

**Trending Insights** 

\_

# **COVID-19 Action Guide**

How to manage amid chaos, ambiguity, and fear

IBM Institute for Business Value



#### Introduction

These are trying and uncertain times. Now more than ever, our global community must come together to face the coronavirus 2019 (COVID-19) crisis. No living generation has seen a global economy face such counterproductive conditions that stem mainly from stalling activity in order to protect human health. Alignment across nations has been uneven. Historical best practices for organizations have been challenged, often rendered obsolete by rapidly evolving circumstances. Our visibility into the future is murkier than ever, a veil of uncertainty obscuring what we used to see before us.

But disruption is not something new. It has been a condition for businesses, governments and societies for generations, and increasingly so in our modern techfueled world. The larger frameworks for dealing with disruption remain as central as ever. While the urgency and priority behind these frameworks has been heightened, the basic principles that drive adaptability and progress are even more relevant.

What do we do now? That is the question every business, every government, every family and every individual are asking themselves as COVID-19 spreads across the globe. If you are in Wuhan or Hong Kong, the worst of this storm may seem to have passed...but how do we really know? If you are in Europe or the US, how much worse will it get? If you are in a location that has yet to become a hot zone, what will happen if it does come your way? And even if it does not, how do we handle the economic and social fallout from what is happening elsewhere?

The answer begins with a single, simple notion, as obvious as it is difficult: Calmness. Amid any storm or crisis, staying calm is the first step, followed closely by its analog: Patience. But once we have embraced calm, internalized patience, recognized the reality of the environment we are all in: then what? How best do we act to protect ourselves, prepare for the future, and perhaps even improve our positioning? If there are any silver linings to this moment of disruption, how do we find and pursue them?

That is what this Action Guide is geared to help us do. Created based on IBM's own experience and business continuity readiness, this guide—to action and reaction—hopes to serve several purposes. First, we want to reassure those leaders and businesses that have taken appropriate measures that they are on a reasonable course. Second, we want to spur those who may be behind to speed up their activities. Third, we want to identify areas where we all might make improvements, in the near-to-mid term. And finally, we want to reinforce a heads-up vision toward the future. To emerge stronger after this crisis, we need to be mindful of the steps we take, their implications, and their larger purposes.

What follows is a four-part guide that we hope will be useful now and remain so in the months ahead, as we continue to learn and share more from emerging circumstances. This guide is designed to help business leaders, but can apply to any organization. The first part focuses on **employees**, the core asset and life-blood of any organization, the essential core. The second part focuses on customers and partners, the concentric circle to which businesses are so indelibly connected. The third part focuses on finance and operations, the levers of supply, demand, products, materials, P&L, and balance sheet. Last, but by no means least, the fourth section focuses on community: local constituencies, governments, investors, and other key stakeholders who all feed into and are impacted by the actions of an organization.

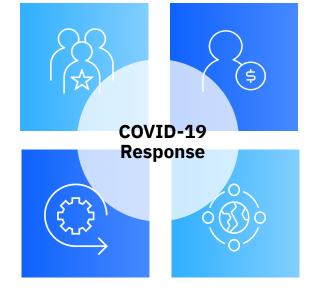
Figure 1

#### **Employees**

Illness and distress about health, financial wellbeing, and other disruptions are affecting many employees

# Finance and Operations

All companies are facing shifts in product demand and supply chain interruptions, and unprecedented volatility in cash and P&L positions



#### Customers and Partners

Customers and partners are focused on securing the essentials and are seeking reassurance about company policies

#### Community

Need to communicate and reassure investors, ecosystem partners, and local businesses and communities

By breaking things down in this way, we aim to simplify answers to complex questions and help provide a simple framework for action.

There is one critically important factor to layer into this equation: adaptability. We believe that this crisis will spark permanent changes in both business practices and societal expectations. Organizations and individuals will need to adopt new approaches to navigate this new reality. After 9/11, for example, the governmental and corporate response to security threats was shifted, new inter-agency communications systems were implemented, and industry practices evolved from airlines to ports.

In this era, the evolution may reach even broader, and in the process unleash new capabilities. The requirement for productive remote work is already spurring a reimagination of how organizations operate, from elementary schools to the US Congress. Creative reaction to the conditions around us has never been more urgent.

