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Crisis Alert! Strategies for Today & Beyond

Steve Andriole
Guest Editor

CUTTER Business Technology Journal

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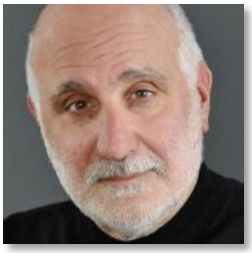

Opening Statement

by Steve Andriole, Guest Editor

There are all kinds of corporate crises. Some are triggered by an aggressive, creative new competitor or an industry merger; others by a management implosion, a failure to innovate, or malfeasance. New regulations, interrupted supply chains, and cyberattacks can also spark crises. These crises are the equivalent of unrelenting hurricanes, an intense winter snowstorm season, or other temporary, though serious, disruptions. With the right moves, they can be endured. But there are also unpredictable, inexplicable, pervasive crises that defy modeling and management. The COVID-19 pandemic is an example of this kind of crisis, a crisis of the second kind, a sea change.

Crises of the first kind can be managed. With money, competence, and a little luck, they can be mitigated. They have beginnings and ends — features of enormous value to crisis managers. While there's no guarantee a company will survive a crisis of the first kind, there's a reasonable opportunity to get through it. There's generally enough time, money, and reserves to enable solid responses. But crises of the second kind, like COVID-19, challenge companies in ways they cannot even comprehend, let alone manage.

Crisis managers sometimes deliberately reclassify sea changes into snowstorms. They do this because they have playbooks suited for crises of the first kind. They do this in spite of overwhelming evidence that screams "sea change."

How many companies stockpile people, cash, partners, suppliers, and products? Very few plan for rainy days they believe will never arrive. In fact, companies that plan that aggressively could never generate the financial results their investors expect. Massive stockpiles of people, cash, partners, suppliers, and products are never in the plan (though debt usually is). Minimal investments in cybersecurity, disaster recovery, and business resumption planning are a way of life. How many companies had detailed contingency plans for remote work before the pandemic exploded?

Digital transformation is all the rage as companies transform their business models and processes with digital technology. But pandemics require far more than transformation. They require *reinvention*. A good current example is the education market. Before the COVID-19 crisis, the market was stable. Grade schools, high schools, colleges, and universities implemented repeatable business models with great success. But as soon as the crisis hit, they scrambled to transform their business models and processes, especially the ones that involve students. Enormous stress was immediately placed upon the learning management systems (LMSs) operated by teachers, especially at the elementary (or primary) school levels, who were unskilled in, and likely never even used, these systems. Schools abruptly cancelled physical events. They furloughed members of their faculty and staff. They sent students home.

> *Pandemics require far more than transformation. They require reinvention.*

Families fortunate enough to afford technology and Internet access were forced to homeschool their kids with the help of faculty who were learning "on the (LMS) fly." Can Brightspace, Moodle, Schoology, Blackboard, Lessonly, Saba, Canvas — and who knows how many other LMSs — scale fast enough to support effective learning and training? And why are there so many of these systems? Parents and kids in the same household are using several different LMSs — and several videoconferencing systems, like Google Meet and Zoom, as well. Is this optimal? Do companies, schools, households, faculty, or students know what they're doing? Or are they just implementing incomplete and inadequately tested contingency plans in a desperate attempt to virtually replicate the in-person experience? Is it even possible to make contingency plans for educational crises of the second kind — even after the "practice" we've received from COVID-19?

Since COVID-19, educational institutions have been planning around several scenarios. The first is a return to normal as soon as possible. The second is a delayed return to normal. Another scenario requires all sorts of permutations around return, including masks, alternating schedules, and shielding, among many other steps necessary to protect students, faculty, and staff. All these scenarios are transformational.

> *The first step is anticipatory: planning for the apocalypse of the business model that has performed so well for so long.*

The fourth scenario requires reinvention: what if "schooling," as we've defined and delivered it for centuries, goes away? What if the pandemic lasts longer than expected? What if it returns before a treatment or vaccine is available? What if another virus strikes? What if there's a massive earthquake in Silicon Valley? Or multiple, simultaneous terrorist attacks? Or a nuclear war? These are crises of the second kind. How should organizations plan and respond? *Can* they plan and respond? *Can* the full range of crises of the second kind even be anticipated? The answer to this question is "no," but their broad features can be.

In the example of education, institutions can theoretically anticipate the absence of students in physical locations. They can anticipate a distributed educational delivery system that relies upon technology platforms and parent lesson management. They can anticipate massive shifts in their revenue streams. They can also identify the players best able to respond to these changes. But this kind of anticipation — and large investments in an anticipatory engine — is difficult to find — or financially justify — in any educational institution or corporation, especially with the typical incentives and vested interests dedicated to the status quo.

So the first step is anticipatory: planning for the apocalypse of the business model that has performed so well for so long. Are there resources available to "anticipate"? Smart governments "plan" for pandemics. They write white papers, have offices with teams, and even, sometimes, stockpile supplies. While it's impossible to know where, when, or how these crises will occur, smart governments at least try to have an infrastructure in place to respond when they do. Do corporations have these teams in place? Do they have playbooks to at least get them through the first phase of a crisis of the second kind? A few do, most do not.

Companies hope that crises of the second kind never happen. That's their default strategy. Silly, we know, while we're in the midst of such a crisis right now. But the disconnect between transformation and reinvention is just too large to navigate. Crises of the first kind are manageable; crises of the second kind may never be. The very premise of successful "business" threatens the possibility of reinvention. (We've all heard the phrase, "If it ain't broke, don't fix it.")

All the methods, tools, processes, models, people, structures, and money undermine any and all attempts to react in real time to events these resources were never intended to anticipate or address. If they were, "business" could never be as profitable as it is. And therein lies the conundrum around crises of the first versus the second kind. Without steady, credible leaders at the helm, sea changes described as mere snowstorms may turn into insurmountable tsunamis.

Upcoming Topics

Proactive Risk Management
Tom Teixeira

mHealth: The New Frontier in Healthcare
Carl Bate

Cultivating Diversity & Inclusion in the Workplace
Carla Ogunrinde

Fintech: COVID-19 Impact & Opportunities for Economic Growth
Phillip O'Reilly and Kevin O'Leary

In This Issue

The five articles in this issue of *Cutter Business Technology Journal* (*CBTJ*) focus on crises of the first and second kind, with specific reference to COVID-19. The first piece, by Noah Barsky, level sets to business basics. Barsky notes that "the convergence of technology trends, evolving business dynamics, and the economic

ramifications of the pandemic require astute business management, particularly in organizations now left with little room for error." The article is a reminder that all management must be anchored in simple, adaptive business acumen.

Next, Yesha Sivan and Yonatan Rabinovitch discuss how to manage "black swans" (crises of the second kind) with what they propose as the Three New Normals (3NN) framework. The authors explicitly state that the 3NN framework "was designed as a flexible descriptive framework, allowing for optimism, pessimism, or realism." It focuses on how digital leaders can navigate sea changes.

Through a series of equations, Dave Cherry then outlines how to maintain customer loyalty before and after crises. He asserts that "for technology and business leaders to count among the bold, deciphering how to capitalize on this opportunity requires a foundation of confidence, flexibility, and resiliency — all anchored and enabled by knowledge." Cherry provides specifics about how to manage customers at home, when they're ill, or when they're caring for others. The point? Crises change customer relationships and, therefore, customer relationship management. Crises require everyone to adapt if they want to survive and compete.

Our fourth article, by Cui Zou, Wangchuchu Zhao, and Keng Siau, responds directly to COVID-19 by framing the skills and training necessary to survive crises of the second kind. The authors focus on the importance of helping organizations prepare beyond the current pandemic by teaching everyone how to use the technology tools — and exploit the processes — around remote working. The authors explore myriad online/blended education avenues "to help companies provide online and remote training during and after the pandemic crisis."

Finally, Mark Lee gets specific about how pandemics should solve long-term work-from-home (WFH) problems. He discusses why virtual private networks (VPNs) are problematic, how they can — and should — be replaced, and why we need a long-term WFH strategy. The most important contribution of the article is the awareness it forces around the need to create and maintain creative and effective remote workplaces. Just imagine if we all had planned how to WFH "just in case"? Or if we had anticipated what we'd need to survive remotely?

The articles in this issue of *CBTJ* discuss various aspects of corporate crisis management and how business technology can help companies deal with crises of all kinds, but especially those that change everything. Some of the articles are strategic; some are tactical. But they're all engaging and useful, with purposeful points of view. Remember that corporate crisis planning and management is a continuous activity that must be acknowledged and well-funded. Crises — especially crises of the second kind — never miraculously disappear. They cannot be ignored. They can kill a company.

Thus, organizations must define and simulate the range of crises they will inevitably face. They need internal teams to accomplish this strategy: crisis management is not an activity that can be outsourced to the lowest bidder. The range of crises must include "conventional" crises and black swans — crises of the second kind that require much more than return-to-normal plans, or even transformations. Reinvention is required. How many companies plan how to disrupt their own successful business models? How many devote serious resources to this kind of planning?

We hope you enjoy the collection we've assembled here and that our authors stimulate some creative thinking about how we manage our companies, ourselves, and our crises. It's important to appreciate the crisis spectrum and especially those crises — like pandemics — that require reinvention. We hope this issue of *CBTJ* changes the way we all think about crises and crisis management.

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READY OR NOT

The Future Really Is Right Now:
The Business Acumen Imperative

by Noah P. Barsky

The COVID-19 pandemic has quickly accelerated and actualized the technology-driven "future of work" expectations widely predicted for the coming decade. Plus, the current economic upheaval threatens many companies' existence and longstanding commonplace industry assumptions. As executives grapple to sustain business operations, meet financial obligations, and explore renewal and reinvention alternatives, they must somehow also inspire, motivate, and guide the workforce to prepare for a highly uncertain and unpredictable future. An opportunity and challenge hide in plain view — *elevating business acumen across the organization*.

> *The very expertise that enables operations to function becomes the root of dysfunction when companies most need the insight to adapt and change.*

Rarely, if it all, do CEOs discuss the strategic imperative of training and its benefits to productivity, retention, and organizational culture. When facing challenge or higher-order crises such as COVID-19, insufficient business acumen can be one of the most significant impediments to strategic execution. Legacy organizational design and career advancement premised on functional expertise drives much of this gap. Employees are most often trained, evaluated, and rewarded on the basis of specific job responsibilities. Functional specialists frequently struggle when asked to think strategically, influence across the organization, manage others, and adapt to competitive and external customer pressures.

In fact, the very expertise that enables operations to function becomes the root of dysfunction when companies most need the insight to adapt and change — perhaps never more so than in the existential crisis of a pandemic. Broad business perspective represents the widest, and, oddly, least addressed, skills gap at most companies, despite massive investments in training aimed at developing rising leaders. Executives can greatly reduce the gap between the rhetoric of competitive readiness and the reality of underperformance in a relatively costless way — by expecting and instilling business understanding as a fundamental expectation of job performance.

