PERSPECTIVES

THE RESILIENT ENTERPRISE:
GROWTH AND TRANSFORMATION

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Resilient and Ready to Roar Back

With vaccines coursing their way around the world, business leaders now know that better days are ahead in 2021. As Dr. Anthony Fauci, director of America's National Institute of Allergy and Infectious Diseases, has said, the end to the global pandemic is in sight.

Of course, we have the pharmaceutical industry to thank for developing highly effective vaccines in record time. But we should also applaud every company, large and small, that has withstood the economic downturn from the pandemic. They have been resilient.

That's the topic of this edition of TCS *Perspectives*. We explore what has made leading companies and their leaders able to stay strong or bounce back. We present the views of several thought leaders on the TCS executive team—specifically, our chairman (N. Chandrasekaran), CEO (Rajesh Gopinathan), COO (N. Ganapathy Subramaniam), CFO (V. Ramakrishnan), CHRO (Milind Lakkad), CTO (Ananth Krishnan) and CMO (Rajashree R.).

Over my career at TCS, through booms and busts, I have been amazed at the resilience of our clients and their leaders, and of our own company and the people who have led it. I hope this publication both inspires and enlightens.

Krishnan Ramanujam
President, Business and Technology Services
Tata Consultancy Services

CONTENTS

Introduction

Leadership and Purpose

Strong Organizations, Strong Performance

Charting the Future in Key Industries

Bringing Everyone Together

The View Inside

This pandemic-propelled recession has been like few other economic downturns. Entire sectors drastically downsized. Offices shuttered and employees hunched over computers on kitchen tables and bedroom desks. Swarms of trucks dropping parcels at front doors. And, of course, most of all, the disastrous toll on the lives and health of millions.

Despite all of this, it's also been a time of digital renewal of large companies across the world. Those that had prepared themselves over the last decade by digitizing key aspects of how they market, sell, serve customers, deliver their offerings, invent new ones and synchronize the work of their people have held their own in the downturn. Some have even thrived.

It's to those resilient companies that we dedicate this issue of TCS *Perspectives*—as well as to companies that want to become resilient or become more resilient.

When the pandemic spread, C-suites were not positioned like runners at the start of a race, all at the same point. Companies that had already shifted to digital operating models were better positioned than those that had not. For example, companies that could serve up superior digital experiences for customers blew by competitors that were difficult to do business with. The fastest companies out of the gate showed customers they could do without meeting their salespeople in person, going into their stores and restaurants, visiting their bank branches and ATMs to get or deposit money and to do many other things long thought as having to be done in person.

Even before life returns to normal in and outside of work, these resilient companies have already gained an edge. They have earned a distinct advantage over other organizations whose employees have been hobbled by having to operate remotely.

Nonetheless, we believe every company can get back in this digital race, or pull further ahead if they are already in the lead. To explain how, we offer the wisdom of our own C-suite: TCS leaders who have helped our company withstand the downturn and become even stronger.

We have organized their articles into four categories.

1 Leadership and Purpose

In "**The Massive Reset and Acceleration of the Digital Enterprise**," TCS CEO Rajesh Gopinathan discusses why companies need to shift from thinking in terms of age-old industry structures to cross-industry ecosystems. His article then explains how leaders can determine their company's place in its ecosystems: its purpose for customers.

The social distancing necessitated by the pandemic has accelerated the digitization of everything. But by reducing the number of in-person connections in everyone's lives, it forces organizations to offer something meaningful to employees, customers, shareholders, the public and other stakeholders: a purpose beyond profits. In "**A New CMO Role: Leveraging an Organization's Purpose for Strategic Advantage**," Rajashree

R., chief marketing officer of TCS, explains why CMOs need to be the shapers of the narrative for their companies' core purpose.

Along with being guided by their purpose, companies must decide whether they have all the right roles in their C-suites. K. Ananth Krishnan, TCS executive vice president and chief technology officer, explores this in his article, "**Today's Digital Imperatives Demand C-Suite Reinvention**." For example, he argues that companies need chief wellness officers to focus on employees' physical and emotional well-being, as well as chief talent experience officers to ensure they operate in great work environments.

2 Strong Organizations, Strong Performance

While changing conditions call for refining the C-suite responsibilities, many CFOs have been key allies of CEOs in navigating the downturn. In "**How the CFO Can be an Effective Partner to the CEO in Navigating the Pandemic's Economic Storm**," TCS CFO V. Ramakrishnan explains that by digitizing a company's finance value chain, ensuring the prompt availably of business performance data and expanding the presence of financial experts throughout the organization, finance chiefs can help their companies make major operational and bottom-line improvements.

Long after the pandemic recedes, remote work will be here to stay. In "**Creating a Thriving Remote, Secure and Agile Workplace**," N. Ganapathy Subramaniam, chief operating officer and executive director, explains how TCS has redesigned where and how our nearly 500,000-person workforce works. His article examines such issues as managing agile, distributed teams and using automation to make people more productive.

Empowering the remote worker is shaping up to be a key part of that. Milind Lakkad, TCS EVP and global head of human resources, discusses what makes remote work engaging and purposeful in his article, "**Building Powerful and Passionate Remote Workers**." He explains the importance of leaders who demonstrate that the company cares about people's well-being. And he shows why they must help advance the careers of remote workers.

3 Charting the Future in Key Industries

The pandemic has had an uneven impact on industries. In this section, we look deeply at how the acceleration to digital business operations has played out in banking and financial services, retailers, communication service providers and logistics companies.

In "**The Pandemic's Digital Acceleration of the Banking, Financial Services and Insurance Sectors**," K. Krithivasan, president and global head, for TCS' Banking, Financial Services and Insurance sectors delves into how banks and insurers have stayed open during the height of the pandemic. He also looks at how they have implemented automation wherever practicable; strengthened their workforce; and pursued growth opportunities. In a world in which the majority of citizens of countries like the U.S. have embraced touch-free payment services, these digital initiatives have proven to be crucial.

The operate-from-home phenomenon has also transformed the landscape for communications service providers—the cable TV, internet service and telecommunication companies that bring streaming services into homes. In "**How to Be the Streaming Consumer's Best Friend**," Kamal Bhadada, TCS president, Communications, Media and Information Services, argues that internet service providers have a major opportunity before them: guiding consumers through a confusing maze of options to find just the right streaming content on demand.

For logistics companies, the pandemic has sped up the rise of digital native players, as well as eroding service quality as soaring demand has strained shipping networks. In "**Mastering the Post-Pandemic Logistics Revolution**," Sowmya Mullur Rajagopalan, head of TCS' Travel, Transportation and Hospitality unit in the Americas, and Arun Pradeep Surendra Mohan, the head of our Travel and Hospitality business in Europe, explain how logistics company leaders can shore up their operations and position themselves for future growth.

The drive to expand digital capabilities is also center stage for retailers. In "**The Digital Capabilities of the Most Resilient Retailers**," Shankar Narayanan, president and global head, TCS' Retail, CPG, Travel and Hospitality practice, explains what retailers must do now to ready themselves for a post-pandemic world. At the front: creating a unified digital customer experience that makes the shopping experience exceptional. Behind the scenes: cognitive supply chains that enable both high visibility into product and delivery statuses, and customer responsiveness. And don't forget physical stores. Their brick and mortar will become more important as order fulfilment centers and stages for intelligent merchandising.

4 Bringing Everyone Together

The mandates that we explore in this issue of *Perspectives* will challenge the longstanding attitudes, beliefs and behaviors of many executives about the rules of business. In the article "**Leadership in the Digital Era: New Mandates, Mindsets and Mind-Melds**," Krishnan Ramanujam, president, Business and Technology Services, explains why this is an ideal moment for leaders to rethink many of these rules. He then discusses why leadership teams must adopt a collective mindset –a "mind-meld"—to produce a coherent company strategy.

We conclude this issue with a question-and-answer discussion with Natarajan Chandrasekaran, the chairman of Tata Sons and former CEO of TCS. In "**Leading in the New Normal**," Chandra, as he prefers to be called, explains what leaders around the world can do to meet today's most pressing challenges. He focuses on his home country of India, a nation that has made significant economic gains over the last two decades and that has tremendous upside ahead—if it can transform the way it operates with digital technology. He sees artificial intelligence in particular as holding tremendous potential for organizations in India and every other country—but not for eliminating jobs. "Their greatest value will come from rethinking what new work every organization should be doing, and then finding and training people to do that work," he says.

That idea—investing in both our capabilities and our people—is at the heart of this issue of *Perspectives*. We hope you gain many lessons from reading it.

The Massive Reset and Acceleration of the Digital Enterprise

Author

Rajesh Gopinathan
Chief Executive Officer, Tata Consultancy Services

One of the numerous stark realities of the pandemic is that plotting a sound business strategy has never been harder, or more important. That's what TCS research last fall on nearly 300 large companies told us, and it's a sentiment that TCS leaders hear in their daily dealings with executives at major global enterprises. We're all in a massive reset— our global company included—and all businesses must become far more digital to come out strong.

But the core strategic questions, of course, are what should we "reset" our companies to be, and how? I offer our take on them from our work with clients worldwide, and our own internal discussions about where to guide the TCS ship in the months and years ahead.

One thing is for certain: The last decade's race to be a highly digital business is now in overdrive. The pandemic has forced everyone to move down the digital path from 100 mph to 1,000 mph. But to what ultimate end? That is, what purely digital products and services, or digitally enabled offerings, should a company provide? To what customers and in which geographies? And through what means? In other

words, what business model should companies adopt to become superior in a digital world at creating demand and generating supply for its chosen products and services?

What's reassuring to many leaders we speak with is that these aren't totally new questions, as the trends of the last 20 years give us some hints at the answers. Long before the pandemic hit, the fault lines of the global economy had been fracturing for years. Rapid advancements in digital technologies, and fast-moving and inventive practices to put them to highly productive use, had begun to reshape age-old industry structures and create new sectors.

Whole new industries have popped up from this rocky terrain—for example, a $1.3 trillion-a-year search engine market[1] and a $4.1 trillion retail e-commerce market.[2] New companies such as Google, Facebook, Amazon, Alibaba and Expedia emerged to become multibillion-dollar global enterprises. They and other companies have rearranged the pecking order of established sectors such as media, retailing, travel and others. But because these relatively new sectors and new companies have been with us for 20 years or more, it's easy to forget they didn't exist before the World Wide Web emerged in the early 1990s.

And then the health-devastating COVID-19 outbreak ruptured things even more. It forced both old- and new-economy global corporations and their customers to do business online from their employees' homes. The tectonic plates of global business shifted abruptly and loudly.

The pandemic has forced everyone to move down the digital path from 100 mph to 1,000 mph.

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[1] According to market research firm Global Industry Analysts, and cited here https://www.marketresearch.com/Global-Industry-Analysts-v1039/Search-Engines-13547164/

[2] eMarketer estimate, as published here. https://www.emarketer.com/content/global-ecommerce-2020

Just ask leaders of retail companies how different things are since last March. In the U.S., e-commerce was predicted to be 15% of retail sales in 2020, up from 11% the year before.[3] But even when most consumers feel it's safe to shop in stores again, that percentage is not likely to recede. Indeed, industry watchers like UBS predict online retailing will be 25% of retail sales by 2025.[4]

This is not a U.S.-only phenomenon. Chinese consumers are even bigger proponents of buying merchandise from their homes. In fact, in 2020 Chinese consumers' e-commerce purchases were predicted to constitute 41% of total Chinese retail sales—nearly three times the percentage in the U.S.[5] The digital upheaval has hit many retail suppliers as well. Take sports shoes and apparel maker Nike Inc., a $37 billion global company. Its e-commerce as a percent of total revenue has tripled in the last five years, from 5% to 15%.[6]

The digital fault lines are harder to detect outside of retail, travel and hospitality, where the impacts are easy to see. Amazon, UPS and FedEx trucks are seemingly everywhere; airports devoid of crowds; and hotels with more employees than guests. But the signs are nonetheless there. All in all, it amounts to a profound

11%
2019

15%
2020

[3] Data from eMarketer, as cited by S&P Global Intelligence, June 30, 2020. Accessed Sept. 25, 2020. https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/amazon-online-retail-to-take-share-from-brick-and-mortar-stores-post-pandemic-59140185

[4] UBS web page, accessed Sept. 25, 2020. https://www.ubs.com/global/en/wealth-management/chief-investment-office/market-insights/house-view/daily/2020/off-the-charts-ecommerce-yield-gold.html

[5] eMarketer article July 5, 2020. https://www.emarketer.com/content/ecommerce-game-tale-of-two-countries-china-s-companies-pulling-ahead

[6] S&P Global page. This data compares Nike's fiscal years 2016 and 2020. Nike's fiscal year ends on May 31 of each year. Accessed Sept. 25, 2020. https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/nike-levels-up-digital-game-in-wake-of-coronavirus-hit-59265634

altering of the global business landscape, one that had been playing out steadily since the rise of the web. The pandemic abruptly shifted the tectonic plates. And we've seen earthquakes emerge in sector after sector. It is nothing less than a massive reset of business everywhere.

The question for large companies everywhere is this: What's our course? We have more than a few thoughts on this, from dozens of discussions with leaders in our clients, our research and our own strategic planning exercises.

We believe it must begin with company strategists shifting their thinking from a vertical industry to a horizontal, digital ecosystems frame.

Navigating a Sound Digital Path Through the Reset

If leaders of some big companies hadn't learned this fundamental lesson over the last decade, they are learning it now: The industry "label" that their company has used for decades to understand its opportunities and threats has lost most of its utility. "We're in the newspaper industry" has blinded publishers for years from responding to the syphoning of ads and readers by Facebook, Google, Craigslist and many others. An attitude of "We're a key player in the hotel industry" hasn't prevented Airbnb, Vrbo and other companies that rent out people's homes from grabbing 12% of the U.S. supply of lodging units in 2020, up from less than 1% in 2014.[7]

[7] CBRE and Craft. https://craft.co/blog/airbnb-vs-global-hotel-industry
http://cbre.vo.llnwd.net/grgservices/secure/Short-Term%20Rentals%202020.
pdf?e=1612384173&h=9ff3fb690db224941783b4bf21519e54

Indeed, the "vertical" industry lens that has framed the way many leaders think about who their companies compete against, customer needs and opportunities, the supply chain and the channel partners to bring products and services to customers is much too restrictive. The vertical lens is tangible. Governments for decades have been issuing deep statistical reports on them—the number of establishments, collective revenue and annual growth rates, company sizes and other data.

Take health care. The pharmaceuticals, medical devices, hospital and other health care services, drugstore and medical insurance sectors have all been seen as separate (but, of course, related) vertical industries for decades. Each is a huge industry globally, and all have seen their businesses disrupted by digital technologies. Doctors and hospitals, for example, are increasingly using digital sensors in medical devices to monitor the condition of their patients at home. They and medical insurers (with consumer permission) can understand whether patients are getting better to reduce the chances the patient needs to go back to a hospital.

In this health care example, each of these industries—and others—represents a piece of the puzzle to keep the public healthy and the infirm patient on the mend. But if the insurers, medical suppliers, health care services and other entities stay within their vertical industry lanes, it's harder to see the cross-industry opportunities they all have to provide far more customer value.

This requires a horizontal lens that crosses vertical industries. It increasingly is being called a "digital ecosystem" lens, with each ecosystem based around a major consumer or enterprise need or "purpose"—i.e., staying healthy; buying a home; taking a vacation; establishing and succeeding in a career; and even more pedestrian pursuits such as getting from Point A to Point B every day for work.

An economy of digital ecosystems, in fact, is the way a South African company called Discovery sees the health care world. It started out as a medical insurer in 1992. But over the years, the firm realized it had to think in terms of digital ecosystems. Today it calls itself an orchestrator of wellness. Its UK unit, VitalityHealth, has nearly 11% of the UK private health insurance market.[8] The company's goal is to get 100 million people 20% more active by 2025.[9] Its earnings per share increased 25% CAGR over the last 25 years.[10]

Looking at the needs of end customers requires thinking about prospects through a "horizontal" lens—not just the vertical industry framework. (See Figure 1 below.)

Other companies in other sectors are thinking in horizontal ecosystem ways as well. Thomson Reuters sees itself now as a provider of "answers" to law firms and other companies—not just a supplier of data. Long-time shipbuilder Damen Shipyards defines itself as a maritime solutions provider.

Digital Ecosystem
(Cross-industry, defined by how digital technology enables customers to accomplish their interests)

Industry 1	Industry 2	Industry 3	Industry 4	Industry 5	Industry 6	Industry 7

Process by which customers accomplish their interests →

Example: The Personal Wellness Digital Ecosystem

Health insurance enrollment	Physician visits	Patient health monitoring	Drugs, med devices etc. acquisition	Hospital & outpatient visits	Exercise, mental health	Subsequent health monitoring

Process by which customers attain and regain health →

Figure 1: Horizontal Ecosystems

Finding a Company's Place in its Digital Ecosystem
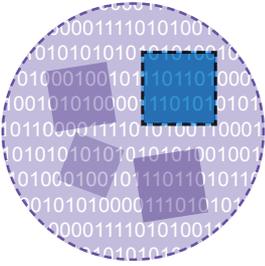
Once leaders agree on which digital ecosystems their companies are part of, they then need to determine exactly where in those ecosystems they need to play. The first part of this is to identify the company's core purpose for its customers—how it will help its target audience in their journey. The second part is understanding whether digital data collected in one part of the customer journey can help that company better serve customers in another part of the journey.

For example, in the personal wellness ecosystem in the U.S., two companies loom large in the private health insurance business (CVS Health and United Healthcare), two dominate the retail pharmacy (Walgreens and CVS Health) and several are big in pharmacy benefits management businesses (i.e., CVS Health and United Healthcare's OptumRx unit). All to say, they anchor several highly interrelated parts of the wellness ecosystem: the health insurance and distribution of medical products to consumers. CVS Health believes digital data and technology are crucial to fulfilling its corporate purpose of "helping people on their path to better health."[11]

[11] CVS Health corporate purpose statements. Company web page accessed Oct. 21, 2020. https://cvshealth.com/about-cvs-health/our-purpose

But none of these firms has decided to become big players in health care services (managing hospital systems or medical groups) or in the product R&D and manufacturing ends of the ecosystem (pharmaceuticals, medical products and medical equipment).

CVS Health, United Healthcare and Walgreens, thus, aren't focused on just one piece of the wellness ecosystem (as they were in the past). They're focused on several pieces, including those pieces that can be optimized by sharing digital data and applying immense computing power to analyze them (for pricing, product efficacy and more). And, yes, the companies work with pharmaceutical, medical equipment and medical products companies. But they don't anchor that part of the wellness ecosystem.

Determining which needs in a customer journey-defined ecosystem a firm can satisfy requires that it clearly articulate its purpose. Can it be a key player—even an anchor—as companies like AWS, Microsoft and Google are in the cloud computing ecosystem, or as CVS Health, Walgreens and United Healthcare are in the wellness ecosystem? Or does it need to take more of a modular solution provider role?

Determining which needs in a customer journey-defined ecosystem a firm can satisfy requires that it clearly articulate its purpose.

That, in turn, requires company leaders to sharply define their organization's core purpose. It will require company leaders to look deeply and introspectively about their firm's true sources of value. (See Figure 2.)

To sum up, a company's strategy—nowadays, for all intents and purposes its digital strategy—must be seen as "What needs can we fill that will help customers solve their larger problem for which there are many players in the digital ecosystem that will also be key players?"

Digital ecosystem that a company participates in
(Cross-industry, defined by how digital technology enables customers to accomplish their interests)

To customers

Company Purpose
(Articulation of which customers, and which business problems of those customers, a company will solve)

To shareholders
To society/public

To employees
To business partners

Digital Business Strategy
(Deeper determination of markets, customers, product/service offerings, value prop)

Digital Operating Model
(Design of digital business processes, digital products, workforce operating model, IT and business process operating model)

Figure 2: Using Company Purpose to Decide Where to Play in Digital Ecosystems

Playing Well in a Digital Ecosystem
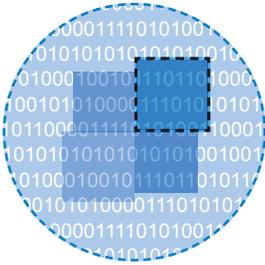
In a digital ecosystem, very few companies can be the complete answer for any large customer journey. Helping customers achieve their larger goal or purpose (staying healthy, mobility, etc.) in a digital ecosystem is what will bind the business partners together.

No customer problem is insurmountable if you can bring together all of the entities in a customer defined ecosystem of companies, universities, startups, government agencies and others. But those entities must play well together—even if they occasionally compete, as many of them do or will in the future.

Note: Because TCS is in a larger digital ecosystem whose purpose is making large companies around the world more digitally effective and efficient, I have decided to insert myself into key discussions among company leaders in this ecosystem. I'm doing that currently in two ways: Through speaking at the annual Davos event every January, and writing articles on LinkedIn, the social network that increasingly is becoming a key online hub where business leaders congregate and exchange thought leadership information.

Opportunities Abound for the Digital Innovators

Once they remove the age-old but highly familiar lens of "vertical industries" and adopt the new lens of horizontal digital ecosystems, companies will see an abundance of opportunities to be valuable players to customers and business partners in their ecosystems.

At that point, having a clear vision of the path ahead, the only thing stopping companies from becoming the digitally dominant firms in their domains will be one of execution skills. That, of course, can be a key challenge. But even that can be overcome when the company knows very well where it must go in a digital economy, and the skills it will need to get there.

In a digital ecosystem, very few companies can be the complete answer for any large customer journey.
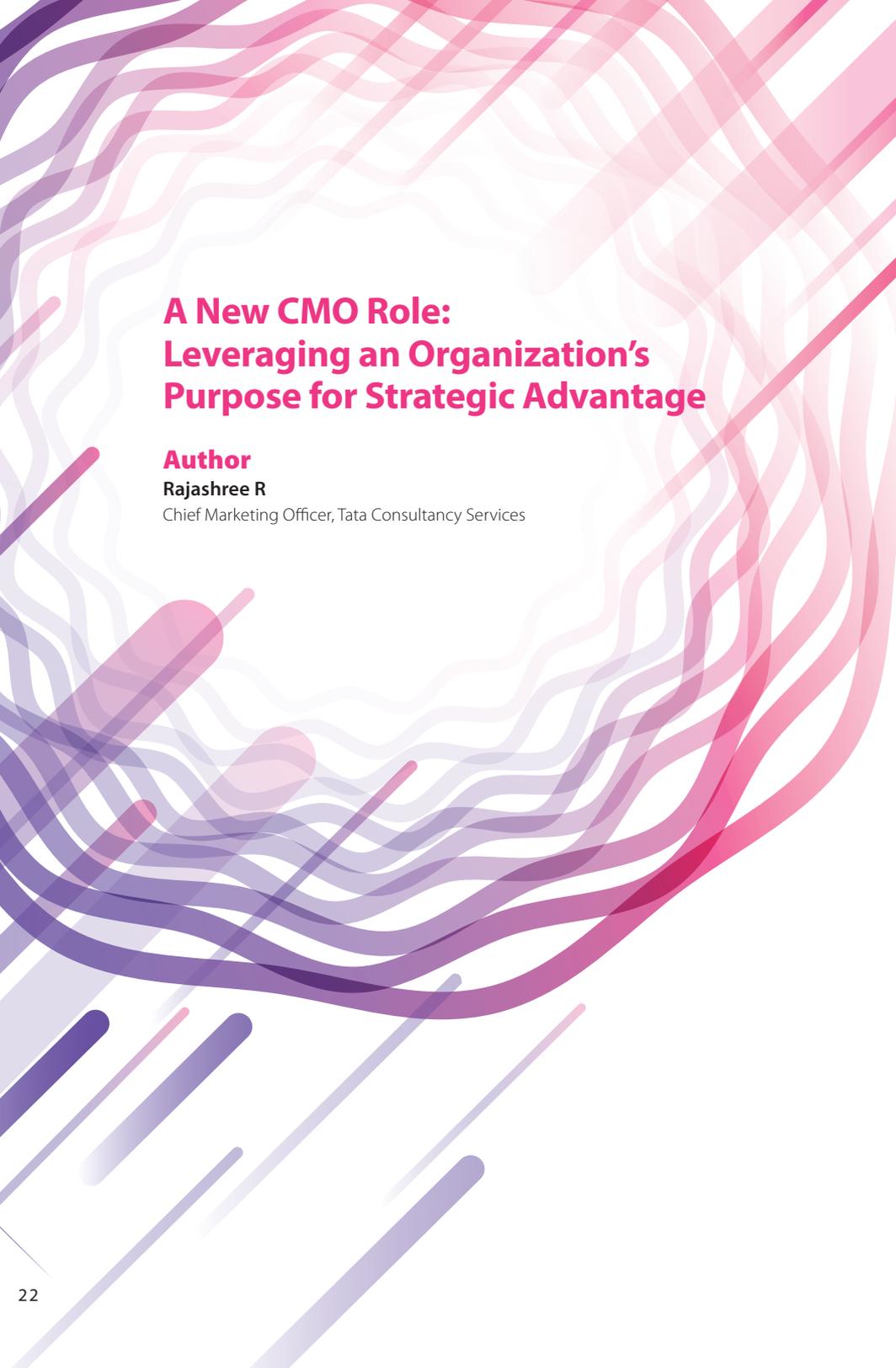
A New CMO Role: Leveraging an Organization's Purpose for Strategic Advantage

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Business schools have long taught future leaders that their main job is to maximize value for their company's shareholders. They're told that the best way to do this is to reduce costs while increasing sales, push for operational and financial efficiencies and keep innovation robust.

Business schools all teach that economic life is fundamentally transactional, and we must assume that people are rational actors. Customers will buy when the price and value of proffered goods and services match their needs and resources. Employees, acting in their own self-interest, will put in effort commensurate with their compensation.

Business leaders do not forget these formative lessons, and they still apply. But much has changed in our world. And these lessons need to be supplemented by new ones, some of which are still being learned.

Business remains transactional. Today, however, both the giving and the receiving of value increasingly are digitally mediated and, especially in the age of COVID-19, so are our relationships. As a result of social distancing, the pandemic has accelerated the digitization of everything. Technologically facilitated remote work has removed many of the cues and connections—the nodded hello between manager and employee in the hall or on the factory floor; the spontaneous chats between salesperson and customer; all the meetings, breakfasts, lunches and dinners. These interactions used to knit organizations together, cement partnerships and alliances with other businesses and create customer ties that bind.

Now, something meaningful must take the place of physical interactions that have gone (in some cases, permanently). That something needs to be as meaningful as all those hard-to-measure but enormously important pre-pandemic connections.

That something is an organization's purpose.

The Importance of Stating Purpose and Winning Trust

An organization's purpose cannot only be about profit. More broadly, an organization's purpose today must be about its social role writ large—how it impacts the world, how what it does makes life better, especially for customers. The more powerful the purpose, the stronger the organization will be. And, today, given the breadth and depth of global disruption, organizations need every bit of strength they can muster.

This year has not only seen a tragic global pandemic claim over two million lives as of the end of January[12], but the societal dislocations it has caused have revealed deep and abiding social rifts and economic ills: racism, income inequality, political polarization, devastating climate change impacts. In response, people are demanding that the companies they work for, patronize and invest in articulate what they stand for and demonstrate that they are a force for active, positive change.

In our view, this is a good thing. Not only is defining an organization's purpose beyond simple profitability and operational efficiency the best way to pull it together and appeal to customers, but doing so will also help it determine where, and in what ways, it should compete in the fast-emerging digital ecosystems that cross industry boundaries.[13]

[12] Johns Hopkins Coronavirus Resource Center, https://coronavirus.jhu.edu/map.html, accessed February 2, 2021.

[13] For a deeper dive into how companies can find their place in the world of digital ecosystems, see "The Massive Reset and Acceleration of the Digital Enterprise" in this edition of TCS Perspectives.

On both counts—their place in society and their place in the digital economy—companies need to articulate their purpose and manifest it in all the ways they conduct business. They need to do this to stay relevant to their customers, employees and other stakeholders.

This understanding is taking hold.

The Business Roundtable is a group of many of America's largest companies, with collective revenue of more than $7 trillion[14]. In 2019, it issued a proclamation that defined a company's purpose as including, but going far beyond achieving, returns for shareholders. The Roundtable urged companies to (among other things) address and foster employee "diversity and inclusion, dignity and respect."[15]

Investors, too, increasingly are asking for something more than their share of profits from the companies whose stock they purchase; they are demanding companies explain what they are doing to improve society. Even large institutional investors are sounding alarms on environmental, social and governance (ESG) issues. Some 25% of the shares of American companies surveyed in 2019 by Bank of America are held by investors stressing ESG investment strategies. The bank also says that the most accurate measure of future earnings risk is a company's ESG rank,[16] estimating that investment in ESG funds could increase by as much as $20 trillion in the 2020s and 2030s. If that plays out, it would be an increase equivalent to the total value of the current S&P 500.[17]

Many of your customers are in sympathy with those investors. The Edelman Trust Index found that 22,000 consumers across 11 markets want the companies they do business with to address society's problems (80% of surveyed consumers). Only slightly fewer than those that said "solving my problems" was their priority.[18] Indeed, when

[14] Business Roundtable, "About Us," https://www.businessroundtable.org/about-us, accessed Sept.30, 2020.

