemic. And despite the economic crisis, organizations remain committed to tackling the slower-moving crisis of climate change. “Enabling and ensuring environmentally sustainable practices across value chain” remains a high priority (63%) for organizations.

**Figure 3: Business initiatives companies have deployed or are currently developing**



On top of organizations that currently have essential capabilities in place or are developing them, 10% to 22% are planning to deploy them in the future, as shown in Figure 4. This would bring the total to more than 84% for 4 of the 6 essential capabilities. The finding that a significant majority of companies could soon qualify as leaders dramatically boosts the urgency for deploying digital technologies, transforming them from a competitive edge to a business imperative.

**Figure 4: Business initiatives organizations have deployed, are currently developing, or plan to develop**



# Finding 4

## Amid shrinking budgets, digital transformation rises as a priority

Though the commitment to digital transformation is strong, there is a significant lack of clarity on how to strategically move on multiple digital fronts cost-effectively in this economic environment. The survey found that executives have been contending with intense budget pressures during the pandemic. Revenue has fallen at 68% of companies (see Figure 5), and at least two-thirds don't see it returning to pre-pandemic levels for more than a year (see Figure 6).

Figure 5: How COVID19 pandemic impacted organizations' revenue/budget

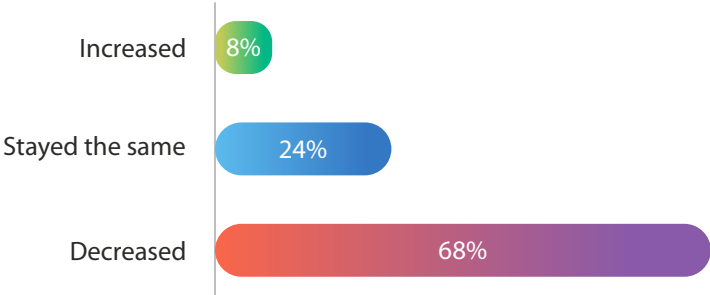
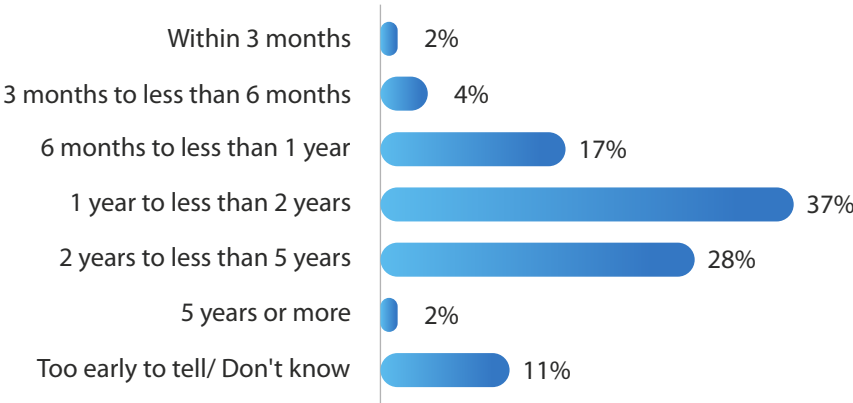


Figure 6: When organizations believe annual revenue/budget run rate will return to pre-pandemic levels



Note: Numbers may be less or more than 100% due to rounding

Amid this widespread revenue decline, budget pressures are intense. On a scale of one to five, respondents ranked “managing the company's cash flow and budgets” and “strategic cost management” among the most important in a list of more than twenty concerns executives face, alongside such challenges as “IT security” and “implementing a strategy for dealing with the crisis” (Figure 7).

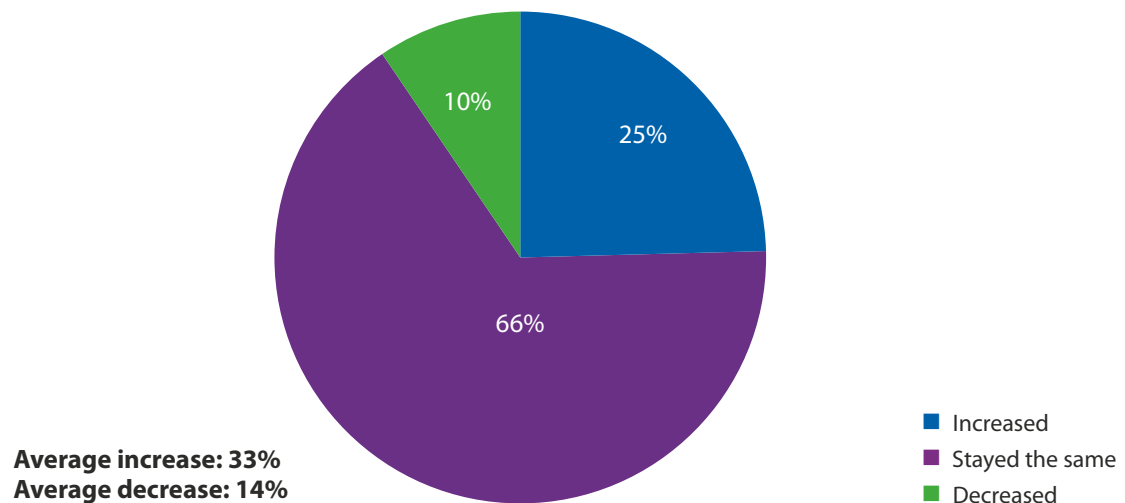
**Figure 7: Pandemic-related concerns**





Despite the budget pressure, the survey found that 66% of respondents have maintained their digital transformation budget, and 25% have actually increased it. Among those who have dedicated additional funds to digital transformation, the average increase is 33%. Among the 10% who cut the DX budget, the average decrease is only 14%. (See Figure 8.)

**Figure 8: The pandemic's impact on digital transformation (DX) investments**



Note: Numbers may be less or more than 100% due to rounding

Such digital investments have turned out to be crucial for many organizations in the downturn. One large European airline had to ground nearly 90% of its fleet during the pandemic and handle customer refund requests. Robotic process automation enabled the airline to field more than 100,000 refunds and reduce the time it took to acknowledge customer requests from 10 days to less than 30 minutes.