The Future of Work Has Arrived

In recent decades, globalization, technological advancement, and the customer imperative have launched, transformed, and even bankrupted businesses. While these market forces remain omnipresent, the speed of required adaptation is advancing. The likelihood that a company will survive, and ideally thrive, in coming years and decades is contingent on how it utilizes the irreplaceable human component of insight to manage the convergence of market forces. Adequate, or even abundant, financial capital, technological resources, product exclusivity, and customer loyalty are insufficient for long-term success without a workforce that actively develops and routinely applies business acumen in strategic and tactical forecasting, planning, and decisions. Failure to cultivate such understanding is an egregious act of mismanagement that manifests itself as weakness in the most essential business activities.

During the ongoing Industry 4.0 world (aka the Fourth Industrial Revolution), we witness business practices transformed by smart technologies that immediately alter the balance between automation and human insight. Machine learning and automation, in particular, are redefining the very role of people in business enterprises. The change is expected to be so notable that several global professional services firms and business schools have formulated positions on the "future of work" and the related anticipated effects on employers, labor, competition, government, cities, and consumers. The transformation is so significant that daily work expectations, employee job descriptions, and skills needs warrant question, evaluation, and redeployment

of scarce resources. Change adjusts how things are done; *transformation* makes changes *permanent*. Industry 4.0 is permanent — there is no going back.

Clearly, COVID-19 has quickly reshaped not only the lexicon but the nature of work, in just months. Similar to how the term "e-business" eventually reverted to *business as usual*, remote work will soon be considered simply work. Far more than mere changes in location and the redistribution of roles and responsibilities, the COVID-19 crisis necessitates that companies reimagine their relationships with suppliers and customers, with technology at the heart of new value-creating opportunities and efficiency gains. The labor markets, at large and within a company, will be stressed to adapt to accelerated upskilling and the logical elimination of longstanding practices. The COVID-19 crisis also brings a reversion to the long-ago practice of zero-based budgeting. History repeats itself — but will be new to many managers who have no experience with such challenged environments. The reality of the future of work is not only how it changes and/or automates tasks, but how it compels workers in all functions to become businesspeople.

How far-reaching is such a transformation? The World Economic Forum (WEF) forecasts the need to "reskill more than one billion people" (a third of the global workforce) by 2030 and expects that "42% of core skills required to perform existing jobs" will change by 2022 to include more adaptive learning, technological design, and evidence-based predictive ability.[1] Even just prior to the pandemic, WEF labeled such change "a reskilling emergency." The future of work, with the need for agility, flexible work arrangements, and redefined business partnerships, arrived unceremoniously and well ahead of schedule, in the form of the coronavirus pandemic. Time and/or money are cures for ill planning, but neither was amply available for most organizations in the first half of 2020, in light of the COVID-19 crisis. Many parties thought long-time horizons existed for such realities. In the "new normal," which we will soon call "normal," organizations will be pressed for more fluid customer expectations, workers quickly solving problems cross-functionally, and data-informed counterintuitive decisions — all of which technology can enable, or, if inadequate, can impair. Success will be defined by meaningful *outcomes*, in the aftermath of the economic shutdown, not the comfort of *output* metrics.

This reality — a radical departure for many — presents an opportunity for all executives to make the biggest difference in their organizations: truly integrating technology into the business value chain to effectively and efficiently deliver the strategic value that all stakeholders demand. Doing so will mean utilizing automation, artificial intelligence, augmented analytics, and process management to enable value creation, workplace collaboration, innovation, and, importantly, revenue generation and long-term viability. Examples include healthcare reimagining the purpose of hospitals, surgical centers, virtual medical care, and preventive care; educational institutions, at all levels, abandoning the structure of the original Industrial Revolution to inspire and create adaptive problem solvers fit for the future of work; and government-business partnerships emerging to share data, civic responsibilities, city and traffic planning, and public health needs. The COVID-19 lockdown has exposed existing gaps, which those who lead will see as opportunity to redefine and redesign the future for the better.

Financial and leading-edge technological investments are certainly necessary but clearly insufficient without a workforce that is upskilled and reskilled, with much business savvy, and culturally committed to exceptional performance.[2] The human components require executive leadership with the clarity, courage, and vision to define the post-pandemic future for their organizations, rather than waiting, with great hope, to adapt to the cliché new normal.[3] What we all can be assured of is that one lasting business effect of the COVID-19 pandemic is the accelerated need to address the realities of an Industry 4.0 working world.

Wishing to Be More Strategic Is Not Enough

While technology is central to every aspect of the global economy and the future of work, the challenge for technology to be integral to strategy is particularly profound for those who manage this essential function: CIOs and their organizations.[4]

Beyond a simple semantic difference, interestingly, many organizations currently and prospectively preface "technology," in job titles, budgets projects, and initiatives, with the letter "I" or the word "information." The ongoing and casual characterization of technology as an "information system" inherently orients it as a data guardian or utility manager and naturally relegates it to a *support* function rather than a *strategic* business decision maker. Worse, "shadow" IT and bootstrapped manual reporting workflows emerge and undermine CIO effectiveness and credibility.[5] If technology is to be truly integrated into business operations, driving

strategy execution and accelerating the future of work, leaders must candidly acknowledge whether workers are managing metrics, or the business. Managing the business relies upon technology, whereas metrics management emphasizes data management and often leads to unintended consequences, driven by misaligned incentives. Well-run businesses score highly on metrics that matter. The COVID-19 crisis has required businesses to reset, restart, and consider which metrics truly matter most, exposing the administrative reporting bloat that consumes many organizations. Executives must seriously assess whether their organizations possess the talent, systems, and culture that the times now require.

In general, the technology function must draw parallels with how many CFOs and their accounting and financial professionals are challenged to think and act "more strategically," beyond bookkeeping, regulatory reporting, and variance analysis. Technology leadership must readily recognize that the compliance and control responsibilities, such as data security, resource availability, and system stability characterize a necessary stewardship foundation but are not value creating. Most importantly, legacy support functions cannot be considered strategic simply because they espouse to be. Conversely, how *other* executives, managers, and key stakeholders view a support function's contributions and input is far more indicative of the real value provided. After all, lasting partnerships are defined by mutual benefit, not by the unsubstantiated rhetoric and self-interested desire of a particular party.

When called to work together with required mutual accountability due to COVID-19, strategically leveraged, technology-sustained businesses (or its absence) revealed a glaring weakness. Going forward, such integration is imperative for survival, if the chance still exists. Many businesses heavy with debt and reliant on antiquated technologies, weak management, and dysfunctional cultures will be economic victims of COVID-19. Such strategic gaps and operational flaws are artifacts of limited business acumen and lack the incentive or ability to plan and lead.

The Timeless Challenge: Transforming Resources with Results

The most coveted drafters and engineers are those who can work backward from outcome to resource requirements. Too often, businesses, out of convenience, measure outputs, rather than outcomes. In other words, is the mission of an organization to take actions that gain short-term market share (an output that can be fleeting) or to change the way an industry interfaces with its end users (an outcome that can be a lasting differentiator)? Business acumen requires insight about the concentric circles of the company, its industry, and broader markets to wisely consider strategy, risk, financial standing, and performance aims in all decisions.[6] Such thinking is not possible, nor is innovation, without a fundamental understanding of a firm's value chain, its competitive advantage, and business dynamics. Essential to such acumen is the ability to transform increasingly costless and abundant data into information that is actionable for meaningful decisions. Absence of such insights often manifests itself in quite common, costly, morale-diminishing, and reputation-impairing mismanagement.

Business acumen centers on the purpose of the business and, ultimately, the necessity of cash flow from customers. Lack of revenue generation is the key indicator of lack of customer value. Financial understanding is imperative to all business decisions and indicates where the focus of management responsibilities should be. For example, are CIOs directing budget and efforts to operational maintenance, or to innovation that will drive strategy execution? While, naturally, growth, change, and maintenance are competing requirements that delicately balance, emphasis on controls rather than value creation also parallels time and skills demands.

Simply put, the calls for innovation[7] and debates about technology's role in competitive advantage[8] have been longstanding. Questions about the future of business and value creation, ranging from physical workplaces to technology-driven virtual experiences, acquired an increased urgency once companies were pressed with business closures, customer refunds, revenue evaporation, global supply chain disruption, and workplace safety concerns related to the COVID-19 global pandemic.

Seek Insight: 12 Business Acumen Diagnostics

For a practical resource that your company can apply immediately at no cost, ask colleagues and coworkers to consider (all or any of) the dozen business acumen diagnostic statements shown in Table 1. The responses, using any evaluation scale (e.g., 1-10), should reveal much about the company's ability to adapt to the newly arrived future and suggest areas for improvement

1	I can easily and clearly articulate my employer's strategy.
2	There is a clear and unified understanding of our company's strategy across the organization.
3	I can identify my company's top three customers and our relative market share.
4	I know my employer's revenue and profit trends and overall financial position.
5	I can state my company's top organizational priorities in the coming year.
6	I can list my employer's three most important performance metrics.
7	I am aware of my company's most important business risks.
8	Business risk is integrated into planning and review discussions in my workplace.
9	My employer aligns my incentives with organizational goals.
10	I can articulate why my team's daily work is important to the organization's success.
11	My employer invests *adequately* in meaningful training and professional development.
12	Business acumen would be characterized as both high and widespread at my employer.

Table 1 — 12 business acumen diagnostics.

where leaders can make a substantive and lasting difference. The goal of diagnostics is not to simply achieve high scores, but to sustain exceptional results. While employee engagement surveys and other occasional planning questionnaires utilize similar questions, directly and personally identifying gaps that warrant attention offers the greatest opportunities for unadulterated candor and meaningful action to widely heighten business acumen and drive organizational performance. Improvement areas reveal both the greatest prospects and the greatest risks.

The Future Is Now!

The convergence of technology trends, evolving business dynamics, and the economic ramifications of the pandemic require astute business management, particularly in organizations now left with little room for error. While resources may be scarce and forecasting horizons limited, leaders can maximize chances for a prosperous future by heightening employee understanding of the business and elucidating the purpose of work. More than the integrator for business operations, workflows, and data, technology is the mechanism to leverage learning and instill the criticality of business insight in all decisions. Never has the impetus been stronger. Leaders have the chance to define their future — or risk it defining them.

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TAKING ACTION

Taming the COVID-19 Black Swan Using the Three New Normals Framework

by Yesha Sivan and Yonatan Rabinovitch

COVID-19 is accelerating change and naturally forcing even more attention on digital. Digital leaders — whether a "digital" owner or board member or a "digital" CEO, CIO, chief digital officer, or VP of digital — have a special role now. They need to move their organizations even faster to master the changes the current pandemic engenders.