[15] Business Roundtable, "Statement on the Purpose of a Corporation," https://opportunity.businessroundtable.org/ourcommitment/, accessed Sept. 30, 2020.

[16] Bank of America, "ESG from A to Z: a global primer," https://www.bofaml.com/content/dam/boamlimages/documents/articles/ID19_12722/ESG_from_A_to_Z.pdf, Accessed Sept. 30, 2020.

[17] Bank of America, "Why ESG matters—now more than ever," https://about.bankofamerica.com/en-us/what-guides-us/esg-a-z-report.html#fbid=5Zz0LgxDDyC, accessed Sept. 30, 2020.

[18] JEdelman, "Edelman Trust Barometer," https://www.edelman.com/sites/g/files/aatuss191/files/2020-01/2020%20Edelman%20Trust%20Barometer%20Global%20Report_LIVE.pdf, accessed Sept. 30, 2020.

consumers believe a brand has a strong purpose, they are four times more likely to purchase from it, 4 ½ times more likely to recommend it and six times more likely to defend it.[19]

But some companies have struggled to clearly communicate their core purpose, much less infuse it into their business practices and processes. The 2020 Edelman Trust Index reports that more than half (55%) of Americans do not trust business as an institution.[20] And in 2019 (a period of economic growth), only four out of 10 American workers agreed with the statement that "the mission or purpose of their organization makes them feel their job is important," according to Gallup.[21]

The pandemic, of course, makes it harder for companies to bond with their employees. As they work from home, their interactions with colleagues and managers are attenuated. And they are not being quiet about their sentiments. Social media has made it easy for workers to air grievances and for the public to know which companies are living up to their stated purpose (if they have one), and which aren't.

This is critical as in a digital ecosystem—increasingly the field upon which organizations do business—every company is competing for customers in a more fluid, integrated environment than ever before. Today's customer is exponentially more powerful, armed with more information about you and your competitors than at any other time in history.

[19] Zeno, "Unveiling the 2020 Zeno Strength of Purpose Study," https://www.zenogroup.com/insights/2020-zeno-strength-purpose, accessed Sept. 30, 2020.

[20] Ibid.

[21] Gallup, "One Employee Question Leaders Can't Afford to Ignore," https://www.gallup.com/workplace/267014/one-employee-question-leaders-afford-ignore.aspx, accessed Sept. 30, 2020.

The CMO:
Shaper of the Company's Purpose

In this digital world of instant and broadly distributed information and commentary, it's critical that a company's product or service has an added value, something non-transactional that marks the business as unique in the eyes of its shareholders, business partners, customers and employees. That "something" is the reason your company exists and does what it does (beyond turning a profit) better than anyone else *for your customer.*
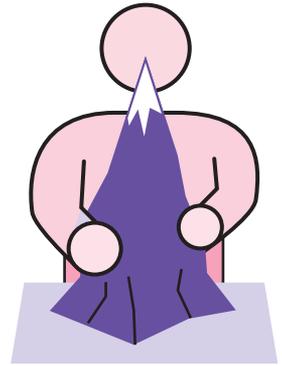
Business leaders need to articulate why their company exists to meet the needs of both current and potential customers. As management scholar Peter Drucker famously put it, "The purpose of a business is to create and keep a customer."[22]

In this digital world of instant and broadly distributed information and commentary, it's critical that a company's product or service has an added value, something non-transactional that marks the business as unique in the eyes of its shareholders, business partners, customers and employees.

[22] Financial Times, Oct. 10, 2011. Accessed Sept. 23, 2020. https://www.ft.com/content/88803a36-f108-11e0-b56f-00144feab49a

In our view, the leader best positioned to help a company define its purpose is the chief marketing officer, the keeper of the company's core narrative. (See Figure 3.)

Digital platforms, and the digital ecosystem of companies that do business on them, have changed the way customers think about their own purpose. For example, a customer today doesn't just want to buy a house; she wants to move into a new home and begin a new life. Customers want to do business with companies that provide access to many, or all, steps necessary to

Digital ecosystem that a company participates In

CMO role in helping C-suite to define a firm's purpose

To customers

To shareholders

COMPANY PURPOSE

To employees

To society/ public

(Articulation of which customers, and which business problems of those customers, a company will solve)

To business partners

(Cross-industry, defined by how digital technology enables customers to accomplish their interests)

Digital Business Strategy
(Deeper determination of markets, customers, product/service offerings, value proposition)

Digital Operating Model
(Design of digital business processes, digital products, workforce operating model, IT and business process operating model)

Figure 3: Where CMOs Can Play in Helping CEOs and C-Suite Define Their Company's Purpose

achieve their goals. Many companies have used digital technology and partnerships with other companies to make such once-complex tasks far less onerous through their digital devices.

The main driver of a company's purpose (although not the only driver) should be the problems it solves for customers. But that firm must also see that purpose through the lens of a digital ecosystem, where multiple companies work together to address pieces of those customers' problems.

For businesses, this is how purpose drives strategy which, in turn, guides their business and digital operating model.
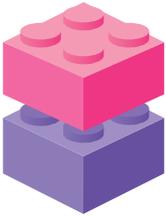
 Toy maker Lego Group is a telling example of the importance of purpose. In the early 2000s, the Lego Group was near bankruptcy. Central to its turnaround was the understanding that the company's purpose was not to make and sell toys to children. What parents wanted when they bought the toys was to inspire their children's creativity. This understanding of their customers' purpose led Lego to develop a "new portfolio of products with incremental changes" that would inspire children to modify the toys themselves—i.e., innovate.[23] And in 2019, during a bad year for toymakers, Lego reported positive growth and today is the world's leading toy maker by sales.[24] "We always think of Lego as more than just toys," affirms Lego CMO Julia Goldin.[25]

And no officer in the C-suite is better attuned to understanding, creating and keeping customers than the CMO.

[23] Harvard Business Review, Sept. 2009, "Innovating a Turnaround at LEGO," https://hbr.org/2009/09/innovating-a-turnaround-at-lego, accessed on Sept. 30, 2020.

[24] Wall Street Journal, Feb. 25, 2019, "Lego Returns to Growth as it Builds on U.S. Momentum," https://www.wsj.com/articles/lego-returns-to-growth-as-it-builds-on-china-expansion-11551259001, accessed on Sept. 30, 2019.

[25] CNBC, "Transcript: Interview with Julia Goldin," https://www.cnbc.com/2016/11/11/cnbc-transcript-interview-with-julia-goldin-chief-marketing-officer-at-lego.html, accessed Sept. 30, 2020.

Gen Z and Millennial customers, for instance, have become the largest pet-owning generation, and Mars Pet Nutrition CMO Jane Wakely has helped define, articulate and communicate the company's core purpose as delivering "a better world for pets" to a set of customers that increasingly see pets as family members. "All our decision-making and strategic choices ladder up to that," Wakely says. "We do lots of marketing initiatives to deliver that."

For example, when Wakely's data informed her that 65% of pet owners take more selfies with their pets than they do with their families or significant others, she leveraged artificial intelligence (AI) to develop a mobile app that would focus the dog's attention on the phone during the photo, improving it for a generation that likes "likes" almost as much as their furry friends.[26]
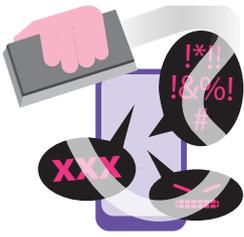
Another case of purpose driving strategy and then action was at global consumer goods giant Unilever. Keith Weed, who was CMO until last year, realized that sustainability was becoming a huge issue for consumers as climate change impacts grew too large to ignore. Accordingly, Weed helped Unilever put sustainability and green initiatives at the center of its corporate purpose by embedding Corporate Social Responsibility (CSR) activities "in everything we do." When it came time to choose Weed's successor, Unilever named Conny Braams to the title of chief digital and marketing officer, tasked with helping the company create a "future-fit, fully digitized organization" that excels at communicating with customers.[27] One of her moves— to demand social media networks like Facebook and Twitter fight hate speech

[26] PR Week, March 9, 2020, "Ready for a 'close-pup': The exec making your pet Insta-friendly," https://www.prweek.com/article/1676011/ready-close-pup-exec-making-pet-insta-friendly, accessed Oct.1, 2020.

[27] Marketing Week, December 3, 2019, "Unilever creates chief digital and marketing officer role to ensure business is 'future-fit'," accessed October 1, 2020 at: https://www.marketingweek.com/unilever-chief-marketing-digital-officer/.

online—spoke to her firm's larger purpose. "Certainly, in a country like the U.S., 80% of consumers expect brands to get involved in the social debate and to contribute to a solution to world problems," she said.[28]

These CMOs and others have helped their companies articulate, and then communicate, how they are contributing to the betterment of both their customers' lives and society as a whole. They are answering the questions both their customers and employees are asking: "Why are we here?" and "What are we doing to support that?" Rather than developing a vague "mission statement" (such as "making the world a better place") in an executive brainstorming session as companies have in the past, these executives leveraged customer data and employed empathy to discover their company's authentic purpose which, in turn, would drive their company's strategy.

CMOs can and should help other corporate leaders, including the CEO, define the organization's purpose while making sure it resonates with employees. CMOs who do that thereby create an "ambient awareness" of the company's reason-for-being. It is one that will drive the engagement so critical both to customer relations and to employee retention, not to mention a company's ability to grow.
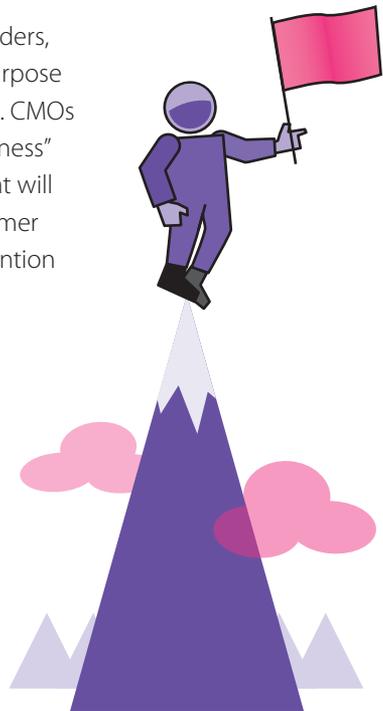
[28] NL Times, "Unilever: Facebook boycott to continue until independent supervision is in place," July 20, 2020, accessed at: https://nltimes.nl/2020/07/20/unilever-facebook-boycot-continue-independent-supervision-place.

In 2015, new Microsoft CEO Satya Nadella led an effort to revamp the company's mission statement (which by the end of the 1990s it had fulfilled: putting a PC in every home and on every desk). The new mission statement became: "Empower every person and every organization on the planet to achieve more."[29] This shift, according to CMO Chris Capossela, has helped the software giant recruit a new generation of talent. "With people who are 30 years old and younger, there's a much stronger desire to work for companies whose value system maps to their value system, and who stand for things that they personally stand for also."[30] This reimagination of the company's purpose allowed it to become far more than a PC, enterprise software and games provider. Today, Microsoft is a major cloud computing vendor (with 30% of operating profits derived from cloud services[31]) and, with its 2016 acquisition of LinkedIn, a social media company.[32]

At Walmart, which has seen both online and in-store sales surge during the COVID-19 pandemic, Sarah Henry, director of strategic media partnerships, says the retailer has seen "an interesting trend around the growing importance of proximity-based relationships…. How can I help my neighbors in my community and give back to something greater?"[33] This emphasis on community has infused

[29] Microsoft "about" page, accessed Sept. 23, 2020. https://www.microsoft.com/en-us/about

[30] Forbes, April 19, 2019, "The Power of Purpose: How Microsoft Unlocked Inclusivity to Drive Innovation and Growth," https://www.forbes.com/sites/afdhelaziz/2019/04/29/the-power-of-purpose-how-microsoft-unlocked-inclusivity-to-drive-growth-and-innovation/#28facb2424e8, accessed Sept. 23, 2020.

[31] Microsoft 2019 annual report, accessed Sept. 23, 2020: https://www.microsoft.com/investor/reports/ar19/index.html

[32] Microsoft news page, accessed Sept. 23, 2020. https://news.microsoft.com/announcement/microsoft-buys-linkedin/

[33] WSJ, May 19, 2020, "Walmart Sales Surge as Coronavirus Drives Americans to Stockpile," https://www.wsj.com/articles/walmart-sales-surge-as-coronavirus-drives-americans-to-stockpile-11589888464, accessed Oct. 1, 2020.

Walmart service associates with the spirit of "helping each other out," a powerful, differentiating purpose that can inspire and engage workers, improving customer service.[34] This ethos has also helped Walmart defend itself on social media and in the press during the early days of the pandemic when supply chains were massively disrupted and customers wanting to stockpile coronavirus-inspired necessities (like toilet paper, disinfectants and hand sanitizer) were irritated by stock-outs.

The Purpose Imperative, and the Steps CMOs Should Take

A deep awareness of a company's purpose drives its culture. It gives clarity and focus to work. It helps employees keep their eyes on what is really important, even when their routines have been severely disrupted, as has been the case during the COVID-19 pandemic.

CMOs today have not only an opportunity but an obligation to accept the spotlight to inspire their organizations, and by doing what's right for society and for customers. Now, at this moment, is the time for CMOs to shine the spotlight on their companies.

[34] WARC, July 20, 2020, "How Walmart keeps its messaging relevant in a time of disruption," https://www.warc.com/newsandopinion/news/how-walmart-keeps-its-messaging-relevant-in-a-time-of-disruption/43871, accessed Oct. 1, 2020.
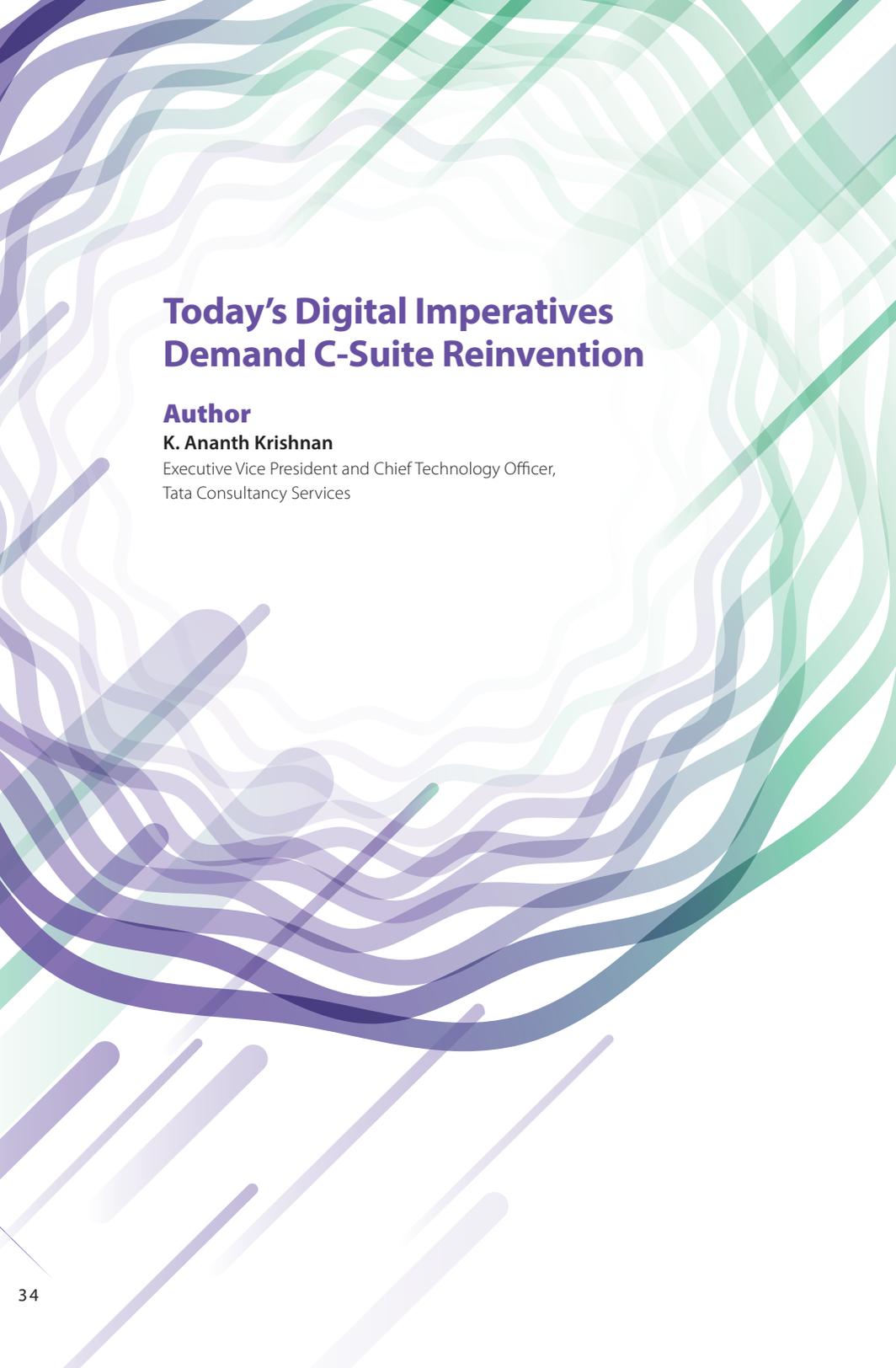
Today's Digital Imperatives Demand C-Suite Reinvention

Author

K. Ananth Krishnan

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Tata Consultancy Services

For the last decade, there has been widespread adoption of digital technology by not just corporations, but also by their stakeholders— employees, customers, partners, regulators and the public at large. Viewed from above, the digital transformations that business leaders have been investing in for years are a subset of changes that envelop us, as ubiquitous as the networks, software and apps that accompany us through our days.

The shifts prompted by the digital world—all these new ways of producing, getting, spending and operating— demand new skills, technologies and capabilities. For many companies, they also require new management capabilities and new leaders to oversee them.

Many other changes have been wrought by the global pandemic. For example, as employee and customer health, always important, has become even more of a focus in today's turbulent environment, Tyson Foods and Royal Caribbean Cruises recently added the relatively new role of Chief Medical Officer to their respective C-suites.[35]

This kind of move is just the start, as the spread of the COVID-19 pandemic has accelerated the digitization trend. Consider the urgency of overseeing new technologically-driven business processes, from "lights-out" factories to reinventing how companies close their quarterly books.

[35] Wall Street Journal, "Covid-19 is Elevating New Type of Executive: Chief Medical Officer," August 10, 2020. https://www.wsj.com/articles/covid-19-is-elevating-new-type-of-executive-chief-medical-officer-11597051800.

A Need for New C-Suite Capabilities
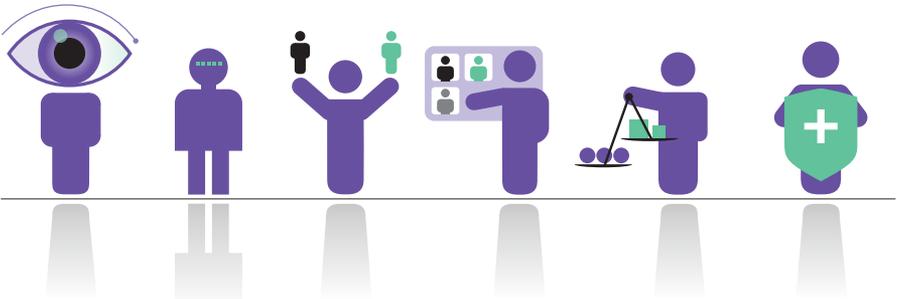
It's clear that making sure the company is properly leveraging new capabilities, while responding to customer, partner and governmental needs, will require a reinvention of the C-suite itself. This may mean adding new responsibilities to C-suite jobs already in place, or creating novel C-suite roles, like Chief Medical Officer.

The traditional organizational structure of large companies, in which work is divided between departments (sales, marketing, R&D, supply chain, finance, HR, etc.) is being challenged by digital technologies that foundationally alter and ignore boundaries and are optimized for integration, creating new capabilities and possibilities. That integration calls for a reinvention of both the way we think of work and how we manage it.

It also argues for the reimagination of existing C-suite roles and duties, including (but not limited to) the CEO, CFO, CIO, data and digital officers, heads of R&D, talent recruitment and retention officers and more. Leadership teams that determine now what must happen for these new capabilities to be managed well, which new or expanded roles are needed most at the top and how to assure that the executives who take on these roles and responsibilities will be positioned for success.

Forward-thinking companies have been creating these new roles for some time.

The Chief Experience Officer, for example, both for internal and external customers, came into being a decade ago. In 2010 Wayne Peacock, currently CEO and president of financial services and insurance firm USAA, had it as part of his portfolio as EVP, member experience.[36]

Many companies have long viewed innovation, particularly technological innovation, as requiring a C-suite leader. And, as roles expand, the boundaries between functions tend to blur and blend, as was the case last year when Sam Deshpande was named Chief Technology and Risk Officer at Humana, where he now oversees the IT organization in addition to Risk Management and Compliance.[37]

Firms find themselves caught short in key digital capabilities: customer experience (a complicated and interconnected discipline), supply chain management (where speed and flexibility are essential), production facilities (where organizations must simultaneously rethink how they can safely and productively deploy workers on their shop floors while accommodating and leveraging increasingly necessary robotic automation) and many others.

Indeed, a survey of 287 executives at global companies conducted by TCS this summer found that only a quarter reported having their key digital capabilities in place. Only 25% could claim an end-to-end digital customer experience, and only 24% had an installed artificial intelligence analytics capability to improve it. Less than a quarter (23%) possessed highly-automated core business processes, and just 21% had key digital ecosystem partnerships in place. (See Figure 4, "Percent of Companies with Capabilities Already in Place," *page 38.)*

[36] Forrester, "Conversations with Chief Customer Officers: USAA's Wayne Peacock," February 15, 2011. https://www.forrester.com/report/Conversations+With+Chief+Customer+Officers+USAAs+Wayne+Peacock/-/E-RES58710#.

[37] Humana, "Human Management Team Members Tim Huval and Sam Deshpande Assume Additional Areas of Responsibility," October 7, 2019. https://www.businesswire.com/news/home/20191007005238/en/Humana-Management-Team-Members-Tim-Huval-and-Sam-Deshpande-Assume-Additional-Areas-of-Responsibility

Percent of Companies with Capabilities Already in Place

Capability	Percent
The ability of our remote workers to operate at home productively, securely	67%
Enabling and ensuring environmentally sustainable practices across the value chain	31%
An end-to-end digital product/service that customers can download from the internet	27%
Our core enterprise software in the cloud	26%
An end-to-end digital customer experience in finding out, purchasing and getting service around our offerings	25%
Workforce reskilling	24%
Robust data analytics powered by artificial intelligence to help us continually improve the digital customer experience	24%
Higher degree of automation of core enterprise business processes	23%
Digital sensors embedded in our products, and reporting on the performance of those products at our customers' locations	22%
A flexible supply chain that can quickly shift from global to regional manufacturing and distribution	21%
Partnerships with key players in the digital ecosystem(s) in which our company competes	21%
More company acquisitions, joint ventures and business alliances	20%
New channels	20%
New operating models	19%
New business ventures/startups	16%
New business models	16%

Source: TCS COVID-19 Business Impact Survey 2020, accessible at tcs.com/business-impact-survey-2020

Figure 4: Percent of Companies with Capabilities Already in Place

Developing and implementing these advanced digital technologies quickly and effectively needs to be driven from the top of the organization, and by individuals with the requisite knowledge and experience. But many of these capabilities are new; they go beyond the experience and skill sets of many people in traditional C-suite roles. It is not surprising that a 2019 EY survey of 200 CEOs from large companies around the world found that almost three-quarters (72%) were considering adding to or changing C-suite roles.[38] The new capabilities they believed would be most critical to growth over the next five-to-10 years and required focused C-suite leadership were digital transformation, artificial intelligence (AI), data science, innovation and behavioral science. Four out of five of these CEOs had already created new C-level jobs, including Chief Digital Officer, Chief Data Officer, Chief Ethics Officer and Chief Growth Officer. (Chief Innovation Officer, a position virtually unheard of 20 years ago, can now be found at 29% of Fortune 500 companies.)[39]

Indeed, many believe the CEO's job itself has become too big and requires a rethink. One former CEO called for the creation of a "chief of staff" to "better handle the information flow necessary for a CEO to succeed," and pointed to how well this position has worked at several companies.[40]

The Pandemic Accelerates a C-Suite Rethink

On the ground level, it has become increasingly obvious during the pandemic that companies must find ways to make it easier for remote workers to collaborate as efficiently, productively and cost-effectively as possible, which implies upping their data management game and making their data flows accessible across all environments and structure types. This, in turn, means deploying systems that enable visibility in response to changing demand across the global supply chain, while automating responses with AI and analytics to minimize the need for human intervention, both for reasons of safety and risk mitigation. And, of

[38] EY, "Has Your C-Suite Changed to Reflect Changing Times?" September 24, 2019, https://www.ey.com/en_us/growth/has-your-c-suite-changed-to-reflect-the-changing-times.

[39] HBR, "What Kind of Chief Innovation Officer Does Your Company Need?" November 11, 2019. https://hbr.org/2019/11/what-kind-of-chief-innovation-officer-does-your-company-need.

[40] HBR, "The Case for a Chief of Staff," May-June 2020, https://hbr.org/2020/05/the-case-for-a-chief-of-staff.

course, this radical automation and increased accessibility of data demands enhanced security for the cloud-based systems that undergird it all.

The urgency has heightened the need to reexamine how best to lead organizational change and transformation.

Today, agile companies in all sectors are resetting strategies while making wholesale changes to their operations to leverage digital technologies.

Examples are prominent in health care. Pharmaceutical firms racing to find, test, produce and distribute a COVID-19 vaccine are testing new technologies and processes on the fly to learn how to recruit patients, conduct global trials and gather data for regulatory bodies safely, accurately and remotely, even as regulators promulgate new rules of the road.[41]

But the illustrations extend to every industry. Banks are transitioning to remote sales and reaching out to customers digitally, offering new payment and loan plans. In health care, physicians are diving into telemedicine, and insurance companies are broadening their reimbursement policies to include it. In retail, grocery stores are shifting to online ordering and delivery as their primary channel. Manufacturing companies are pushing to develop new products and services (especially those that use digital sensors to track performance in the field as part of the Internet of Things) as a recent survey found that 75% of consumers who have used digital channels for the first time during the pandemic say they will continue to use them when (as everyone hopes) life returns to some semblance of normalcy.[42]

> Today, agile companies in all sectors are resetting strategies, making wholesale changes to their operations to leverage digital technologies.

[41] Clinical Research News, "Technological Ways to Make Clinical Trials Really Global," April 3, 2020. https://www.clinicalresearchnewsonline.com/news/2020/04/03/technological-ways-to-make-clinical-trials-really-global.

[42] McKinsey, "The COVID-19 recovery will be digital: A plan for the first 90 days," May 14, 2020. https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the-first-90-days.

Inside Your New C-Suite

With a focus on capabilities required to profit from emerging digital ecosystems, corporate leaders should begin a review of their C-suite needs by assessing the emerging functions critical to their continued success at both the business and technical levels. In some cases, they will see an opportunity to adjust existing roles with new responsibilities and overseeing new capabilities. In other cases, they will find a need to create a new office entirely.

Based on this assessment, companies can create new responsibilities with accountability. These could be new C-suite roles, if there is sound justification for them, or an expansion of existing roles with new areas of functional focus. We believe that there are roles that every large company should consider adding today or making part of the responsibilities of an existing C-suite officer. These could include:
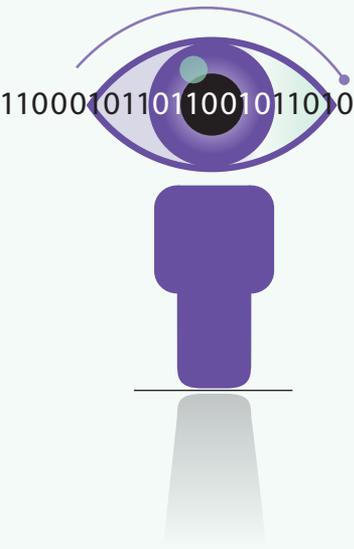
Chief Data/Analytics Officer

Chief Data Officers have become relatively common in companies that sell digital goods and services, especially in the financial services sector, telecommunication, media and professional services. Now data has moved to the heart of almost every business, as the pandemic underlines the importance of managing digital operations and creating resilient supply chains. Effectively, this signals the start of a second generation for the position. Since cybersecurity is paramount in a world that is increasingly doing business online, and there are compliances and privacy regulations around data, Chief Information Security Officers have also emerged as a C-suite member.

Richard Wendel, a member of MIT's International Society for Chief Data Officers, maintains that a CDO needs both knowledge and understanding in three areas: the

business domain, data technology and AI. When CDOs do not succeed, Wendell says, it's because they "check only one or two of the boxes." [43]

## Chief Transformation Officer

Many business functions that are crying out for automation and the application of advanced technologies are being held back by leaders without the requisite technological experience or expertise— which is one argument for the creation of a Chief Transformation Officer role. For example, every company's Finance & Accounting function could profit from implementing AI, but their CFO may not be the person to lead the effort as it requires business process automation (to eliminate data entry error), analytics mapped to desired business outcomes, agile methodologies—all part of business transformation.