The "mindset" requirements of this environment may be as daunting as the medical challenge posed by COVID-19. To optimize outcomes amid disruptive change, we need to embrace ambiguity in new ways. We need to simultaneously make stark, difficult decisions—whether it is closing schools or revamping supply chains—while continuing to revisit and question, refine, and upgrade those decisions.

And now, on to our suggestions.

# Part one: Employees

#### **Protecting The Core**

An organization's workforce is its core asset, the talent that differentiates from competitors, defines priorities, and delivers outcomes. With COVID-19, that talent has been put at risk—in terms of physical, emotional and financial health. Trying to help in one area, by encouraging remote work, for example, may exacerbate other issues, fueling loneliness, isolation, fear.

Most organizations have by now put in place the basic tools to support, safeguard, and communicate with their employees. A quick rundown of what should now be in place:

- A cross-functional leadership team to assess and address the fluid impacts of the pandemic, ranging from workplace and work-from-afar adjustments to health care and financial questions.
- A multi-channel communications platform to collaborate, including video, document sharing and instant messaging.
- A regular cadence of outreach, including business continuity, emails and websites (separate for employees and external stakeholders), new data and policy shifts, etc.
- A contingency system for emergency communications, from "blast texts" to phone chains.
- A feedback system from employees, to evaluate the effectiveness of your business continuity, uncover missed areas, and improve future contingency planning.

Once those near-term needs are met, the next stage of concern about employees—if economic slowdown persists—will be cost. In fact, in 2017 the global labor share of GDP was 51.4 percent and more than 58 percent in the US.<sup>2</sup>



### **Employees**

#### Have these in place:

- Cross-functional leadership team.
- Multi-channel communications platform.
- Regular cadence of outreach.
- Contingency system for emergency communications.
- Feedback system from employees.

It has been uplifting to see how many companies are continuing to pay employees, even those on leave or unable to perform their normal functions. Some hard-hit industries may benefit from enhanced government funding or other aid. In the meantime, organizations should listen closely, offer support, remain accessible, and check in as appropriate with their employees.

Underutilized employees can also be viewed as an asset. A US federal official running for election redirected his campaign staff to explore social impact efforts, given the suspensions of physical campaigning efforts. In China, online grocery giant FreshHema, which suddenly found demand growing, "rented" some 3,000 employees from more than 40 various restaurants, hotels, shopping malls and the like. If your human assets are not being utilized at

full capacity, you may—with creative thinking—find others that can deploy them while absorbing some or all of their cost, or have them work on new ideas that you previously couldn't explore. Modern crowdsourcing platforms may help employers achieve this quickly.

Long term, it seems incontrovertible that the move to remote work—a trend already in place before COVID-19 hit—will be accelerated by our current experiences.5 Many workers are becoming trained on and comfortable with new tools, and the tools themselves are being improved and fine-tuned by the heightened use and central importance. Once the veil of COVID-19 begins to lift, and organizations begin putting post-crisis plans into place, remote work will likely be a more common component across industries and around the globe. Integrating that enhanced capability will impact staffing, IT, real estate and other assumptions, as well as expectations of the workforce. Those organizations that optimize for this new normal can improve their competitive positioning, for recruiting as well as operational efficiency.

Unfortunately, the opportunities for remote work do not apply to all. Recent research indicates that individuals with higher income have greater opportunities for working from home and remaining productive for sustained periods—further exacerbating the growing wealth gap. The opportunity to work from home also varies widely by industry. Those in the tech industry have the greatest opportunity to leverage remote working. More than 60 percent of surveyed workers in the tech industry indicate it is very possible for them to work from home. Half of workers in the financial services sector also indicate remote work is very possible. However, those in retail, government and healthcare positions are less likely to be able to perform work remotely.6

Some organizations may even choose to focus on this period as an overt training opportunity, in areas from data proficiency to business strategy. According to the latest IBM Global C-suite Study, the most successful businesses are those that embrace a data-focused culture. Today's crisis could be an opportunity for laggards to make up ground, or leaders to pull further ahead.<sup>7</sup>

Here are five core questions about employees every organization should be asking itself regularly, as we move through this crisis:

- 1. Are we doing enough to support the physical, financial and emotional health of our workforce?
- Are we creating clear work guidelines and expectations, and communicating them consistently and effectively?
- 3. Are we creatively optimizing the value of our employees through virtual work, redirected work or other means, to address the risk of furloughs, layoffs and other financial pains?
- 4. Are we weighing all the potential brand implications of necessary management decisions to minimize business impact?
- 5. Is there a team working on adaptation and implementing new processes and workflows that will persist beyond the crisis?