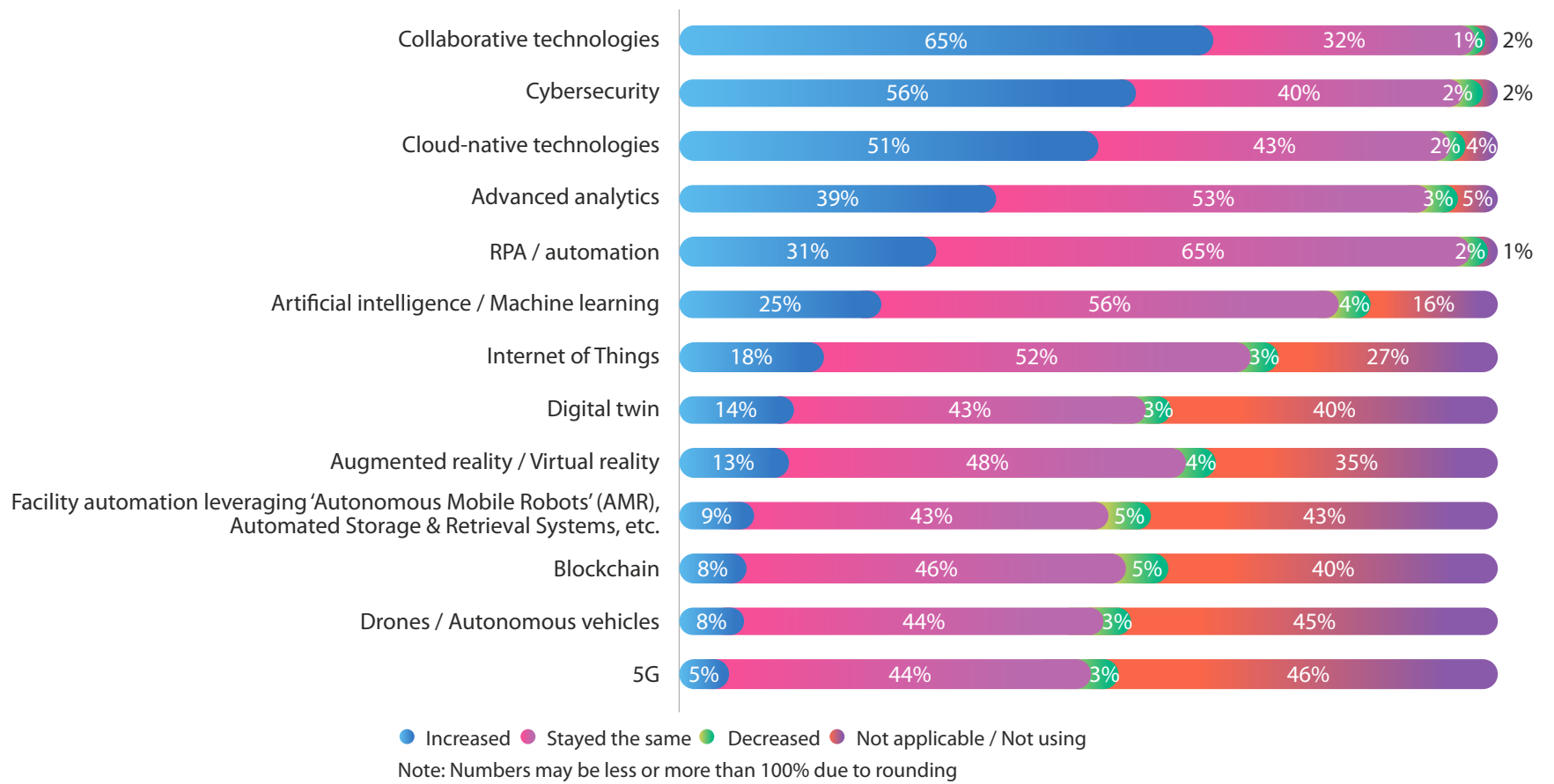
### A focus on strategic priorities

The pandemic-driven need to expand digital capabilities amid budget tightening is forcing organizations to make difficult decisions. Executives are compelled to balance goals – such as improving the customer experience, supporting remote workers and building a digitally flexible supply chain – all of which are urgent. Once they have set their priorities, they are evaluating which goals can be addressed with point solutions, and which require a complete overhaul of processes or operating models.

Figure 9 shows how organizations are changing their technology investments due to the pandemic. Increases significantly outnumber decreases. The most common increases have been to technologies that support remote work. These include “collaborative technologies,” “cybersecurity” and “cloud-native technologies.” While the pandemic may have accelerated investment in these areas, our survey data suggest that these technologies will remain critical to how companies operate in the future, even after the pandemic is over.

The proportion of companies decreasing their investment was both small and evenly distributed. Technologies in which the greatest proportion of respondents (5%) decreased their investments were “facility automation leveraging autonomous mobile robots” and “blockchain.”

Figure 9: How organizations are changing their investments in 13 technologies due to the pandemic