Last year, UPS appointed Scott Price as Chief Transformation and Strategy Officer. In his new role, Price is leading an office that consists of corporate strategy, a transformation office, back office, mergers and acquisitions, a strategic venture fund and advanced technologies including drones, robotics and automation. "The pace of change around the world is disrupting everyone, which calls for the transformation office," he says. "Transformation is the mechanism in which you support the pivot in your corporate strategy to apply costs from one area in your business to support growth in another area." [44]

[43] Forbes, "Rethinking the Role of Chief Data Officer," May 22, 2019, accessed at: https://www.forbes.com/sites/insights-intelai/2019/05/22/rethinking-the-role-of-chief-data-officer/#5636baed1bf9.

[44] Medium, "UPS Chief Transformation & Strategy Officer Scott Price," May 27, 2020, https://medium.com/@michael.wishart1990/ups-chief-transformation-strategy-officer-scott-price-9a180893619f.

The pace of change around the world is disrupting everyone.
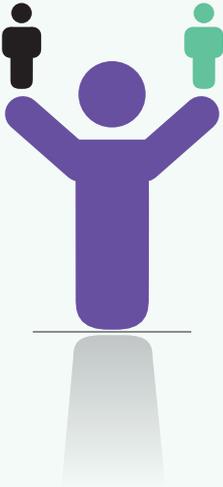
Chief Customer Experience Officer

Both the internal and external customer experience has been massively affected by the COVID-19 pandemic. Remote workers need both technological and emotional support as they transition to a new way of working, and so do customers as many navigate a new and unfamiliar online market.

Ideally, the employee and customer experiences should align, facilitating a back-and-forth between employee and customer that can boost communication and thereby morale (internally) and sales (externally). A Chief Customer Experience Officer manages both, reinterpreting the customer experience for an entirely digital world and making sure employees are trained and equipped to provide the experiences customers demand, need and deserve. Doing so increases employee engagement and creates a competitive advantage for retailers, media (as it moves from broadcast and exhibition to online streaming) and others. Indeed, customer experience has moved to the center of marketing.

Even before the pandemic hit, a Forrester study found that 76% of executives said improving the customer experience was a "high or critical" priority.[45] More recently, the TCS CMO 2019 study found that companies

[45] Forrester, "CX Predictions for 2019: Delivering Value Through Voice of Customer," December 6, 2018, https://usabilla.com/blog/forrester-usabilla-webinar-2019-cx-predictions/.

that were leaders in digital marketing had C-suite leadership that spanned marketing, sales and the post-sale experience.[46] A true Chief Customer Experience Officer would oversee both disciplines, including elements of the CHRO's responsibility.

For example, at Adobe, Donna Morris, EVP Customer and Employee Experience, made sure employees heard from customers directly, thereby informing employee-customer understanding while enhancing employee engagement. Indeed, armed with this understanding, employees were able to create tools to better serve customer needs. That, of course, led to greater customer engagement.[47]
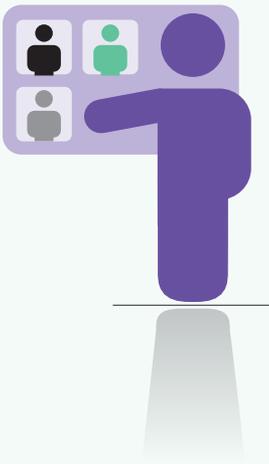
Chief Talent Experience Officer

Before the pandemic, employee reviews were conducted face-to-face. Today, most of those meetings occur virtually, as do team meetings, town halls and just about every interaction that not so long ago may have been taken for granted but were, in retrospect, critical to accomplishing an organization's work. Consider the tasks involved: Managing all those virtual communications and making sure that they are productive; ensuring that the organization's workflows are not disrupted even as employees come and go; and learning new skills, technologies and modes of operation. The collection is a lot to put on the CHRO's agenda, especially if the office is striving to be more digitally sophisticated.

Imagine a Chief Talent Experience Officer combining (or complementing) the role of CHRO with expertise in implementing and managing digital work environments

[46] TCS, "2019 CMO Study," https://www.tcs.com/perspectives/articles/cmo-study-highlights-the-initial-findings.

[47] HBR, "Why Every Company Needs a Chief Experience Officer," June13, 2019, https://hbr.org/2019/06/why-every-company-needs-a-chief-experience-officer

that foster collaboration among employees. An environment that strengthens employee morale and engagement (creating a positive, self-reinforcing culture that becomes an asset for talent recruitment and retentions). Indeed, it has been understood for years that organizations that demonstrate strong employee engagement produce better business outcomes, treat customers better and are more likely to stay with the company than those who are less engaged.[48]

The pandemic has complicated the entire area of employee recruitment and retention, which is why even appointing a Chief Talent Experience Officer may not fulfill all of an organization's needs in this new and still evolving environment. With the accelerated move to remote consumption and remote work, and the continuing automation of back offices and factory floors, it may be wise to think about a **Chief Reskilling Officer** position that can take on the task of assessing what skills an organization possesses, what skills it lacks and how that gap can be bridged. Dedicating a leader to this role, working in tandem with the Chief Talent Experience Officer (or creating a position that encompasses both) could help companies deliver optimal training to those workers that need it and can best use it. Some have proposed that companies create "talent hubs" for designing and delivering training and managing people as they transition to new roles.[49]
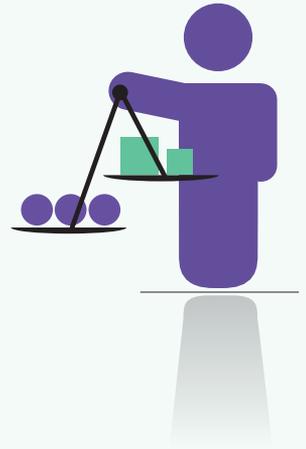
[48] Gallup, "4 Factors Driving Record-High Employee Engagement in U.S.,", February 4, 2020, accessed at: https://www.gallup.com/workplace/284180/factors-driving-record-high-employee-engagement.aspx

[49] HBR, "It's Time for a C-Level Role Dedicated to Reskilling Workers," September 3, 2019. https://hbr.org/2019/09/its-time-for-a-c-level-role-dedicated-to-reskilling-workers.
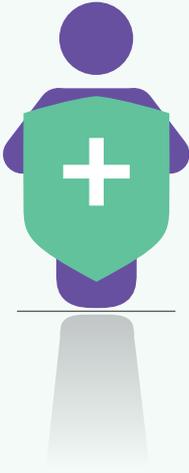
Chief Health, Wellness and Safety Officer

As we've seen, Tyson Foods and Royal Caribbean have installed Chief Medical Officers. Of course, both meat processing and cruise lines have been massively affected by the COVID-19 pandemic. It makes sense. But even in sectors where employees and customers are at much less immediate risk, it remains true that we are living in a highly connected world in which extremely contagious diseases could emerge at any time, and many believe the frequency with which they do will only increase in the years to come, creating new extremes of human and business risk. The C-suite could use an officer whose job is to monitor those risks and mitigate them—a Chief Health, Wellness and Safety Officer.

Responsibilities for such a position could include planning for how a company should organize shifts in the case of a disease outbreak; monitoring the wellbeing of workers at scale, including employees working from homes in a broad geographic area, creating business continuity and recovery plans from a health perspective and setting up early warning systems to provide critical intelligence when a crisis is impending.

Even when there is not a crisis, the strains of working from home for months at a time are still being discovered and dissected. A wellness chief could follow the science and implement new ways of dealing with that stress, making sure workers adopt good habits and have the support—physiological and psychological—that they need.

Dr. Jonathan Ripp, Chief Wellness Officer at the Icahn School of Medicine at Mount Sinai Health System in

New York, along with other physicians, has suggested that a wellness officer should encourage "system-wide changes," with "the authority, budget, staff and mandate to implement an ambitious agenda."[50]

First Next Steps

The new and/or expanded roles a company needs at the C-level will depend on its unique circumstances and its long-and-short term objectives. Is your workforce primarily remote? Are you delivering digital products and services, or do you need to begin doing so? What are your current digital strengths? Your weaknesses? Where can you improve most quickly and effectively?

Once leaders determine the need for new C-suite roles, it's critical to define the parameters of the new position, marking its responsibilities and boundaries. It's also important to communicate that both to candidates for the job as well as up and down the organization to get buy-in at every level and ensure healthy relations among C-suite colleagues.

Finally, if a company decides to create one or more of these new positions, it must track their performance.

Many businesses have already revamped their processes and discovered new efficiencies as they have sought to adapt to the COVID-19 pandemic and major changes in the way business is conducted. In this period of transformative change, it makes sense to reassess how an enterprise operates, which C-suite offices deserve a rethink—and which new offices can benefit the organization's present and future development and growth.

In this period of transformative change, it makes sense to reassess how an enterprise operates.

[50] Neurology Today, "Meet the Wellness Officers—What They're Doing About Burnout," December 5, 2019. https://journals.lww.com/neurotodayonline/fulltext/2019/12050/meet_the_wellness_officers_what_they_re_doing.11.aspx.

How the CFO Can Be an Effective Partner to the CEO in Navigating the Pandemic's Economic Storm

Author

V. Ramakrishnan
Chief Financial Officer, Tata Consultancy Services

CFOs have been heavily involved in their companies' digital transformations. Even with the COVID-19 pandemic, global spending on digitizing business practices, products and services is expected to grow by more than 10% to reach $1.3 trillion in 2020.[51] **Now CFOs must work closely with chief executives to steer their enterprises through the worst economic crisis in a generation. This CEO-CFO partnership—whether it is effective or not—will determine whether enterprises can withstand the financial impact of this crisis and move their organizations forward.**

Recent TCS research sheds new light on the unprecedented pressure that the pandemic has unleashed on organizations and particularly on their finance functions. A global survey of 287 companies with more than $1 billion in revenue found in July that 68% of them saw revenues decline.[52] Moreover:

- Fewer than one-third of companies surveyed had implemented essential digital capabilities that enable them to pivot quickly in response to the crisis.
- Only 23% have strong automation of core business processes.

A global survey of 287 companies with more than $1 billion in revenue found in July that 68% of them saw revenues decline.

[51] "New IDC Spending Guide Shows Continued Growth for Digital Transformation in 2020, Despite the Challenges Presented by the COVID-19 Pandemic," May 20, 2020, accessed at: https://www.idc.com/getdoc.jsp?containerId=prUS46377220.

[52] TCS COVID-19 Business Impact Study 2020, polling 287 executives in large North American, European and Asia-Pacific companies, all with over $1B in revenue, and 63% with over $5B revenue. See https://www.tcs.com/business-impact-survey-2020

For finance organizations with a mission to mitigate risks, shore up liquidity, understand how performance is changing and know precisely where the company and its customers stand, lacking such capabilities is a wakeup call. Not having a sufficiently digital finance function means lacking accurate real-time data, and therefore navigating the crisis without a reliable compass.

These organizations are now racing to catch up. Most are maintaining or accelerating their digital investments despite revenue pressures and the need to operate remotely. Companies have realized that such investment is critical to resilience and competitiveness during the pandemic and beyond. The investment also enables the CFO to better manage the organization's finances and support the CEO.

The CFO's Unique Role During a Crisis

A successful CFO generally sees herself as a strategic partner to the CEO. But during uncertain times, the CFO's role typically changes. Risks and responsibilities rise. In some cases, crises also pose strategic opportunities. Some key matters that the CFO needs to address during a crisis include:

External Business Risks. During uncertain times, litigation is likely to rise. Contracts that protect commercial and legal interests help the organization stay focused and avoid unnecessary distractions. At the same time, having measures in place that help the company access what is rightfully due—such as contract clause monitoring, and early warning indicators—can assist with revenue growth and profitability.

Talent. As crisis-related anxiety levels soar, small steps can reinforce employee morale, loyalty and engagement. The CFO should ensure that payroll is processed on time, particularly if employees are concerned about the company's stability. Additionally, the CFO should support empathetic policies for workers affected by the crisis.

Especially in a services company or any organization with a sizeable resource pool, it is beneficial in the short term to carry, as necessary, excess staffing capacity that will get absorbed once growth returns. This can help morale while boosting productivity when it is most needed. And the organization can manage other costs to pay for the investment.

Driving Growth. Uncertain times also present an opportunity to take a fresh look at the business and consider deploying different processes or frameworks. The finance function can help plan for such initiatives, building scenario analyses of how proposed changes will impact efficiency or optimization. The function is also a key player in executing finalized plans.

The CFO should also look at market penetration to assess opportunities for expanding the organization's horizons. Embarking on such projects demands not only investment capabilities but also the long-term conviction needed to make big moves despite economic turmoil. A wise decision during a crisis often delivers the best returns.

A final consideration on growth involves the volatile currency and financial markets. It is critical for the treasury team to manage the enterprise's currency and interest-rate exposures and continually take appropriate measures. This will help the CEO and business teams focus on business response, recovery and revival.

Accurate Forecasting. Always important, and it becomes even more consequential in times of uncertainty and disruption, when forecasts are more difficult. Of course, maintaining transparency and avoiding surprises is also important for investors and market participants.

Mergers and Acquisitions. There is usually a distinct ramp-up in M&A activities during a crisis. The pandemic could present opportunities at attractive valuations. Companies often look to divest their non-core activities, which could constitute core businesses for another company. Having deployable funds and a long-term vision assists in such decisions. The CFO can play an important role by keeping the organization in a state of readiness.

Establishing the CFO as a Strategic Partner to the CEO

TCS has observed that companies with highly digital finance functions have performed better over time, and particularly during the crisis. A CFO can be an effective partner to the CEO by seizing the opportunity to deploy digital capabilities that can improve efficiency and inform the executive team's strategic decisions.

In brief, a highly digital finance function helps a company and its CEO in several key ways. It is able to close the books and report financial results publicly on time and without extra manual effort. Digitization ensures that team members can produce financial statements regardless of where they are working, and a timely release of financial results helps to reassure stakeholders that the company is operating smoothly despite crisis-related disruptions.

Additionally, a digital finance function can more easily identify troublesome business areas and offer helpful ideas for addressing their challenges. For instance, the department can help determine which costs are strategic and should not be cut, and which costs can be delayed or reduced. Finally, the digital CFO can keep a close watch on collections, liquidity and likely delinquencies and take proactive steps to mitigate risks. These capabilities are always advantageous but given the sudden and intense disruption that many companies are experiencing during the pandemic, they are more important than ever.

TCS' Finance Department's Digital Transformation

Our observations about the effectiveness of highly digital finance offices are based not only on research and client experience, but also on the TCS finance department's digital transformation. This experience offers instructive lessons for CFOs across industries, particularly during the current crisis.

The pandemic hit TCS at perhaps the worst possible time for the finance function, just a few short weeks before the fiscal year ended (March 31, 2020). Yet even though all members of our finance team and auditors were working remotely from their homes, we were the first Indian public company to announce our fully audited results of operations from more than 50 countries where we do business. Results were released on schedule[53] in April. This, at a time when, for instance, the U.S. Securities and Exchange Commission had issued a 45-day earnings extension[54] and a number of companies in the S&P 500 were delaying their quarterly earnings releases.[55]

Moreover, TCS was the first company in India to hold a virtual annual shareholder meeting. This occurred on June 11, 2020, the same date that had been scheduled months before the pandemic hit. This was only possible because we had extensively digitized our finance function over nearly two decades.

TCS is a $22 billion company with 470,000 employees and more than a thousand large customers. Such a business cannot run efficiently or effectively without an integrated, enterprise-wide, single-instance financial accounting and reporting system. We undertake so many transactions that no one person—or even team of people—in finance can see patterns rapidly or with the needed microscopic granularity. Technology is the lynchpin, the enabler.

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[53] "TCS Closes FY20 with Strong Deal Wins," April 16, 2020, accessed at: https://www.tcs.com/tcs-financial-results-q4-fy-2020.

[54] SEC press release, June 26, 2020, accessed at: https://www.sec.gov/news/public-statement/update-commissions-targeted-regulatory-relief-assist-market-participants.

[55] "The Coronavirus Is Pushing Companies to Delay Quarterly Earnings," Bloomberg, accessed at: https://www.bloomberg.com/news/articles/2020-04-15/the-coronavirus-is-pushing-companies-to-delay-quarterly-earnings.

Four Key Lessons in Building a Powerful Digital Finance Function

Over many years of digital transformation experience working with clients and within TCS, we have drawn four key lessons for building a powerful digital finance function that enables the CFO to be a strong and effective partner to the CEO.
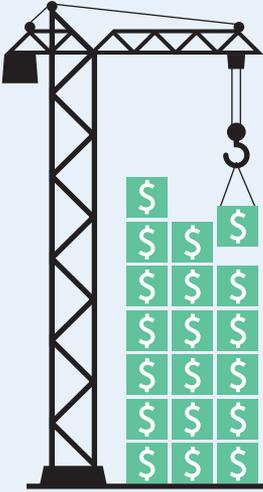
First: The entire finance value chain needs to be digital—from order to cash, procurement to payment, employee on-boarding to separation, treasury, taxation, governance, internal controls and so on.

Second: Finance must ensure prompt availability of business performance data, establishing a near real-time single version of the truth.

Third: The finance function must identify, track and act upon non-financial metrics that are leading indicators of future financial performance.

And fourth: Finance professionals must be embedded in business units as valuable business support enablers.

Each point fits into a bigger picture: providing data-driven insights that elevate the quality of business analysis and communication throughout the enterprise, while making the CFO an indispensable C-suite partner to the chief executive. Let us look at each lesson in more detail.
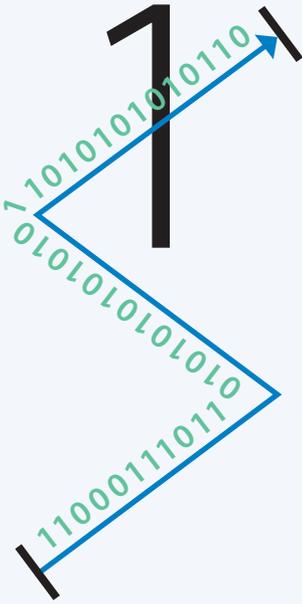
Lesson No. 1:
The entire financial value chain
must offer users an end-to-end digital
experience.

The experience should be automated, hosted in the cloud and harness the power of AI whenever possible. This should apply to all business-related transactions that are contracted, serviced and paid for. Touchpoints across the whole value chain need to be covered, including customers, suppliers and partners, financial services entities and regulatory agencies. The idea: The company is only as strong as its weakest link. Companies with highly digitized finance operations do not have pieces of the value chain that are manual and/or paper-based.

Making the entire chain digital takes time. TCS began the project in 2002, expanding and fine-tuning it each year with investments in people, technology and more streamlined ways of working. We have deployed shared services, machine learning, robotic process automation (RPA) and chatbots. These technologies have freed up many of our finance and accounting staff from routine, repeatable tasks, enabling them to devote time and effort to value-adding business support, compliance work and process improvement activities across our 160 business units and groups.

The results more than justify the investment. Since 2010, TCS' revenue more than tripled from $6.3B to $22B while the finance headcount grew by 50% and remains below 1,000 employees, about 0.2% of the entire company.

Lesson No. 2:
Finance must deliver prompt and reliable data.

Data reliability is essential for good business decisions, and therefore a digital transformation of the finance function must be robust enough to ensure that data represents an indisputable single version of the truth.

The finance team can help colleagues around an enterprise understand the value of this tenet by demonstrating the value of this data. For example, TCS' finance team, working with the CIO, has created ready-to-use presentations for all stakeholders showing key performance indicators (KPIs) around revenue, margin, cash flows, balance sheet strength and headcount, among other items. The entire process is automated, with information flowing directly from data warehouses to consumers of information in the form of slide presentations.

In addition, the finance group has developed intuitive visualization dashboards that integrate a variety of information. This enables intelligent analytics across all business units, allowing managers to "speak the same language" and see the same report cards on their business.

Lesson No. 3:
## A digitally strong finance function must manage with key non-financial metrics.

In every company there are many vital signs that affect cost, revenue and profits but are not directly about money. A digitally strong finance team with a single version of the truth can manage with these indicators, confident that they are working with accurate data and focused on improving the indicators to drive results. Among the metrics:

Customer demand metrics include tracking the deal pipeline across various stages of the sales cycle, from initial prospecting to contract sign-off. Other crucial demand metrics include the qualified pipeline (which has higher probability of closure), order book value during a given period, ratios of qualified pipeline to overall pipeline and orders booked to revenue. Different business groups, such as those focused on industry, markets and service lines, can take actions based on the data to improve performance.

Customer satisfaction. Post-project surveys, supplemented by focused customer satisfaction surveys carried out periodically across more stakeholders in the customer's organization, provides an opportunity to take immediate action on any customer complaints or concerns.

Project delivery metrics are also crucial to financial performance. For instance, TCS measures more than 25 key metrics on all ongoing projects, tracking each one's progress. "Red" projects signify difficulties in completing on-time or on-cost. The signal gives the company the opportunity to take immediate corrective actions: conducting regular reviews, analyzing root causes and drawing lessons for the future. This improves customer satisfaction and ensures that a company delivers on promises and avoids penalties and disputes.

Employee retention. Excessive employee attrition, especially of key professionals and high performers, affects morale, disrupts business and increases overall costs through spending on recruitment and training.
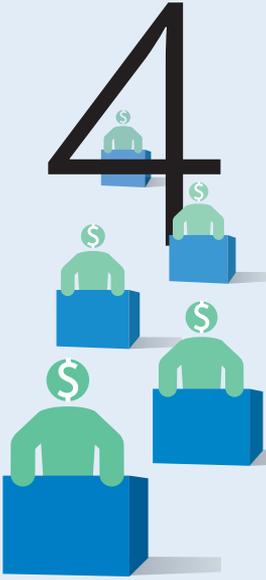
Lesson No. 4:
Finance professionals must be embedded in each business unit.

Assigning finance professions to work alongside business unit leaders serves two purposes: first, it ensures that each business unit adheres to corporate finance guidelines, including conforming to international accounting standards and compliance with tax laws in every jurisdiction, as well as ensuring robust cost and profitability management, and effective administration of internal controls. And second, it helps the unit manage its business, including understanding how to use financial data to target revenue growth, sustain profitability and generate high cash conversion ratios.

TCS' experience is useful here. In 2008, the company reorganized into new business units, each having end-to-end responsibility for business development, sales and project delivery globally across a set of customers in every industry vertical. Each business unit hosted an embedded finance team member. Over the years these units have taken on responsibility for their operations' financial results.

At TCS, finance team members are also embedded in non-business groups such as HR, administration, infrastructure development, internal IT and research and innovation. They help these groups run their operations and make decisions based on data and a more informed appreciation of financial implications.

Embedding finance professionals in business units is a technique that any company can use to its benefit. Once there, business finance professionals strike a fine balance, helping the various units achieve their respective goals while ensuring robust governance and effective controls.

Capitalizing on the Digital Transformation of the Finance Unit

As the COVID-19 pandemic has made abundantly clear, every enterprise needs a digitally sophisticated finance function. Such a function is a means by which the CFO can be an indispensable partner to the CEO in running an organization that is resilient and financially stable.

Digitization also enables the CFO and C-suite colleague to ensure that the organization maintains adequate liquidity, generates strong cash flow, reduces the working capital cycle, and mitigates enterprise risks. A digitally transformed finance function also empowers the CFO to prioritize strategic investments and interventions that let the enterprise realize its core purpose.

Of course, digital transformation cannot be achieved overnight. The initiatives and investments need to be made over time. Teams must be trained and oriented toward working in a highly digitized environment with a culture of adaptability tied to the organization's purpose.

For the journey to succeed, having the right team is essential. Digital finance teams are content to let technology serve as bean counters while they focus on the company's goals. They form an organization that enable business unit leaders to understand what is happening based on key metrics and help implement interventions to deliver better results. This way the CFO can fulfill their role as an effective partner to the CEO and help the organization thrive.
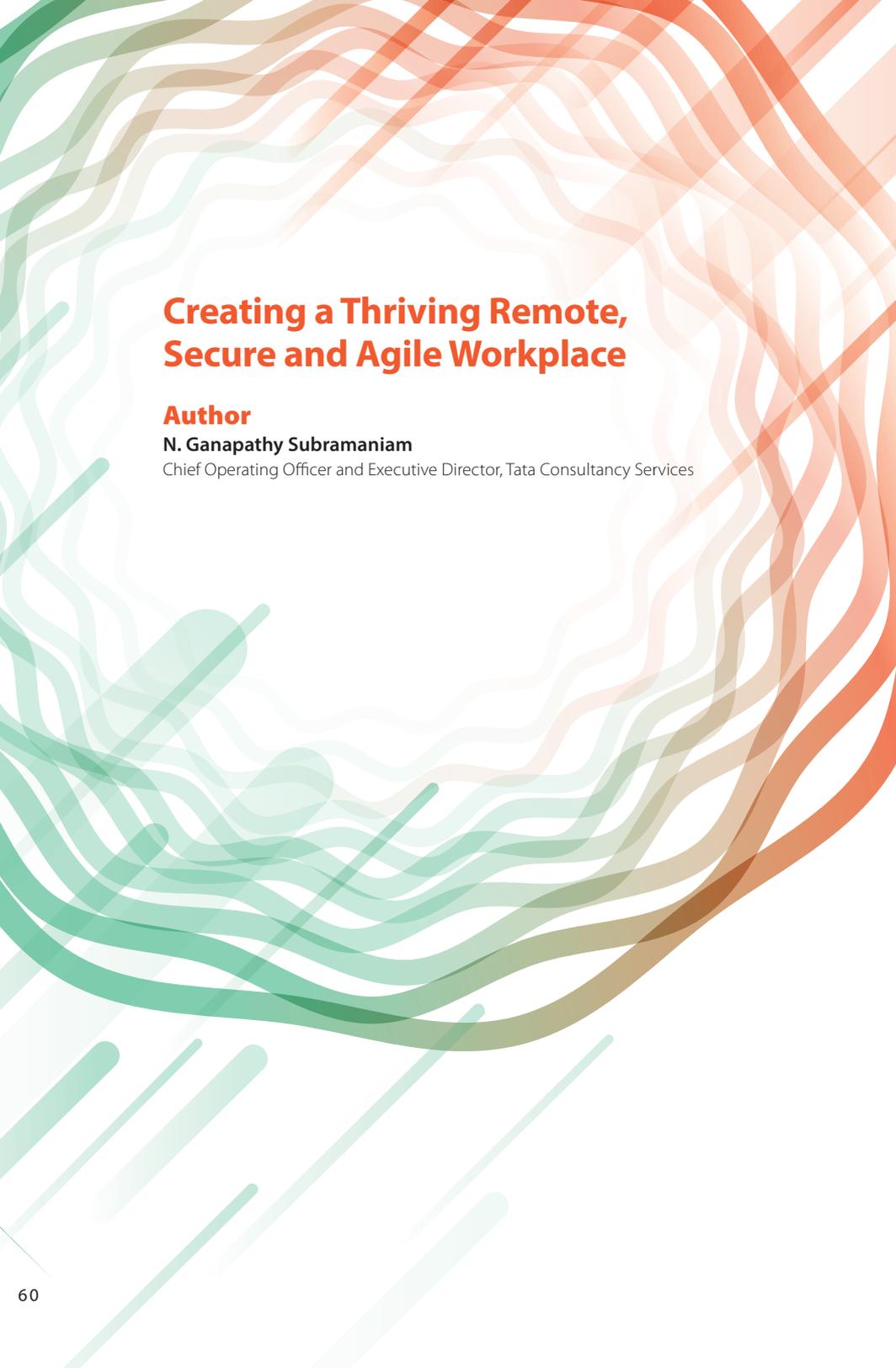
# Creating a Thriving Remote, Secure and Agile Workplace

Author

N. Ganapathy Subramaniam
Chief Operating Officer and Executive Director, Tata Consultancy Services

History is replete with examples of how technology has reshaped the workplace. Over time, its ubiquity has quietly made the transition seamless, leaving us to ponder the social, environmental and human implications of the transformation. However, the global pandemic of 2020 has brought profound, and perhaps irreversible, changes to the way work gets done in organizations. Change that had evolved incrementally over decades have accelerated to fundamental changes in only months.

The workplace evolution since March at Tata Consultancy Services, the company I have been at for nearly 40 years, is emblematic of this abrupt shift. With 470,000 employees in 46 countries around the world, TCS' own workplace transformation has been substantial. Before the pandemic, more than 90% of our people worked from 285 TCS offices in 46 countries. The pandemic forced us to flip that number on its head. Today, 98% of TCS employees work from home.

Given that we are a consulting and IT services company whose primary assets walk down corridors, sit in offices and collaborate closely across continents through sophisticated technology, you might think that it's been difficult for those human assets to perform at the level they're used to. If you thought that, you would be wrong, as our clients will tell you. If anything, our employees are by and large more productive than they were in the past.