# Part two: Customers and Partners

#### **Building On Trust**

The central currency of relationships is trust. Unfortunately, many organizations already struggle to gain the trust of constituents. With COVID-19, that struggle to gain trust will be even greater—if obligations go unmet, social distance leads to business distance. On the other hand, times of crisis can also anchor and deepen trust. How we operate in times of stress delivers important messages about our ultimate intentions.

As with employees, most organizations have by now established some policies and practices to support and communicate with their customers and partners. A quick rundown of what should already be in place:

- A reset of your "business as usual" communications activities so that customers and others are not receiving out-of-context or tone-deaf messaging.
- Clear information about the cleanliness and health of your facilities and your products, as well as any changes to business practices (locations, hours, delivery expectations, etc.).
- A communications strategy and specific cadence, including outreach from the CEO, other executives and leaders and 1-on-1 engagement with the most valued customers and partners. Don't underestimate the need for overcommunication at this time.
- A multi-channel mechanism for accessing and resolving questions, including consistent social media listening and appropriate response mechanism.
- A program to solicit immediate feedback—on your communications, your activities, your products and services—to inform and improve your efforts.

With near-term systems in place, the next stage is assessing the relative financial health and strength of both customers and partners. For business-to-business relationships, issues of liquidity may emerge. For most, cash reserves will not last long. The median number of days that an organization can continue to pay its operating expenses is about 85.9 Credit risks will likely rise.



#### Have these in place:

- Reset "business as usual" communications.
- Information on cleanliness of facilities and products.
- Communication strategy with customers and partners.
- Mechanism for resolving questions.
- Program to solicit feedback.

If your organization has a stronger-than-usual balance sheet, you may be in position to ease the strain for those in your ecosystem; if you are in a more troubled financial position, you may quickly learn who your friends really are. Either way, the bonds of trust will be tested, and how we interact will have deep implications for the future of those relationships—and indeed every relationship.

Businesses that find their products more needed than ever will be faced with a business and moral dilemma—an opportunity to buttress the coffers as a result of high demand, balanced by the risk of brand damage if not managed properly. This is a time when values of individuals and organizations need to translate to balanced business decisions. Social distancing is creating a surge in broadband traffic, for instance, which may lead to a permanent upswing in demand and presage higher-value, higher-tier services for telecom providers, once we are through the crisis.<sup>10</sup>

Those businesses that find their products in lesser demand will, of course, face the most difficult challenges—but even here, opportunities may exist. Creative management teams may be able to use this period to explore new business opportunities, perhaps shifting their business models. The China Petrochemical Corporation (Sinopec), which is China's largest oil refiner, started selling vegetables at 340 gas stations: customers can order through the Easy Joy app to select a vegetable box that weighs around 7 kilograms, including tomatoes, carrots, broccoli and eggs, which is to last three days for a family of three. They are loaded into customers' trunks without physical contact, and can be ordered as late as two minutes before pickup. 11 The company is selling some 600 boxes per day per gas station. Meanwhile, European on-demand food delivery startups are starting to add "contactless" deliveries to increase safety for customers and employees.12 We will see more and more examples of this kind of business ingenuity in the weeks and months to come.

One long-term trend likely to be accelerated by the crisis: the expectation of and demand for better user experience. This will particularly be so for digital products, where digital engagement on all kinds of products and services is poised to be upgraded, accelerated by the frustrations of social distancingand the remote resources available to address them. Business-to-business practices that have remained stubbornly resistant to digitization will come under increased pressure, as the New York Stock Exchange's forced move to remote operations illustrates. In consumer banking, similarly, the limitations of bank branches (again, already under pressure) are being heightened by social distancing fears. Digital payment providers will be the obvious beneficiaries. Any new expectations and practices that take root during this crisis period on the parts of businesses and consumers may be anchored for the future.13

Here are five core questions about customers and partners that every organization should be asking itself regularly, as we move through this crisis:

- 1. Are your actions and choices amplifying opportunities to build trust with customers and partners?
- 2. Which customers and partners can you offer to help? And which ones might help you?
- 3. Are you assessing your pricing power in ways that balance your values, near-term advantage and long-term opportunity?
- 4. Are you exploring new products and services that your clients may need at this time, and engaging with partners that enhance your ability to collaborate?
- 5. Are you consistently and aggressively improving user experience, easing pain points and smoothing engagement, with particular attention to new digital resources?