## The digital ecosystem's impact on strategy

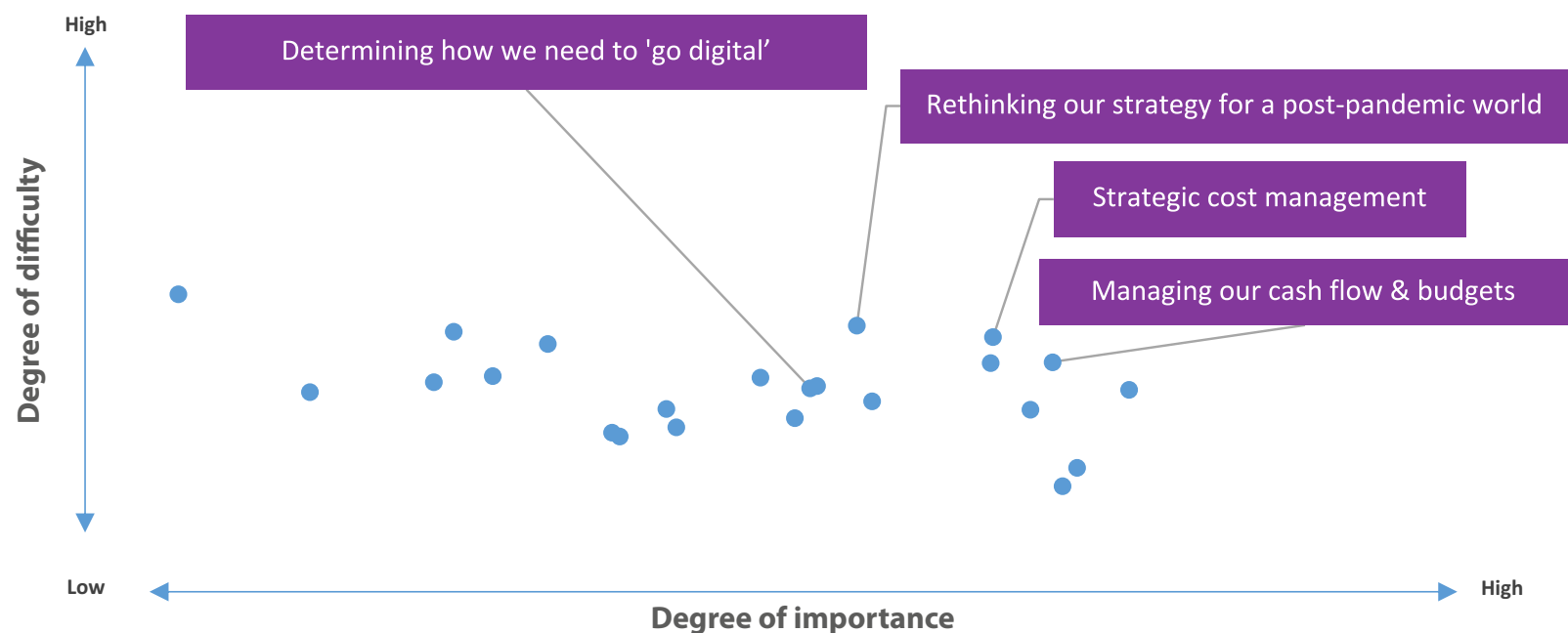
On a strategic level, the pandemic is forcing organizations to rethink how and where they compete. The accelerating shift to digital requires them to consider their place among cross-industry digital ecosystems, and to determine where they can best add value, both during the pandemic and on a business landscape that will be forever changed by it.

In addition to determining which technologies are most important to their goals, organizations should ask two questions to define their digital strategy:

- How do they build the right digital capabilities quickly but effectively?
- How do they design these capabilities to be expandable, so that technologies deployed during the pandemic don't constrain them in the future?

Given the need to prioritize digital goals, it is helpful to consider the importance and difficulty of implementation. Figure 10 plots which business objectives respondents considered most important versus which are the most difficult to accomplish. For instance, restarting plants and warehouses was viewed as a less important but more difficult task, hence many companies are not making this a priority. On the other end of the spectrum, shifting to remote work and continuing to serve customers (i.e., business continuity) were seen as high importance and low difficulty, so these tasks are likely to be high on the list of priorities for many organizations.

Figure 10 : Top business objectives respondents find most important and most difficult to accomplish



In dealing with the pandemic's impact, how important have the following issues been for your organization to manage?  
While dealing with the pandemic's impact, how difficult have these aspects been for your organization to manage?

# Finding **5**

## Remote work is a new long-term norm, and nearly all organizations are investing to make it productive and safe.

As the pandemic spread around the world, for the vast majority of organizations shifting work home has not been difficult. Yet keeping remote workers productive, secure, and working in agile teams has been a real challenge. We found that fear of remote workers being hacked is a major concern for IT security professionals. Additionally, 43% of companies find it difficult to manage key improvement projects with remote teams.

The most common areas of increased technology investment serve to boost the efficiency and safety of remote work.



Despite the challenges, the remote workforce is here to stay. In each company, the average proportion of employees primarily working remotely has increased, and is expected to remain elevated after the crisis ends:



With an eye to this long-term expanded role for remote work, nearly all organizations are investing in technologies to support remote work and protect it from risks such as cyberattacks.

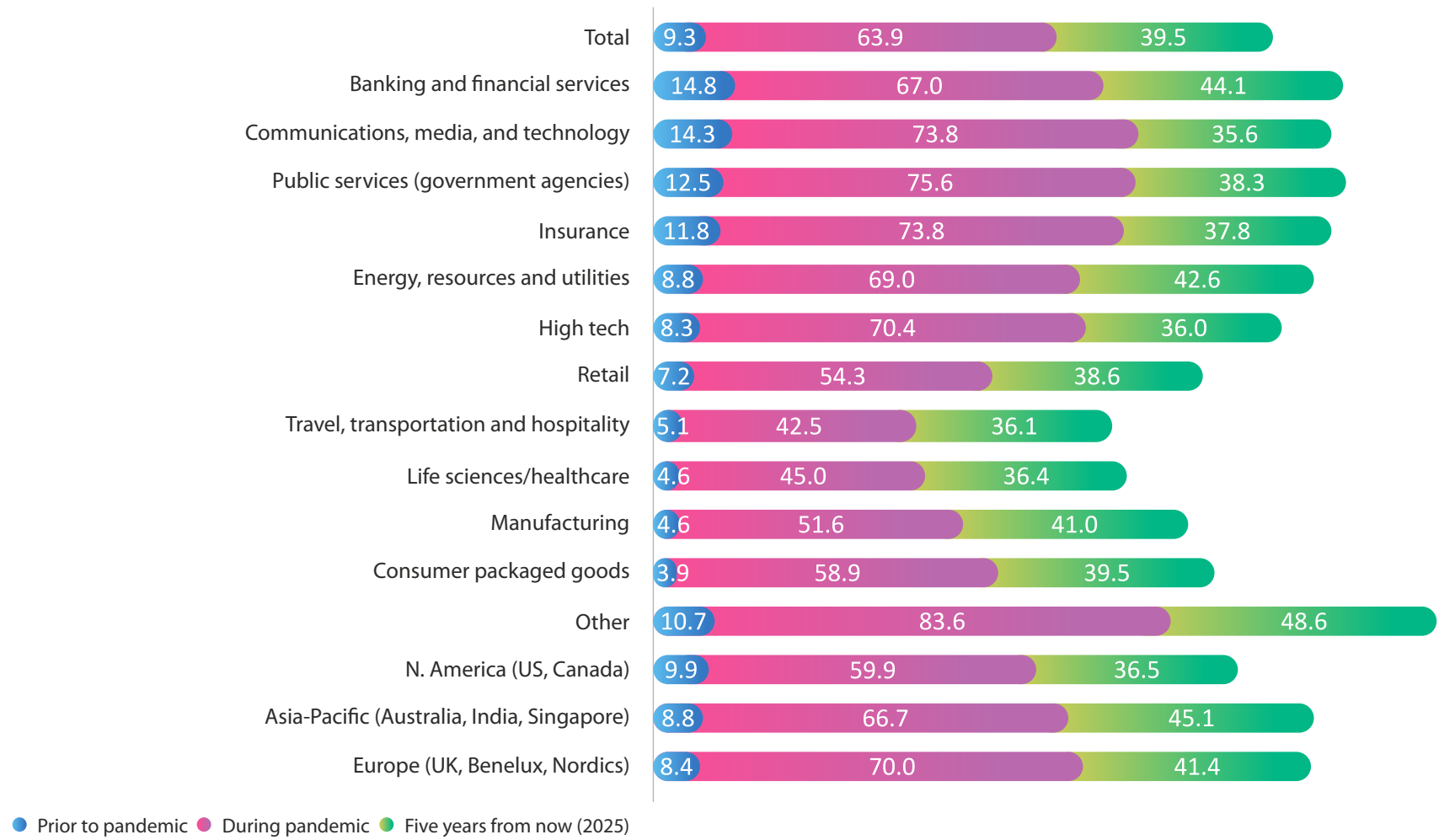
Remote work has, of course, been vital during the pandemic. Organizations' ability to shift their employees' work to their homes has dramatically softened the public health and economic toll of the crisis. A critical question for the future is this: To what extent will the shift to remote work endure, even after the pandemic ends? The answer to this question can help businesses determine the right level of investment in such areas as collaborative technologies, cybersecurity, and support for remote work.