Many articles have examined concrete possible actions of digital leaders both in the technical sense (e.g., artificial intelligence, Internet of Things, cloud) and the business sense (e.g., transformation, Agile, data-driven). For that reason, we will not discuss specific actions. Instead, our goal here is to augment these well-described practical technology and business senses with a board-level framework that will allow digital leaders to act on their role as custodians of change. To fully harness the sword-and-shield dimensions of digital powers, digital leaders must effectively communicate with, convince, and, if need be, coerce the organization to take the right measures.

Even as a broad consensus emerges that COVID-19 is indeed a major crisis, many individuals and organizations continue to treat the matter as just another crisis.

To assist in this leadership challenge presented by the COVID-19 "black swan,"[1] we present the Three New Normals (3NN) framework. Using the 3NN framework and based on specific risk appetite and external market conditions, leaders can (and must) choose how to lead. We outline three methods of operation — defense, offense, difference — relevant across three levels: individual, organizational, and national. Importantly, the 3NN framework was designed as a flexible descriptive framework, allowing for optimism, pessimism, or realism. For us, and we hope for others, such a framework is both comforting and a driver toward action.

Problem: The Mental Challenge of a Black Swan (Biases)

In an internal email to jump-start the development of a mental model, author Yesha Sivan noted:

> I have followed what was then called the Wuhan virus since the Johns Hopkins University (JHU) site[2] listed fewer than 20 fatalities. Upon reflection, it was the rise in fatalities, together with my direct communication with friends in Wuhan, that reprogrammed my thinking and gave me time to change my initial perceptions. However, I am not sure that my response, while being both *defensive* (e.g., selling stocks) and *offensive* (e.g., realigning my business to be even more virtual), created enough *difference* from what would have been my pre-virus response. How to react in such situations is a mental challenge that calls for readjustment of our "operating system."

Let's explore this needed readjustment. Until February 2020, the popular perception in places such as Tel Aviv, London, and Washington, DC, was that COVID-19 was an overhyped virus that would soon go the way of previous medical threats such as SARS, MERS, or Ebola. But, upon the abrupt cancellation of flights across the globe, people began to take notice. First came Italy (with hospital ICUs overwhelmed); next a toilet paper shortage and newfound working-from-home policies (obligatory for all those who could); then America turned out to be "great." (As of mid-July 2020, the US is going through an agonizing spiral with no clear end in sight.)

Even as broad consensus emerged that COVID-19 is indeed a major crisis, many individuals and organizations treated the matter as just another crisis: "This is tough, but we will be back to our usual routine shortly." Reprogramming the "operating system" is difficult.

In reality, we are facing something entirely different with this pandemic: a black swan event.[3] This is a once-in-100 years tectonic change, on the scale of the Spanish flu, the Second World War, even the discovery of the Americas or the invention of the automobile. It's an

event from which, for better or worse, there is no going back. Understandably, it is difficult for people to internalize the change when they lack any similar experience in their living memories. This is the cognitive bias posed by a black swan (see sidebar "Corona-Related Cognitive Bias").

What: Three New Normals (Home, Transition, Emerging)

Our solution to this cognitive problem is to describe the coming changes to our lives using three consecutive "normals" of existence, each extending for a certain period of time:

- **New Normal 1 ("Home").** The first new normal was the beginning of the pandemic experience in most of the world, starting with the lockdown of Wuhan, spreading to similar lockdowns in Europe, and later continuing as intense self-quarantines in New York City and other parts of the US. Additionally, with the virus spreading globally, we saw 20%, then 30%, even 50% unemployment in some places and industries, along with empty streets, school closures, and the specific new normal of social distancing.

- **New Normal 2 ("Transition").** The second new normal began first in China, then in South Korea and Singapore: partial back-to-business, schools remaining closed, restrictions on movement, disillusionment with the old normal, and relapses (i.e., recurring outbreaks causing local paralysis).

- **New Normal 3 ("Emerging").** The third new normal is the new world. Clearly, there will be a handful of winning industries — healthcare, agriculture, and digital, for sure — that will thrive. Other industries, such as hospitality, travel, and real estate, will be forever changed or wiped out entirely. We will have new winners and losers across geographic areas, social classes, and types of firms (e.g., What will be the future of small-to-medium-sized businesses or gig workers?). In the third new normal, we will likely see a value shift that takes people "back to basics," perhaps to a slower, deeper, more mindful world.

Yet the line between winners and losers may not be totally clear. Consider healthcare: although it is understood that there will be more investment in healthcare, small rural hospitals in the US are already closing, as their financial models are based on elective procedures, most of which were suspended during the initial months of the pandemic. Or consider travel: while many hotels may never again open their doors, in New Normal 3 there could be an increased demand for destinations offering ecotourism experiences.

There are a few more key points regarding 3NN:

- The move from New Normal 2 to New Normal 3 relies on the development of a vaccine or effective treatment for coronavirus.

- There is no return to Normal 0 (pre-pandemic). In some ways, the debate over whether initial government actions in response to the pandemic were exaggerated is no longer important. Were all restrictions lifted immediately, the changes that will extend into Normals 2 and 3 are already here.

- We already have concrete examples of how the new normals look globally. The varying timescales of China, Israel, and the US demonstrate the stark difference between the meaning of the normals. Like time travelers, countries "ahead" on their COVID-19 schedule can provide telling case studies

Corona-Related Cognitive Bias

Cognitive models are mental shortcuts that allow us to process complex information quickly based on past personal and collective experience. Yet, during a black swan event, a cognitive mental model may become a cognitive bias. Let's examine two cognitive biases recently explored on National Public Radio (NPR): normalcy bias and optimism bias:[1]

- **Normalcy bias.** Faced with catastrophic circumstances, people will act surprisingly calm, even when they should be taking very prompt action. One example of this is the eruption of Mount Vesuvius in the year 79 A.D., when Pompeii residents "watched the eruption for hours instead of evacuating the city up until the moment that they were buried under its ash clouds."
- **Optimism bias.** Even worse — and with particular relevance to organizations — if someone prepares for a worst-case scenario, it is difficult to maintain this readiness. For example, as governor of California, Arnold Schwarzenegger invested heavily in a fleet of mobile hospitals (including a large amount of beds, respirators, and masks) as advanced preparation should California face an array of major challenges, such as an earthquake, wildfire, or even a pandemic. A few years later, his successor Jerry Brown cut the funding for the project; at that time, no one raised a red flag, and now "the stockpile is nowhere to be found."

[1] "Why We Didn't Prepare for the Pandemic." Transcript of "The Indicator from Planet Money." National Public Radio (NPR), 22 April 2020.

Figure 1 — Three timescales for moving from New Normal 1 to New Normal 3.

for those "behind." In some places, New Normal 2 is the way of life, with some businesses and schools locked down for a few days or weeks based on eruption of the virus.

When: Three Timescales (Optimism, Pessimism, Realism)

Assuming we adopt the notion of 3NN (and we believe there is wide agreement on the nature of New Normals 1 and 2, but more variance for New Normal 3), the key challenge of timescale arises. How long will it take to pass through New Normals 1 and 2? The problem is that we simply do not know. Figure 1 shows three options for the length of each new normal.

Option A describes the best-case scenario, with three months of New Normal 1 lockdown conditions, an estimated six months of New Normal 2, and then an ongoing New Normal 3. Options B and C describe progressively longer times for each new normal. Some key points:

- Note that different locations, even within the same country, may have different timescales.
- The longer New Normals 1 and 2 take, the longer the economic and societal "curve" will take (the economy is already suffering, which will lead to growing social unrest). In many ways, figuring out the nature of the new economy is getting ready for New Normal 3.
- It is challenging to deal with New Normals 1 and 2 and, at the same time, think about New Normal 3.

How: Three Methods (Defense, Offense, Difference)

With a clear definition of New Normals 1, 2, and 3, augmented with the challenges presented by the various timescales, we can turn to action. The key is decisively adapting to New Normals 1 and 2 and then planning for New Normal 3. We describe three methods of operation: *defense*, *offense*, and *difference*:

1. **Defense.** Organizations must gain a foothold against the onslaught. They must assess, make painful cuts, renegotiate, and create an emergency toolkit — anything to keep their heads above water.
2. **Offense.** Organizations must go on the short-term offensive, by expanding as much as they can with the tools already at their disposal, in their own markets, with their own products. In other words, they must make the most out of available resources within their chosen ecosystem (e.g., by buying a struggling competitor, giving a good deal to clients, or negotiating a good deal with a supplier).
3. **Difference.** Finally, organizations can and should seek to differentiate themselves with new products, strategies, marketing, outlooks, and so on, utilizing their core competencies and maybe acquiring new core abilities. Organizations that do not adapt to the changes brought about by COVID-19 will quickly drift into irrelevancy. This mode presents as many opportunities as it does threats.

The key challenge with these methods is that they call for conflicting mindsets. However, for the methods to be effective, organizations must consider all three — defense, offense, and difference — as a unified set of actions. A company that focuses too much on one method may fail its overall survive-and-thrive mission. (While such methods are naturally geared toward organizations, the same principles apply to individuals and nations, as we will see in the next section.)

Who: Three Levels (Individual, Organizational, National)

Last, we need to consider that the three normals affect all of us on three levels:

- **First, *individuals* are affected — as leaders, managers, workers, suppliers, and customers.** The human factor is paramount. In such times, we must put people first, with the needed empathy. (While beyond the scope of this article, let us note that the medical, economic, and societal pressures are immense. People all around are suffering.

Defense, Offense, and Difference via Digital

We can apply the three coping methods (defense, offense, and difference) in ordinary times and for most black swan events. It is the implementation of these coping methods that differs based on the specific circumstances. In the case of COVID-19, the key circumstance is the widespread practice of social distancing. That reality is the driving force behind most of the changes we are experiencing across industries (e.g., supply chain, work from home [WFH] policies, storefront closures, travel changes), and digital is key to implementing each coping method during this time. To understand how implementation can vary based on the nature of an event, consider how a different, theoretical, black swan event — say, an unprecedented cyberattack on civilian infrastructure — could push consumers away from digital. In that case, the implementation of defense, offense, and differentiation strategies could very well focus on physical assets. Let's explore how, in the current situation, we can employ digital in each of the three methods:

1. Digital for defense. Cost-cutting actions can be as simple as disconnecting office phone lines. Phone lines are unnecessary, as virtual phones, such as the Zoom phone (which connects to employees' mobile devices), can easily replace them. Other examples include project management software that can allow employees to WFH, reducing the need for office space and the rent for that space. Remote work (and part-time work via the gig economy) is going to be one of the biggest trends in coming years. Digital must enable this type of economy with secure connectivity and relevant work-related software, coupled with reasonable management of the work itself.
2. Digital for offense. Companies that invested in digital before the emergence of COVID-19 but had a difficult time encouraging consumer adoption may now find an opportunity to push those platforms. Videoconferencing, e-commerce, and remote customer support can both save direct costs and enable a higher level of service. For example, organizations with a strong enterprise resource planning strategy (i.e., flexible) can manage faster and painless M&As. The right digital investments can mean that what used to take months can now take weeks.
3. Digital for difference. For organizations that survive New Normals 1 and 2 (and we must face it, not all will survive), "digital for difference" is the most important of the three methods. It will have the largest and longest impact on your organization and has more varied applications. Digital is essential to accelerating the rate of innovation needed for each differentiation strategy. In addition, and specifically, digital can address the evolving consumer habits bred in New Normals 1 and 2 that may stay with us, as well as shape New Normal 3 (e.g., growing demand for e-commerce). Thus, digital can both *drive differentiation* and *be the differentiator*.