That has amazed our clients and, frankly, our senior management team. Going into the office every day, we had thought that workforce productivity was a function of how productive we could make our workplaces. We had improved that quite well over the years, to reach $49,000 in revenue per employee in 2020, a 25% rise over the past decade. We designed more ergonomic workspaces, built nicer cafeterias and meeting rooms, invested in better office technology and made a host of other improvements.

But the pandemic has taught us a shocking and important lesson: a highly productive workforce doesn't actually have to go to our places of work. They can be just as, if not more, productive from home—*if* they have the right technology and (more importantly) the right leadership practices that keep them focused and energized.

What's more, we have found that remote working is a tactical response that can work for a period of time—if employees can use technology to do their work (such as ours can). Doing their work includes being able to interact and collaborate with their colleagues and clients.

However, simply telling employees to work from home using the technology we have given them is not nearly enough to transform the way TCS does its work. Our workplace operating model transformation will come from reimagining the way we deliver our services. It will also come from revamping the way we manage our people and handle other governance issues.
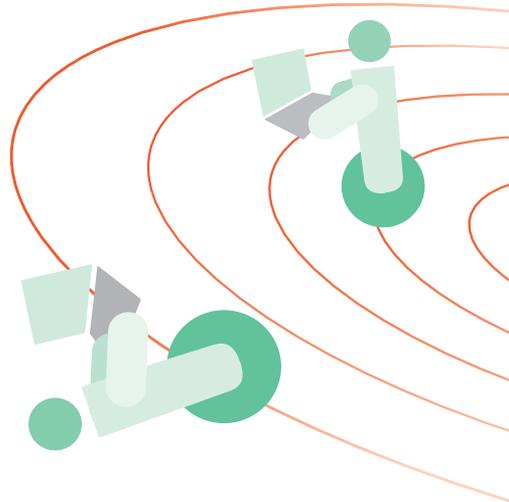
Eliminating long, costly and frustrating commutes from home will only satisfy some employees for a certain period of time. Management at TCS is learning quickly that making the remote employee feel as if he or she is even more central to our organization's success is what will keep them productive, content and motivated to continue working for us and do their best for our clients.

The pandemic forced us to completely rethink our current workplace model, initially for business continuity reasons. Most of our business continuity plans (site outage, city outage, country outage variations) assumed that our staff would be available at a location that remained open. In other words, our plans were designed to deal with local shutdowns.

The pandemic forced us to scrap those plans. It meant we couldn't guarantee clients we'd have staff available to service them from another TCS location. Most of our locations were forced to close, and so were most of our clients' locations. Nonetheless, we were quickly able to shift our office workers to operate from their homes, and thus honor our guarantee to clients that our people would be there to support them.
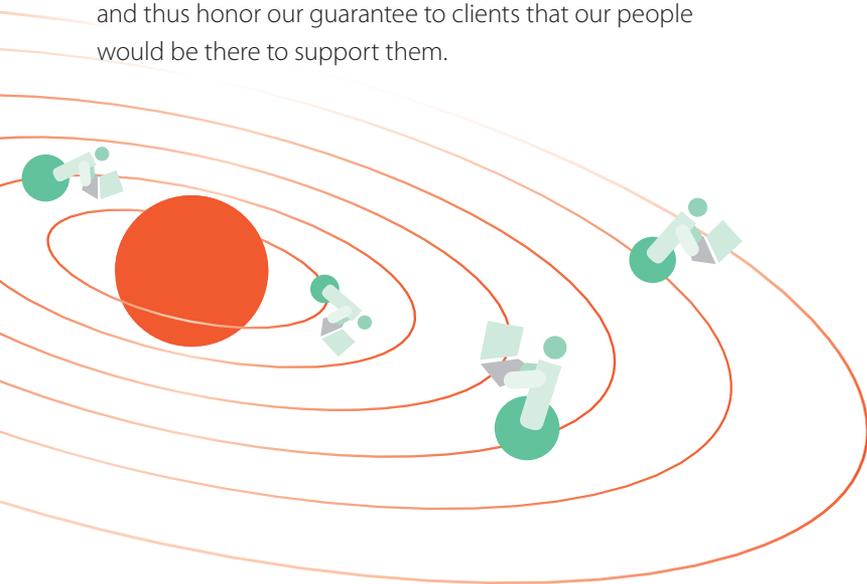
How we've accomplished that to date is the story I want to tell. It's a story that we refer to as "securing a borderless workplace." (By proving it first on ourselves and having clients ask us to do it for their employees, we have actually turned it into a service for our clients. We call it TCS Secure Borderless Workspaces™, or SBWS.) I believe our lessons may be valuable to other companies—both our "hits" and our "misses"—in shifting our work from our workplaces to our employees' homes.

So let's let the story begin.

The Foundation: A Distributed Agile Approach

It wasn't through magic that we were able to go in weeks from having hundreds of thousands of employees working from offices to having them work in their homes. Although we didn't know it at the time, we had put several pieces in place years ago.

The first piece was an approach to managing agile work teams whose team members couldn't be in the same room. We called our agile model the Location Independent Agile™. It was an alternative to overcome the biggest constraints for agile teams: that they couldn't always do their planning in the same room, as that credo of agilists everywhere (the Agile Manifesto written in 2001) insisted upon.

Large corporations, with employee work teams that can span time zones, for years have needed to have their agile team members working from different offices, often on different continents. Our approach to agile enabled our teams to collaborate in real-time across geographies and iteratively develop new digital business processes for clients. Their goal: deliver a minimum viable product quickly.

Concurrently, we were investing in "Open Agile Collaborative Workspaces" (OACW). Please note that I didn't use the word "workplaces." By "workspaces," I refer to computers that our employees could carry with them that were replete with collaboration software and tap into data and applications that we stored in the cloud. And since that data and applications were in the cloud rather than a computer room at one of our offices, that meant we had to shore up their security from being hacked. We have done that, in part through continually monitoring them and using automation to detect abnormal accesses.

TCS employees who use our OACW can work from anywhere within our facilities.

Our approach to agile enabled our teams to collaborate in real-time across geographies and iteratively develop new digital business processes for clients.

Workplace Transformation at TCS

Based on having those two pieces in place—a distributed approach to managing agile teams and the technology that allowed those team members to work anywhere—we rapidly shifted our work from our offices to employees' homes. We surprised ourselves about how fast it could be done. Some 96% of our 470,000 employees were working remotely within three weeks. They were delivering more than 26,000 projects to our clients from home and achieving the service-level agreements we had agreed to with our customers.

As I wrote this article:

- **Less than 2% of our people are coming to office facilities.**
- **Nearly 100% of our people are productively engaged from wherever they are, feeling safe and secure.**
- **In numerous client projects, we are seeing improved velocity, throughput and team productivity.**
- **Overall employee satisfaction is improving.**
- **The average time employees are spending on our virtual training curricula is ticking up.**
- **The algorithms we have deployed are able, over time, to understand the patterns and normal behaviors of our work, track pending areas of work assigned or taken up by individuals and nudge our people to complete their assignments.**
- **Our teams across the globe are experimenting successfully with a number of new ways to collaborate and divide labor, to manage the peaks and troughs of client demands.**

The feedback from our employees and our clients has been so positive that TCS announced its 25x25 operating model vision. What that means is that by 2025, up to 25% of TCS' workforce will work out of TCS facilities at any time to achieve 100% productivity, with associates spending only 25% of their time in the office. And within project teams, only 25% of employees can be co-located.

96% of our employees work remotely

Visible increase in throughput & velocity

Over 450,000 employees enabled in days

Over 125,000 meetings, calls and text messages

Coupled with TCS Machine First™ opportunity to improve efficiency by up to 25%

Over 26,000 projects being delivered to SLAs

3-4-5 Framework delivers resilience & service innovation

Employees are likely to not spend more than 25% of their time at facilities

Maximum 25% of a project team to be in a single facility

Secure, On-Demand Connectivity
Governance & Monitoring Utility
Service Delivery Focus
SBWS
Borderless Collaboration
Employee Engagement Models
Location Independent Agile Methodology

Figure 5: TCS Secure Borderless Workspaces™

25 x 25 Operating Model: 25% workforce in facilities to achieve 100% productivity by 2025

Lessons Learned

Based on our experience, what should organizations that want to achieve something similar do to make it happen? We see five areas to think about:
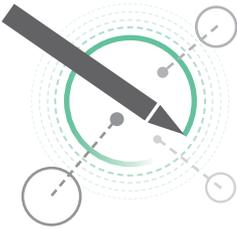

1. Design Workplaces.

The new workplace model will have to maximize the creative and collaborative potential of a shared space, allowing for all individual and asynchronous work to be done outside of it, remotely. Teams in the future will be distributed geographically as opposed to being located in centralized, downtown-type locations.
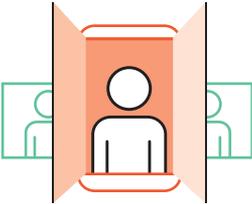
2. Knowledge Experiences for Ambient Awareness.

One of the disadvantages of remote work is the lack of ambient awareness in individuals and teams—i.e., people's ability to see non-verbal and other signs of behavior. The ability to digitally enable ambient awareness and deliver contextual knowledge to remote employees when they need it presents a problem that we think a combination of culture change and technology—such as augmented and virtual reality technologies supported by advanced algorithms—can solve in the years ahead.
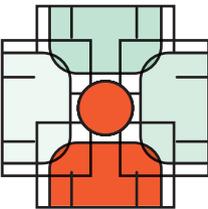
3. Physically Distanced but Socially Connected.

With a large number of remote employees, organizations must stay in touch with them more frequently. It requires hyperconnected leadership—i.e., managers who constantly interact (two-way, not one way) with employees. In a time of physical distancing, social connections become more crucial.
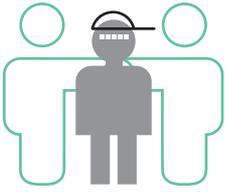
4. Adopt and Humanize Automation.

Automation merely for the sake of cutting labor costs will have diminishing returns. Automation designed to make people more productive is more important.
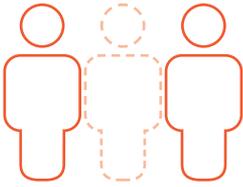
5. Trust, Self-Governance and Results.

Remote working will change the nature of middle management. Micromanagement and traditional command-and-control structures will simply not work or scale. Work must be self-governed and outcome-oriented, as opposed to purely task- and time-oriented methods of management. Organizations must empower employees with digital tools that measure, benchmark and improve their performance.

Extending the Benefits of Remote Work

From our experience, we believe that remote work will not only be a short-term response to a crisis. It will be a new way of structuring work that will offer significant benefits.

The pandemic has given TCS the opportunity to question every constraint we had been operating under previously in designing where and how we did our work. Our experience has been a huge and pleasant surprise for us, our employees and our clients.

From our experience, we believe that remote work will not only be a short-term response to a crisis. It will be a new way of structuring work that will offer significant benefits.
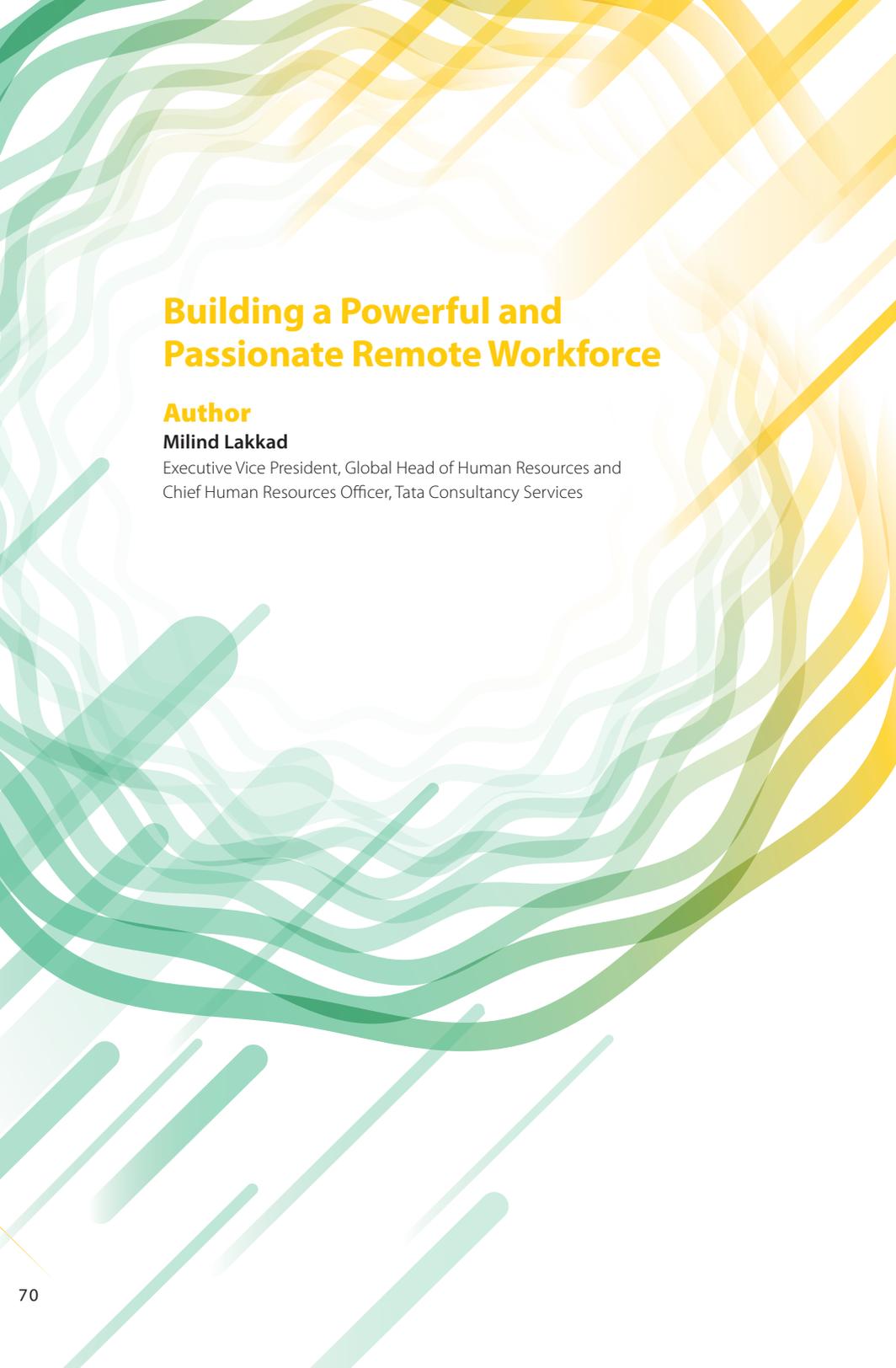
Building a Powerful and Passionate Remote Workforce

Author

Milind Lakkad

Executive Vice President, Global Head of Human Resources and Chief Human Resources Officer, Tata Consultancy Services

When the COVID-19 pandemic forced companies around the world to shift everyone who could work offsite to their homes, it set off one of the largest collective projects in business history in managing organizational change.

And just as in any massive organizational change effort, employers and employees have seen both benefits and challenges in this new way of working.

The migration to remote work has been dramatic. New TCS research on 287 organizations in North America, Europe and Asia-Pacific (97% with at least $1 billion in annual revenue) found remote work is likely to last for the immediate future. The average organization had 64% of its employees working primarily from home in July—seven times the number in March, just prior to the pandemic. By 2025, these organizations on average projected 40% of their employees would operate mainly from home.[56]

The study and predictions lead us to believe that a substantial percentage of employees in many large organizations will largely work from home permanently. At TCS, we look at this as a new beginning. The Secure Borderless Workspaces™ approach has paved the way for 25 by 25 vision—by 2025[2], only 25% of TCS workforce will work out of TCS facilities at any time, with associates spending only 25% of their time in the office.

A key question for leaders of these organizations is this:
How can they make remote work more productive and engaging for employees in the new work order?

SBWS™
25 X 25
VISION

[56] "TCS COVID-19 Business Impact Survey 2020," accessed Oct. 6, 2020 at: https://www.tcs.com/business-impact-survey-2020.

[57] Krishnan Ramanujam, "Empowering the Permanently Remote Workforce," TCS, June 12, 2020, accessed October 15, 2020 at: https://www.tcs.com/blogs/empowering-the-permanently-remote-workforce.

In our experience, the answers lie in the commitments that organizations and leaders make to remote workers. A major part of that commitment is the support they provide to keep employees productive and engaged with what is going on in the organization, while equipping them with the latest technology tools and state of the art security systems.

But the technical requirements are only part of these commitments. Organizations must also help employees strike the right work-life balance—as the lines become increasingly blurred.

In this article, I will go more in depth on the benefits of remote work, the challenges to making that work productive and the support that companies must provide to make this new beginning successful for employees and the workplaces.

Rethinking Talent: During the Pandemic, and After

The challenges of leading global organizations and teams have been elevated due to the sudden disruption

Providing the right communication and collaboration tools that a distributed workforce can't succeed without is a given in the new paradigm.

caused by the pandemic. It has made it much harder for globally dispersed teams to be in synch and keep the workforce productive, enthusiastic and proud of the jobs they are doing. But the challenges extend beyond promoting a purposeful *esprit de corps*. Providing the right communications and collaboration tools that a distributed workforce can't succeed without is a given in the new paradigm.

Talent practices have to be re-imagined in order to build and sustain a strong culture and a sense of belonging. This will be the key to success going forward. Creating and nurturing the virtual talent ecosystem, for recruiting and onboarding, along with exciting opportunities for employees internally to learn, enhance their skills and grow will provide employees and organizations with new opportunities for growth and transformation.

Fostering Purpose, Engagement and Performance Among Far-Flung Workers

What will ultimately determine the success of these work-from-home initiatives? How can large organizations greatly increase the chances to remain as productive—or even become more productive—with large numbers of employees working remotely?

And while doing so, how can they keep their valued talent tethered to their organization? We see five core elements to excellence in managing remote talent:
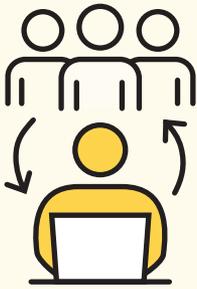
1. Keeping Managers and Employees Digitally Engaged in the New Work Order.

In the pandemic, it is easy to see the daily benefits of the latest technology tools, from online messaging platforms that keep teams on the same digital page to desktop and smartphone video conferencing software. (We have been putting these tools to highly productive use at TCS for years. See the sidebar on "The Borderless Workspaces at TCS", page 74.)

However, with less in-person supervision and fewer impromptu discussions with managers and other employees, people can feel like they have less access to help at the moment of need. Isolated from office interactions, employees can miss the camaraderie of work. What's more, it's easier for family and other outside-of-work obligations to distract focus on their jobs.

While organizations continue to invest in solutions and tools to keep employees connected virtually, managers and team leaders also would do well to promote remote social interaction.

Establishing clear rules of engagement to make virtual meetings and presentations become more productive is important. However, not every minute of every video or conference call must be about work. For example, starting video conference calls asking for updates on everyone's weekends helps managers share genuine interest in their team members' lives outside work, and making those times matter. Recreating water cooler chats and discussing non-work issues that are discussable may go a long way in creating greater solidarity.

Leaders at all organizational levels need to also set aside time for one-on-one connects for employees to share concerns in private settings. Empathy is always essential—but especially so in times of crisis, when people may face unusual health issues and concerns, as well as family struggles. Demonstrating emotional intelligence, sensing when an employee needs extra support, and providing that support will go a long way in showing that an organization cares about its employees.

The Borderless Workspaces at TCS

Enabling TCS' more than 470,000 people to work remotely from their homes around the world has been critical in our ability to keep our, and our clients', business and IT operations up and running. However, the capabilities behind what we've turned into a service (Secure Borderless Workspaces™) predate the pandemic.

TCS has been working for several years to ensure that our agile teams could deliver systems and technology support to clients without having to be in the same room, the same building or the same time zone. We might have a software quality expert in one office, and a business process or industry expert in another office. And other team members might be in several other locations. (For more background, see TCS *Perspectives* article, "Creating a Thriving Remote, Secure and Agile Workforce," page 60.)

We refer to them as "location-independent agile teams." They have long proved that the best agile teams don't have to occupy the same room.

2. Engagement with Purpose.

Organizations and their people find mutual gain when they align around a common purpose. Purpose—the organization's reason for being, the role it plays to make a positive difference for the work that its people do—is the glue that brings people together and keeps them together. It communicates what the organization values above all else—its employees, the customers it serves and the benefits it brings to them and the broader world.

At TCS, purpose-driven engagement ensures a unique approach, with initiatives focused on stratified employee segments across the organization. Virtual HR Bays and HR 1-2-1 connects (with 470,000 employees globally) have enhanced employee connections. Work, social collaboration and focus on wellness has helped in inspiring and motivating our remote workforce and their families, while regular virtual town hall meetings with senior management, including the CEO, COO and other business leaders provide future directions to associates.

The virtual hub-based engagement strategy adopted globally has helped build a strong sense of belonging. Additional programs provide opportunities to build their careers, learn more about our company and opportunities here and engage in lifelong learning. All enrich the employee experience.

It is essential to embed purpose into employees' work. Establishing and communicating a purpose that goes beyond profit is especially meaningful in today's time of uncertainty when it's natural for people to lose focus on their day-to-day work. News of the pandemic and its effects have been unrelenting. Looking after their own and family's health and caring for loved ones is a key concern. Giving employees reasons to be passionate about the work they are doing—to inject purpose into their daily activities—can renew them, individually and collectively. It helps them find meaning and do their best work.

While it is the role of senior leaders to develop and articulate the organization's purpose, the best managers tie their teams' everyday tasks to fulfilling that broader mission. (For more on how leading companies articulate a purpose to improve their performance, see "A New CMO Role: Leveraging an Organization's Purpose for Strategic Advantage" in this issue of TCS *Perspectives*, page 22.)

Embedding the organization's purpose into the everyday work of its remote employees shows it cares about its people and the world. That can be a big boost to employee satisfaction and retention.

Embedding the organization's purpose into the everyday work of its remote employees shows it cares about its people and the world.

3. Showing Employees That the Organization Cares About Their Wellbeing.

With the vast majority of employees working from home right now, organizations have increased their attention on mental health and wellbeing. A study in March and April 2020 found worsening mental health in 42% of employees in the U.S., UK, Europe and Asia Pacific.[58] HR organizations everywhere have a huge challenge in responding remotely to employees' physical, mental and emotional issues.

Employee safety and wellbeing have always been a strong focus for us, as we believe customer centricity and employee empathy are two sides of the same coin. Our well-defined initiative—TCS Cares, put in place long before the pandemic—is focused on the mental health and emotional wellbeing of employees. All employees have access to counselling sessions, self-help resources, self-assessments and a host of initiatives focused on maintaining emotional and physical health.

It is heartening to see that the dialogue around mental health and emotional well-being has been initiated across the organization. Today, we have more and more associates joining this conversation and proactively reaching out for support as well as extending support. Manager sensitization

[58] Study by Mind Share Partners, Qualtrics and SAP, and discussed in a Harvard Business Review article, Aug. 7, 2020. Accessed at https://hbr.org/2020/08/8-ways-managers-can-support-employees-mental-health

and programs to build resilience have helped build a culture of awareness, understanding and acceptance of mental health.

It is also important to focus on the safety of our employees. A lack of information can lead to considerable stress. Recognizing this, we set up a medical hotline to answer employees' questions about the pandemic. Multiple initiatives focused on the wellbeing of employees and their families—including COVID-19 isolation centers within TCS premises, as well as hospital admission assistance, home healthcare services, comprehensive health check facilities from home and comprehensive medical assistance for associates working out of TCS offices. All of these services have driven home the message that associate safety and wellbeing are paramount. Business unit leaders and other executives use large virtual gatherings such as town halls to reinforce the message that the organization has support and services in place when employees need them.

Reinforcing a positive work culture by designing policies and processes that help and support all employees, sharing success stories and recognizing achievements, also contribute to a strong sense of purpose and building a powerful and resilient workforce.
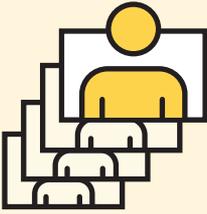
4. Creating Growth Opportunities and Keeping Them Visible.

Organizations have long understood the need to develop crucial new business capabilities in good times and bad. Investing in making their people future ready is no longer a choice. More and more leaders are coming to realize that every job in their organization—and new jobs in the future—requires a set of skills and experiences by which novices can turn into masters.

At TCS, virtual onboarding and training has been a key focus in integrating new joiners. After adapting our recruiting to a virtual environment, we set up virtual training programs for incoming college graduates to accelerate their skills in working with clients. The programs include daily webinars, weekly online assessments and weekly hackathons. All of these help them to demonstrate their capabilities and become productive from day one.

While employees, whether they aspire to move up the organizational hierarchy or seek to excel at their job, are typically hungry for skill development, in our experience, this works best if accountability for employee development falls not only on the employee, but also to the team of which he or she is a member.

Sophisticated personalized talent development programs address this need. Drawing on predictive analytics, they give employees customized advice on the skills they need to achieve their career goals. Based on detailed employee profiles, these systems are also plugged into the job postings of the large organization. By matching internal demand and supply, they help companies leverage internal expertise.

Matching people to jobs across a large, global organization is only the first step. Developing people for the jobs they want and the jobs the organization needs is just as important. A strong personalized talent development program must ensure that the means of skill development—starting with event notifications, the relevant online courses and sand boxes—are delivered virtually. Investing in a good Learning Management System that helps organizations and employees track their current learning and competency levels is no longer an option.

A robust career development approach has always been a unique selling proposition to attract and retain talent. But today, technology and business models change at such a rapid pace that hiring new people for every new skill is not just impractical, it is counterproductive. A 2018 Korn Ferry study estimated that if left unchecked, talent shortages in a range of industries could lead to a "talent deficit" of 85 million jobs and unrealized revenues of more than $8 trillion.[59] Organizations that invest heavily in reskilling their people, establish outstanding learning and development programs, nurture contextual knowledge and reinvent their everyday learning approaches will retain their leadership position in their fields—and among talented people they recruit. The COVID-19 pandemic has accentuated this need.

[59] "Korn Ferry Study Reveals Global Talent Shortage Could Threaten Business Growth Around the World," May 2, 2018, accessed October 15, 2020 at: https://www.kornferry.com/about-us/press/korn-ferry-study-reveals-global-talent-shortage-could-threaten-business-growth-around-the-world.

5. Emergence of Talent Clouds and Enabling the Future of Work.

A concept that pairs a business's talent needs with people based anywhere in the world, talent clouds offer new opportunities to employees and organizations. Today, we are not constrained by location dependency; a position in Boston could now be filled by an employee in Brussels. Combined with the fungibility of roles, skills and the deep contextual knowledge that employees bring, this is a big game changer in the talent landscape of the future paving the way for organizations and employees to derive exponential value through maximizing opportunities and embracing risk.

The Advantages and Disadvantages of Remote Work Have Become Clear

The benefits of letting employees work from home have finally become clear for many organizations and employees. A global survey of 3,500 remote workers, 80% of whom were working from home, found 98% wanted to continue the arrangement after they had started.[60] They liked the flexibility in scheduling, locations and not having to commute to work. As well, many liked their quality of life, being closer to loved ones during the day and lower costs in traveling to an office.

Employers also see the many advantages. Many organizations see the potential of major reductions in real estate costs for offices they don't need to operate or space they can downsize, for example. One of the big advantages is they can recruit talent anywhere. A job applicant's willingness to work out of an organization's office

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[60] "The 2020 State of Remote Work," sponsored by Buffer and AngelList, accessed October 6, 2020 at: https://lp.buffer.com/state-of-remote-work-2020.

no longer matters for many firms. Companies such as Facebook have extended work-from-home policies to the middle of 2021, while Microsoft and Google have similarly announced work-from-home initiatives that will extend long after.

The remote work model has increased focus on employee engagement, that was already a key priority. Nearly two year ago, Dutch bank ING Group, with 55,000 employees in more than 40 countries, named a head of global employee experience. ING improved new employee onboarding and instituted ways to check in with them at key moments in their careers. By this June, employee satisfaction had increased 20% and manager satisfaction had risen 30%. "By taking excellent care of our employees, we create higher-performing teams that are better able to care for our customers," said Sander de Bruijn, the bank's head of its global employee experience.[61]

That said, allowing employees to work from home won't necessarily make them as productive or as happy as they were at the office. Getting strong and ongoing managerial direction can be a big issue. A survey this spring by the European business school INSEAD of 429 workers in 58 countries found that only 63% received clear policies about their work-from-home arrangements.[62] Only half said their managers provided effective support. Meanwhile, technology and tech support weren't a frequent problem: Four of five workers lauded their technology infrastructure.

> "By taking excellent care of our employees, we create higher-performing teams that are better able to care for our customers," said Sander de Bruijn, the bank's head of its global employee experience.

[61] Forbes column by Jeanne Meister, June 8, 2020. Accessed here: https://www.forbes.com/sites/jeannemeister/2020/06/08/employee-experience-is-more-important-than-ever-during-the-covid-19-pandemic/#258089ff34bc

[62] "INSEAD survey delves into the experience of working remotely," April 7, 2020, accessed October 6, 2020 at: https://alumnimagazine.insead.edu/insead-survey-delves-into-the-experience-of-working-remotely/.