As shown in Figure 11, the sectors with the highest proportion of remote employees include public services (76%), communications (74%) and insurance (74%). The lowest proportions were in healthcare/life sciences (45%) and travel/hospitality (42%). Geographically, employees in Europe were most likely to be working remotely (70%), followed by Asia Pacific (67%) and North America (60%).

While respondents believe that many employees will return to their workplaces after the pandemic, they expect a large proportion – about 40% of the total – to be working remotely in 2025. If this prediction proves correct, about two-thirds of people who are currently working remotely can expect to continue doing so for the long term.

After the pandemic, a higher proportion of employees are expected to work primarily from home in banking and financial services (44%), energy (43%) and manufacturing (41%). Those in the Asian region will be more likely to work from home (45% of the average workforce) than Europeans (41%) and North Americans (37%).

Figure 11: In average company, % employees primarily working remotely, by industry and regions





## Findings by industry and region

The survey found significant industry and regional variations in the digital capabilities and plans that we asked about, including digital readiness, investment in digital transformation, revenue impact, expected revenue recovery times, and the ability to support remote workers. This section examines these sector and regional differences in greater detail.

Among the key findings: While North American companies are ahead of Europe firms on many indicators, both European and Asia-Pacific firms are likely to be investing in essential digital capabilities, to the point where companies in these two regions may soon catch up or have an edge. In the near term, these two regions also appear poised to surpass North America in remote-work support.

In our industry analysis, we found that the sectors with the smallest percentage of companies suffering from revenue declines were also the sectors that appeared to be the most committed to digital transformation during the pandemic. There were exceptions, however. Although nearly nine in ten manufacturers surveyed suffered revenue declines, most manufacturers were increasing their digital transformation investments. On the other hand, although revenues in life sciences/healthcare companies have fared relatively well, these organizations were more likely to cut their DX budgets, perhaps because of urgent pandemic-related needs.

### Current digital readiness status by industry and region

Among all sectors, high tech and retail lead in deploying the six essential digital capabilities (Figure 12). Half of high-tech firms have digital sensors tracking product and service performance, and 36% use AI-based analytics to improve their digital CX. These capabilities are a natural fit for high tech firms, which conduct a large portion of their business online and compete on the quality of complex products and services.

In retail, the essential digital capabilities are helping to reduce costs and retain customers. Given the sector's fierce price competition, a relatively large proportion of retailers are using core process automation (44%) and end-to-end digital CX (39%) to reduce costs amid thin profit margins. Additionally, digital CX coupled with robust AI (used by 39% of retailers) are helping to deliver a superior customer experience, a critical strategy for building retail loyalty.

Sectors that trailed in four or more essential digital capabilities are government, consumer packaged goods (CPG), and energy. Sector-specific considerations may account for some of the variation. For instance, CPG was ahead of all other sectors in hosting core enterprise software in the cloud (44%) and tied with retail in adopting an end-to-end digital customer experience (39%). Yet CPG is among the least likely sectors surveyed to use digital sensors to track product performance (17%), perhaps because such technology may not be cost effective for low-ticket CPG products.

**Figure 12: Percentage of companies by industry with the six essential digital capabilities**





Regionally, North America and Asia lead Europe in deploying the six essential digital capabilities (Figure 13). On both continents, about a quarter of respondents have the capabilities in place, compared to only 17% in Europe. A greater proportion of Asian companies are using the cloud for their core enterprise software (35%), AI to improve CX (28%) and are automating core processes (28%). North America leads in deploying end-to-end digital CX (29%), digital sensors to track product performance (27%) and in establishing key digital ecosystem partnerships (23%).

European organizations lag the leading region (either North America or Asia-Pacific) by at least 10 percentage points in five of the six essential capabilities. Europe trails significantly in using digital sensors (12% compared to 27% for North America) and in core process automation (15% compared to 28% in Asia).