Digital Infrastructure to Drive Differentiation

Creating a strong digital infrastructure enables a company to innovate at a faster pace. Digital innovation at its core is a meta-innovative process that enhances the digital infrastructure and, thus, allows other forms of innovation. Consider a company seeking to innovate in how it interacts with its customers. A manager proposes using a new customer relationship management (CRM) software. At a company with a weak digital infrastructure, such a move could take months. Yet in a company with a strong digital culture and ability, where employees see the opportunity, are ready for change, and have already adopted digital technologies, this change can happen in days. In fact, an initial CRM system can be implemented overnight with cloud-based tools. For companies that have not invested in their digital infrastructure and culture, this is the time for core digital projects, such as building robust directory services (e.g., Microsoft Active Directory) or embarking on cloud-based storage and then applications from the likes of Amazon, Microsoft, and Google.

Digital Products to Drive Differentiation

In most cases, building new digital products and digitally integrated business models is the ultimate differentiation action and will be the chief opportunity across industries. We are already seeing creative manifestations of this phenomenon. For example, as an offensive strategy, many museums — with all museum goers now at home — have launched digital exhibitions of their collections to considerable success. As a differentiation strategy, museums must determine how to incorporate these exhibitions into their longer-term models (assuming attending digital exhibits is a consumer habit that will last).

Developing self-resilience and, conversely, supporting resilience will be key leadership endeavors.)

- **Second, *organizations* are affected.** As the CEO of one large firm told us, "We lost our entire yearly profit in the month of March. And we will go into debt based on April results." We foresee major changes in the next 12 months. Many organizations will have to realign themselves, some will collapse, some will restructure, and some will merge or be merged. It is a time of great change.
- **Third, *nations* are affected — but not in a uniform way.** We see different patterns in China, the US, and

Europe. Several challenges exist on the national level (e.g., the national or regional government may set work hours and methods, visitors may have to quarantine, certain businesses may not be allowed to open). Multinational organizations face the even more complex challenge of managing in an environment where different nations are in different phases. Suppose your global supply chain depends upon one chemical ingredient synthesized in a locked-down nation. Suddenly, your entire value chain is blocked.

These three levels serve as yet another critical perspective as we design our actions (see sidebar on previous page, "Defense, Offense, and Difference via Digital").

Using the 3NN framework and based on your internal risk appetite and external market conditions, you (or your organization) can (should) choose how to act.

Conclusion

In this article, we presented the 3NN framework in board- and C-level language:

- **Problem:** the mental challenge of a black swan (normalcy and optimism biases)
- **What:** three new normals (home, transition, emerging)
- **When:** three timescales (optimism, pessimism, realism)
- **How:** three methods (defense, offense, difference)
- **Who:** three levels (individual, organizational, national)

Using the 3NN framework and based on your internal risk appetite and external market conditions, you (or your organization) can (should) choose how to act.

Historically, humanity has confronted — and has adapted to — similar black swan challenges. It behooves us, for our individual benefit and for the benefit of those around us, to first understand and then act in order to lead the way toward progress. We hope that the 3NN framework presented here can guide you in this journey.

(From Yesha Sivan: I dedicate this article to the memory of Avishai Friedman, my beloved almost-twin cousin. We share a similar name from our grandfather and an intellectual passion for thinking and doing. I already miss his kind smile.)

References

[1]Taleb, Nassim Nicholas. *The Black Swan: The Impact of the Highly Improbable*. 2nd edition. Random House Trade Paperbacks, 2010.

[2]"COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)." Johns Hopkins Whiting School of Engineering, 21 July 2020.

[3]Taleb (see 1).

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CALL TO (IMMEDIATE) ACTION

Maintaining Customer Loyalty During & After a Crisis

by Dave Cherry

The COVID-19 pandemic has created uncertainty and challenging times for all businesses, now and for the foreseeable future. We are experiencing dramatic changes in how and where we work, how our children are educated, how we shop, and how we engage with friends, families, colleagues, and service providers. Nobody knows how long these conditions will keep changing and when (or if) they will morph into what we can collectively call the "new normal." Companies are rightfully concerned about the changing behaviors among their customers. Will purchases decline (and if so, by how much)? How significantly will the mix between in-store and online purchasing shift? Will loyalty and profitability shift between segments? How will this affect new customer acquisition? This unprecedented degree of uncertainty and ambiguity is both a major cause of anxiety for many and a significant window of opportunity for those bold enough to see it.

The Foundation

For technology and business leaders to count among the bold, deciphering how to capitalize on this opportunity requires a foundation of confidence, flexibility, and resilience — all anchored and enabled by knowledge (see Figure 1).

Confidence has always been a hallmark of great leadership, especially in times of crisis. It demonstrates trust in yourself, in your team, and in the value that you provide. Great leaders leverage their confidence to create differentiating capabilities and unique value propositions for their customers. They rely on their experience and the input of trusted advisors to make difficult decisions that create the opportunity for success. Though some colleagues, customers, or experts may doubt them, confident leaders remain steadfast in their convictions and aspirations. As early 19th-century English writer William Hazlitt aptly noted, "As is our confidence, so is our capacity."[1] Don't simply fall back on a safe, simple, or expected solution that mimics others. Stand out. Stand apart. Set yourself apart from your competition and use your confidence to create a greater capacity for success.

Flexibility acknowledges the lasting truth spoken by ancient Greek philosopher Heraclitus, who was quoted as saying, "Change is the only constant in life." Change requires quick adaptations in approaches to product, service, and delivery — not only to be responsive to, but to anticipate these new realities, even before your customers or competitors know about them. Flexibility balanced with confidence enables bold decision making. But it is essential to do so in a manner that creates options. Understand and evaluate multiple scenarios and plan for adjustments. In more recent times, the less accomplished philosopher (though equally accurate) Mike Tyson stated, "Everybody has a plan until they get punched in the mouth."[2] As technology and business leaders, we know that we will get hit. Campaigns will not resonate with customers, systems will go down, data will become compromised. We know that these things will happen, we just don't know when. Getting punched in round one requires a different response to getting punched in round 15. But these are responses that we can anticipate and around which we can plan multiple scenarios to achieve success.

Resilience comes from experience, mindset, and failure. It also relies heavily upon confidence and flexibility. To become resilient, people must experience setbacks. If we achieve positive outcomes consistently and easily, we may be very successful, but we may lack resilience. As we all remember from learning to ride our bicycles, falls and skinned knees were important learning opportunities that ultimately helped us become better riders. We learned why we fell. Perhaps our balance was off, or perhaps we ran into a curb. While that skinned knee hurt, the pain didn't last and was minor compared to

Figure 1 — The foundation for successful engagement with customers.

the thrill of finally riding for the first time without those training wheels. Very few of us rode our bikes successfully on the first try. Still, resilience led to success.

The biggest factors in developing resilience are a positive mindset and the confidence that you will succeed. Perhaps no one has embodied this better than arguably the most confident athlete in history, Michael Jordan, who said, "I've missed more than 9,000 shots in my career. I've lost almost 300 games. Twenty-six times, I've been trusted to take the game-winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed."[3]

Knowledge guides us as leaders in decision making. It ensures that we've sought to optimize the level of understanding needed before we determine our course of action. It means that we've consulted with experts in a specific field when we ourselves lack the necessary information to improve our confidence. Few leaders would ever openly admit to an intentional approach lacking knowledge.

> *The biggest factors in developing resilience are a positive mindset and the confidence that you will succeed.*

As we think about knowledge in light of the COVID-19 pandemic, we have the juxtaposition of what knowledge is versus what we actually know. A body of knowledge typically has wide application; is empirically proven (through observable and measurable results); and is seen as trustworthy, objective, reliable, and predictable. The current crisis, with its ambiguity, does not possess these desirable attributes. As leaders, where can we find knowledge that is trustworthy, truths that are proven, and outcomes that we expect to be reliable and predictable? As French writer Jean-Baptiste Alphonse Karr once wrote, "Plus ça change, plus c'est la même chose" ("The more things change, the more they stay the same").[4] To find this necessary body of knowledge, focus on what is stable, what is known, and what is proven. Loyalty is derived from customers. Customers are people. People trust and rely on relationships. Maintaining loyalty relies on deepening your relationships with your most valuable customers. This has not and will not change.

Equations to Strengthen Customer Loyalty

In my work, I often share three critical equations to strengthen customer loyalty. These equations are best viewed as sitting atop this foundation of confidence, flexibility, resilience, and knowledge. Executing with the equations in mind creates a regenerative effect to further strengthen the foundation. As I explore them further within the context of COVID-19, I have added a fourth overarching and, perhaps, most important, equation.

The Customer Experience Equation

The goal of the customer experience equation (see Figure 2) is to develop a *connection*. Connection is achieved through two factors. The first is *content* and represents the product or service that you sell. In the short term, content is relatively static, as you've planned it months before and it represents your current inventory or service offering. As a restaurant, your content is essentially your menu, pricing, and atmosphere. As a retailer, your content is your assortment and inventory. It is what you sell and how you sell it — your brand position and purpose. It is essential that your content fulfill a want or need of your customer. But content alone cannot create a connection. It needs help.

The second factor is *context*, which represents everything surrounding both your content and your customer. In the pre-COVID-19 environment, context depended on understanding the customer's primary buying motivation (e.g., service, quality, value, convenience) and meeting that need at the appropriate time and place. Using a simple example, a delicious bowl of ice cream (content) on a particularly hot summer day (context) is especially refreshing and satisfying (connection) — typically more so than on a frigid January afternoon (though I recognize that one could argue that ice cream is perfect in any context). But the point is clear. When the appropriate content is delivered

CONTENT + CONTEXT = CONNECTION

Figure 2 — The customer experience equation.

to your customer with the perfect context, you achieve higher degrees of satisfaction and connection.

The new, challenging environment in which we find ourselves has placed an even higher premium on better understanding the context in which our customers are operating. How is staying at home affecting their needs and wants and, hence, behavior and purchasing intentions? Has their job status changed significantly (e.g., furlough, pay reduction)? Are they sick or caring for a loved one and now have much more important priorities than shopping with us? What else has changed about our customers that is independent of our content? All these changes will impact our ability as technology and business leaders to deliver our content within the right context and, hence, our ability to achieve connection. Companies that invest in understanding the very specific contextual changes of each customer will then be able to provide a matching level of service that is appreciated. Those that do not will come across as tone-deaf, lose sales, and lose customers.