# Part three: Finance and Operations

#### **Controlling The Possible**

An organization's operations are rife with interdependencies. Levers of supply, demand, materials, and products ideally support business activities in equal measure. But in difficult times these levers move out of synch. With the global economy under pressure and financial markets buffeted by wild swings, so much feels out of our control. Predictions, expectations and plans for the future become at best challenging, perhaps irrelevant, or worse still, dangerous. For leaders who are used to making quick decisions and marshaling their forces for the greatest impact, the impotence endemic to this crisis can feel discomforting, numbing, humbling. Still, there is no time when leadership is more important. Identify and focus on what you know, what you can control, and act accordingly.

This is where a mindset of agility and adaptability proves so central, so critical. For individuals as well as organizations, we need to develop resilience to disappointment, nurture optimism in the face of challenges, and through it all maintain a steely-eyed view of the on-the-ground reality, so we can appropriately balance opportunity and risk-avoidance.

Three areas encapsulate this most: supply chains, production lines, and distribution channels. All three are dependent on each other, and interdependent on others and on the larger economy. Here's a rundown of the policies and practices that most organizations should already have in place to support these business operations efforts as well as internal operations such as communications and employee/customer engagement:

- A crisis-management "control tower" that brings together key leaders to ensure a single point of response and companywide messaging.
- Robust digital platforms, optimized for spikes in volume with dependable order management and multitouchpoint fulfillment, which also employ data to identify hyper-local patterns in demand, to match resources and needs.
- An ongoing system of constant assessment of inventories, supply chains and your upstream ecosystem, paired with an early-warning system that expands to second and third levels of both supply and demand.



#### Have these in place:

- Crisis management control tower.
- Robust digital platforms.
- Constant assessment of inventory and supply chains.
- Exploration of staffing models.
- P&L and balance sheet assessment to address any exposure.
- An ongoing exploration of staffing models, leverage of variable workforces that can be crowdsourced, new digital capabilities, and automation/AI opportunities.
- A clear assessment of P&L and balance sheet implications, with a set of defined "tripwires," and both short- and mid-term plans to address any exposure.

These near-term priorities will continue to be central, as conditions evolve and business needs shift—right through the toughest days and into recovery. But once an organization gets a handle on these practices, there are also next-stage options to consider. Supply chains are an obvious starting point. The knock-on impacts of China's shutdowns early in 2020 already began to spark interest in geographical diversification of supply chains. In fact, 94 percent of Fortune 1000 companies have supply chain exposure to pandemic impact in China. 14 At the same time, there's been a heightened premium on speeding up or driving greater agility into supply chains to deal with fastchanging situations: Some European firms are moving from ocean freight to rail transport from China, which cuts transport time in half. Perhaps the most resilient course of all may be teaming up with supply chain partners to establish a coordinated crisis-support system. 15 In these sorts of situations, partners will likely rise or fall together, and sharing information and ideas in that climate becomes highly valuable.

Every company should leverage this situation to "virtualize" its operations with digital technologies as much as possible. Those organizations that address this with urgency, in the short-term, may find themselves with a sustainable advantage going forward. Executives should look at permanently shifting workflows, so that work comes to people wherever they are, instead of the current deployment of people coming to work.

Other mid-term steps revolve around re-assessing inventories. Some industries (oil, iron ore, steel) have already chosen to begin building up inventories, as they wait for demand—and pricing—to recover. This is leading to increased utilization of warehouses. Meanwhile, construction projects are being paused, accelerating the demand slowdown. Not surprisingly in this environment, cash preservation will become increasingly critical. That will underscore the need for optimized finance processes. Overall, the just-in-time nature of our economic system will become even more expected, needed, demanded—but hardened to encapsulate even greater agility and responsiveness. This is accomplished through actions that matter. Times of crisis are an opportunity to demonstrate those actions.