It is a fine balance that organizations and employees have to achieve and make the best use of the opportunities provided.

The Power of Purposeful People

By providing deep support for remote employees, showing they truly care about their careers and personal well-being and motivating them with an altruistic organization purpose, organization leaders can turn a vast remote workforce into a considerable business advantage.

The return on these investments go beyond supporting and engaging employees. They also reassure customers that the organization can be just as effective with a virtual workforce. By strengthening employee loyalty and productivity, they build customer loyalty.

Our efforts have not been finite and narrow to mitigate a certain situation. We have embraced the new beginning and looked at what we could learn from this situation and what we can use going forward positively for our organization, our people and our customers. I believe that a powerful and passionate remote workforce is the key to unlocking future possibilities.

The Pandemic's Digital Acceleration of the Banking, Financial Services and Insurance Sectors

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K. Krithivasan
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Compared to other sectors, banking, capital markets and insurance firms have weathered the pandemic's storm. They are well-positioned to play a vital role in the revival of economies the world over. However, with lockdowns, workforce disruptions and declining economic activity in every corner of the world, the pandemic has presented them with new challenges. In fact, the 33 largest U.S. banks could suffer $600 billion in loan losses if America's unemployment rate moves into double digits from the current 6.7% rate and the economy doesn't recover quickly, the Federal Reserve announced in December.[63] In 2020, global insurance industry losses from man-made and natural disasters were at the fifth highest level in 50 years, at $83 billion, according to Swiss Re.[64]

That's just on the customer side of the ledger. On the employee side, financial services and insurance companies had to provide a productive virtual working environment since the spring. Research TCS conducted last summer found that the vast majority of employees at 64 large banks, financial services and insurance companies in North America, Europe and Asia Pacific were working from home.[65] These largely virtual workforces are likely to continue until vaccines have been widely distributed and life returns to something approaching normal.

[63] Associated Press, Dec. 18, 2020. Accessed here: https://apnews.com/article/coronavirus-pandemic-economy-4fb38ee1db83df6fbea64a1ed121ab44

[64] Swiss Re web page, Dec. 15, 2020, accessed here: https://www.swissre.com/media/news-releases/nr-20201215-sigma-full-year-2020-preliminary-natcat-loss-estimates.html

[65] An average of 67% of bank and financial service company employees were working from home, and 74% of insurance company employees, according to the TCS 2020 "Digital Readiness and COVID-19: Assessing the Impact" survey, Sept. 29, 2020. Accessed here: https://www.tcs.com/business-impact-survey-2020

Yet many changes wrought by the pandemic were set in motion years ago by the introduction of smartphones, social media, digital sensors, artificial intelligence (AI) and the internet itself. In this article, we explain why banks, financial services and insurance companies that emerge strongest from the pandemic will be those that revamp themselves with certain digital capabilities, ones that will enable them to achieve quantum leaps in growth and productivity.

We present best-practice examples of financial institutions that have put these pieces in place. We explore what they must do over three periods of time: the current crisis, the transition and the post-pandemic phases.

The Current State of Digital Capabilities in Banking and Insurance

Around the world, banks and securities companies were projected to spend about a half-trillion dollars in 2020 on information technology.[66] Yet TCS' Digital Readiness and COVID-19 survey found that no more than a quarter of them had six core digital capabilities: an end-to-end digital customer experience (CX); robust AI and analytics to continually improve that CX; high degrees of automation of core business processes; core enterprise software delivered via the cloud vs. on-premises; partnerships with key players in the digital ecosystems that include

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[66] Gartner press release Aug. 12, 2020, accessed here: https://www.gartner.com/en/newsroom/press-releases/2020-08-12-gartner-forecasts-worldwide-banking-and-securities-it

banks and insurers; and digital sensors for tracking their offerings and the customers that use them.[67] What's more, only 10 of the 64 financial institutions surveyed had deep capabilities in at least four of these areas.

Financial institutions will need these strengthened capabilities to meet the demands of the future.
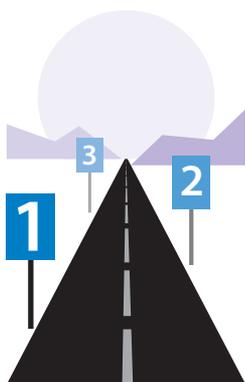
Building Digital Capabilities: Three Kinds of Initiatives in Three Phases

We envision the changes that banks, financial services and insurance companies must make to build essential digital capabilities could be best accomplished in three phases: the current period, the near-future (when the pandemic's impact begins to wane) and 2022 and beyond (when financial institutions hopefully no longer would treat the pandemic as a top-of-mind operational concern).

Within each phase, we categorize initiatives to be of three types: resilience (to ensure that financial institutions continue to operate despite having to conduct most business remotely); value (to respond well to customers, keep costs in line, and spur productivity); and growth (to identify and pursue new revenue opportunities).

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[67] "Digital Readiness and COVID-19: Assessing the Impact," TCS COVID-19 Business Impact Survey 2020, accessed at: https://www.tcs.com/business-impact-survey-2020.

Figure 6 illustrates these activities in all three phases, but also how their emphasis should shift over time.

	Current	Near-Future	2022 and Beyond
Resilience	Ensure business continuity Create and support remote, borderless workplaces	Raise defenses against cyber attacks Make the remote, borderless workplace more productive Reframe guidelines on where work must be done Source talent globally to fill essential remote jobs	Make remote, borderless workplaces impenetrable from hacking Turn remote, borderless workplaces into a competitive advantage Enable company operations to run continuously in the face of future possible shutdowns
Value	Stay customer-focused Digitize for efficiency Enhance the digital customer experience	Make major cost reductions through machine first digital transformations Build a responsive supply chain Expand and support workforce with AI to perform higher-value work Revolutionize the digital customer experience	Identify longer-term efficiency moves enabled by emerging digital technologies Enhance the responsive supply chain Make the digital customer experience the front door to the total customer experience
Growth	Identify and plan new revenue opportunities Identify digital ecosystem partnerships required to seize new opportunities	Launch new digital products, services and businesses to address new market needs Strike essential digital ecosystem partnerships	Harvest the digital businesses that are taking off, and cull the ones that are not Enlarge essential digital ecosystem partnerships for winning digital businesses

Figure 6: Managing Financial Services Businesses Through Three Phases

Let's examine the digital initiatives that we recommend in each phase in more detail.
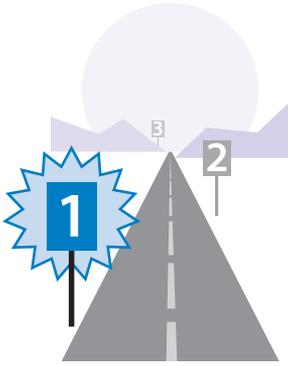
The Current: *Remaining Open While Remote, Automating Where Possible*

In the pandemic, an overriding business objective has been to stay open while doors were closed. The byword for every employee is resilience (no matter the location in which they're working). At the start of the pandemic, when bank branches were forced to close, it was clear that even processing loans and government assistance through them was a challenge as phone lines and other channels were overwhelmed with customers seeking help.[68]

Staying resilient has meant finding ways to enable their businesses to continue. As much as 40% of the world's people have been forced to stay home, which has accelerated the rise of digital payments. Call centers across the world have seen call volumes surge four- to 10-fold due to shutdowns of branches and other field offices. And financial firms have beefed up their cybersecurity defenses in the face of a spike in attacks aimed at citizens' stimulus checks and other pandemic-related transactions.[69]

The byword for every employee is resilience (no matter the location in which they're working).

[68] Guardian, April 15, 2020, accessed at: https://www.theguardian.com/business/2020/apr/15/covid-19-bailout-loans-issued-uk-firms-banks.

[69] S&P Global Market Intelligence, June 26, 2020, accessed at: https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/cyberattacks-rise-in-pandemic-s-perfect-storm-8212-reminding-banks-of-risks-ahead-59064396.

While cyber security is one part of becoming resilient as well as future-ready, welcoming new customers is another. Banks and credit card issuers have let customers open new accounts without in-person office visits. SBI Card (India's largest pure-play credit-card issuer) developed a system by which it can sign up customers using videos and electronic signatures. For the institution, it's a digital "know your customer" process that customers can complete in 15 minutes.[70]

Despite a depressed economy, mortgage lending has stayed strong in countries such as the U.S., as many inner-city Americans moved out to suburban and rural areas to escape the crowds. One mortgage lender's automation initiative reduced credit decision cycles significantly, cut paper processing costs by 40% and enabled contactless processes through digital signatures and other technologies.

Insurance companies saw spikes in their customer contact centers, and many implemented bots that answer frequently asked questions using robotic process automation (RPA) and AI tools. Claims in life, business and health insurance have exploded. Insurers have used AI and machine learning tools to deal with them, as well as AI tools to get information from documents. Some financial services firms have provided personalized digital video messages to reassure customers about their annuities, pensions and other investments amidst the turmoil in financial markets.

Increasing value invariably points to efficiency gained through automation initiatives that reduce costs. Bank of America has been relying on its Erica virtual assistant ever since the coronavirus outbreak occurred. Over three months (March through May), the $90 billion (revenue) bank added a million Erica users per month. By the third quarter of 2020, 16 million BofA customers were using the digital

[70] TCS, "SBI Card Becomes an Early Mover in Digital Sales Operations," https://www.tcs.com/sbi-video-kyc-esign-vkyc.

assistant to balance their checking accounts, make payments and get payment reminders.[71]

Efficiency is crucial to increasing value to customers while reducing costs. U.S. financial services companies like First Home Bank turned to robotic process automation (RPA) to process 6,000 pandemic-related small-business relief loans in the first few months of the pandemic. That was six times the number in a typical year.[72] Insurers have also been cutting costs and the burdens of manual processes by using RPA, for example, to post payment transactions from spreadsheets and copy details from external applications.[73]

Growth: The pandemic has created demand for a wave of new financial products. Financial services companies that responded fastest to these needs have grown during the downturn. Take the example of a Singapore insurance product. After the pandemic hit, a health insurance company went from design to launch of a COVID-19 insurance plan in four days—96 hours. What's more, customers can buy and use the plan online.

The transition to a post-pandemic world will require financial institutions to keep a sharp eye on big changes in consumer behavior in the pandemic.

[71] The Motley Fool, Nov. 5, 2020, accessed here: https://www.fool.com/investing/2020/11/05/what-does-erica-mean-to-bank-of-americas-stock/

[72] "Banks Use Software Bots to Process Surge of Pandemic-Related Loans," The Wall Street Journal, June 9, 2020, accessed at: https://www.wsj.com/articles/banks-use-software-bots-to-process-surge-of-pandemic-related-loans-11591735728.

[73] TCS white paper, "Robotic Process Automation: Hype or Reality?" accessed at: https://www.tcs.com/content/dam/tcs/pdf/Industries/Banking%20and%20Financial%20Services/Robotic-Process-Automation-Hype-or-Reality.pdf.
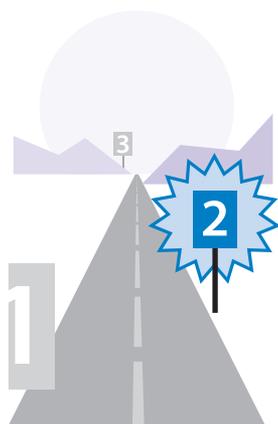
Near Future: *Strengthen Workforce, Pinpoint Growth Areas*

When the pandemic begins to recede this year, financial institutions are not likely to order all their people back to work. Many, in fact, may decide that certain jobs can be done as well, or even better, from workers' homes. To support that, however, they will have to look for new technologies and new ways of motivating and managing the remote work force to spur productivity.

When this transition phase starts, financial institutions will be able to shift away from emphasizing business continuity and focus on reimagining the workplace, improving customer centricity and becoming more agile.

The "near future" phase will also be a good time for digital experimentation. Some companies haven't waited for that time. For example, U.S. mutual fund giant Fidelity Investments last May started testing a virtual reality system to bring more than 140 new employees on board its operations division.[74]

New growth opportunities will abound, and a number of insurance companies have already jumped the gun. Next Insurance, a venture capital-funded startup focused on small-business clients, acquired analytics provider Juniper Labs to expand its customer base through

[74] "New Hires to the Holodeck: Fidelity Investments Tries Collaboration Via Virtual Reality," The Wall Street Journal, October 5, 2020, accessed at: https://www.wsj.com/articles/new-hires-to-the-holodeck-fidelity-investments-tries-collaboration-via-virtual-reality-11601890201.

machine-learning technology that uncovers underwriting opportunities.[75] (Next is partially funded by Munich Re[76], one the world's largest reinsurance companies.[77]) In May 2020, another U.S. insurer (Buckle) began offering coverage to rideshare drivers who deliver food, household items and other products.[78]

The transition to a post-pandemic world will require financial institutions to keep a sharp eye on big changes in consumer behavior during the pandemic. Notably, one global study found that the number of consumers using digital banking channels in the pandemic grew from 68% in 2019 to 71% in 2020.[79] As a group, retail banks have taken note of consumers' accelerated embrace of digital channels—by not only fortifying their digital banking services but also by using them to reduce costs. At the end of October, U.S. banks and thrift institutions had closed more than twice as many branches (2,664) as they opened (1,092).[80] Such moves are critical to maintaining in-person services where they are needed the most and freeing up resources to support new online and mobile services.

[75] "Next Insurance purchased data analytics firm Juniper Labs in its first-ever acquisition," Business Insider, December 11, 2020, accessed at: https://www.businessinsider.com/next-insurance-acquires-juniper-labs-to-help-improve-underwriting-2020-12.

[76] Crunchbase, Sept. 23, 2020, accessed here: https://news.crunchbase.com/news/next-insurance-lands-250m-series-d/

[77] Munich Re web page, accessed here: https://www.munichre.com/en/company/about-munich-re/facts-figures.html#1555619028

[78] Buckle press release, May 6, 2020. https://www.buckleup.com/press-releases/0506pressrelease

[79] RFi Group mentioned on an HSBC web page, Nov. 26 2020, accessed here: https://www.hsbc.com/insight/topics/how-banking-will-change-after-covid-19

[80] "Capital One, Wells Fargo lead the way with US bank branch closures in October," S&P Global Market Intelligence, November 17, 2020, accessed at: https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/capital-one-wells-fargo-lead-the-way-with-us-bank-branch-closures-in-october-61240187.
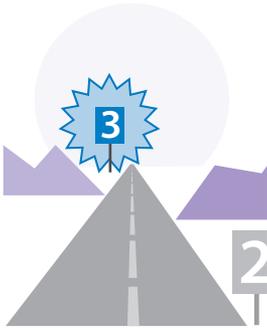
2022 and Beyond: *Shore Up Digital Services, Seek New Opportunities*

This assumes that the pandemic has gone away and financial services companies are no longer worrying about COVID health risks. They can shore up their workforces, strengthen customer and partner relationships and address weaknesses in business process changes implemented in the pandemic and transition phases.

In the post-pandemic phase, financial institutions should continue emphasizing their digital channels for customers and enable remote service delivery. They should analyze data patterns to determine how to increasingly personalize services for customers. For example, banks and their business partners should explore combining forces in providing investment services, insurance, contactless payments and other digital services. Near the end of 2020, the majority of Americans were using touch-free payment devices to buy groceries, medicine, fast food and other products.[81]

Insurers face a separate set of challenges. They need to see themselves in the larger digital ecosystems in which companies from multiple industries collaborate to provide more value. The auto insurance sector is a great example. The pandemic has forced people to drive less.[82]

[81] Mastercard poll, as reported by CNBC, November 18, 2020, accessed at: https://www.cnbc.com/select/mastercard-survey-contactless-payments/.

[82] "Global Usage-Based Insurance Market to Reach $149.22 Billion by 2027, at 25.1% CAGR," Allied Market Research, November 2, 2020, accessed at: https://www.globenewswire.com/news-release/2020/11/02/2118590/0/en/Global-Usage-Based-Insurance-Market-to-Reach-149-22-Billion-by-2027-at-25-1-CAGR.html.

A number of insurers have introduced usage-based car insurance, a market that is expected to grow in North America at 25% per year through 2027. But to better qualify their risks, insurers should be working with auto manufacturers, makers of chips and sensors and other entities in a "mobility" digital ecosystem that not only tracks how far customers drive but also monitors their driving behavior (i.e., too many panic stops) and their vehicles' condition. That would enable auto insurers to better understand the risks they are underwriting.

In home insurance, Hippo, a startup that lets U.S. homeowners buy a policy in five minutes, attracted a $350 million investment from Japanese giant Mitsui Sumitomo. The Japanese firm also agreed to serve as a reinsurance company to Hippo.[83] In our view, such partnerships are emblematic of the digital ecosystem opportunities for banks and insurers.

In the post-pandemic phase, financial institutions should continue emphasizing their digital channels for customers and enable remote service delivery.

[83] "Japan's Mitsui Sumitomo to invest $350 million in insurance startup Hippo," Reuters, November 24, 2020, accessed at: https://www.reuters.com/article/us-hippoenterprises-fundraising-ms-ad-in-idUSKBN2842RU.

Leading in the 2020s:
Three Growth Fundamentals

What will separate the financial services companies that come out of the pandemic stronger from the ones that will emerge weaker? We believe it will come down to three core capabilities:

- **A deep capacity for resilience**: To be able to shift their operations from the old "brick-and-mortar" world of offices, branches and other physical locations to a remote working model rapidly without skipping a beat.

- **High adaptability**: The ability to reconfigure their core operations for unparalleled efficiency and effectiveness. This is only possible when their core business processes for creating demand and supply are digital, and when those digital systems are in the cloud, rather than held captive at on-premises data centers that are islands of automation.

- **Purpose-driven**: Using as their guide to develop new financial products and services the "North Star" of the customer journey. What greater value can they generate for retail, wholesale and other customers? How can they use technology—and ecosystems' partner technologies—to deliver previously inconceivable products and services that delight customers?
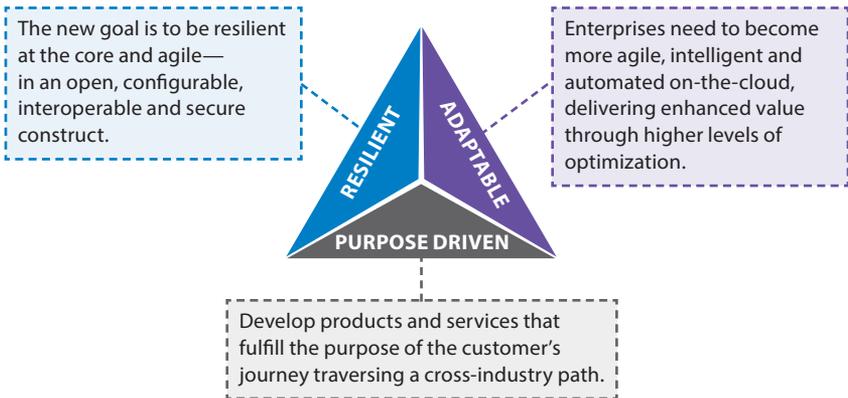
Figure 7: Lead in the New Reality | Three Prime Characteristics of a Future Ready Bank

The COVID-19 pandemic reached every corner of the world, leaving no nation and no market unscathed. It forced companies in every industry to scramble.

Digital capabilities are at the center of every financial institution's recovery plan. As HSBC's group CEO put it, "You can't possibly continue to lend money, serve customers, in today's environment if you do not operate in a remote digital fashion."[84]

Banks, financial services and insurance companies have abundant digital opportunities to grow and become more efficient and effective businesses. The winners will view their digital moves in the pandemic as a springboard for greater success this decade.

COVID-19 pandemic reached every corner of the world, leaving no nation and no market unscathed. It forced companies in every industry to scramble.

[84] Quote from Noel Quinn in his video, "Embracing digital to enhance our service," HSBC, November 6, 2020, accessed at: https://www.hsbc.com/who-we-are/hsbc-news/embracing-digital-to-enhance-our-service.
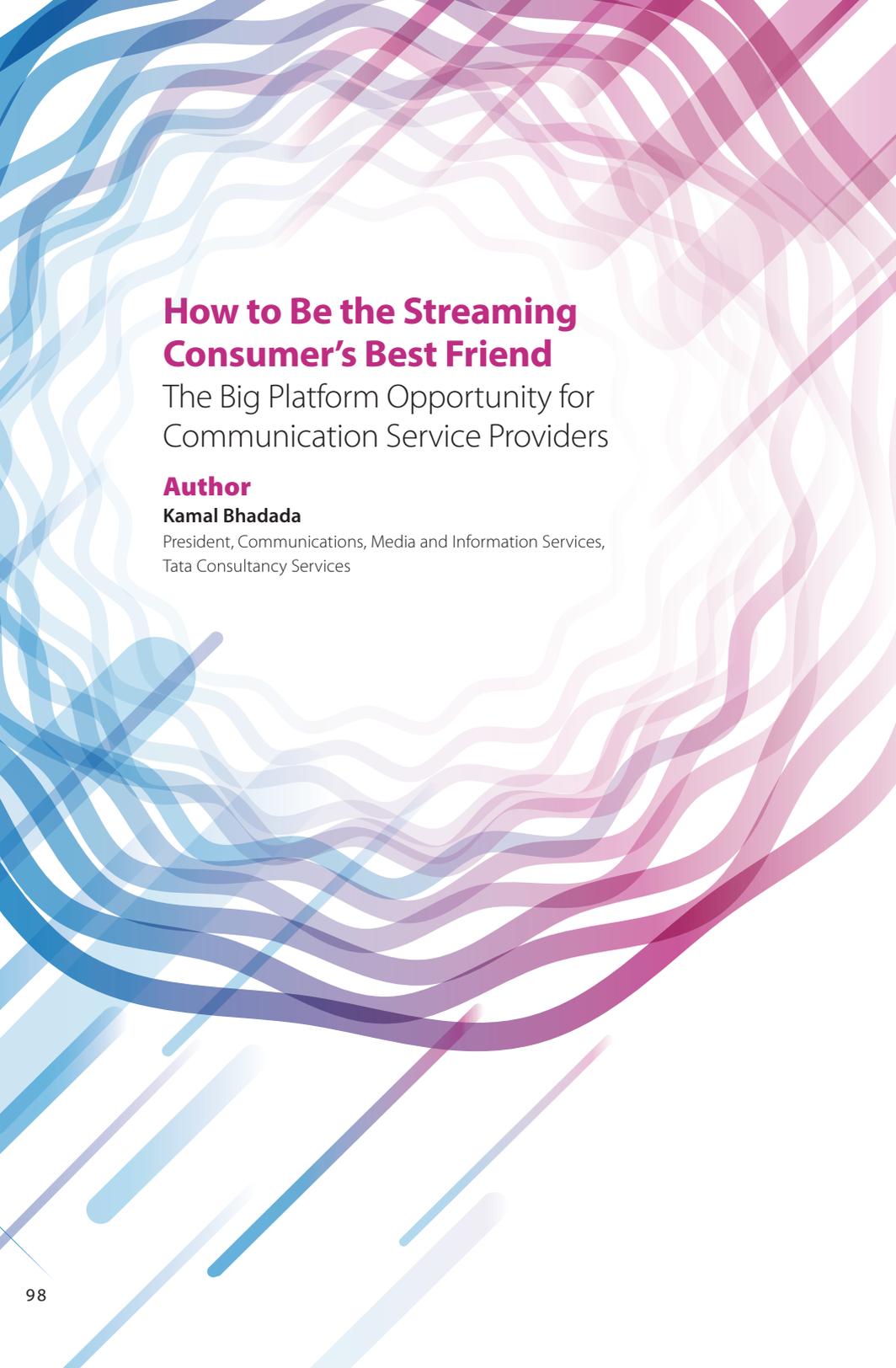
How to Be the Streaming Consumer's Best Friend

The Big Platform Opportunity for Communication Service Providers

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With people staying home to decelerate the spread of the COVID-19 pandemic, TV and film production companies have accelerated their shift to direct-to-consumer formats via streaming platforms. The take-up has been swift, definitive and revolutionary.

One year after its launch, Disney+ has more than 94 million subscribers, boosted by the online debut of the filmed version of Hamilton.[85] AT&T's HBO launched HBO Max, a new streaming service, in May 2020, and had 12.6 million subscribers by December—a built-in audience for sister company WarnerMedia, which in 2021 will stream new films on the same day as their theatrical release, a move once resisted as an existential threat by exhibitors.[86] NBCUniversal unveiled its Peacock streaming service in July 2020 and reached 26 million subscribers by the end of the year.[87] Apple launched a streaming video service in late 2019; The Discovery Channel plans to launch its own streaming service in 2021.

These are just highlights of a burgeoning streaming market that swiftly has become a global phenomenon. The largest streaming services—Netflix (which began it all in 2007), Amazon Prime Video and Hulu—were projected to end 2020 with combined U.S. subscriber numbers more than 50% higher than they were a year ago, according to a *Wall Street Journal* analysis.[88]

[85] "Disney Plus hits 94.9 million subscribers, beating its four-year goal in 14 months," The Verge, Feb. 11, 2021, accessed at: https://www.theverge.com/2021/2/11/22278874/disney-plus-94-9-million-subscribers-q1-2021-earnings.

[86] "AT&T has added 4 million HBO Max subscribers since Sept. 30, CEO John Stankey says," CNBC, December 8, 2020, accessed at: https://www.cnbc.com/2020/12/08/att-has-added-4-million-hbo-max-subscribers-since-sept-30.html.

[87] "NBCUniversal's Peacock Tops 26 Million Subscribers," The Wrap, December 8, 2020, accessed at: https://www.thewrap.com/peacock-signups-26-million-nbcuniversal/.

[88] "Forget the Streaming Wars—Pandemic-Stricken 2020 Lifted Netflix and Others," The Wall Street Journal, December 20, 2020, accessed at: https://www.wsj.com/articles/forget-the-streaming-warspandemic-stricken-2020-lifted-netflix-and-others-11609338780.

The 2019 $43 billion worldwide streaming media market is predicted to grow more than four-fold by 2027 to reach $180 billion, according to Grand View Research.[89] And Netflix alone had more than 200 million streaming customers at the beginning of 2021.[90] Another major player, Amazon Prime, the e-commerce service that gives members access to its own video streaming channel, surpassed 150 million members.[91]

But even as the pandemic creates a growing homebound audience, many traditional media and distribution providers are getting mixed business results in this new environment, as consumers are overwhelmed by proliferating viewing and subscription choices. In the U.S., the average consumer used seven streaming video services in December 2020, both paid and free, according to NPD Group.[92] That was up from an average of five in April 2020.

Helping consumers sort out those complexities is a huge opportunity for communication service providers (CSPs)—the telecommunication, cable TV and internet service companies that stream video content into homes. While Netflix, Amazon and others have used their customers' viewing data to recommend content they might like, no single entity has amassed consumer preferences across streaming services.

In the U.S., the average consumer used seven streaming video services in December 2020, both paid and free, according to NPD Group.

[89] Grand View Research public web page, accessed at https://www.grandviewresearch.com/industry-analysis/video-streaming-market

[90] Netflix 2021 Letter to Shareholders, Jan. 19, 2021, accessed at https://s22.q4cdn.com/959853165/files/doc_financials/2020/q4/FINAL-Q420-Shareholder-Letter.pdf

[91] "Amazon Prime Surpasses 150 Million Members," Variety, January 30, 2020, accessed at: https://www.hollywoodreporter.com/news/amazon-prime-surpasses-150-million-members-1275032.

[92] "The average U.S. consumer now uses 7 streaming services," Fierce Video, December 14, 2020, accessed at: https://www.fiercevideo.com/video/average-u-s-consumer-now-uses-7-streaming-services.

This information, along with social media and other data, is out there in abundance on the web. It's waiting to be tapped (permission granted) and sorted out for consumers who are getting hungrier by the day to know "What should I watch?"

In this article, I explain this opportunity and what CSPs must do to pursue it.

Too Many Options, Too Little Time for Meaningful Consumer Relationships

Given the sudden, pandemic-driven growth in streaming, consumers' rising lament that it's hard to keep track of what they should watch is understandable. And consumers, although homebound, are not captive. The plethora of choices now afforded them gives them more, not less, power even as content and CSPs struggle to grow and create durable customer relationships. They must deal with four realities:
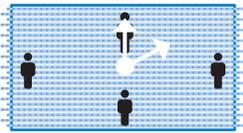
- **Consumers have scheduling power.** Traditional television networks and program providers cannot force customers to watch their programs on the company's timetables. Streaming has conditioned consumers to feel they get to decide what to watch, and when. This is a power they will not relinquish.
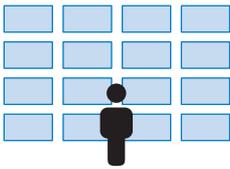
- **Consumers can't easily find what they want.** The options available to viewers continue to grow and result in a problem of too many options to fathom. In turn, that prevents many consumers from easily finding the content they want.
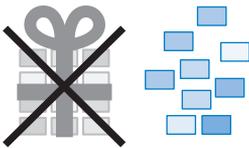
- **Channel bundling is past its prime.** The long-standing practice of CSPs to bundle TV channels as packages is not an effective marketing or sales approach at a time when consumers have gained control of their viewing

schedules. Viewers like watching what they want (not channels they don't), when (not according to the distributors' schedule), how (not just via their TVs but also on their smartphones, tablets, laptops and desktop computers) and wherever (not just when they are at home or in a hotel room).
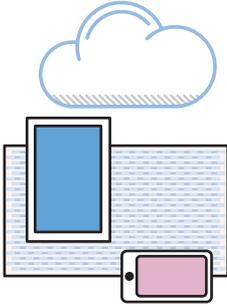
- **Technology has transformed content access and competitive rules.** For media companies, digital technologies have shifted the basis of competition. The internet and cloud computing enable streaming without cables. Artificial intelligence-powered algorithms automatically present viewers with relevant program choices; smartphones and other portable devices provide flexibility for how they watch. Media businesses that were centered on a product-and-distribution-centric model must now shift to an ecosystem-centric model. Streaming content and CSPs that can give customers on-target viewing recommendation, in the forms they want it, and at the right times will have competitive advantages.