**Figure 13: Percentage of companies by region with the six essential digital capabilities**

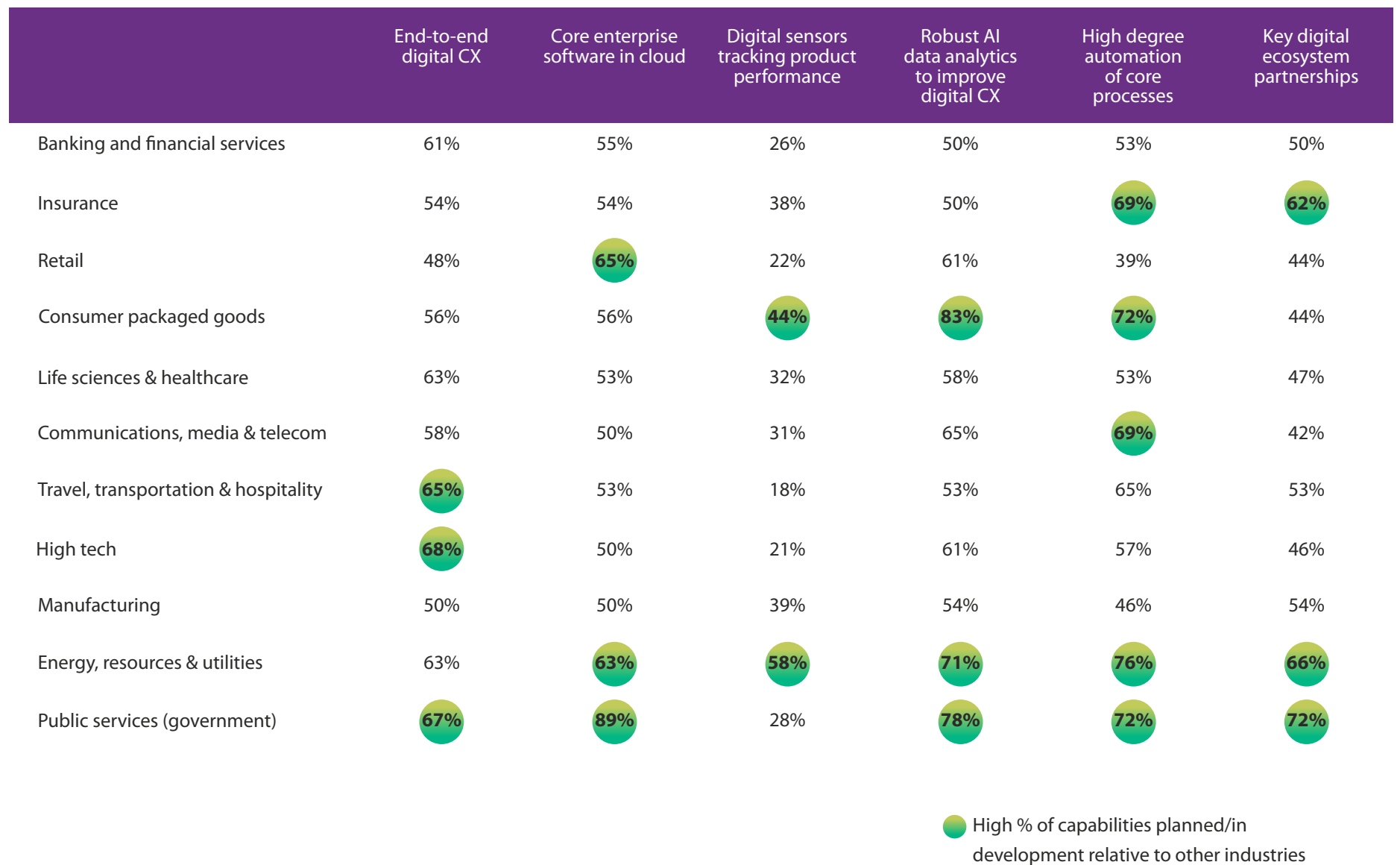
	North America	Europe	Asia
End-to-end digital CX	29%	19%	22%
Core enterprise software in cloud	27%	19%	35%
Digital sensors tracking product performance	27%	12%	22%
Robust AI data analytics to improve digital CX	26%	16%	28%
High degree of automation of core processes	25%	15%	28%
Key digital ecosystem partnerships	23%	18%	16%
<b>Average</b>	<b>26%</b>	<b>17%</b>	<b>25%</b>

## Essential digital capabilities under development by industry and region

The proportion of organizations developing or planning to develop each of the six essential capabilities varied significantly by industry (Figure 14). For instance, public services had the highest proportion of organizations investing in enterprise cloud technology (89%), compared to only half of communications, media and telecom companies. Both energy and public services organizations were more likely to be developing (or planning development) in five of the six essential digital capabilities, likely because these sectors have been trailing others in developing them.

Despite leading the other sectors in having capabilities in place, high-tech and retail are still investing heavily. End-to-end digital CX, the capability that the lowest proportion of tech organizations have deployed (29%), is currently in the planning or development stage at 68% of tech firms, suggesting that nearly every company in the sector (97%) could soon have an end-to-end digital CX. Likewise, initiatives in planning or development would boost AI analytics for CX to 97% saturation, core process automation to 89% and core enterprise software in the cloud to 89%. Similarly, more than 8 in 10 retailers will have developed these four capabilities.

Figure 14: % of companies developing or planning to develop the six essential digital capabilities, by sector




European organizations may be behind in adopting essential digital technologies. Nonetheless, most of them are investing aggressively to catch up.

Europe leads Asia and North America in developing three of the six capabilities — end-to-end digital CX (51%), core enterprise software in the cloud (51%) and AI to improve digital CX (44%). And European organizations are tied with Asian organizations in implementing a fourth technology: core process automation (47%).

Still, Asia is significantly more active than Europe in developing the other two capabilities. Forty-eight percent of Asia-Pacific organizations are developing key digital partnerships versus 36% of European ones. Additionally, Europe still lags in deploying digital sensors, with only 19% actively developing them, compared to 40% of Asian organizations and 20% of North American ones.

**Figure 15: % of companies developing the six essential digital capabilities by region**

	North America	Europe	Asia
End-to-end digital CX	38%	51%	50%
Core enterprise software in cloud	35%	51%	36%
Digital sensors tracking product performance	20%	19%	40%
Robust AI data analytics to improve digital CX	36%	44%	38%
High degree automation of core processes	42%	47%	47%
Key digital ecosystem partnerships	31%	36%	48%
<b>Average</b>	<b>34%</b>	<b>41%</b>	<b>43%</b>

 High % of capabilities planned/in development relative to other regions

## Revenue impact of pandemic by industry and region

Overall, nearly seven in ten organizations (68%) have experienced revenue declines during the pandemic, but the survey found a large variation by sector (Figure 16).