With demand for some industries stalled, there will be capacity that can be put to new uses—potentially, in the long run, remaking expectations: What once was confined to one business, may now be more multi-faceted. In China, for instance, several auto manufacturers have shifted to producing surgical masks. In part, that is a reflection of intense need for masks, but it also offers a window into how open-minded managers and leaders might find new opportunities—and fast. Automaker SGMW (a joint venture that includes General Motors China, as well as Liuzhou Wuling Motors and SAIC Motor) moved from concept to manufacturing in just three days, producing an initial batch of 200,000 masks. They now have 14 production lines with a daily capacity of 1.7 million masks. Automaker BYD's founder Wang Chuanfu led a team of 3,000 engineers to build production lines that use 90 percent in-house components; they now produce 5 million masks a day—a quarter of China's total production capacity. Similar initiatives are also underway around the world. 17 At the same time, companies need control tower capability to remain alert and prepared to pivot production back to core products as and when demand returns to the market.

Here are five core questions about finance and operations that every organization should be asking itself regularly, as we move through this crisis:

- 1. Are you creating the visibility across your operations to make informed decisions?
- 2. Are you segmenting and analyzing your customer base to understand new and emerging needs?
- 3. Are you coordinating closely with strategic partners to drive digitization, agility and efficiency?
- 4. Are you optimizing your finance processes to manage cash, credit and risks?
- 5. Are you maintaining optimism, taking control of those areas that can be controlled, while remaining realistic about risks and perils?

# Part four: Community

#### **Supporting Stakeholders**

No organization can—or should—stand alone from its community, especially if we are to make it through these difficult times and build a world of the future to which we would aspire. Investors, local constituencies, governments, and media are all key stakeholders. They need to be not just respected but supported. That starts with communication and flows into collaboration.

In 2019, the Business Roundtable published its thoughts about the balance between stakeholders and shareholders, and that interdependence has been made absolutely clear by the current global crisis.<sup>18</sup>

Most organizations are already deeply engaged with their communities, and in the COVID-19 era already have in place these policies and practices:

- An external communications plan to stay ahead and in control of the narrative, including the public, the media, community, government leaders, and fellow business leaders.
- Forthright and transparent sharing of any company information or resources that could assist in containing and/or understanding the disease and its trajectory.
- Consistent support of medical professionals and their recommendations, while weeding out misinformation.
- Efforts to support COVID-19 relief, financially and with goods and services.
- Efforts to support other struggling businesses and organizations, particular by sharing your own expertise.

At a time like this, the imperative to serve society must take precedence over self-interest. Even as businesses struggle with financial choices and supply chain shortages, they should be building contingency plans that include a measure of community support. One thing that has been abundantly clear is that in many countries, waiting for government to step in and provide solutions is not always realistic or practical. If the entities best positioned to provide help and services are businesses, then those businesses can and should step up.



# Community

#### Have these in place:

- External communications plan.
- Transparent sharing of company information.
- Support of medical professionals.
- Support COVID-19 relief efforts.
- Support other struggling businesses.

This has been the pattern in previous, more isolated disruptions, usually the result of natural disasters. <sup>19</sup> But never have integrated, coordinated corporate policies been more necessary or more important.

In the long run, engagement on community support *will* be in your organization's self-interest. Exhibiting leadership at critical times like this builds respect—or more precisely, earns respect. This is accomplished through actions that matter. Times of crisis are an opportunity to demonstrate those actions.

The society that emerges after COVID-19 is under control will resemble what existed before, but it will be different. Some of that will be about brand allegiance. Some will be about newly ingrained habits. If those forced from work don't receive some relief or forbearance on bill paying, they will likely be less quickly able to make it out the other side of this crisis, limiting the pace of recovery. The propensity toward remote work will be more prevalent, and the systems for managing that remote work will, by necessity, be more evolved. As more communities experience social distancing and sheltering in place, remote healthcare will receive renewed impetus: video visits to medical professionals, virtual-based tests of various kinds, and more.