To be sure, digital platform companies such as Google, Facebook, Amazon and Apple enter this market with a huge advantage. They have amassed huge amounts of data on their customers. And they know how to use AI to predict consumer wants, needs and behaviors. They are uniquely positioned to help content creators and advertisers reach highly defined audiences.

We only need to look at their burgeoning share of the digital advertising market to see the power of these companies. Over the past two decades, Facebook's and Google's revenues skyrocketed because their platforms let advertisers target narrow slices of consumers with unheard-of precision. 2020 was the tipping point. For the first time, the majority (51%) of U.S. advertising spending ($215 billion) was projected to be on digital ads ($110 billion). That would be more than advertisers spent on TV, radio, newspapers and magazines combined.[93] Four companies controlled two-thirds of that advertising revenue: Google (30%), Facebook (23%), Amazon (10%) and Microsoft (3%).[94] (See Figure 8.) That's approaching twice as much ($71.5 billion) as the $39.5 billion spent on TV advertising in 2020.
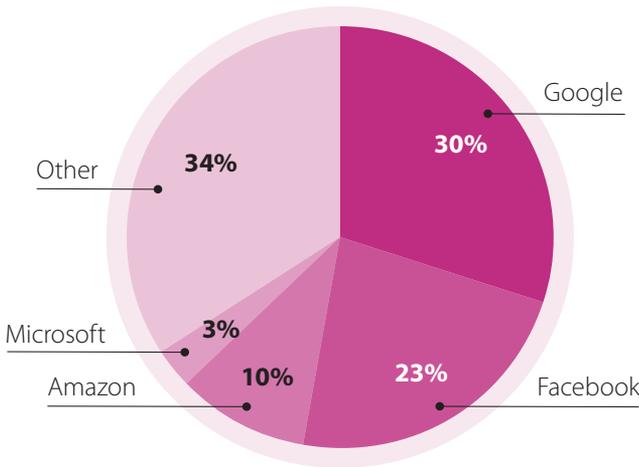
Figure 8: Companies Controlling Advertising Revenue

[93] GroupM data, as mentioned in "Google, Facebook and Amazon Gain as Coronavirus Reshapes Ad Spending," The Wall Street Journal, December 1, 2020, accessed at: https://www.wsj.com/articles/google-facebook-and-amazon-gain-as-coronavirus-reshapes-ad-spending-11606831201.

[94] eMarketer data, ibid.

Now come the streaming companies. Some of them—Netflix, YouTubeTV, Hulu and Amazon come first to mind—have been mining their customer data and making viewing recommendations for years. Still, each is largely limited to its own subscriber base, and most of those subscribers are consuming the service over a CSPs network. This is where CSPs could step in.

The Opportunity to Serve as Media Orchestrators

CSPs have an opportunity to remake themselves as platforms, which includes offering apps to help people discover programming based on their preferences and better choose what to watch.

However, to pursue these opportunities, these companies must change how they view their business. They first must acknowledge that digital technology forces them to shift from a product- and distribution-centered model to a customer-centric model that favors platforms and apps. To put it simply, it means creating a business that helps consumers answer this question: "What should we watch tonight?" It means curating the content that customers want by culling it from an array of sources to create new customer experiences that, in the midst of plenty, will be sticky.

What does this look like? It means creating apps that are highly intelligent engines, ones that assemble personalized content mixes based on an individual's behaviors and interests. You could call it a "smart TV for me" app, and it would make recommendations with at least an 80% likelihood of resonating with the customer and determining his or her choice. And it would return reliably relevant choices by extending beyond what a platform-specific recommendations engine would return, by considering multiple content sources that a consumer can access.

Creating such a business requires building a sophisticated technology platform that will provide the basis for transforming the organization from a provider and distributer to a video ecosystem orchestrator, akin to YouTube or Apple iTunes, but not walled off in a garden of proprietary apps and content.

The Road to "Smart TV for Me" and Other Services
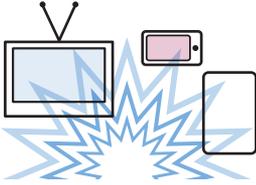
CSPs are accustomed to being the center of their customers' networks. They have long built new connections and created offerings for customers to transmit and receive voice, data and video from many parties. The opportunity now is to become even more central to consumers' lives. They can do this by shifting the action from their network hubs to consumers' homes and hands, to their screens, couches and coffee tables, where the remote (and other devices) live. This is the road to "smart TV for me" and other services.

 We see two essential elements to making this shift. The first is to become a central player in a content ecosystem. That, in turn, requires that they be able to create infinite combinations of streaming bundles across platforms. The second is to create superior customer experiences. That can only happen if CSPs become masters at collecting and analyzing enormous volumes of viewing and other data. Without those capabilities, they won't be able to improve on the recommendation engines of streaming companies like Netflix and Amazon.

The ecosystem orchestrator and platform maker. CSPs must place themselves at the center of consumers' lives by creating ecosystems in which they are central. This requires aggregating content from business partners such as content providers, and then packaging that content in ways and through digital services that serve consumers' needs. In such an ecosystem, the company would provide the platform on which business partners would present content while other partners develop applications and services to enable the consumption of that content. Apple's App Store is the preeminent example of a company at the center of an ecosystem for which it created a platform of apps and services for users of its phones, tablets and computers.

Envision this scenario: A CSP's platform enables the efficient on-boarding of new partners and services, while also giving consumers access not only to a range of offerings but also to recommendations on what they will enjoy. The CSP provides support behind the scenes with robust technology like cloud hosting and software services that create great customer experiences. And, in a virtuous circle, the CSP can monitor consumer trends and individual selections to refine its understanding of their preferences. It can add more partners to the platform, too. For example, it can provide links to financial services firms so that a customer can pay for content right on the platform, or better yet, integrate its own digital wallet for a seamless flow of transaction.

CSPs understand the need to be ready to provide these capabilities. A recent "Digital Readiness" survey that TCS conducted last summer, which included 26 communications, media and information services companies in North America, the UK and Europe, found that most were developing, or planning to develop, a range of capabilities including establishing key digital ecosystem partnerships; automating core business processes; implementing AI and data analytics to improve customer experiences and supporting an "end-to-end" digital customer experience. (See Figure 9.)

Key Digital Capabilities at 26 Communications, Media and Information Companies
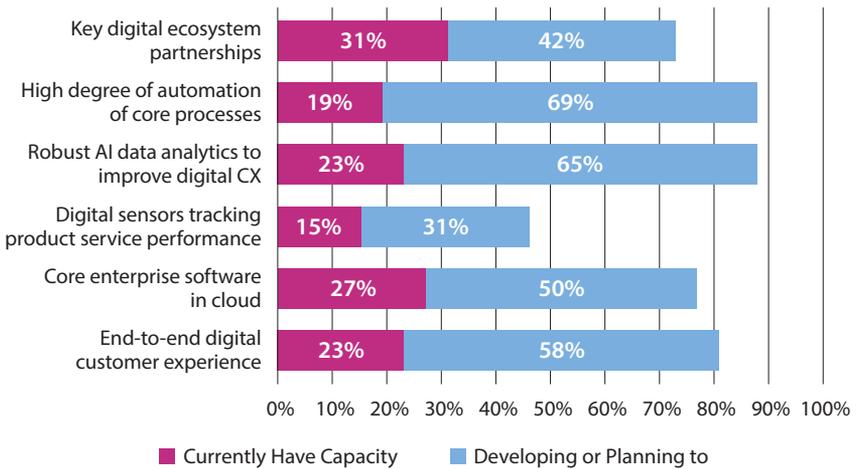
Figure 9: Moving Fast to Build Digital Capabilities

These are still, however, early days. Less than a third said they had these capabilities in place, while many said they were still in development or planning.

Implementing "smart TV for me" and other platform-based services most notably requires four capabilities:
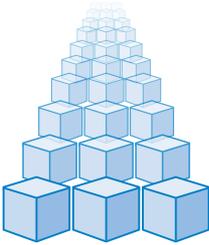
- **A seemingly infinite combination of content bundles** that pull customers back from buying individual subscriptions and to buying from the CSP's subscriptions in bulk. We could call this "dynamic bundling." CSPs can also create their own bundles—i.e., one that aggregates a certain type of news content. In either case, CSPs could create a fully personalized "content bundle"—a unique offering for each subscriber. This would be the Holy Grail of mass personalization.

- **Digital user experience design.** To help consumers navigate a sea of content, a "smart TV" app must let viewers get to the programming they want with a single click or other action. The engagement must be intuitive, simple and seamless.
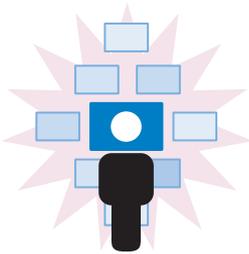
- **An always-improving selection of content driven by smart data analysis.** At the hub of a content ecosystem, CSPs must be able to identify new content based on in-depth knowledge of individual consumer interests. This requires deep skills in AI, machine learning and analytics backed by cloud computing resources that enable it to do such computationally intensive tasks as quickly identifying consumer interests and fulfilling requests on demand.
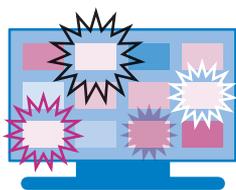
- **A platform that serves content producers.** The platform must be able to aggregate content producers that are competing for the best customers while finding new customers in unexpected places. For example, the gaming industry is using machine learning to improve in-game advertising and convert new customers to play. While gaming companies typically target young people, machine learning may uncover that a 65-year-old woman may yield an attractive ROI for advertisers.[95] Such platforms must integrate payment capabilities, so that consumers can purchase content from multiple providers quickly, easily and securely.

Culture Change Ahead
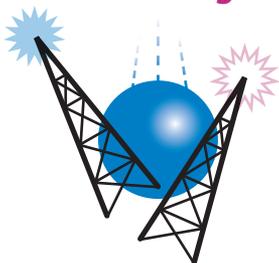
CSPs that recognize this massive opportunity most likely also understand the challenges in seizing them. A key one is gaining the leverage that they've had for many years over content providers: being the conduit to the consumer. With cord-cutting, this leverage is quickly vanishing. And when 5G fixed wireless networks come on stream, CSPs huge investments in broadband networks will be threatened. To combat this, CSPs must move quickly while they still have many customers in tow.

A second challenge may be even bigger than that first one: the product- and distribution-centric culture of CSPs. These companies have been focused (as always) on product-centric business and marketing models. They have devoted capital and strategies to creating connections, starting with telephone lines through dial-up to

[95] "Machine learning reveals crazy advertising ideas that actually work," Venture Beat, August 22, 2018, accessed at: https://venturebeat.com/2018/08/22/machine-learning-reveals-crazy-advertising-ideas-that-actually-work/.

broadband and cable. Their devotion to speeds and feeds—i.e., "Our bandwidth is X megabits per second better than our rival's and we'll throw in some bonus inducements to get you to switch"—has dominated their corporate lives.

But the era of digital ecosystems calls for a different, passionately customer-centric mindset. Instead of marketing megabits per second, it's about selling choice and support: the programs that consumers want, and the ones they'll like next time. Instead of selling network performance, it's marketing unique content and providing new ways to discover it.

This means that innovation needs to be front and center for any company wishing to become a leading ecosystem player that creates its own consumer-centric offerings. That innovation must be based on the ability to master algorithms, create consistently exceptional marketing strategies and messages and making sure consumers can access the platform easily and in the same manner whether it's on a mobile phone or a TV set-top box.

This will also take investment. But now is the optimal time for communications service providers to put consumers at the heart of what they do. The "digital natives," Google, YouTube, Spotify, et, al., have outflanked them in the last decade with their savvy use of technology and data. The new decade will be one of major digital ecosystem opportunities, but only for those that act swiftly, with intelligence and have the resources to develop a "smart TV for me" app.

Innovation needs to be front and center for any company wishing to become a leading ecosystem player that creates its own consumer-centric offerings.
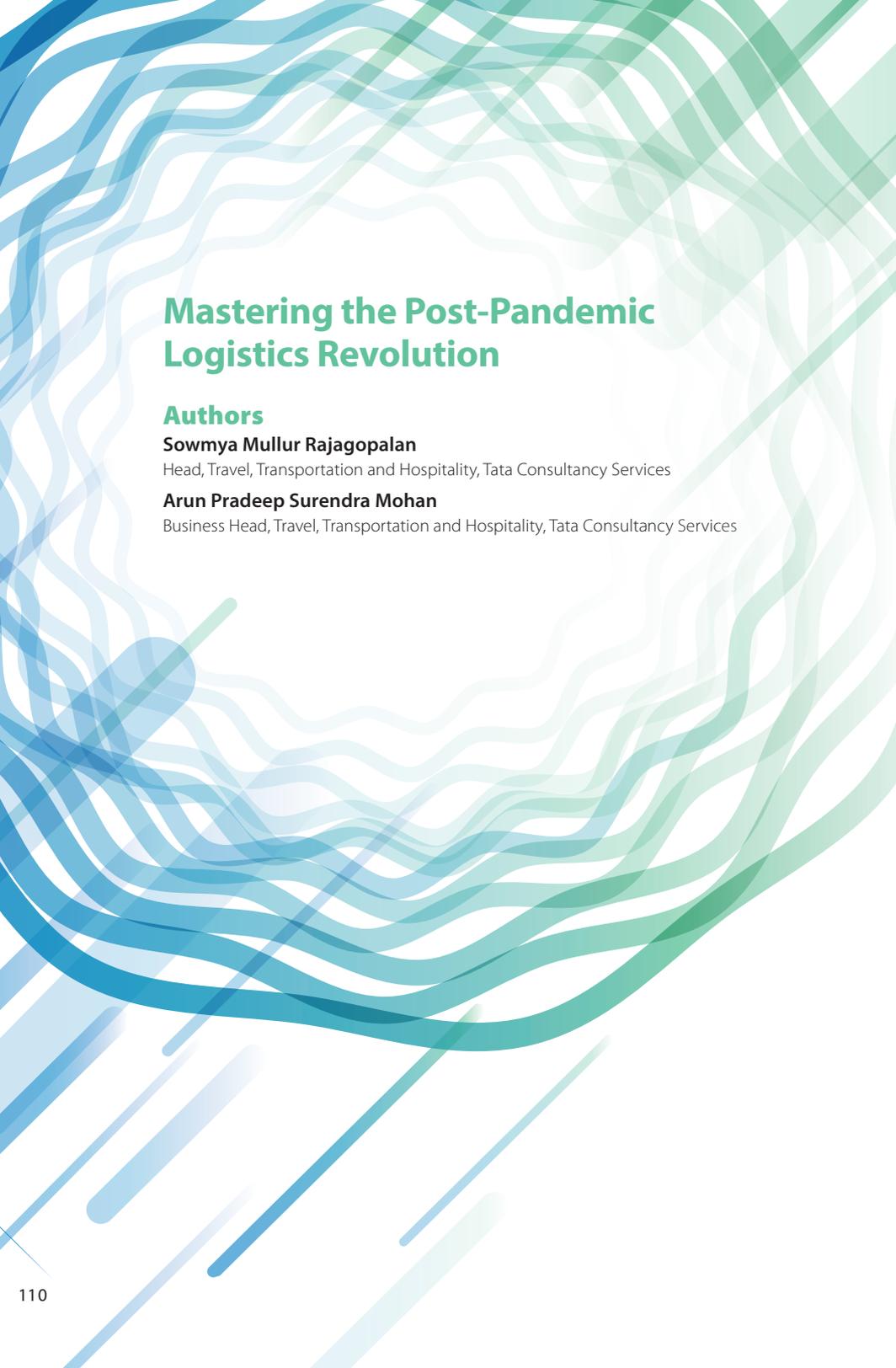
Mastering the Post-Pandemic Logistics Revolution

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The interconnected infrastructure of supply chains through which logistics companies move goods has become the foundation of the global economy. But that foundation was shaken to the core when the COVID-19 pandemic hit. While initial measures to reduce its spread halted the flow of many goods, the pandemic has also shaken up demand. Manufacturers of certain goods saw an abrupt drop in orders while others witnessed an explosive increase.

Yet all in all, the logistics sector has been remarkably resilient despite the upheaval. A shining example of the industry's capacity for rapid innovation came late in 2020 after the approval of two coronavirus vaccines in North America and Europe. United Parcel Service ramped up dry ice production at its hubs to preserve the medicines on their trips from pharmaceutical plants to health care institutions.[96]

This is no surprise to us. The global logistics sector has had to evolve rapidly amidst the e-commerce revolution of the last three decades, a span in which e-commerce's share of total retail sales in the world's biggest market—the U.S.—nearly tripled from 6.4% to 16.0%.[97] There is no doubt that online

[96] Aircargo News, Nov. 25, 2020, accessed here: https://www.aircargonews.net/airlines/freighter-operator/ups-ramps-up-dry-ice-production-ahead-of-covid-19-vaccines/

[97] DigitalCommerce360.com, March 3, 2020, based on U.S. Commerce Department data, accessed at: https://www.digitalcommerce360.com/article/e-commerce-sales-retail-sales-ten-year-review/

retail stalwarts such as Amazon, Alibaba and Wayfair have shaken up the $9.6 trillion global distribution and logistics sector.

The pandemic certainly has slowed supply chain traffic. Global merchandise trade plummeted by a historic 27% year-over-year in the second quarter and 5% in the third quarter, with forecasts for the global value of trade to drop 7% to 9% for the entire year.[98, 99] (See Figure 10.)

Weekly container ship port calls, 2019 and 2020 moving four-week average. World Total
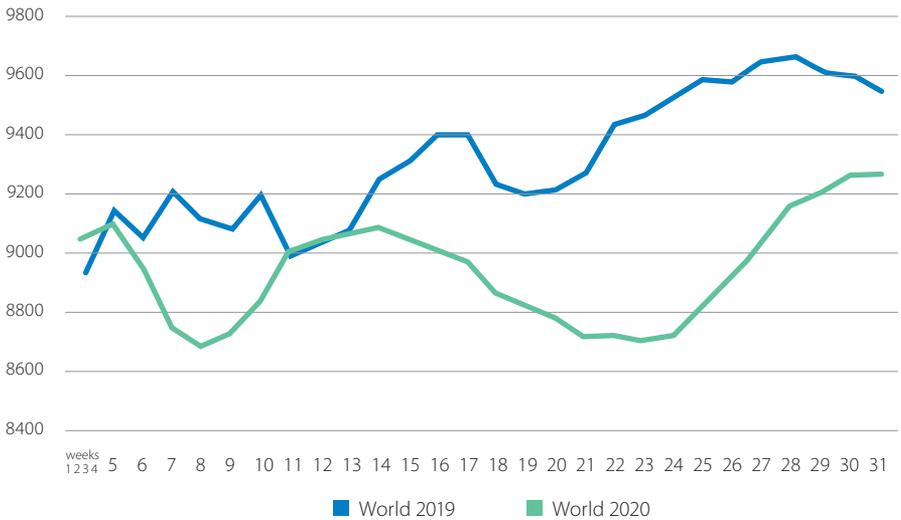
Source: United Nations Conference on Trade and Development, based on data provided by MarineTraffic. Includes all vessel arrivals of container ships of 5,000 Gross Tons and above. Data reports the moving average over four weeks, up to week 31 of 2020 ending on August 2, 2020.

Figure 10: Global Shipments Decline in 2020

[98] United Nations Conference on Trade and Development (UNCTAD), Sept. 09, 2020, accessed at: https://unctad.org/news/covid-19-shipping-data-hints-some-recovery-global-trade.

[99] UNCTAD.org, October 2020 update. Accessed at: https://unctad.org/webflyer/global-trade-update-october-2020

But the slowdown of goods is not the only story. There have also been moments of delivery surge. Before the Christmas holiday, soaring demand for shipping packages to U.S. consumers was projected to create a shortage of freight capacity and delays of one to two days for parcel deliveries.[100] In the 34-day peak period between Thanksgiving and Christmas, demand was projected to outstrip delivery capacity by 7 million parcels daily—more than twice the number of the 2019 holiday season.

In the interim, logistics companies have made a number of innovative moves to increase capacity, including:

- Bringing in new partners like auto rental companies to support last-mile delivery capacity.

- Shifting some cargo shipments from trucking lines to rail freight and helping railroads set up intermodal parks for short-haul lines.

- Increasing space at railyards near seaport terminals to handle overflows in shipping containers.

But it's important to note that these moves are urgent short-term fixes to three longer-term challenges for logistics providers: consumers' rising expectations for e-commerce service, the growing impact of distribution companies on the environment and the emergence of new and innovative logistics players. (On the latter point, one only needs to look at Amazon's logistics moves over the last decade to recognize this, including its purchase of warehouse robot maker Kiva, the launch of a $1.5 billion air freight center in Kentucky for opening in 2021 and the embrace of aerial drones for delivering packages.[101])

What should logistics providers do to deal with these fundamental forces of change? We believe the place to begin is to understand more deeply what's wreaking the havoc.

[100] Data from ShipMatrix, according to an Associated Press article, "Online shopping surge could lead to holiday delivery delays," November 11, 2020. https://apnews.com/article/shopping-coronavirus-pandemic-shipping-holiday-shopping-postal-service-866c7244f823e427511bfabb56d071da.

[101] CB Insights report on Amazon, accessed here: https://www.cbinsights.com/research/report/amazon-strategy-teardown/#trans

Three Supply Chain Disruptions

As we see it, the pandemic has accelerated systemic changes that have been going on for some time. Three trends are most important:

1.
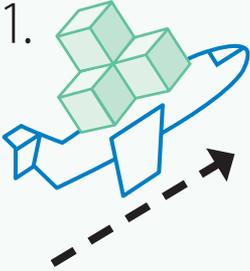
The rise of digital native players in the transport of goods—both B2B and B2C—that are upending existing relationships and business models. In America, the big disruptor is Amazon, which has built a vast fleet of planes, trucks and delivery vans. These investments not only reduce the company's shipping costs but also increase on-time deliveries to its Prime subscription customers, an estimated 126 million people in the U.S. in the fall of 2020 (and 65% of its total U.S. customers), a three-fold rise since 2014.[102] While Amazon delivered fewer packages than FedEx in 2019 (2.5 billion compared to 3 billion), the e-commerce giant is expected to surpass FedEx's volume by 2022.[103] In June 2019, FedEx announced it would no longer provide U.S. express delivery of Amazon packages.[104] Amazon has its sights on logistics providers, too. It launched a new trucking service in May that lets other retailers use the service, not just Amazon, according to one publication.[105]

2.
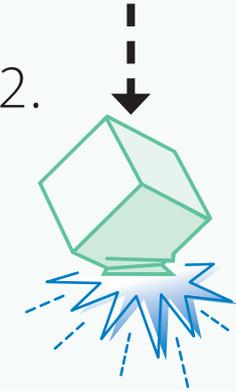
Eroding service quality as demand soars. With so many consumers ordering home deliveries, logistics providers face increasing risks of delayed packages, missed deliveries, damaged or mishandled packages. Online shoppers have come to expect the delivery as part of the purchase experience. Disappointing them can erode a retailer's relationship with them—and with the logistics companies that failed to deliver the goods according to expectations.

[102] Estimate by Consumer Intelligence Research Partners, as cited in DigitalCommerce360.com. https://www.digitalcommerce360.com/article/amazon-prime-membership/

[103] Supply Chain Dive, Dec. 13, 2019, https://www.supplychaindive.com/news/amazon-logistics-volume-surpass-ups-fedex-2022-morgan-stanley/569044/

[104] TechCrunch, Aug. 7, 2019. https://techcrunch.com/2019/08/07/fedex-ends-ground-delivery-contract-with-amazon/

[105] The Information, Nov. 10, 2020. https://www.theinformation.com/articles/inside-amazons-trucking-ambitions.

3.
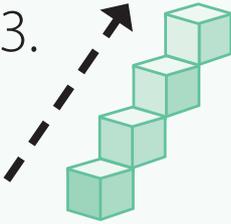
The increasing pressure to institute sustainable business practices. Logistics companies face ongoing pressure to seek efficiencies at every point in their operations, from fuel consumption, to the transport capacity management and reductions in carbon footprints, to be more sustainable organizations.

These three trends now force distribution and logistics companies to make major changes this decade:

■ **Focus on the customer experience**, *especially the end customer.*
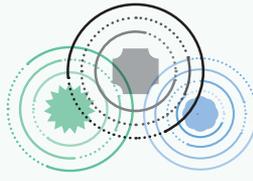
■ **Adopt new digital business models** to take advantage of profound shifts in industry and customer behavior.

■ **Integrate sustainable supply-chain management strategies** to be more environmentally *and* cost conscious. They go hand in hand.

While numerous logistics companies have made big investments in data and analytics, each of the above moves require an even greater reliance on collecting, processing, analyzing and using digital data. When they possess such data and the capabilities to exploit it, logistics providers can better sense fast-changing market dynamics and respond more quickly to customer needs.

Focus on the Customer Experience—Especially the End Customer

In a shifting landscape, the fundamental question for logistics company leaders is this: Who owns the customer experience—the logistics company, the retailer or the firm that made the goods? In the days when consumers bought the overwhelming majority of their products at stores, the answer was simple: The retailer. But that has changed given that for the online shopper, the delivery of products to their homes has become as important as the in-store retail experience.

This is an extremely important concept to recognize. In a store, shoppers are in control. They select the package and walk out with their purchase. The logistics company is not part of the customer experience.

When a product is delivered to the home, however, if a logistics company consistently mishandles consumers' purchases, damages their packages or delays their deliveries, they will eventually hear from the retailer. Sellers will ultimately be forced to choose shipping partners not on price but rather on the quality of the service delivery and positive customer experiences.

This is to say that until the last decade, logistics companies have not owned the entire customer experience. Even if their names were on an envelope or box, they were doing the bidding of the retailer, the seller. But now with players like Amazon becoming a bigger presence in shipping—and sellers evaluating shippers based on the experience they provide customers—logistics companies must make service quality a competitive differentiator. This is the case for both their B2B customers (the sellers) *and* end consumers.

So how can logistics providers improve their increasing piece of the customer experience? Mastering digital data is at the center of it. These moves have become table stakes:

- More rigorously tracking deliveries, including placing QR codes on package labels. That lets end customers scan the code on their smartphone and send immediate feedback to the shipping company. Such input can help shipping companies identify hard-to-track inefficiencies—unproductive drivers, unreliable transportation equipment and more.

- Making websites, mobile apps and other online channels to customers much easier to use. More intuitive user navigation and faster response time on queries like delivery status updates can go a long way to getting a retailer and its customers to favor your delivery service over the competition. Take UPS, the $74 billion (revenue) logistics giant that ships products globally. Its 5,200+ U.S. stores use a system that

generates package labels and tracks shipments.[106] In the future, many UPS customers may prefer creating their own labels online or through the app instead of standing in queue at the store, especially during peak season. Putting this work into the hands of consumers gives logistics companies the opportunity to develop their own relationships with end customers.

- Revealing their delivery performance to retailers and other business customers. With statistics in hand, a logistics firm that's on top of its game can show off its performance to retailers and other B2B customers: its data on shipment volume handled in a given period to show the quality of its services, low percentages of mishandled incidents and claims filed, and so on.

These actions are crucial. But they aren't enough. Rethinking the entire business model may be necessary, too.

[106] UPS web page, accessed here: https://pressroom.ups.com/pressroom/ContentDetailsViewer.page?ConceptType=FactSheets&id=1426321563187-193

Adopt New Business Models to Take Advantage of Industry and Customer Behavior Shifts
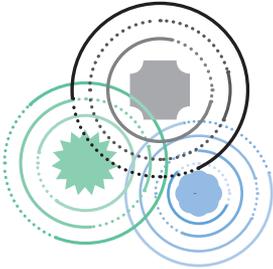
Over the last decade, many logistics companies realized they must get far more sophisticated at using digital data. Transportation companies that excel at leveraging this data have created new revenue streams and made other changes to their business models. FedEx and UPS are among those driving major transformational programs with big data.