But let's not forget about content. Remember, this equation is addition, so improvements in content or context will yield improved levels of connection. However, expanded content cannot simply be what is expected or common across the business landscape. Though important to our health, I doubt that many customers feel a deeper connection to retailers who have added protective masks to their assortments. In fact, some could argue that profiting from these new table stakes may even reduce connection. Product (content) extensions that are authentic to our brand, bold, and unique will deepen those connections.

As an example, an artisan ice cream shop in Columbus, Ohio, USA, recently released a new flavor (expanded content) called "Sunshine." The product release stated, "[T]he color is muted and as gray as a rain cloud, but it tastes like a ray of sunshine on your tongue. We created this flavor as a reminder — for ourselves and each other — that when gray clouds descend on our lives, the sun always shines again."[5] Talk about bold and unique; I've never seen gray ice cream before. And although, as I write this, it is 30°F in May (hardly the perfect context for ice cream), I'm sure that this brand's customers feel a deeper connection today and are more likely to make a purchase now and to purchase more in the future.

Connection is about how you make your customer feel. Whether in times of crisis or stability, by getting content and context right, companies will deepen their connection with customers, which will benefit them not only in the present but for many years to come.

The Technology and Innovation Equation

The technology and innovation equation (see Figure 3) delivers what we all seek: *value*. But it uses multiplication and that tricky little rule that states that anything multiplied by zero equals zero. So, whenever we encounter a situation without any ideas, we get no value. Likewise, even when we might have the best and largest cache of ideas around, without execution, they cannot generate any value. But when both *ideation* and *execution* are present, the value derived can be significant.

Let's return to the pre-COVID-19 state for a moment. Many companies have been effective at embedding technology and innovation capabilities into their businesses, benefiting their associates and customers. Indeed, many have adopted artificial intelligence, augmented reality, and/or geolocation and have delivered these and many other Internet of Things advances to the marketplace. However, it's been more commonplace to see companies struggle to innovate and deliver, at best falling into the "fast-follower" category, but more often into the "slow-follower" group, and, unfortunately, many drop to the "need to catch up; we're way behind" group. The biggest impediments to delivery are usually internally perceived — and self-fulfilling — deficiencies. Some companies and industries simply don't have the skills or creativity to innovate, so they leave that up to Silicon Valley giants, consultants, or new, nimble startups. In addition, they struggle to believe that they can operate with the needed speed to deliver these capabilities to market in a timely manner. The navigation of too many internal meetings, required approvals, and undue bureaucracy slows everything down.

Enter COVID-19. Although we all saw it coming from across the globe, when it arrived in our communities it felt sudden and very impactful. Changes came

IDEATION x EXECUTION = VALUE

Figure 3 — The technology and innovation equation.

seemingly overnight as schools, offices, and businesses closed their doors. Companies needed to react fast. The symbolic "burning platform"[6] for change became an inferno. Many did not have time to call in the big consultancies or other experts (firefighters). They needed to act on their own and do so quickly, and they did. Capabilities like curbside pickup, financial protection measures, same or one-day delivery, and more were implemented within days or weeks of ideation. Latent capabilities around speed and execution were uncovered; capabilities many didn't think they had. While value (revenue) certainly has been reduced during this time frame, for many it did not hit zero. Some essential brands even experienced an increase in revenue during this time, with limited competition. The key for them will now be how to retain those new customers. These companies leveraged ideation to determine how to proceed, and got the job done with execution. It may not always have been perfect, but more value was delivered than had either of those elements been reduced to zero.

> *As ideation increases, combined with the ability to execute, companies are delivering more value.*

While it has been and remains critical for individuals to follow government instructions to "shelter in place" to flatten the curve, many companies have erroneously followed the same orders, and are hoping to ride out the situation. They've cancelled or deferred key projects, reduced their capacities, and may even have furloughed some of their most valuable resources (e.g., the VP of innovation, a role that I'd argue is even more critical in these times).

Those companies that will come out of this crisis the strongest, however, are embodying the creed, "Never let a good crisis go to waste." They are using this time as an opportunity to break the myth that they cannot innovate and execute quickly. They were forced to demonstrate that they did indeed have the capability to execute swiftly, something many of them did not think that they possessed. So now as ideation increases, combined with the ability to execute, they are delivering more value. This value creation won't necessarily make companies whole, but it can very well enable them to survive until the economy recovers more fully.

The Analytics Equation

The analytics equation (see Figure 4) simplifies what many perceive to be a very complex topic by clearly outlining the primary objective of data and analytics: *better decision making*. Few would argue against better decision making as an important business capability that every organization should always seek to improve. However, the approach to doing so has historically been driven by two primary drivers: experience and data.

Those in the experience-driven camp espouse the value of years in an industry or function and personal histories with projects, products, and customers that provide them with great gut instincts. These gut-driven decisions often rely on a feeling or a hunch, and, many times, the outcomes are very good. However, these types of decisions are very difficult to repeat and scale. Too often, past experiences create a bias that prevents us from seeing the value of new ideas or approaches — the "we've never done it that way here" mentality that is so limiting.

The data-driven faction rides the more recent wave of data and analytics, relying on algorithms and models to evaluate their alternatives. Accompanied by probabilities or confidence intervals, decisions made with this mindset are often accompanied by statements like, "The data model said that we should pursue this action." These types of decisions are often correct but, in many cases, lack the specific context around the business decision and, hence, can result in regretful decisions. (Perhaps the most widely known example of such a misstep was when Target became aware of a teen's pregnancy before her father did.[7]) Just because the data suggests something, or says that "we can," does not mean that "we should." Data must also be representative of multiple perspectives, internal and external (i.e., market research, customer). Failing to consider these different viewpoints can lead to suboptimal data-driven decisions.

INSIGHT + INTUITION = BETTER DECISIONS

Figure 4 — The analytics equation.

A better approach — one that will always produce better decisions than either of the above — is the *data-informed* approach, which balances *insight* (i.e., data, algorithms, models) with *intuition* (i.e., experience, instincts, risk, context). This balance is especially important when we consider something like the COVID-19 pandemic, which we hope is a "once in a lifetime" event. Data scientists are challenged to develop accurate predictive models given ever-changing data and, often, the lack of historical or current data. This situation has led to varying predictions around our common goal of "flattening the curve," with different models often coming from equally respected sources. As a result, many are forced to do the best that they can, qualifying their analytics with larger ranges of potential outcomes or reduced confidence levels. This creates an even stronger need to adopt the approach of being data-informed, which means using the available data and adding intuition, a combination of experience, risk tolerance, and knowing the "right thing to do." As an example, analytics may demonstrate a huge demand for masks and, subsequently, a huge profit opportunity. However, intuition likely suggests that for the greater public good, perhaps masks should be donated or provided at low or no cost. Another complication to good decision making is that few experts today have any personal experience with a global pandemic of this scale. Some lessons can certainly be applied from past events, such as 9/11 or recent recessions, but, at best, they are simply inputs — an added perspective on an important decision.

Especially during this crisis, but also extremely applicable in prosperous and more stable times, balancing insight and intuition will lead to better decision making. It cannot ever guarantee the best outcome, as life happens. But it will ensure that the decision-making process is thoughtful and comprehensive and does the best possible job of ensuring that the decision maker is well informed.

The Loyalty Equation

Now let's explore the fourth and final equation: the loyalty equation (see Figure 5). Combining the experience, innovation, and analytics equations with confidence, flexibility, resilience, and knowledge will produce positive outcomes. But the combination is not enough to maintain customer loyalty in the long term. There is one additional missing ingredient: consistency.

Customers deepen their loyalty to brands that serve them well time and time again and regularly deliver engaging and valuable experiences. Brands that do well start by identifying their customers' expectations, then strive to exceed them through upgrades and new versions, features, services, or experiences. And they do so consistently, even as customer expectations continue to rise. As Professor Noriaki Kano's model suggests, to achieve exponential levels of customer satisfaction (and *loyalty*), one must significantly exceed the customer's expectations.[8] Doing this consistently will develop and maintain loyalty and competitive advantage over time.

Especially during this crisis, but also extremely applicable in prosperous and more stable times, balancing insight and intuition will lead to better decision making.

This applies in good times and bad but is amplified in these challenging times as rising *expectations* are accelerated. Customers now expect companies to treat their employees well and to donate their product to healthcare or other frontline heroes, or shift their manufacturing capabilities to personal protection equipment (PPE) production. They also expect a level of "health assuredness" from their favorite brands, as their desire to make purchases is balanced by a higher need to stay healthy. Delivering on these new expectations is now a baseline requirement; that is, it simply meets the customers' current expectations. But it falls short of the key to loyalty: exceeding the customers' expectations.

Final Thoughts

What can your company do that the customer did not expect? What can your company do that your competitors aren't doing or even thinking about? How can you deliver these baseline expectations, but also take them further by expanding the value of your content and

LOYALTY = *f* (EXPERIENCE > EXPECTATION)

Figure 5 — The loyalty equation.

your understanding of your customers' context? What ideas and capabilities can you execute to deliver unexpected value to your customers? How can you leverage a data-informed approach to balance the science and art in decision making? How can you close the expectations gap and leapfrog your competition?

Delivering on the answers to these questions consistently will develop loyalty, deepen lasting relationships with your customers, and position your company to both survive and thrive as we enter and navigate the new normal.

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CHANGE IS HERE TO STAY

COVID-19 Calls for Remote Reskilling & Retraining

by Cui Zou, Wangchuchu Zhao, and Keng Siau

For many businesses, the world as they once knew it has come to a stop, and it is certainly no longer business as usual. A "new normal" is with us now as we quarantine, shelter in place, and practice social distancing in an attempt to control and manage the spread of coronavirus. A "next normal" is undoubtedly going to emerge once the COVID-19 pandemic slows down or resolves.

During this pandemic, advanced online,[1] mobile,[2] and teleworking technologies have been utilized to keep the world functioning. It is difficult to imagine that this newfound exposure to, and experience with, innovative remote working technologies and online education possibilities won't drive businesses worldwide into a new phase of technology innovation, evolution, and revolution.

The world economy has been devastated, and many companies face uncertainties in the marketplace. The forward-looking companies or individuals that were prepared in advance (i.e., companies that had alternative business methods already in place, like Walmart's online ordering and pickup system) will weather this unexpected situation and may emerge more competitive than before the pandemic. Indeed, companies that are agile and have invested in flexible infrastructure have the opportunity to turn disasters into opportunities. While some companies may choose to cut costs and lay off employees, we suggest business managers and executives consider using work from home (WFH) as an opportunity to cross-train and reskill their employees. Such an effort would enhance their workforce and, as a result, make their companies more competitive, long after the COVID-19 crisis. In this article, we explore different online/blended education approaches available today to help companies provide online and remote training during and after the pandemic crisis.