In four sectors, more than 80% of respondents reported revenue declines in the pandemic: manufacturing (89%); travel, transportation and hospitality (88%); high tech (82%); and energy resources and utilities (82%). In three of these sectors — travel, high tech and manufacturing — no company said their revenue has increased. Manufacturing and travel have suffered from the need for people to physically distance, while the troubles in the energy sector are well known amid steep drops in energy use and prices.

On the other end of the spectrum, more than 10% of respondents in four sectors said that their revenues have increased. Insurance firms were the most likely to report an increase (23%) followed closely by CPG (22%). These sectors benefitted from nervous consumers seeking extra safeguards and stockpiling supplies. Retail benefitted as well, from people making purchases to keep their families occupied and comfortable. The life sciences and healthcare sector, ground zeros for the crisis, has also fared well, with COVID-related spending offsetting the need to postpone nonessential procedures. Fewer life sciences/healthcare organizations (42%) reported a revenue decline than other sector, and 16% reported an increase.

Figure 16: Revenue impact of the pandemic by industry

	Industry											
	Total	Banking and financial services	Insurance	Retail	Consumer packaged goods	Life sciences/ healthcare	Communications, media, and technology	Travel, transportation and hospitality	High tech	Manufacturing	Energy, resources and utilities	Public services
Decreased	68%	58%	50%	61%	56%	42%	69%	88%	82%	89%	82%	56%
Stayed the same	24%	34%	27%	26%	22%	42%	23%	12%	18%	11%	16%	44%
Increased	8%	8%	23%	13%	22%	16%	8%				3%	

Regionally, firms reporting revenue decreases were more common in Europe (70%) and North America (69%) than in Asia (64%; Figure 17). This could be attributed to the strict confinement regimes in the European Union and the still-strong crisis in the United States. Revenues were more likely to remain stable at Asian firms (33%); only 3% reported an increase. Given the size and makeup of the survey, however, it's difficult to draw inferences from the data. In Europe, for instance, an outsized representation from insurance firms (12% versus 3% in Asia) may explain the higher proportion of European organizations experiencing revenue increases. Similarly, a larger proportion of energy companies (8% in Europe versus 3% in Asia) may have skewed findings on revenue decreases.

Figure 17: Revenue impact of the pandemic by region

	Region		
	North America	Europe	Asia-Pacific
Decreased	69%	70%	64%
Stayed the same	23%	19%	33%
Increased	8%	11%	3%

Among organizations that had suffered revenue declines, insurance and high tech firms are the most optimistic about a speedy recovery (Figure 18). Given the strong performance of the insurance industry during the pandemic, as discussed above, the sector's optimism appears justified. The high tech industry's positive outlook may be driven by the vital role that technology is playing during the pandemic, and the fact that the vast majority of organizations plan to maintain or boost digital transformation spending. Sectors anticipating a slower recovery include retail – where 43% say it will take two to five years – travel (43%) and manufacturing (40%). These sectors may all be suffering from the economic and operational constraints posed by physical distancing requirements.

Figure 18: Expected time to revenue recovery, by industry (for firms with revenue declines)

	Industry							
	Banking and financial services	Insurance	Retail	Communications, media, and technology	Travel, transportation and hospitality	High tech	Manufacturing	Energy, resources and utilities
Less than 1 year	10%	31%	21%	22%	14%	30%	16%	19%
1-2 years	43%	39%	36%	44%	36%	35%	32%	32%
2-5 years	24%	23%	43%	28%	43%	13%	40%	32%
5+ years	5%					4%		0%
Too early to tell	19%	8%		6%	7%	17%	12%	16%

(Note: the CPG, life sciences/healthcare and public service sectors are not shown because the number of respondents with revenue declines yielded an excessively small sample size.)

Across the three regions, there is little variation in the likelihood that companies suffering revenue declines believe they will recover within two years: 61% for North America, 58% for Europe and 54% for Asia (Figure 19). European firms, however, are significantly less likely to expect revenues to recover within a year (10%) compared to Asian (22%) and North American firms (28%). Nearly half of European firms foresee revenue recovery in one to two years. Asian companies were more reluctant to make a prediction; 19% said it is too early to tell when revenues will recover.

Figure 19: Expected time to revenue recovery, by region

	Region		
	North America	Europe	Asia-Pacific
Less than 1 year	28%	10%	22%
1-2 years	33%	48%	32%
2-5 years	28%	30%	24%
5+ years	2%	0%	3%
Too early to tell	9%	12%	19%



## Call to action: Thriving amid pandemic-driven digital urgency and beyond

In analyzing the survey results, one theme recurs consistently: The precipitous changes triggered by the pandemic render digital capabilities more vital than ever. Yet as we discovered, most organizations are at the beginning of the digital maturity curve with glaring gaps in their digital readiness. The digital demands of the pandemic are forcing these organizations to accelerate their digital transformation, with the majority actively developing or planning to implement these capabilities.

But the accelerating transformation that is under way is not only about performing better during the pandemic. The changes will endure over the long term. As such, despite cash constraints, there is an imperative to turn current investments to long-term advantage.



## Strategic checklist

To implement these changes effectively, companies should pursue the following actions:

### Pivot and thrive

- **Coalesce around a vision of the company's place in the digital ecosystem.** This involves having a strong knowledge of digital operating models and digitally enabled products, and a purpose-driven approach to understanding where the company's best strategic opportunities lie.
- **Continually experiment with new digital business models, digital products and digital processes.** This requires embracing risk because there is no innovation without risk. But companies can reduce risk through agile development of products and business processes, rapid online feedback and flexible business model planning.
- **Engineer digitally flexible supply chains.** As the pandemic has demonstrated, the ability to shift production and distribution rapidly from cross-border to intra-border is essential to resilience.

### Build an adaptive core

- **Automate every manual activity that can be automated, using AI to improve them continually.** Automation builds robust competitive efficiencies and frees employees to pursue higher-value tasks.
- **Create an irresistible digital CX.** Organizations must be able to personalize the customer experience for the masses using AI and automation. They should simplify interactions before, during and after the purchase, and where necessary provide a digitally intensive sensory experience (which often requires the immense computational power of cloud providers).
- **Identify new tasks, skills and jobs that can't be automated, and train people to master them.** A digital strategy will create new opportunities and impose new demands on employees. Upskilling is a vital undertaking to ensure that the company can appropriately handle the new way of working.