The widespread reliance on online education will be among the most striking societal impacts. According to UNESCO, the number of children, youth and adults worldwide not attending schools or universities because of COVID-19 counts in the many hundreds of millions. <sup>20</sup> The same applications that support remote working, like Zoom, Webex and Microsoft Teams, are also being relied on by teachers and students. DingTalk, the remote office tool developed by Alibaba Group, has been facilitating online courses in China at 140,000 schools, serving 120 million students in more than 30 regions, via 3.5 million teachers. No wonder DingTalk was among the first batch of 60 distance-learning solutions recommended by the United Nations. <sup>21</sup>

One community wild-card that might emerge from the COVID-19 pandemic might well be the oft-debated advent of online voting in the US. If social distancing remains required, US officials will need to provide remote voting access, to protect the constitutional right-to-vote. That could be delivered through traditional paper ballots, in the mail, but it could also mean a more rapid embrace of online voting. Digital voting has traditionally been denigrated as risky, unsecure, hackable. But when banking accounts can be safely and seamlessly accessed from phones, when online trading and currency exchange can happen remotely, the idea of securing a voting process may be less one of technology than of resources and focus. Perhaps it might not be adopted nationally, but the likelihood rises that some locations will begin to cross that divide. And if that happens—if voting becomes as easy as texting—it has the potential to change the dynamic of elections.

Of course, as with all things related to COVID-19, flexibility is vital. When it comes to community, here are five core questions that every organization should be asking itself in this ambiguous time:

- Are you doing all you can to help your community as we navigate the repercussions of the pandemic?
- 2. Are you exhibiting leadership, with the aim of getting even the most disadvantaged society members through this crisis, and resisting the urge to fall back on self-interest?
- 3. Are you communicating clearly with health and government officials, implementing policies as directed, and urging more action when necessary?
- 4. Are you preparing your organization and your community for emergence from pandemicinduced activities, with an aim to responsibly re-spark social engagement and economic activity?
- 5. Are you helping build resilience in your community, so that once this crisis passes, we are better prepared to handle the next one, whenever it arises?

#### Conclusion

#### The Only Test That Really Matters

As the world holds its breath, waiting for the time when COVID-19 is no longer so virulently out of control, when the combination of science, business and government has successfully tamed its impact, the test that is on the minds of the average citizen is a nasal swab: Might I have COVID-19? Might a loved one have it? What can we do about it if we do? The urgency of those questions overpowers so many other thoughts and impulses. And with good reason: the disease has already killed thousands of people, and it will kill many more. The impacts of the pandemic are wreaking havoc on social fabrics and economic activity, which, in turn, has a dire human cost. There is no mistaking or downplaying the significance, the centrality, the existential and defining nature of this time.

But there will also come a time when that test will become, if not obsolete, then routine. People may still get COVID-19, and some may still die from it. Hopefully, COVID-19 will become more like a seasonal flu, something familiar that we know how to deal with. At that point, the test that will matter will not be about a pandemic. It will be about how we handled ourselves during the crisis, and whether we learned the proper lessons. The last several decades have seen so much rapid change, and many people and organizations have struggled to adapt to it. Now we see that flexibility and adaptability are not options but necessities. Those who use this crisis to permanently adapt can emerge stronger.

#### Notes and sources

- 1 World Health Organization (WHO): Coronavirus disease (COVID-19) outbreak website. https://www.who.int/ emergencies/diseases/novel-coronavirus-2019
- 2 International Labour Organization. "Labour income share as percent of GDP." July 2019. https://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page33. jspx;ILOSTATCOOKIE=YdDzYNGcRGBHBD8RiMfIVRpG38E1 5wBBhcxWQwCUjYx6AzI95V\_y!-1102363596?locale=EN&MBI\_ID=539&\_afrLoop=9618879880239138&\_afrWindowMode=0&\_afrWindowId=null#!%40%40%3F\_afrWindowId%3Dnull%26locale%3DEN%26\_afrLoop%3D9618879880239138%26MBI\_ID%3D539%26\_afrWindowMode%3D0%26\_adf. ctrl-state%3D4920uge1q\_4)
- 3 Manchester, Julia. "Kennedy suspends campaign activities for a week due to coronavirus outbreak." The Hill. March 13, 2020. https://thehill.com/homenews/ campaign/487435-kennedy-suspends-campaign-activitiesfor-a-week-due-to-coronavirus-outbreak
- 4 Tianyu, Wang. "Employee sharing helps companies survive COVID-19." CGTN. March 10, 2020. https://news.cgtn.com/ news/2020-03-09/Employee-sharing-helping-companiesget-through-COVID-19-OqvFZWc67m/index.html
- 5 IBM Benchmarking program. 2020.
- 6 Cutter, Chip and Rachel Feintzeig. "Corporate America Races to Respond to a Crisis That Upends Work." The Wall Street Journal. March 8, 2020. https://www.wsj.com/articles/corporate-america-races-respond-crisis-that-upends-work-11583604174?reflink=share\_mobilewebshare
- 7 "Build Your Trust Advantage: Leadership in the era of data and AI everywhere." IBM Institute for Business Value.
  November 2019. https://www.ibm.com/downloads/cas/
- 8 Edelman. "Edelman Trust Barometer 2020." January 21, 2020. https://www.edelman.com/trustbarometer
- 9 IBM Benchmarking Program. 2020.
- 10 Alba, Davey and Cecilia Kang. "So We're Working From Home. Can the Internet Handle It?" *The New York Times*. March 16, 2020. https://www.nytimes.com/2020/03/16/technology/coronavirus-working-from-home-internet.html