Technologies to Support Telework

Due to COVID-19, many organizations moved from onsite to WFH quite suddenly. Although over the last one to two decades, telework and online education have become increasingly popular and more available, this abrupt change in early 2020 had a tremendous impact on organizational cultures and on how employees work (and think) together. The new challenges are: how to cultivate a teleworking culture and mindset during and after the pandemic, how to enable mass collaboration, how to promote self-organizing practices when working remotely, how business leaders and managers can maintain visibility and influence over the organization when social interaction is limited, and how to ensure stakeholders show up virtually and are engaged. Table 1 provides examples of some WFH tools that companies may choose to use based on their needs.

Effective Management of Remote Employees and Distributed Teams

During this pandemic, which in many cases has made WFH policies necessary, team leaders and direct managers should find ways to effectively manage

Web conferencing/ meeting tools	Zoom, Microsoft Teams, Webex
Messaging	Slack, Google Hangouts, Facebook Workplace, WhatsApp, WeChat, Viber, Skype, Discord
Collaborative tools	G Suite, Teamwork, Guru
VPNs	CyberGhost, NordVPN, ExpressVPN
Project management	Clubhouse, Trello, Zoho, Basecamp

Table 1 — Examples of WFH tools.

remote employees and teams. Managers' communication, behavior, and role modeling are important to help employees understand the new culture of the organization and act in accordance with expected norms. Similar to an open-door policy when working onsite, managers might offer "hop-in times" on Zoom or Google Hangout, or other platforms, where staff members feel comfortable going online just to chat. The aim of these one-to-one meetings would be to create a feeling of security and belonging. Employees need to be encouraged to reach out, virtually, to managers and team leaders to bring up any urgent issues. In addition, companies must allow employees the time to learn new tools and skills for remote work and provide them relevant educational opportunities and training. Being empathetic and patient will deliver a sincere and genuine message to staff. Some good practices include having an IT support team on standby to answer any questions about technical problems that WFH workers may encounter and using analytics tools to monitor keystrokes, emails, file transfers, application usage, and time spent on tasks to identify workers who need guidance. Without a supportive and encouraging environment, the transition from working onsite to teleworking could be disconcerting and stressful for some employees.

One potential problem with teleworking is a feeling of disconnectedness and insecurity.

For remote working environments, managers should discuss and establish new team guidelines or norms to allow everyone to reach agreement and understand how to follow through. For example, teams should agree on the frequency of virtual meetings, which Web conferencing platform to use, any dress code, camera use, and the handling of sensitive information. Setting up regular virtual check-ins to address concerns or issues will enhance employees' experience and productivity. Another way to increase productivity and collaboration while teleworking is to leverage artificial intelligence (AI) tools. For example, LaborWise,[3] a human capital platform, can monitor and boost productivity by identifying functions that slow employees down, highlighting procedures with higher costs, and suggesting when there's a need for additional staffing. In addition, AI startup Humanyze[4] provides employees with smart ID cards that measure location and communications activity to uncover patterns. These innovative tools make it possible to gain insights into WFH productivity and may allow for a much more transparent and trusting working environment.

Enhancing Employee Morale and Productivity

One potential problem with teleworking is a feeling of disconnectedness and insecurity. After all, many of us are used to working in close physical proximity to colleagues. But with the need for social distancing and a WFH policy, social interaction between colleagues becomes a luxury. The disconnectedness issue is exacerbated for junior staff who may be more unfamiliar with the company's culture and organizational structure. Therefore, keeping communication lines open is extremely important in a remote working environment. Maintaining team morale during a pandemic is more important than ever. Managers need to alleviate insecurity by constantly affirming employees' value and assuring them (where possible) of job security. A comforting leader could motivate staff by appreciating an individual's work personally and recognizing good work publicly.

Reskilling and Retraining During and After COVID-19

While the coronavirus pandemic has disrupted the economy and work routines, it also provides opportunities for organizations to implement continuous learning and make progress toward upskilling and reskilling employees. According to a study conducted by the World Economic Forum, 42% of the core skills needed for current jobs will have changed by 2022, and over 133 million new jobs will have been created.[5] (Here, "new jobs" means jobs with new roles and will mainly be in identified growth areas such as data science.) Ultimately, employees must be prepared to match their skill sets to new positions and jobs. On one hand, the arrival of the AI era[6] calls for reskilling and upskilling.[7] On the other hand, new business models created during and after the pandemic will also require retraining of employees, including the ability to use any new hardware or software. For example, the new skill sets some employees need to acquire include the technical skills to operate in a fully remote workplace, problem-solving skills to address a redesign and innovation process, and the advanced social skills required for non-face-to-face interaction and teleworking. Managers

can capitalize on current quarantine and shelter-in-place periods to invest in employees' training and help them upskill and reskill.

We recommend managers and companies consider the following four types of learning technology for workforce training, professional development, and onboarding:

1. **Virtual instructor-led training (VILT).** VILT is based on traditional instructor-led training but is conducted in a virtual classroom or as a webinar, where instructors and learners are not in the same physical location. Due to the advancement of collaborative software technologies and video-conferencing tools, along with decreased cost of Internet access, VILT has become a very popular Internet-based learning method. Compared to traditional face-to-face training, VILT is more cost-effective and enables online training during a social distancing period. VILT is mainly delivered synchronously although some asynchronous tools may be adopted (e.g., discussion boards). In both synchronous and asynchronous teaching modes, learners can ask questions and discuss concepts with the instructors and collaborate with other learners. VILT is a practical and viable training solution to deal with complex content.

2. **Online courses.** While online training formats are not something new and have been used in organizations for many years, they have become even more valuable during the COVID-19 pandemic. Compared to VILT, online courses allow employees to take self-paced training from anywhere they prefer during their free time but may not have the features of communicating live with instructors and other learners. If managers and HR want to evaluate learning outcomes and keep track of training processes, they can upload course materials to a learning management system such as Canvas, Blackboard, or Moodle. To make the e-learning process more attractive and boost learner motivation, gamification elements (e.g., badges, leaderboards, and points) are commonly added to online courses. For example, McDonald's delivers game-based training to improve employees' ability to deliver an excellent customer experience.[8] The online training requires employees to deal with mock orders within a specific time frame; performance evaluation is based on employees' accuracy in entering orders while keeping customers happy.

3. **Flipped classroom.** Online courses, blended learning, and the flipped classroom are methods that could substitute for the traditional face-to-face learning method, while also improving learning performance and allowing for social distancing. Online learning provides learners with flexibility in terms of time, place, and learning pace. Traditional learning approaches, however, provide learners with a greater sense of participation and involvement. Blended learning, as the name implies, is a blend of online teaching and the traditional face-to-face teaching method. The flipped classroom approach is a type of blended learning, whereby learners use technology to access instruction-oriented resources (e.g., online lectures, animated readings) before in-person classroom courses. The in-person courses focus on the problem solving and analysis that learners have traditionally done outside the classroom, thus "flipping" what is done in and out of class. This instruction delivery modality could potentially decrease the amount of person-to-person (P2P) interaction when compared to the traditional classroom learning method. Furthermore, flipped classes enable a class to split into several smaller groups, with each group of trainees attending a P2P class at a specific time without greatly increasing the workload of instructors (e.g., prerecorded lectures can be reused for different groups). Many instructors argue that the flipped classroom approach provides learners with a wide range of basic online resources that are suitable for learners with different backgrounds. The approach enables more interaction time between learners and instructors to stimulate learners' interests in the course materials and to achieve better learning outcomes.

Table 2 illustrates the flipped classroom learning approach. This hybrid learning method is both feasible and effective and is especially useful during the COVID-19 pandemic. When putting flipped classrooms into practice, the technology and measurement methods shown in Table 3 can serve as references for companies and institutions. Most flipped classrooms use video lectures as the "standard" delivery mode outside the classroom. Some use animated reading and simulation. Advanced methods such as complex AI-based tutoring systems are gaining traction. The common performance measures in the flipped classroom delivery mode are class participation, attendance, learning performance, skill set learned, and biometrics. The measurement instruments for

Location	Background Introduction or Basic Knowledge	Critical Knowledge or Practical Operation
Outside the classroom	Use technology to access well-defined, self-paced, instruction-oriented resources and guiding questions.	
Inside the classroom		Provide active learning activities inside interactive classroom. Learners can be split into small groups during COVID-19 crisis.

Table 2 — The flipped classroom learning approach.

Technologies or methods	Video lectures, animated reading and simulation, and AI-based tutoring systems
Performance measures	Class participation, attendance, learning performance, skill set learned, and biometrics
Instruments used for performance measures	Surveys, open-ended questions, learning performance tests, interviews, and observations

Table 3 — Technologies, methods, and measures for flipped classroom.

performance include surveys, open-ended questions, learning performance tests, interviews, and observation.

4. **Immersive learning.** Immersive learning is a more engaging learning approach that can grab learners' attention and keep them interested in the course content. Immersive learning provides an interactive learning environment with real-life scenarios to learn particular skills. The cost of incorporating the latest trends of augmented reality (AR) and virtual reality (VR) into immersive learning has dropped dramatically.[9] For instance, Google Cardboard can bring a VR experience to personal smartphones for around US $15,[10] and Facebook's Oculus Rift S costs less than $400.[11] With the advancement of AR/VR technology, immersive learning engages learners in a highly interactive space and provides both virtual and physical learning experiences. Compared to other learning methods, such as massive open online courses (MOOCs), e-learning, and video-based online learning, immersive learning may be both more attractive and more effective.

Moving Forward

As of mid-July 2020, there are more than 14 million confirmed cases of COVID-19 worldwide.[12] The unprecedented disruptions wrought by this pandemic have forced many businesses to speed up digitalization and pivot operations online. This "new normal" requires employees with new skill sets and knowledge, while the "next normal," after the pandemic, will necessitate that companies innovate and conduct business differently. We recommend companies use the downtime during quarantine and shelter-in-place to reskill and retrain employees. The transition from onsite work to a WFH environment requires companies to reengineer their operations and reinvent their business models. In the post-COVID-19 era, it is unlikely that business operations will return to their pre-pandemic status. We can assume a hybrid working environment will be the norm, with employees working from home for a portion of their workweek. Continuous retraining and reskilling of employees will be necessary and required — both now and after the pandemic ends.

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THE NEW NORMAL

It's Time to Address Long-Term Work-from-Home Issues

by Mark Lee

In an emergency, the rule is to first solve the most urgent problem. Stop the bleeding. Do CPR. Get out of the burning building.

Enter COVID-19. In the face of early quarantine and shelter-in-place directives, the problem with the greatest urgency for most companies regarding the global pandemic was how to enable employees who previously reported to an office to suddenly work from home (WFH). Understandably, that immediate need — get employees working productively from home, now! — meant putting WFH solutions quickly in place without a thorough or careful evaluation and without time to establish the infrastructure required to ensure security and regulatory compliance.