### Protect, empower and retain talent

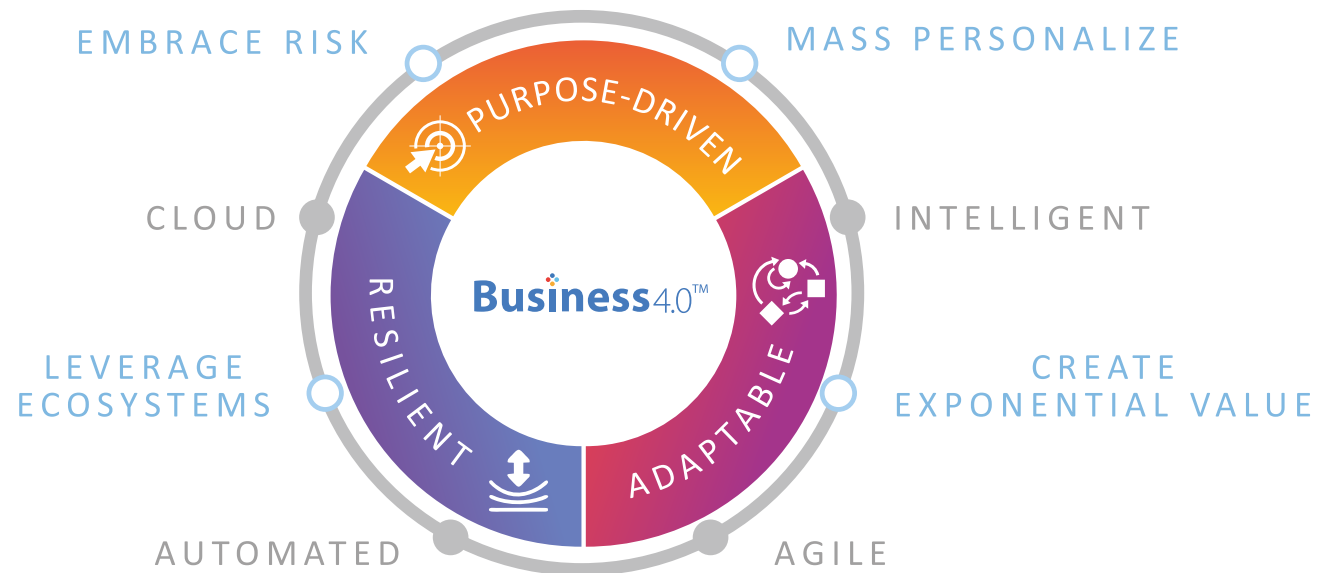
- **Create a superior employee experience, especially for remote workers.** As the battle for talent goes global, the quality of the employee experience will be more important than ever.
- **Keep the remote workforce agile, productive, energized, healthy and safe from cyberattacks.** Remote working is here to stay. Just as companies design IT and offices to ensure excellent results, they need to optimize the remote working experience.
- **Capitalize on a global market for talent.** The trend toward remote work enables talent to work from anywhere they can tap the internet. This expands the opportunity to hire great employees who wouldn't have joined a company if they had to report to one of its offices. Conversely, it poses threats as rival firms compete for your best talent.

We believe that by undertaking these steps, organizations can capitalize on the potential of digital transformation, and compete effectively in the new era.



## Business 4.0™: Harnessing the transformative power of digital

### PURPOSE-DRIVEN, RESILIENT & ADAPTABLE



Business 4.0 is [TCS' framework of business behaviors](#) that capitalize on digital technology and create customer value. It comprises these essential business behaviors:

1. **Creating exponential value.** This entails deconstructing traditional value creation concepts to unveil new opportunities. Big data, IoT, and AI allow linkages and cross-selling, which enable businesses to look beyond short-term revenue opportunities.
2. **Driving mass personalization.** Digital technologies enable businesses to customize at scale. AI-based analytics allow an almost infinite scope of customer segmentation across a range of variables.
3. **Leveraging digital ecosystems.** Digital technologies are redefining industry boundaries, enabling businesses across industries to collaborate and deliver greater value to the customer. The use of application program interfaces (so-called API-fication), analytics and digital platforms have elevated cross-company and cross-industry collaboration to another level.
4. **Embracing risk by tapping the cloud and agile experimentation.** Digital technologies and agile methodologies have enabled new levels of flexibility, allowing businesses to embrace risk and capitalize on high returns. To maximize digital advantage, businesses need to think big and focus on the potential value to the customer, rather than the risk involved.

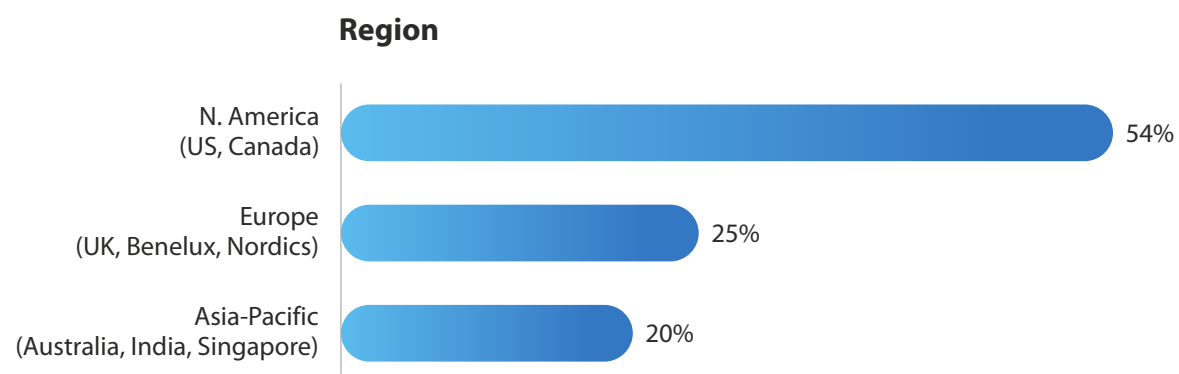


## Appendix: Survey demographics

About half of our 287 survey participants were based in North America, with a quarter in Europe and a fifth in Asia-Pacific.