FedEx is a case in point. An initiative that leverages the company's package tracking data, Microsoft's AI and cloud computing prowess and robotics expertise of the inventor of the Segway personal transportation device (Dean Kamen of DEKA) is illuminating. In 2019, FedEx and DEKA announced the development of a small autonomous vehicle: a robot resembling a box on four tires, to be used by retailers to deliver products to customers within a few miles of their stores.[107] FedEx would use its package scanning and tracking technology, and tap Microsoft's AI and cloud computing capabilities, to provide near-real-time tracking of products en route to their destinations. (FedEx says its current tracking provides only a few updates for every package.)

FedEx's ability to closely monitor deliveries with high value and in great need to arrive on time—think medical freight or a factory needing a critical part, as the company explains—would make its transportation network more attractive.[108] All this would help the $69 billion firm greatly expand its same-day delivery service. For a firm whose early brand message was "When it absolutely, positively has to be there overnight," the ability to use digital data to deliver the goods the day they are ordered and know exactly where they are before they get there could help it make inroads into lucrative market segments. Perhaps FedEx's new brand message will soon become: "When you need it in hours, maybe minutes."

[107] FedEx press release, Feb. 27, 2019. Accessed here: https://newsroom.fedex.com/newsroom/thefuturefedex/

[108] TechHQ, May 22, 2020, accessed here: https://techhq.com/2020/05/starting-a-logistics-revolution-fedex-collaborates-with-microsoft/

Of course, the Memphis, Tennessee based company isn't the only digital innovator among logistics companies. Logistic aggregators, backed by innovative technologies, are connecting businesses with offerings like real-time visibility of cargo, pay-as-you-go warehouses, combination of intermodals, brokerage systems and customs clearance at ports of entry.

Building out such services is not simple. For the typical logistics company, working directly with end consumers is a big, and important, business model change. Creating products tuned to the end customer and letting them choose their logistics partner would require a new branding strategy. But gains could be sizable. By creating and promoting differentiated and more valuable customer experiences, logistics companies would no longer be at the mercy of the retailers that have been driving much of their business. They would put their fate more directly into the hands of consumers.

Exactly how could logistics companies curry the favor of homeowners who do much of their shopping online? We see five initial ways:
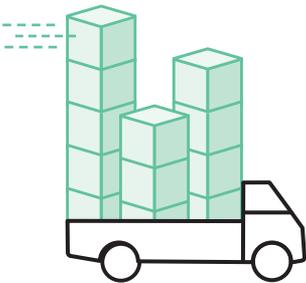
■ *Subscription-based models.* Logistics companies could offer subscription-based models akin to Amazon Prime accounts. For a fixed annual fee, customers can opt for a preferred logistics provider to do *all* of their shipping up to a certain amount. While shipping is never free and is, in fact, a cost borne by the seller, applying a subscription ID during checkout for "free shipping" scenarios could also earn customers a discount on their total payment. PostNord, the holding company for postal services in Sweden and Denmark, has implemented this model. In PostNord's implementation in Sweden, retailers' checkout screens prompt customers to select their preferred shipper (if they have one). It is but a matter of time, marketing and branding to see preferred shippers emerge in other geographies.

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- **Digital identities.** Giving a consumer a digital identity is akin to providing an automated credit card. A logistics provider could tag the digital ID (with appropriate credit card and shipping information) to a customer's desired product or service and automatically charge and ship the product. This offering makes sense in an era in which contactless, digital wallet enabled commerce is widespread, and millions of consumers are accustomed to pointing their smartphones at a point-of-sale kiosk to complete fast, secure transactions.
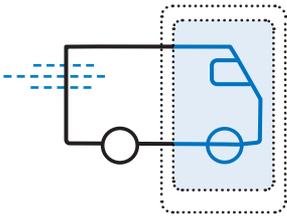
- **Partnerships with online retailers.** If Amazon has crossed from retail into the shipping business, why can't shippers venture into retail? By partnering with one of the online retail platforms, and integrating elements of their respective systems, a logistics company could serve as the default delivery partner for all the products sold on the retailer's platform. Such a partnership would give the logistics company the option to manage the entire supply chain for the seller, from factory to warehouse to the end customer's door. Importantly, it also would give the logistics company a stake in all sales made on the platform. To succeed, a logistics company would have the ability to capture customer-specific data, such as delivery preferences and order frequency. Then it could work with the retail partner to pursue an effective marketing strategy through segment targeting and engagement. Belgium's leading postal operator, bpost, demonstrated this strategy when it acquired U.S. e-commerce logistics provider Radial in 2017. The move enabled bpost to offer value-added e-commerce logistics and expand its U.S. operations.[109]

[109] bpost to Accelerate the Expansion of its E-commerce Logistics Business With the Acquisition of Radial," October 9, 2017. Accessed here: https://www.radial.com/press-room/press-releases/bpost-acquisition-radial
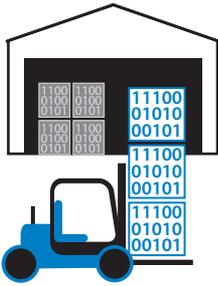
- **Renting capacity in sorting and distribution centers.** In densely populated urban areas, managing the last mile of the delivery process is difficult and costly. Small, local players—like the "man in the van" or the "woman on the bike"—offer tough competition in this area to postal and logistics companies. Instead of competing directly, logistics companies can offer capacity in their sorting centers and distribution centers for a fee. This is where data and analytics capabilities are essential. By predicting peaks and troughs in demand, and offering sorting capacity where it's most needed, logistics firms can extend their ecosystem to these smaller players—as paying customers for their available spaces, when and where they are needed most. A great example of this is Wincanton, the UK's largest logistics firm. In 2019, it launched a cloud-based service (oneVASTwarehouse) to quickly match up UK buyers and sellers of warehouse space.[110]
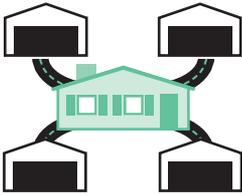
- **"Micro logistics" and fulfillment.** Micro logistics refers to smaller, more agile warehousing and distribution networks located closer to the delivery destination, especially in urban areas, an opportunity that calls for a new business model.

Logistics has been shifting, first during the U.S.-China trade war, and more recently because of the pandemic, to more locally based activities. Take the evolution of warehousing as a prime example. Instead of erecting gigantic facilities, distributors are increasingly building smaller warehouses closer to markets—spaces that can be assembled and dismantled as needed. In addition, anticipatory logistics, which prepare suppliers to have adequate products on hand to meet customer needs, is rising due to increasing customer demand for faster deliveries.

[110] Wincanton web page, accessed here: https://www.wincanton.co.uk/propositions/warehouse-solutions/onevastwarehousecom/

On the last point: These changes are in the right direction, but they are not enough by themselves. The need for fast last-mile delivery is critical—so much so that large warehouses located outside city limits are becoming redundant.

With micro logistics, companies can take control of final-mile shipments using small, garage-like spaces for warehousing and partnering with gig economy service providers. It's ideal for inventory planning for fast-moving, frequently ordered items (stocked in micro-hubs) and less well suited to more discretionary purchases (served from larger out-of-city hubs).

This is starting to occur. UPS, FedEx, uShip and Uber are picking up "gig logistics" providers to extend their reach to last-mile deliveries.

The trend also points to the future. The potential for driverless delivery is more feasible within a contained, well-defined geographical area. FedEx's delivery robot in the works illustrates this well.

Aligning Sustainable Supply Chains with Corporate Goals

Using distribution resources more efficiently and reducing waste (of fuel, vehicles, storage spaces) make for good business. By integrating sustainable choices into supply-chain management, and bringing innovative technologies into the mix, global logistics companies can align sustainability with the need to be more cost-efficient.

Data is integral to the effort. It can significantly improve the ways a transportation company identifies the drivers of waste, optimizes delivery routes and forecasts supply and demand cycles. It also helps identify partners and carriers that use best practices in mitigating the environmental effects of carbon dioxide emissions.

We see multiple opportunities for logistics companies to improve their profitability through sustainable practices. Among them:

Streamlining the transportation network. Logistics companies can reduce "empty" miles, improve efficiency and optimize fuel usage by analyzing transport networks. For example, smart utilization of truck space can help avoid shipping "air"—i.e., having too much empty space. Adopting leaner, less bulky packaging as warehouses shift closer to the delivery destinations is another way to reduce waste.
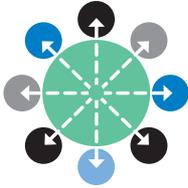
Collaborating with smaller players to create an ecosystem. Logistics companies can seek partnerships that transform them into a more sustainable enterprise. Partnering with local providers, instead of investing in expensive assets to build capacity, is a means to delivering packages on their last mile while making efficient use of existing resources.
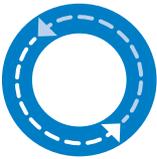
Entering the recycling business. Logistics firms have an opportunity to enter the reduce, reuse, recycle and disposal "on demand" business. This has the added element of elevating the companies' "green" quotient, to position their brand favorably in the eyes of their customers.
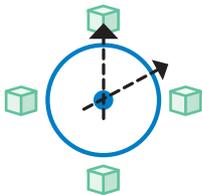
Using real-time logistics to reduce delivery problems. The ability to collect immediate customer feedback can help logistics companies correct delivery problems as they occur. Doing so would quickly reduce the rate of returned items, maintain high-quality service and increase customer satisfaction. It could also mean less wasted fuel, labor and other resources.
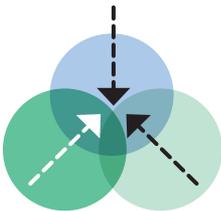
Consolidate shipments for efficient use of resources. Logistics companies can analyze their network to consolidate shipments and minimize their number of trucks on the roads. They can reduce energy usage to transport products by moving them directly to the end customer in less-than-truckload (LTL) shipments. In addition, they

can combine multiple long-haul LTL shipments onto one truck transported to an LTL center near the destination city, where the shipment can be broken apart. This reduces the use of "empty miles" on the long-haul routes, and conserves energy and other resources.
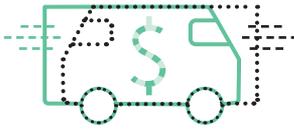
Realize revenue on "backhaul" trips. It's wasteful for trucks to return to the point of origin with nothing on board. By identifying potential "backhaul" partners that might want to lease the space to transport their goods, trucking companies can turn it into efficient revenue producers. Data can provide greater visibility into available transport capacity and match supply to demand. By using capacity that is already on the road, carriers can be more sustainable.
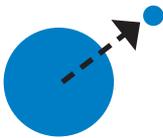
Go small. One of the easiest ways logistics companies can reduce their carbon footprint is by working within micro-warehouses. These smaller facilities, designed with efficiency in mind, offer simple layouts that can cut both labor and energy costs.

Switch to electric vehicles. Especially in the last-mile, electric vehicles represent a way to reduce carbon emissions.
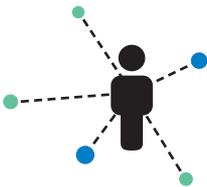
Offer consumers access point pickups. This is an emerging idea that a number of companies have already adopted by forming partnerships. It's both a sustainability and business benefit because the final stage of transit for packages is fraught with delays and reducing the number of vehicles from the last mile would mean reduced CO_2 emissions.

Several logistics carriers have introduced access points for pick up, which include micro-fulfillment centers. Examples include lockers located in convenient places, such as malls, pharmacies and grocery stores.

Logistics companies could also create incentives for consumers to participate. For example, they co-brand services with retailers like free shipping to the fulfillment center. That would encourage consumers to pick up their packages there. Other possibilities include tangible rewards like cash back or vouchers for other goods and services and communicating the environmental benefits of having consumers pick up their goods and save money.

Sustainable business practices offer not only cost savings and revenue opportunities; they strengthen customer relationships and complement efforts to develop new business models.

Along with ongoing resource efficiency efforts, it's also prudent for logistics leaders to monitor emerging technologies. For example, while 3D printing has not revolutionized supply chains yet, the technology holds great potential to shorten the supply chain process and make logistics more efficient by reducing or eliminating the need to transport materials.

Time to Embrace the Moment

The COVID-19 pandemic has delivered shocks to the systems of logistics companies the world over. But in effect, these shocks have accelerated changes already under way. And while logistics companies face clear threats from disruptors like Amazon, they also have major opportunities to use digital data to strengthen relationships with business customers and consumers, develop novel business models and become more environmentally sustainable businesses.

Taken together, these opportunities can help logistics companies truly differentiate their services in transportation landscape that is up for grabs.
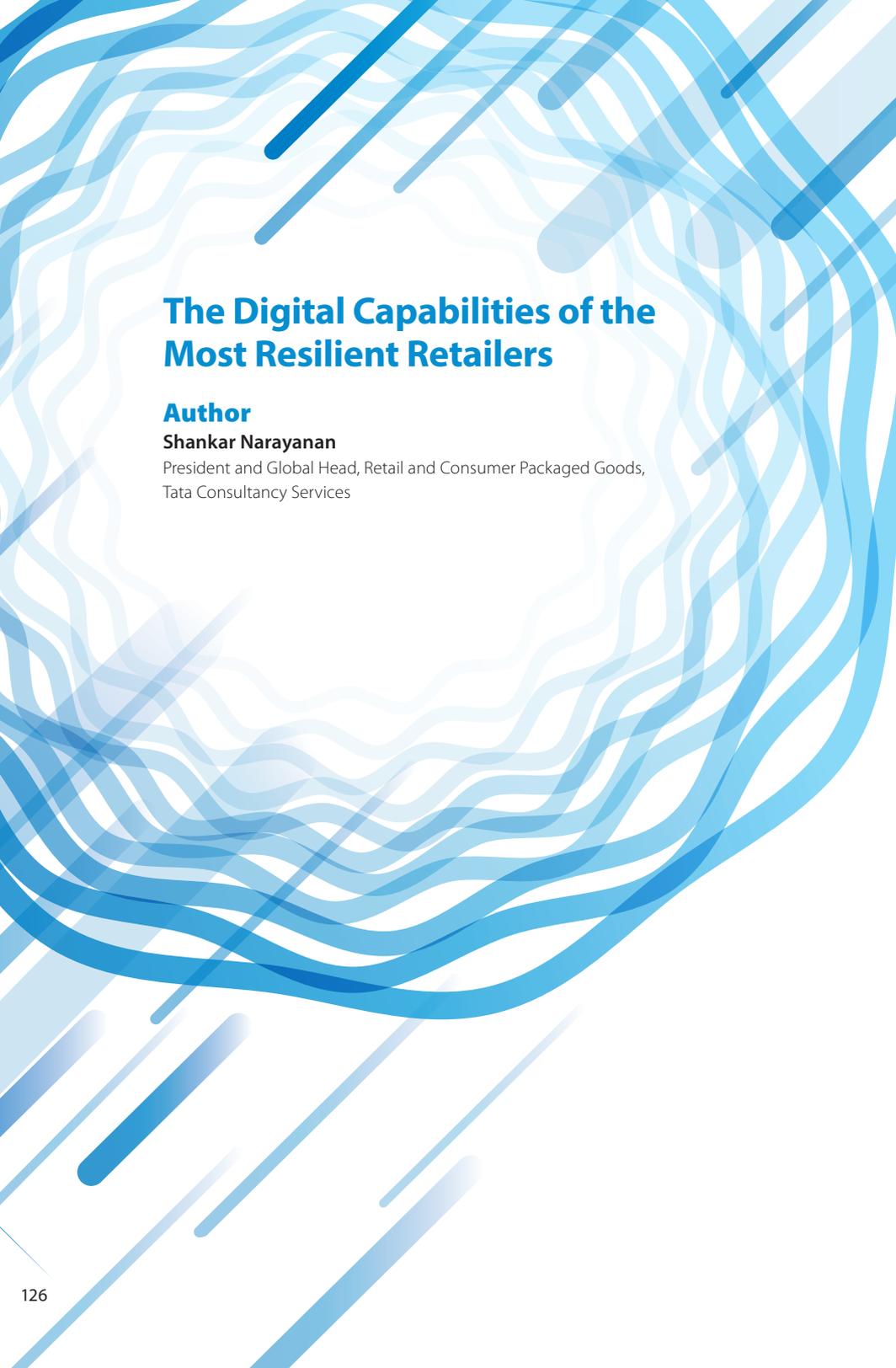
The Digital Capabilities of the Most Resilient Retailers

Author

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Sixty-six million years ago, the Chicxulub asteroid smashed into the earth, ending the age of giant, lumbering dinosaurs in the blink of a (geologic) eye while creating new opportunities and ecological niches for small, agile mammals.[111] In today's global business landscape, the COVID-19 pandemic is acting as just such an evolutionary accelerant. And one sector most notably affected has been retail.

Before and after the dust settles and an effective vaccine is universally available, a key question for retailers will be this: What capabilities will they need to survive and expand? From our work with some of the world's largest retailers and from our recent research, we believe the answer is digital capabilities that make retailers easy to do business with, create ultra-efficient operations and make them highly knowledgeable about the status of products in their supply chains.

In this article, we talk about those capabilities, how to put them in place and how to improve upon those that are already there. We draw on a recent survey we conducted, which included 23 retailers in North America, the UK and Europe, seven of which had revenue of at least $10 billion, and the rest between $1 billion and $10 billion.[112]

But first we assess the retail landscape created by the pandemic, as well as by the rapid growth of e-commerce merchants over the last three decades.

[111] Smithsonian Magazine, Sept. 9, 2019. Accessed here: https://www.smithsonianmag.com/science-nature/dinosaur-killing-asteroid-impact-chicxulub-crater-timeline-destruction-180973075/

[112] TCS, "Digital Readiness and COVID-19: Assessing the Impact," Accessed here: https://www.tcs.com/business-impact-survey-2020

The Pandemic's Big Toll on Retailers

The devastating impact of the novel coronavirus on retail cannot be overstated. Global retail sales were projected to decline nearly 6% in 2020 from 2019, a bigger hit on the sector than even during the Great Recession, according to eMarketer.[113, 114] This is an abrupt change after years of steady growth.

In the United States, 29 retailers declared bankruptcy through the third quarter of 2020 (10 more than in all of 2019), including such legendary and respected names as Lord & Taylor, Niemen Marcus, Brooks Brothers (after 202 years of operation) and J.C. Penney.[115] The recent TCS survey found that since the dawn of the epidemic, revenue has declined at 61% of retailers polled.

The COVID-19 pandemic has truly rocked the sector. Consumers purchasing habits were transformed nearly overnight. This spring, people stopped going to stores, forcing many to close—some temporarily, others permanently.

E-commerce sales soared as consumers moved their shopping online. According to Kantar research, 40% of consumers around the world have "increased or significantly increased" their online purchasing.[116] However, at the beginning of the pandemic, people

[113] eMarketer report from July 2020. https://www.emarketer.com/content/covid-19-impact-on-worldwide-retail-will-worse-than-great-recession

[114] eMarketer, https://www.emarketer.com/content/global-ecommerce-2019

[115] Retail Dive, "The running list of 2020 retail bankruptcies," https://www.retaildive.com/news/the-running-list-of-2020-retail-bankruptcies/571159/²

[116] Kantar research, cited by CNBC, July 27, 2020, "How coronavirus is changing the way we shop—and what we're buying," https://www.cnbc.com/2020/07/27/the-future-of-retail-amid-covid-19.html

40% of consumers around the world have "increased or significantly increased" their online purchasing.

rushed into stores fearing stock-outs. They bought essentials in bulk, leaving even logistically adept retailers such as America's Costco Wholesale struggling to keep up with demand for basics like bottled water, peanut butter and, famously, toilet paper.[117] Digitally adept retailers like Best Buy, Albertsons, Walmart and Kroger managed well by quickly rolling out digital capabilities such as contactless payments and curbside pickups.

While revenue from digital channels may have saved many retailers' balance sheets, it also created significant upstream and downstream challenges. Downstream, the huge warehouses that online retailers rely on quickly reached capacity in the early days of the pandemic. That delayed orders and frustrated customers, even as some inventory was essentially imprisoned in stores emptied of employees and consumers.

Upstream, factories closed to slow the spread of disease, and trucks (and drivers) were idled, leading to even longer back-order delays and hits to retailers' bottom lines.

In short, the retail sector abruptly entered a newly hostile environment of shrinking margins and fierce, almost existential, competition for customers. Only the fittest—the agile, the nimble, the technologically adept—will survive.

[117] National Retail Federation, July 28, 2020, https://nrf.com/blog/investments-bopis-pay-target

Six Key Digital Capabilities

To remain competitive, our survey found that retailers need six critical digital capabilities:

1 An end-to-end customer experience (CX)

2 AI and analytics to improve the CX continuously and guide the customer's journey

3 Cloud-based core enterprise systems

4 Highly automated core business processes supporting employees and managers

5 Real-time supply chain visibility

6 Key partnerships in digital ecosystems
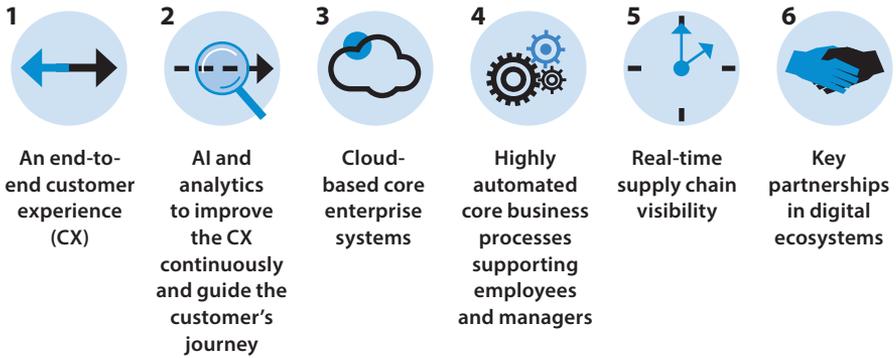
Many retailers have long understood the importance of these capabilities. Our survey found that retailers led 10 other sectors in creating an end-to-end digital CX (adopted by 39% of retailers) and in deeply automating their core business processes (44% adoption). In an era of shrinking margins, such automation can save millions annually in store and operational costs.

However, no more than 30% of the retailers we surveyed had yet to adopt the other four essential capabilities. Fortunately, most retailers are working hard to remedy that situation. (See Figure 11, "The State of Retail Technology.") The two most frequently cited areas in which retailers are building digital capabilities are in moving core enterprise systems to the cloud (engaged in by 63%) and developing robust AI-enabled analytics to improve the digital CX (being implemented by 61%). We believe both these investment choices are necessary, but that retailers must develop all six capabilities to thrive after the pandemic recedes.

Status of Technology Development, Retail Sector
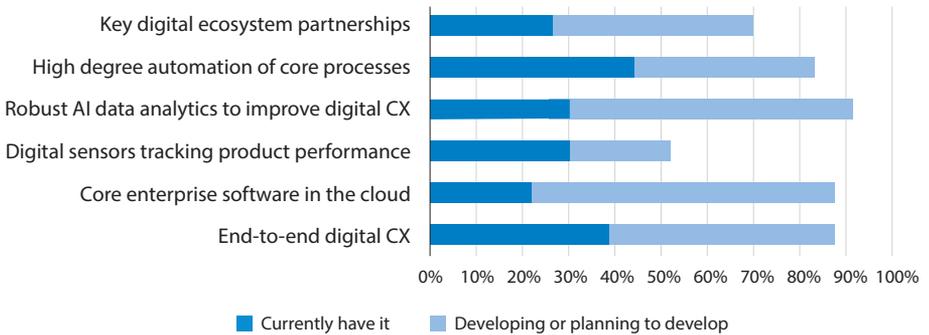
Figure 11: The State of Retail Technology

The Big Question: Where to Invest Now
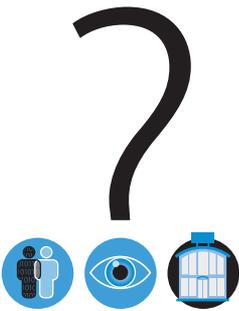
The evolving dynamics of digital retail and the increasingly omnichannel nature of consumer shopping behaviors will require/need/force retailers to be able to make complex decisions about their supply chains in real time. Retailers can only do this if they can orchestrate data and algorithms across their value chain. This means training computers to sense, understand and make decisions while processing millions of data points and signals. Only by doing this will the machines be able to recognize emerging patterns and anomalies and take insight-based actions in real-time.

To do this, retailers have to address fundamental weaknesses in their business processes and technology infrastructure. They must take a rigorous evaluation

of their business process landscape and prioritize improvements based on when they need certain business outcomes.

Three key areas that can unlock exponential value are **a unified digital customer experience**, **cognitive-driven supply chains** and **future stores**.

Creating a Unified Digital CX
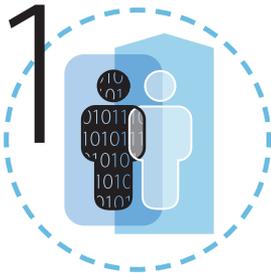
For years traditional retailers designed and optimized separate customer experiences for store patrons and e-commerce shoppers, and (for certain retailers) the catalog shopper. But today, as consumers largely begin their buying journey online, they no longer recognize or reward these distinctions. Consequently, these silos must be integrated so that a customer who searches for a product on a mobile app can see where the product is and choose whether to pick it up or have it delivered. In short, retailers must seamlessly integrate these channels and hyper-personalize the customer experience they provide.

There are three pillars to doing this:

- **Integrate silos with unified commerce.** Retailers must invest in a unified commerce platform built on a cloud-native architecture, using microservices and application programming interfaces (APIs). This creates a fluid technology stack that spans channels and devices, makes data available in different parts of their company and enables customers to tailor their interactions with a retailer based on what they (not the retailer) find most convenient. At the same time, such technology enables retailers to leverage all their capabilities—without channel constraints—to build new customer journeys, services and apps quickly.

Take the example of Kingfisher PLC, a major UK-based home-improvement retailer that operates B&Q, Castorama, Brico Depot and other stores (1,350 in all, in eight European countries). It has digitally transformed its business over the last four years, with the pandemic accelerating its development of a customer experience for mobile devices. With a unified commerce platform, Kingfisher has instituted a seamless mobile commerce and payments program. That lets customers total up their purchases while they are in a Kingfisher store and do their own checkout and payment.

These innovations have shortened customers' check-out times and reduced their physical interactions with store personnel. That's been a big selling point in the pandemic. All 297 of Kingfisher's B&Q stores in the UK and Ireland have adopted the technology, which supports more than a quarter million transactions a day. B&Q's revenue rose 10% for the first nine months of 2020, while overall Kingfisher sales grew 4.8%.[118] The data collected by B&Q's systems has also improved promotions because they are based on deeper insights into each customer's preferences.[119]

- **Drive loyalty with hyper-personalization.** With the recent uptick in online shopping likely to become permanent, retailers need to create personalized blueprints for every customer to deliver hyper-relevant experiences reliably. To do this, they must invest in algorithmic frameworks that leverage a deep understanding of online behaviors from cues captured by various data sources. That allows a retailer to deliver personalized content, offers and recommendations—all of which create a better customer experience and greater loyalty.

[118] Kingfisher investors page, Nov. 19, 2020, accessed here: https://www.kingfisher.com/content/dam/kingfisher/Corporate/Images/Other/20201119%202020_21_Q3%20trading%20update_RNS.pdf.downloadasset.pdf

[119] TCS, "The New Retail Model," https://www.tcs.com/content/dam/tcs/pdf/Industries/Retail-logistics/Insights/The-new-retail-model.pdf

- **Experiential and physical retail.** Retailers must adopt new ways to engage customers online and in-store with connected experiences. This requires upgrading the CX strategy. That, in turn, could lead to a number of improvements. One might be allowing consumers to virtually "try on" merchandise (i.e., clothes or a sofa in their living room). Another could be to offer appointment schedulers so that consumers can book a time to shop during less-hectic hours. Another might give shoppers online connections to store personnel to ask basic questions. These are but a few of the improvements that are possible today for retailers to make in their websites and stores.

The New Cognitive Supply Chain
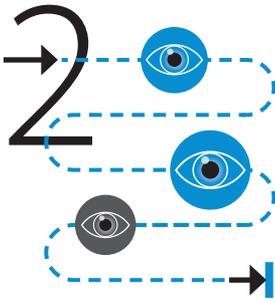
Supply chains have evolved from cost and efficiency drivers to enablers of great customer experiences, with responsiveness being a key factor.

For example, whenever customers change their preferred channel for buying a product, it should set off a chain of events at the retailer: stock must be identified at a granular, individual item level (and moved, if necessary, to the appropriate node). That may require delivery times to change. What's more, fulfillment requirements may be affected, and price points altered, as are the reverse logistics of returns. To build such an intelligent supply chain, a retailer must also be prepared to make several moves:

- **Diversify ecosystem sourcing.** This reduces the risks that come from relying on a single supplier, or on a sourcing region. Retailers can no longer restrict themselves to static partnerships. Instead, they need to create a dynamic web of long- and short-term suppliers that co-exist, sharing data and access to multiple channels across platforms. This is the digital ecosystem in action, and it needs to be orchestrated to predict and pre-empt disruptions from changes in the environment or stakeholder expectations.

- **Work more productively with suppliers.** Retailers must collaborate with their suppliers to develop and clarify crisis management strategies, helping them develop practices for manufacturing and allocating products during shortages and demand surges. This may include pricing policies that accommodate market and demand fluctuations.