Now that WFH has passed from acute emergency to the "new normal," it's time to step back and address better approaches for enabling more employees to work productively, and securely, from home. Not surprisingly, it turns out that a scalable technology platform with a solid security framework can make all the difference.

In this article, we first address what most people turn to initially for a WFH solution — virtual private networks (VPNs) — and their unsuitability for the current task at hand. Next, we discuss alternatives to VPNs and conclude with considering what's needed to support remote work over the long term.

Don't Assume VPNs Are the Answer

Many companies addressed their sudden WFH demands by turning to a technology already familiar to them: VPNs. After all, VPNs were designed as a way to interconnect business networks securely over the Internet and to enable remote workers to access their business network from a personal computer, tablet, or smartphone. Unfortunately, legacy VPNs were neither built to operate in today's cloud-centric world, nor are they able to handle the current influx of work-from-home or work-from-anywhere users. Let's explore some VPN issues in more detail.

Hub-Spoke VPN Design Doesn't Scale Well

The fundamental design of VPNs makes them unsuitable to deal with long-term WFH issues. VPNs operate in a hub-and-spoke configuration, in which all traffic to and from remote users' devices — including when accessing cloud-hosted applications or when communicating directly with another remote user — passes through the corporate data center (see Figure 1).

This hub-and-spoke configuration is extremely inefficient, especially as the number of remote users increases. For example, on established VPNs, remote users regularly access Zoom, Slack, Microsoft Office 365, and other applications hosted in the public cloud. And they often want to communicate directly with one another.

On VPNs, all traffic is backhauled through the corporate VPN hub, even if it's to or from a cloud-hosted application or between two remote users. As a result, traffic quickly congests the corporate VPN hub, often slowing to a frustrating crawl. Everyone on the VPN experiences more latency and a lagged user experience — and productivity plummets. To understand what this feels like from a remote user's perspective, imagine joining a Zoom meeting from home. Then think about how much delay you would experience when all traffic must route through the VPN-tunneled corporate network before reaching you.

Some VPN vendors have split tunneling VPN capability as the solution to address this backhauling challenge, but it's very complex to set up properly across different platforms (Windows, Mac, iOS, and Android), and split tunneling increases the chance of data loss and other security risks.

VPNs Are Hardware-Based Solutions

Another disadvantage of VPNs in modern environments is their reliance on specialized VPN hardware devices. Legacy hardware appliances can easily take weeks or months to install, configure, and deploy to enable users to work remotely. As the number

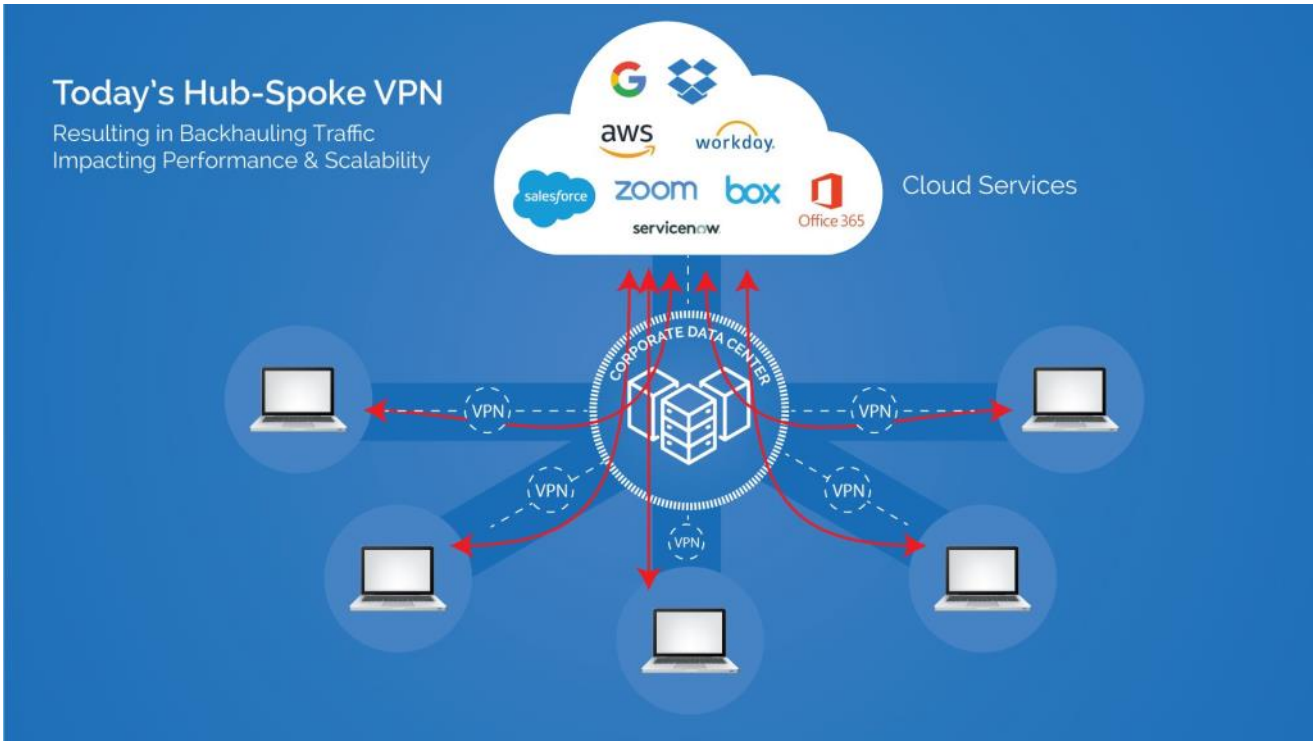

Figure 1 — VPN hub-and-spoke configuration: all network traffic routes through corporate data center.

of remote workers — and the traffic generated — surges, traditional VPN appliances become overloaded, which diminishes performance and user productivity. In response, companies often make the expensive decision to oversize the VPN hardware appliance to handle the traffic surges.

VPNs Require Company-Issued Devices for Remote Workers

Beyond the backhauling traffic issues, using a VPN securely requires that remote employees use company-issued devices with antivirus (AV) software installed and continually updated. If the AV server and policy were hosted in the corporate network, users' AV signatures could be outdated for some time, exposing these devices to security risks. When the COVID-19 lockdown took place, many IT teams scrambled to buy new computers or reimage old computers in order to support the surging demand from WFH employees.

VPNs Can't Keep Pace with Expanding Corporate Network Perimeter

Traditional VPNs are all about creating a protected, defined corporate perimeter. But today's corporate perimeter is already broken by Office 365, Salesforce, Workday, Slack, Zoom, and other (software-as-a-service) SaaS cloud applications. The growing number of people working at home due to COVID-19 is extending that corporate perimeter even further, out to home networks and devices. VPNs simply weren't designed to operate when the corporate network boundary can't be defined and defended.

VPNs Don't Distinguish Between Corporate and Personal Traffic

It's easy for users to forget that they are still connected in a VPN session before starting to engage in personal activities: watching Netflix or YouTube or surfing the Web. All this personal traffic, which like all VPN traffic is backhauled through the corporate data center, ends up congesting the corporate network as well.

VPNs Introduce Corporate Security Issues

For optimal security, businesses should enable remote access to a specific device or application, never to the entire network (which is what VPN does). In addition to putting tremendous loads on the VPN, backhauling remote users' personal traffic through the VPN hub also exposes the corporate network to significant security and compliance risks.

Certainly, companies can't control employees' home networks. Inside homes, people might have all sorts of connected consumer devices — including lighting, security cameras, robotic vacuum cleaners, door locks, coffee makers, and more — on the same Wi-Fi network as their company-issued VPN access device. Mixing all these devices together on the same network creates huge potential security risks.

Many threats can hide in SSL VPN traffic, including botnets, zero-days, swarming, and others — all able to attack corporate networks and assets.

Furthermore, as VPN firewalls become overloaded with all the traffic passing through the corporate data center, it's impossible for IT teams to effectively monitor and inspect the network traffic effectively. Many threats can hide in secure sockets layer (SSL) VPN traffic, including botnets, zero-days, swarming, and others — all able to attack corporate networks and assets.

Moreover, keeping VPN infrastructures updated with the latest security updates and patches is a manual operation. It's easy for IT staff to miss an important software or security update, leaving the corporate network vulnerable to breaches. And if problems do occur, the troubleshooting process is also manual, making it difficult to locate and fix the problems. Furthermore, VPNs have known security issues. In 2019, a flaw in the Pulse Secure VPN appliance led to several companies being hit by ransomware attacks.[1] The US Department of Homeland Security (DHS) has issued many security warnings on VPNs. In fact, in March 2020, DHS put out the warning that "as VPNs are 24/7, organizations are less likely to keep them updated with the latest security updates and patches."[2] And it's not just VPN hardware appliances that need to be updated. All various versions of VPN software clients running on corporate-issued laptops and mobile devices also need to be updated regularly, creating tremendous IT workloads.

VPNs Are Not Well Suited to Long-Term WFH Conditions

Enterprises that already had VPNs set up when the coronavirus shelter-in-place restrictions hit might have found them to be a useful short-term solution for some of their employees. But now that WFH has become so widespread, it's time to look beyond these technologies and other quickly implemented approaches to consider what ideal solutions can — and should — look like. There's no excuse for compromising security or productivity when enabling employees to WFH.

The Alternative to VPN: Cloud-Based Remote Access Software

If the familiar VPNs are not up to the task of supporting the sudden new generation of WFH users, what's the alternative? Fortunately, there's a class of products designed specifically for today's needs: cloud-based remote access software.

Unlike VPNs, these solutions were born in the cloud, operate without backhauling traffic through the corporate data center, and don't require specialized hardware (see Figure 2). Cloud-based remote access software can deliver on-demand scaling and provide automated security updates and compliance monitoring.

As WFH becomes more prevalent, businesses cannot afford to skimp on security or performance. Solutions designed specifically for remote access, especially easily scalable, cloud-based remote access platforms, offer the robust performance and security that enable organizations to confidently allow more of their people to work remotely — without the negative impacts of traditional VPNs.

Advantages of well-architected, cloud-based remote access solutions include:

- They can respond to business needs instantly, without the constraints of hardware appliance limitations.
- Cloud-based subscription models let organizations scale their usage up or down as needed, which saves significant costs.
- Because they don't route all traffic through the corporate data center, cloud-based remote access platforms make it easy to effectively monitor and inspect network traffic, preventing and stopping threats.
- Users can use personal devices to access corporate resources from home, truly embracing BYOD (bring your own device) without sacrificing security.