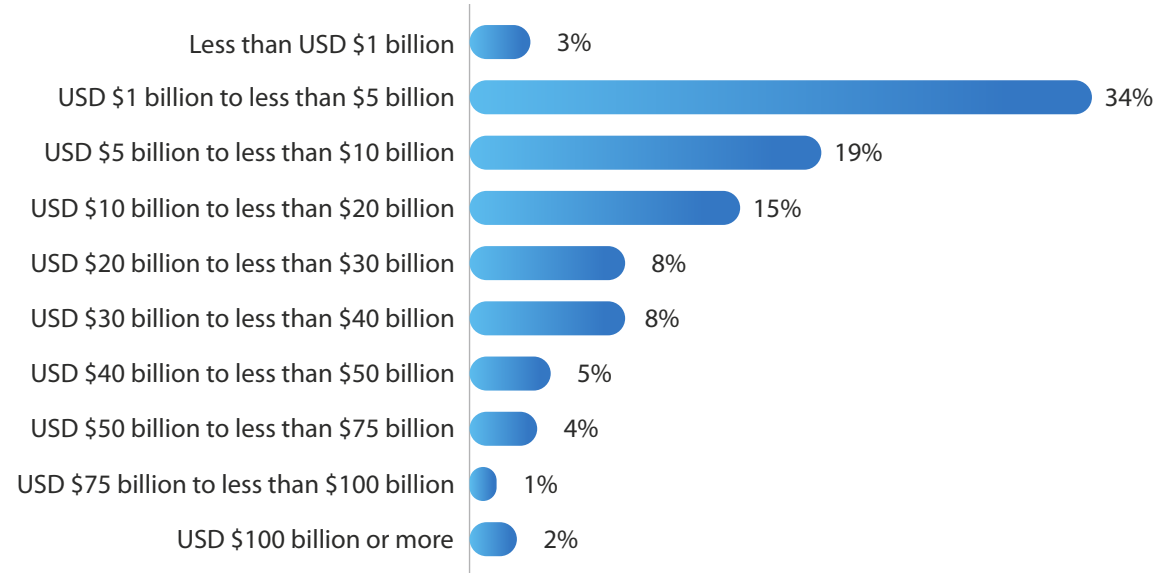
### ■ By region

Headquarters were in North America (54%), Europe (25%) and Asia-Pacific (20%).



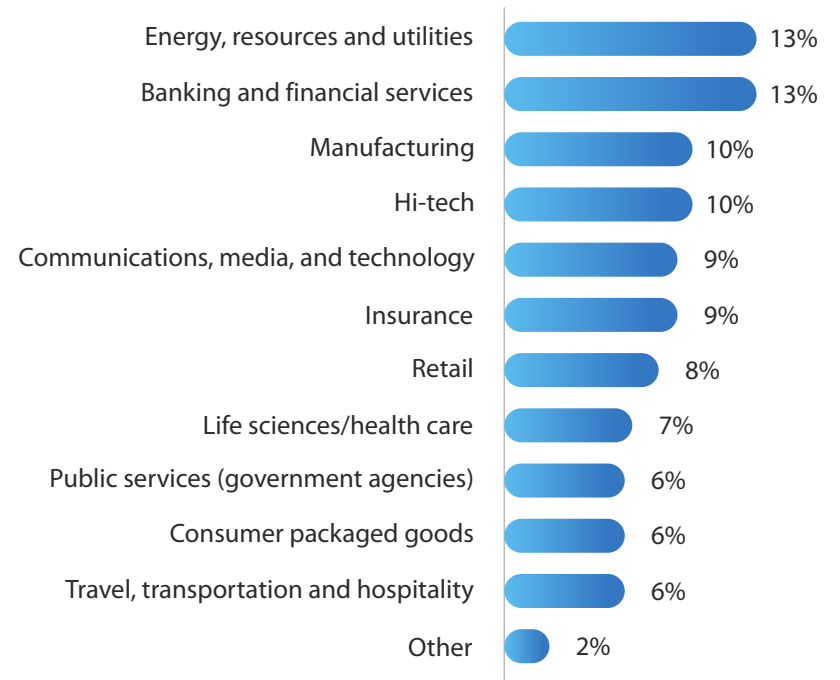
■ **By revenue**

Most of the organizations (63%) had revenue of at least \$5 billion. Some 28% had revenue of more than \$20 billion.



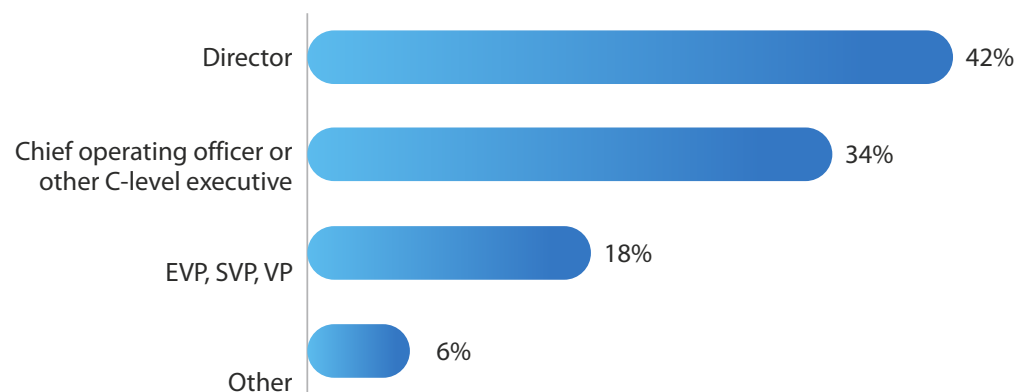
■ **By sector**

We surveyed organizations in 11 sectors. The greatest number of respondents were from the energy (13%) and banking & financial services (13%).



■ **By management role**

The majority of our survey participants were at the vice president level or above. About a third were chief executives or chief operating officers.



## To know more

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## About Tata Consultancy Services Ltd (TCS)

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A part of the Tata group, India's largest multinational business group, TCS has over 448,000 of the world's best-trained consultants in 46 countries. The company generated consolidated revenues of US \$22 billion in the fiscal year ended March 31, 2020 and is listed on the BSE (formerly Bombay Stock Exchange) and the NSE (National Stock Exchange) in India. TCS' proactive stance on climate change and award winning work with communities across the world have earned it a place on leading sustainability indices such as the Dow Jones Sustainability Index (DJSI), MSCI Global Sustainability Index and the FTSE4Good Emerging Index.

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