- 11 Xin, Zheng. "Sinopec starts selling vegetables at Beijing gas stations." *China Daily.* February 15, 2020. https://www.chinadaily.com.cn/a/202002/15/WS5e47ad50a310128217277c8c.html
- 12 Lomas, Natasha. "Europe's Deliveroo and Glovo switch on contactless delivery during COVID-19 pandemic." *Tech Crunch*. March 12, 2020. https://techcrunch.com/2020/03/12/europes-deliveroo-and-glovo-switch-on-contactless-delivery-during-covid-19-pandemic/
- 13 DeFranceso, Dan. "NYSE is temporarily closing its iconic trading floor and switching to all-electronic trading." *Business Insider.* March 18, 2020. https://www.businessinsider.com/nyse-will-close-trading-floor-in-response-to-coronavirus-2020-3
- 14 Dun & Bradstreet. "Business Impact of the Coronavirus: Business and Supply Chain Analysis Due to the Coronavirus Outbreak." February 2020. https://dnbuae.com/public/ uploads/editor-images/files/DNB\_Business\_Impact\_of\_ the Coronavirus%20%281%29.pdf
- 15 Knowler, Greg. "China–EU shippers turn to rail after ocean capacity cuts." *Journal of Commerce*. March 12, 2020. https://www.joc.com/rail-intermodal/china%E2%80%93eu-shippers-turn-rail-after-ocean-capacity-cuts\_20200312. html
- 16 Daly, Tom, Mai Nguyen, and Min Zhang. "UPDATE 1-China copper inventories near 4-yr high as supply swamps virus-hit demand; steel stocks build slows." Reuters. March 13, 2020. https://www.reuters.com/article/health-coronavirus-chinametals/update-1-china-copper-inventories-near-4-yr-high-as-supply-swamps-virus-hit-demand-steel-stocks-build-slows-idUSL4N2B63VU
- 17 McGregor, Grady. "Masks and hand sanitizer replace iPhones and perfume: Firms redeploy factories to make coronavirus supplies." Fortune. March 17, 2020. https://fortune.com/2020/03/17/coronavirus-mask-hand-sanitizer-factory/
- 18 Business Roundtable. "Business Roundtable Redefines the Purpose of a Corporation to Promote 'An Economy That Serves All Americans'." August 19, 2019. https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans
- 19 Comm, Joel. "How Businesses Are Helping Puerto Rico Recover From a Devastating Hurricane." Inc.. December 11, 2017. https://www.inc.com/joel-comm/companies-helpingsocial-good-of-puerto-rico.html
- 20 UNSESCO. "COVID-19 Educational Disruption and Response." March 19, 2020. https://en.unesco.org/themes/ education-emergencies/coronavirus-school-closures
- 21 Wei, He. "3 Chinese learning apps enter UN list." China Daily.
  March 18, 2020. https://global.chinadaily.com.
  cn/a/202003/18/WS5e71690ba31012821727fe3c.html

© Copyright IBM Corporation 2020

IBM Corporation New Orchard Road Armonk, NY 10504

Produced in the United States of America March 2020

IBM, the IBM logo, and ibm.com are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

This report is intended for general guidance only. It is not intended to be a substitute for detailed research or the exercise of professional judgment. IBM shall not be responsible for any loss whatsoever sustained by any organization or person who relies on this publication.

The data used in this report may be derived from third-party sources and IBM does not independently verify, validate or audit such data. The results from the use of such data are provided on an "as is" basis and IBM makes no representations or warranties, express or implied.