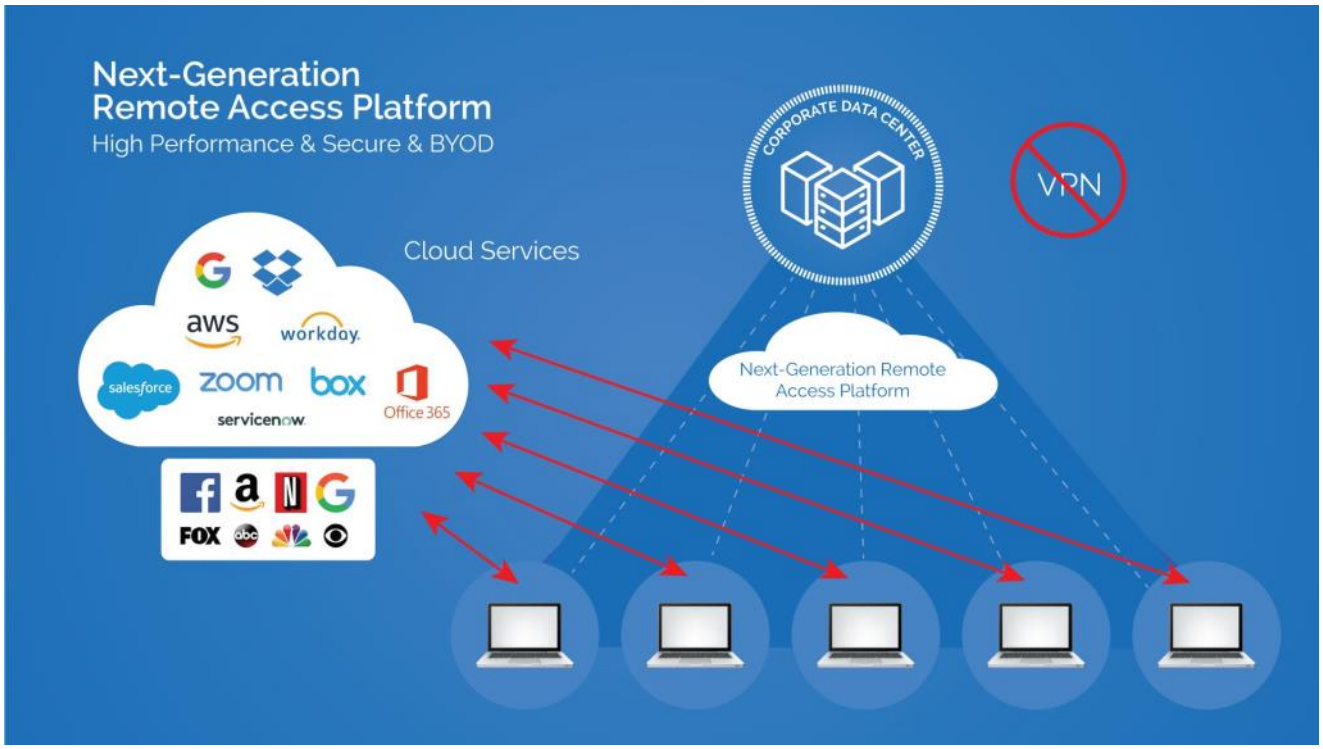

Figure 2 — Cloud-based remote access software routes traffic efficiently and securely between remote workers and the resources they need to work productively.

- Additionally, a well-designed, cloud-based remote access platform automatically updates all endpoints with the latest remote access software, as well as updating and continuously monitoring the cloud infrastructure. As a result, it reduces security risks and improves uptimes.

Requirements for Remote Access Solutions

Security concerns must be top of mind for all organizations implementing WFH strategies. Already, concerns about WFH privacy and security have caused schools and companies, including Tesla, to ban the use of Zoom videoconferencing.[3] Therefore, enterprises should look for remote access solutions that offer device authentication and two-factor authentication as standard as well as automatic — not manual — infrastructure, software, and security updates. The solution should come with robust management, monitoring, and reporting capabilities.

Another important security feature is single sign-on (SSO), an authentication scheme that enables users to log in to multiple applications and resources using passwords that comply with security policy (e.g., enforcing strong passwords and mandating regular password changes). Without SSO capabilities, remote workers often take security shortcuts, such as using the same password for all their logins or keeping a written list of their sign-in credentials. These shortcuts put the company at risk. With SSO, when an employee, flex worker, or contractor leaves the organization, IT can easily disable access to all corporate accounts, across all the different applications, at one time.

Another concern for companies contemplating allowing more of their employees to work remotely or from home is the issue of compliance. Most companies must abide by various government regulations and industry standards that spell out how they handle data. In many cases, compliance assumes direct IT control over data storage and handling and prohibits certain data activities from happening outside a company's onsite premises or its corporate network. To ensure they comply with all pertinent standards or regulations, companies need to put in place remote access solutions that include automated compliance features. That way, it's not left to employee discretion or manual oversight to achieve necessary compliance.

But Is a Long-Term WFH Strategy Really Necessary?

Even those who recognize the advantages of a cloud-based remote access platform over a VPN might argue

that the current WFH solution is a temporary anomaly. In that case, why not just muddle through with a VPN until things get back to normal?

Although the COVID-19 pandemic has forced many more people to work from home, the trend toward remote work is not new. According to a 2019 report, between 2005 and 2017 (*way before the pandemic*), the number of people telecommuting in the US increased 159%.[4] In early April of this year, researchers at the Massachusetts Institute of Technology (MIT) produced a snapshot look at how COVID-19 was affecting remote work in the US. More than a third of workers surveyed reported that they had shifted to remote work in response to the pandemic.[5] Extrapolating from this and other data, an article in Vox predicted:

> These new numbers represent a seismic shift in work culture.... The trend of working from home had been gaining momentum incrementally for years, as technology and company cultures increasingly accommodated it. So it's also likely that many Americans who are now working from home for the first time will continue to do so after the pandemic.[6]

The WFH trend began well over a decade ago and is only accelerating.

By late April, another article declared:

> The trend toward remote work may have been underway already, but in the last several weeks the COVID-19 crisis has forced companies to fully commit to the necessary investments in tech, process, and training to make remote work a permanent feature of their businesses. Companies won't go back to the pre-coronavirus office culture.[7]

That piece also described that although companies faced an organizational cost in moving from a 0% remote-enabled workforce (i.e., 100% on-premises) to some level of remote work, after making the initial investment in required technology and processes, the remote work cost would decrease to below the cost of having a 100% in-office workforce. Interestingly, in early May 2020, Twitter CEO Jack Dorsey notified company staff, whose already generous WFH model was accelerated by the COVID-19 pandemic, that they would "be able to continue working from home as long as they see fit."[8] It is likely that other companies will follow suit.

In summary, the WFH trend began well over a decade ago and is only accelerating. The current crisis has vastly expanded the number of people working from home and companies' acceptance of remote work.

Further Reasons to Support Remote Work

Nonetheless, many enterprises have long been reticent to implement widespread WFH policies based on "out of sight, probably not working" fears. For lots of managers, the perceived link between seeing that people are working and believing in their productivity remains strong.

Evidence, however, does not support this belief. Long before the current explosion of people working from home, Nicholas Bloom, the Eberle Professor of Economics at Stanford University, and graduate student James Liang, cofounders of the Chinese travel website Ctrip (now part of Trip.com), conducted a study focusing on Ctrip's call center staff being given the opportunity to WFH for nine months. The results of the study were published in 2014. According to Bloom:

> The results we saw at Ctrip blew me away.... [W]e found that people working from home completed 13.5% more calls than the staff in the office did — meaning that Ctrip got almost an extra workday a week out of them. They also quit at half the rate of people in the office — way beyond what we anticipated. And predictably, at-home workers reported much higher job satisfaction.[9]

Bloom's conclusions, as reported by the Stanford Graduate School of Business included:

> ... requiring employees to be in the office is an outdated work tradition, set up during the Industrial Revolution. Such inflexibility ignores today's sophisticated communications methods and long commutes, and actually hurts firms and employees.[10]

Instead, as Bloom said in a TEDx Stanford talk in 2017, "Working from home has come of age."[11]

Now that the coronavirus is creating a large-scale test case for WFH, some executives are discovering potential advantages beyond reported boosts to productivity. Indeed, in early April 2020, as the pandemic made its effects felt, 98% of Goldman Sachs employees were working remotely. CEO David Solomon expected that the company would continue to see an increase in the use of videoconferencing and, as the company

became more comfortable with such technology, it would, he affirmed, "make us more comfortable in providing more flexibility to employees, which, by the way, makes this a more attractive place for people to work."[12]

Offering a WFH ability can help companies recruit and retain the employees they need for long-term success. Millennial workers, in particular, are known for placing a high value on work/life balance. Providing the WFH option, at least part of the time, is attractive to many of these workers. In addition, workers with long daily commutes appreciate not having to show up at the office every day. Moreover, companies can widen the range of potential candidates for open positions if they're not strictly bound by geographic constraints.

As the COVID-19 pandemic disruptions have driven home, flexibility is an enormous corporate asset. Having the ability to expand the use of contractors, which today's WFH technology allows, can help companies gain greater flexibility in managing employee payrolls. Companies can also reevaluate their real estate expenditures. More employees working from home, full or part time, could allow companies to reduce the square footage of office space they must rent or own to support all their workers. Another advantage of remote work happens when workers no longer need to be physically present to use expensive, compute-intensive resources such as high-end 3D graphics workstations. With the right remote access technology, these costly resources can be more fully utilized. Imagine multiple workers in different time zones, or working different shifts, gaining access to a single high-end workstation at times convenient to the workers — theoretically, even around the clock.

Using Remote Access Solutions to Enable WFH Success

High-performance, enterprise-grade, cloud-based remote access platforms enable users sitting at home to control their work computing device as if they're sitting in front of it — easily and securely. An effective remote access solution should be able to:

- Scale quickly and easily to thousands of users/devices, without backhauling traffic and hindering user productivity
- Support BYOD so that remote workers do not need to rely on company-issued devices to work securely from home or anywhere
- Support multi-factor authentication and device authentication
- Encrypt all network traffic and record and monitor sessions
- Automate infrastructure and endpoint software updates
- Monitor security and compliance
- Support SSO to enforce the company's password policy through directory services
- Provide IT with an easily accessible audit trail, session recording, file transfer management (i.e., the ability to disable and enable file transfer), and other manageability controls
- Offer high performance and ease of use
- Provide a consistent remote access experience across popular operating systems and devices
- Offer on-demand subscription model and pay-as-you-go services

Conclusion

The COVID-19 pandemic and its widespread shelter-in-place requirements have forced sudden, mass adoption of WFH capabilities. Some companies that previously resisted the idea of having employees work remotely, due to worries about drops in productivity or other concerns, are finding that the flexibility of remote work can offer tangible benefits. One important factor in successful WFH programs, however, is implementing a scalable technology platform with a solid security framework.

Rather than fall back on assumptions that traditional VPN is the default approach, companies interested in having more of WFH employees — by necessity or in recognition of the advantages of remote work — owe it to themselves to seek and evaluate next-generation, scalable remote access platforms. These cloud-based remote access solutions can deliver the enhanced productivity, security, compliance, flexibility, and on-demand cost efficiency that can help organizations achieve long-term success.

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