- **Build fluid networks.** In 2020, retailers had to change on the fly to accommodate abrupt changes in demand and supply. Some did so successfully; others did not. But reacting is not a business strategy, at least, not a sustainable one. If nothing else, the pandemic has taught retailers the hard lesson of preparing for all the "what-ifs." Algorithmically powered network modelling can help retailers gain supply chain flexibility and switch suppliers quickly in case of delays or disruptions, thereby protecting both the top and bottom-line.

If nothing else, the pandemic has taught retailers the hard lesson of preparing for all the "what-ifs."
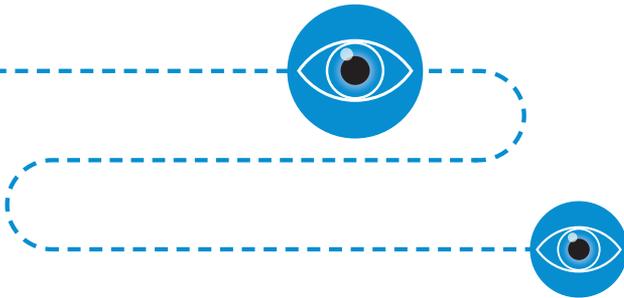
- **Invest in accelerated fulfillment.** With last-mile delivery becoming the new battleground, especially for online groceries, leading retailers are forging alliances with gig last mile delivery platforms. For example, while Kroger has teamed up with Instacart and other partners for delivery, part of their Instacart business still is delivered through the Kroger ecosystem. The customer places an order on kroger.com or the Kroger app and Instacart picks the product to help Kroger meet the promise of same day deliveries.[120]

- **Optimize the last mile.** Retailers are investing in AI-based solutions for last mile optimization as AI uniquely can harness troves of logistics data to make real-life business and operational decisions, streamlining logistics. For example, an AI-based solution can suggest a better route and pick-up plan against demand fluctuations during peak seasons. resulting in cost reduction, improved customer experience and better resource management.

- **Create a cognitive workforce.** As the workforce shrinks, robots and algorithms will play a central role in supply chain operations. By 2020, 42% of tasks will be performed by machines.[121] However, we need to have a real-time visibility and control over these machines and optimize the utilization of these systems.

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[120] The Kroger Co Q3 2020 Results - Earnings Call Transcript, Dec. 3, 2020; https://www.fool.com/earnings/call-transcripts/2020/12/03/kroger-kr-q3-2020-earnings-call-transcript/

[121] World Economic Forum, Machines Will Do More Tasks Than Humans by 2025 but Robot Revolution Will Still Create 58 Million Net New Jobs in Next Five Years, Sept.17, 2018; https://www.weforum.org/press/2018/09/machines-will-do-more-tasks-than-humans-by-2025-but-robot-revolution-will-still-create-58-million-net-new-jobs-in-next-five-years/

An Expanding Role for the Old-Fashioned Store

3
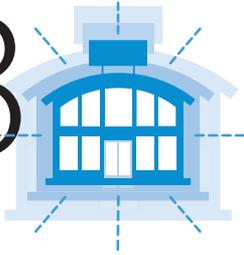
Post COVID-19 there are going to be lasting changes in the way consumers shop due to their concerns about health and safety. And this will have a profound impact on stores. However, that future needn't be dire if retailers take the following steps:

- **Double up stores as fulfillment nodes.** To compete against digital native e-commerce retailers, traditional retailers must leverage their key differentiating feature: their stores. Sometimes (and shortsightedly) viewed as a constraint and a cost-center, retailers can use their brick-and mortar stores as local inventory points. Using them in this way can avoid the necessity for large investments that would otherwise be needed to improve fulfillment capacity.

For example, Best Buy seized the opportunity to extend contactless curbside pickup across its 1,000+ stores. It invested heavily in technology to support "buy-online, pickup in store" (BOPIS) capabilities. According to Best Buy CEO Corie Barry, "With first-time launches of our app up 40% in Q3 compared to last year … it is increasingly becoming a great self-help tool in addition to a compelling shopping experience."[122] Best Buy is also testing new store formats as primary fulfillment hubs as well as remodeling a few stores to make incremental space for staging products for in-store pickup. Further, pleased with the progress of its 250 ship-from-store hub locations, it added 90 locations for the holiday period.

[122] The Motley Fool, Best Buy Q3 2021 earnings call transcript, Nov. 24, 2020. https://www.fool.com/earnings/call-transcripts/2020/11/24/best-buy-bby-q3-2021-earnings-call-transcript/

- **Reimagine store operations to reduce operational costs.** As stores become hubs for omnichannel customer journeys, retailers will feel the pressure of rising costs. But AI-powered solutions can mitigate those costs by helping enabling retailers to reimagine store operations. Among many benefits, they could use AI to reduce operational costs—for instance, by dynamically rationalizing energy consumption. Or they could use AI to improve productivity—for example, by accurately forecasting intraday sales and in-aisle customer distribution, thereby optimizing labor hours. By giving store associates intelligent tools, retailers can turn them into custodians of valuable customer experiences while freeing them up from significant manual work.

- **Pivot to intelligent merchandising.** Retailers can, and should, use AI to move away from traditional and rigid calendar-based category resets, and toward offer choices more aligned with market dynamics and shifting customer preferences. With AI, retailers can make decisions as granular as what to stock, at what price and how much shelf space to allot to each product category—including BOPIS and BOPAC (buy-online, pickup at a counter) facilities. Retailers can use AI to re-evaluate demand patterns and re-establish sales forecasts across multiple channels, review open orders and future buy plans.

- **Improve workforce productivity.** With labor costs becoming greater than inventory costs, stores will have to improve their productivity by 20-30% to remain profitable. By building a repository of data-driven forecasting models for each manual task, retailers can reduce labor and operational costs.

- **Ensure an always-on digital ecosystem for uninterrupted experiences.** Autonomous IT operations can enable retailers to monitor devices, applications and their technology infrastructure in real time and resolve issues without human intervention. It can also ensure safety and compliance through automatic patch updates.

The Retail Comeback

Delivering safe, connected retail experiences without reducing profit margins is possible. But it requires retailers to adopt an algorithmic and digital-first approach to their businesses. It also demands that retailers replace legacy processes, plug talent gaps and create a collaborative culture.

Retailers who can unify their channels to customers and design new stores that offer valuable customer experiences will rule the landscape this decade. They will be the ones that reset the cost structure, bring in operational efficiencies, gain full visibility into their value chain and become more agile and resilient businesses.

Delivering safe, connected retail experiences without reducing profit margins is possible. But it requires retailers to adopt an algorithmic and digital-first approach to their businesses.

Leadership in the Digital Era: New Mandates, Mindsets and Mind-Melds

Author

By Krishnan Ramanujam

President, Business and Technology Services, Tata Consultancy Services

We have explained in this issue of TCS *Perspectives* that every large global company faces several mandates including: rethinking strategic opportunities in terms of cross-industry digital ecosystems; using their core purpose for customers to hone that strategy; increasing the productivity *and* the loyalty of at-home workers; and welcoming new roles in the C-suite.

These mandates will challenge the longstanding attitudes and beliefs of many executives. They may appear especially implausible to those who have carved out highly successful careers and yet who now find themselves in businesses that are about to be transformed by the digital revolution. But as famous Irish playwright George Bernard Shaw once said, "Progress is impossible without change, and those who cannot change their minds cannot change anything."

This article is about why it's an opportune time for leaders to rethink many of the rules of business we've learned in our jobs and at school. In the paragraphs below, I'll explain the shifts in leaders' mindsets that I believe are necessary to embrace the mandates we've laid out in this issue of *Perspectives*. I'll then discuss why the members of a leadership team must be able to merge their mindsets together to produce a company strategy that is coherent and cogent. To describe the kind of collective thinking that I believe every executive team must have to move their company ahead capably and confidently, I will use the term "mind-meld," a phrase that many science fiction fans will be well aware of.

Preeminent business scholar Peter Drucker once wrote, "Management is doing things right; leadership is doing the right things." In this decade, doing the right things will be more difficult, and more important, than ever. Big companies will make multibillion-dollar bets on their future. They will make large acquisitions and divestitures, new business launches and major product innovations and extensive implementations of digitally streamlined marketing, sales, production, distribution and service processes. The people who run these companies will have to work exceedingly well together to direct their companies to do more of the "right things" and less of the "wrong things."

Importantly, I'll also put these views about leadership mindsets in the larger framework you've seen in this edition (see Figure 12). After identifying their company's place in its digital ecosystem and where it will generate customer value,
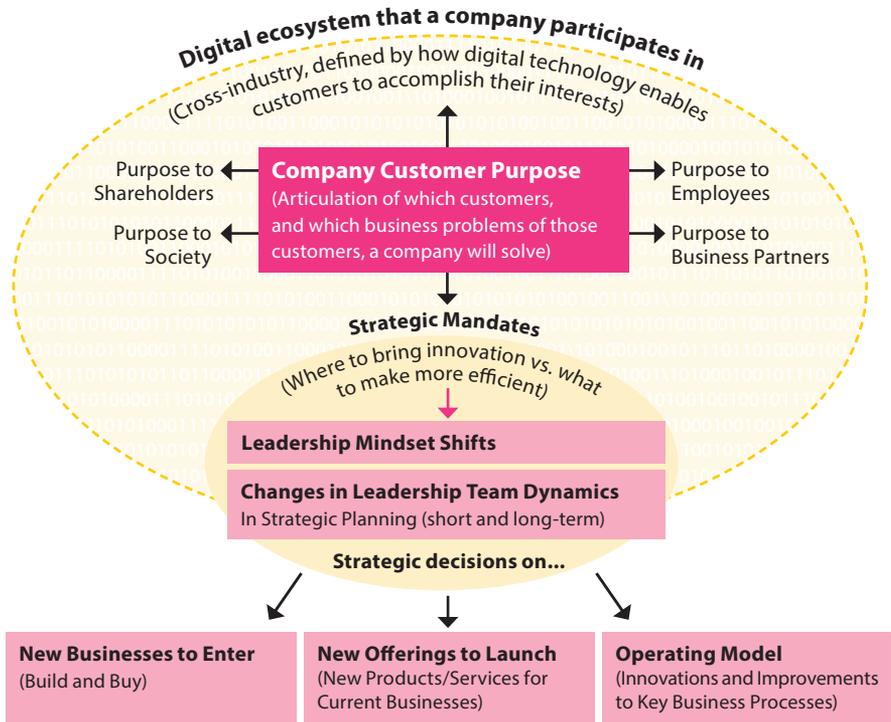

Figure 12: Framework on Company Strategic Mandates > Leader Mindsets > Leadership Team Mind-Melds

leaders must be on the same page about the exact opportunities they see and how to seize them. As Brian Cornell, the CEO who has orchestrated retail giant Target Corp.'s turnaround since 2014, puts it: "It's easy to design a strategy. Those PowerPoint presentations can look great in a boardroom. But it all comes down to execution and outcomes. Ultimately, those plans have to be owned by the team."[123]

I fully realize that "leadership mindsets" may not be at the top of your priority list. It's natural to view it as part of the "soft" and less-essential work of strategic transformation. The "hard" and fundamental work, this thinking goes, is developing the strategy itself.

Of course, a clear and sound strategy is crucial. However, the individual mind shifts and group dynamics necessary for a leadership team to create a winning strategy and fully get it are just as vital. These "soft" issues may not show up at all in the project plan for developing a company's strategy. But they need to be articulated and attended to, ideally before the strategic planning begins. (See Figure 13.)
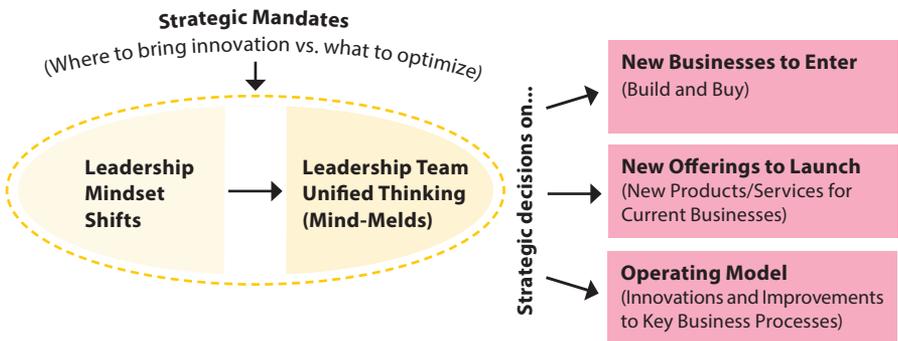

Figure 13: Framework on Mandates > Mindsets > Mind-Melds

New Mandates Require New Mindsets

One by one, let's review some of the strategic mandates we've discussed in the articles in this *Perspectives*, and the associated changes in leadership thinking that I believe are required to fully get behind those mandates. Here are three of the biggest one:
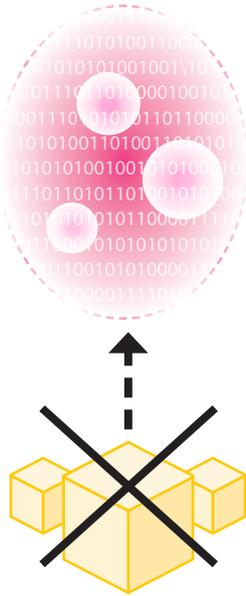

- **Using digital ecosystems rather than the age-old confines of an industry's boundaries to identify business opportunities and threats:** That, in turn, demands leaders to abandon long-held beliefs about such matters as whether to work with competitors, who the biggest competitors are and will be, how much business partners can be trusted and what customers value most. This is especially important in industries where the core products can be entirely digital. Banking is a great example. JPMorgan is the largest U.S. bank by revenue.[124] CEO Jamie Dimon believes non-bank digital payment firms represent the greatest threat to banks like his. "You have PayPal, Venmo, Alipay and more," he told an interviewer in 2018. "These companies are doing a good job of embedding basic banking services in [consumer] chats, their social [media posts], their shopping experience."[125] Perhaps the most radical mindset change required to think in ecosystem terms is using the lens of how customers accomplish their end-to-end process rather than the lens of how a company has historically solved one piece of that process. Jeff Bezos of Amazon has described this as "working backwards from customer needs."[126] For example, if Amazon had

[124] According to Fortune magazine. https://fortune.com/company/jpmorgan-chase/fortune500/

[125] Interview with Jamie Dimon in Harvard Business Review, published in the July/August 2018 issue. https://hbr.org/2018/07/managers-dont-have-all-the-answers

[126] In Bezos' 2008 letter to shareholders. Accessed here: https://www.sec.gov/Archives/edgar/data/1018724/000119312517120198/d373368dex991.htm

defined itself early as an online bookstore, it wouldn't have moved into the other e-commerce categories that have turned it into a $140 billion e-commerce machine in 2019.[127] Bezos believed consumers would want to order many other products with the click of a mouse, and he was right. Similarly, Amazon's push into cloud computing resulted by thinking more broadly about how its technology infrastructure could solve customer problems requiring immense amounts of computing power.
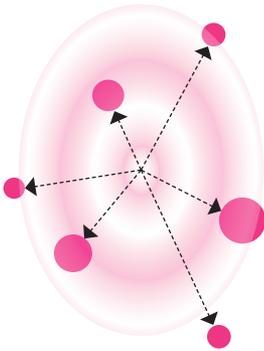
- **Managing a large remote workforce.** This is being done for health and safety reasons today—to reduce the chances of employees falling victim to COVID-19. But for many organizations, allowing employees to work from home will rub up against some leaders' beliefs that they need to see people working to be assured that they're working—the old "face time at the office" requirement. When he was alive, ex-Apple CEO Steve Jobs talked about the need for "creative collisions" to happen at company offices—for employees across businesses and functions to interact every day to dream up new ideas. (Jobs' desire to force such conversations on the fly and in meetings drove much of the design of Apple's $5 billion headquarters campus last decade.[128]). However, such a mindset today would oppose work-from-anywhere

[127] Digital Commerce360 page, Jan. 30. 2020. Article accessed here: https://www.digitalcommerce360.com/2020/01/30/amazons-2019-sales-rise-20-5/

[128] CNBC, Oct. 9, 2017. Article accessed here: https://www.cnbc.com/2017/10/09/how-much-every-inch-of-apples-new-5-billion-campus-cost-to-build.html

policies that could continue after the pandemic ends. Company leaders must continue to reimagine ways to achieve such creative collaboration even when employees are not working from company offices all the time.
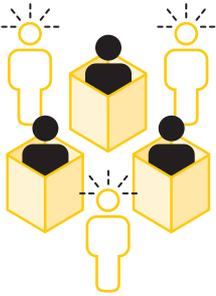
- **Reinventing C-suite roles:** Leadership team members can get territorial when they're measured largely on the performance of their business function that they oversee. If new leadership team roles are created—chief digital officer, chief data and analytics officer, chief customer experience officer and so on—those new executives could be perceived by the previous C-suite members as competing for budget and assets. A highly successful chief marketing officer could question whether a new chief customer experience officer should report to her (the CMO) or the opposite. And these arguments may not only be territorial; they may be philosophical. Is providing a compelling total experience to customers who aren't highly profitable or loyal more important than having great marketing to bring customers (new and old) continually into the fold? In other words, turf battles can be viewpoint battles.

Company leaders must continue to reimagine ways to achieve such creative collaboration even when employees are not working from company offices all the time.

Leadership Mandates	Leader Mindsets	Ways to Achieve Leadership Team Mind-Melds
Taking an ecosystem approach to strategic planning: Thinking cross-industry through customers' consumption process (not just industry production process) and leading with customer purpose.	Willingness to abandon long-held beliefs about competition, customers, suppliers, etc. Outside-in thinking: customer centricity across the process by which customers accomplish their goals. Looking at competitors as potential partners in the ecosystem.	Conduct discussions that open minds and don't shut down or discourage dissent. "What might be the truth?" vs. "Why I'm right." Urge constructive disobedience, not strict obedience. Keep the customer in mind in team meetings at all times. "We're all in this to win and keep the right customers."
Operating from a remote workplace structure: Determining the optimal workforce operating model for health, safety and productivity.	Motivating people who no longer come to an office. Abandon the "face time" requirement (i.e., "I need to see you to be assured you're working hard")—an attitude still held by many. Rethink the "creative collisions only happen in the same building/room" credo.	Realize that "getting all the leadership voices in the same room" is neither practical at all times or preferable. Apply the rules for conducting excellent leadership meetings no matter how those meetings are conducted: whether in the same room, virtually or a hybrid of the two.
Reinventing roles in the C-suite: Expanding the team with new digital skills and a sharp definition of roles.	Be open to the reality that C-suite roles are not set in stone, and that they must be tweaked or adjusted substantially and frequently to take on new external and internal demands.	Include new C-suite team members in every leadership team meeting, and actively integrate their input into discussions and decisions that used to be controlled by others previously.

Figure 14: Linking Mandates to Mindsets and Mind-Melds

Changing how a leadership team thinks about certain key mandates and how to resolve them can be crucial to creating a sound strategy. But skepticism often goes underground—i.e., executives who may not voice their profound disagreements in meetings. Nonetheless, they could affect how vigorously team members get behind a new strategy.

Mind-Meld: Getting Leaders to Create and Back a Coherent Plan
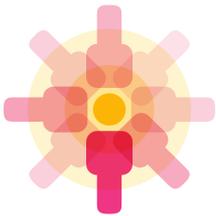
Even if everyone on the top leadership team embraces the company's strategy at a high level, that may not be enough. Each may have his or her own interpretation of the strategy and how to execute it. That's why it's crucial that the collective mindset of the top team congeal at a deeper level around where the company must go and how to do it.

There are numerous historical examples of leaders of companies and nations who realized the importance of creating a collective mindset around strategic direction. A term that comes to mind for me is "mind-meld." Fans of the science fiction TV series "Star Trek" will know exactly what this means.[129] But for those of you who weren't fans, the term referred to a technique by one of its main characters (the immortal Leonard Nimoy's Spock character) to share knowledge with others via telepathy. The Oxford dictionary defines it as "a (supposed) technique for the psychic fusion of two or more minds, permitting unrestricted communication or deep understanding." The dictionary then references "Star Trek" as the place where the term originated.

[129] Star Trek web page. https://www.startrek.com/database_article/mind-meld-vulcan

The mind-meld I'm talking about here is the fusion of the thinking of a leadership team on the company's strategy for this digital decade. Judging from political and business history, that mind-meld will only happen if disparate views are permitted to be fully voiced, respectfully examined, debated rigorously and knitted together coherently.

The leadership team dynamic to create here is one of "What is the truth?" vs. "Why I'm right." That requires constructive disobedience to be permitted in leadership meetings—in this case, disobedience being about voicing a different opinion. This, of course, is not easy—especially for everyone who reports to the CEO. But when a CEO intentionally makes it permissible for team members to dissent, it can go a long way.

Take the example of Hubert Joly, the CEO who turned Best Buy around over the last decade. Three months after he arrived on the job in 2012, he asked his direct reports to give feedback on his management style to his personal coach. After hearing the input, Joly then thanked his team and told them about the leadership weaknesses he would work on—with their active help. "This action helped to create a company culture in which it felt normal to have weaknesses, recognize them and work together to alleviate them," he said in a 2019 publication interview, the year he stepped down.[130]

Thus, Joly began his turnaround tenure at Best Buy by setting a tone in his leadership team of questioning authority—especially his. That tone proved to be instrumental. Over the next seven years under Joly's leadership, Best Buy turned its losses into profits and increased shareholder returns by 335%, triple the average for the S&P 500.[131]

When so much is on the line, these conversations must be honest and far-ranging. Political history (especially

[130] From a Q&A that Joly conducted with the alumni site for the business school HEC Paris, July 18, 2019. https://hecstories.fr/en/hubert-joly-best-buy-managing-means-creating-meaning/

[131] Best Buy web page, June 10, 2019. https://corporate.bestbuy.com/hubert-joly-leaves-a-lasting-legacy-as-best-buy-ceo/

wars) illustrates this well. U.S. President Abraham Lincoln assembled an often fractious and contentious leadership team to win the Civil War and end slavery in the 1860s. Lincoln was able to fuse together disparate and often angrily expressed views from what Doris Kearns Goodwin called his "team of rivals."

They were not ordinary rivals. Three of them ran against Lincoln in the 1860 presidential race. But they later proved to be crucial parts of his leadership team in winning the Civil War. In describing the deliberations in 1862 that led to the Emancipation Proclamation issued in the middle of the war, Goodwin wrote: "Though Lincoln had signaled before reading the proclamation that his mind was already made up, he welcomed reactions from his cabinet … whether for or against. … He had deliberately

built a team of men who represented major geographical, political, and ideological factions of the Union. … He had welcomed the wide range of opinions they provided as he turned the subject over in his mind, debating 'first the one side and then the other of every question arising' until, through hard mental work, his own position had emerged."[131]

A leadership team with acquiescent members will not do its company any favors. In an environment such as today's when so much is up in the air and up for grabs by new and old competitors, a team with vocal dissenters who nonetheless work productively and respectfully to forge a far-better-thought-through strategy will be elemental to success.

[131] Doris Kearns Goodwin, Leadership in Turbulent Times (New York: Simon & Schuster, 2018). See this September-October 2018 excerpt in Harvard Business Review: https://hbr.org/2018/09/lincoln-and-the-art-of-transformative-leadership.

The Power of a Unified Force for Digital Transformation

When a leadership team is united on where the organization must go in an-ever complex and digital world, it becomes a powerful force. Against competitors whose executives are not fully in synch or are greatly out of synch, the unified team has a far better chance of winning.

That doesn't mean they will always agree on the destination and how to get there. In fact, if they're not debating these issues on an ongoing basis, they aren't likely holding sufficiently honest conversations.

That, in business and war, can lead to disaster. As Winston Churchill once said, "When there is no enemy within, the enemies outside cannot hurt you."

As our new decade unfolds and digital technology increasingly redefines what businesses a company can be in, what it can sell and how it can generate demand and supply, leadership teams must be unified on exactly where their organizations are going and how they're going to get there. I'm convinced that these executives will drive organizations that prosper in a decade of digital ecosystems.

When a leadership team is united on where the organization must go in an-ever complex and digital world, it becomes a powerful force.
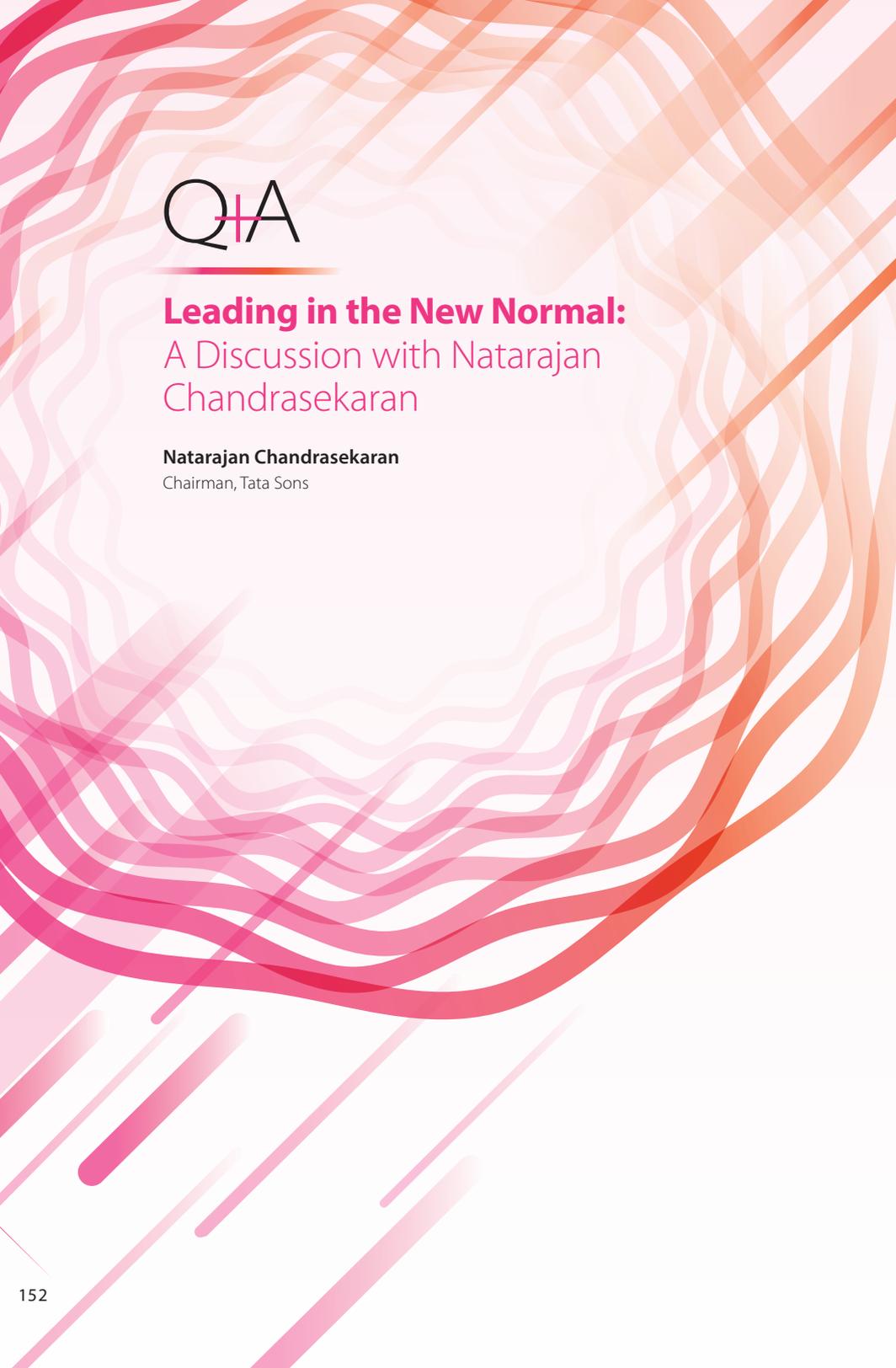
Q+A

Leading in the New Normal:
A Discussion with Natarajan Chandrasekaran

Natarajan Chandrasekaran
Chairman, Tata Sons

N. Chandrasekaran, chairman of Tata Sons since 2017 and CEO of TCS from 2009 to 2017, oversees a global corporation with revenue of more than $110 billion and businesses in steel, automotive, power, hotels and consulting and IT services, among others. He is also a board director of India's central bank (the Reserve Bank of India), chairman of the India Institute of Management Lucknow and president of the Court at the Indian Institute of Science Bengaluru.

Chandra (as he prefers to be called) has a clear and bold vision for India's future: as a nation that builds bridges between advanced technologies like artificial intelligence and people, rather than uses those technologies to eliminate jobs. "Instead of taking jobs away, AI can generate them. Instead of replacing workers, AI will assist them," Chandra and co-author Roopa Purushothaman assert in their 2019 book, *Bridgital Nation: Solving Technology's People Problem* (Penguin/ Allen Lane). (Purushothaman is Tata Group's chief economist.)

In this Q&A, Chandra expanded on the ideas in the book, and what leaders around the world can do to meet today's most pressing challenges.

On Addressing India's Challenges in the Pandemic

TCS: *Much has happened since you published your book in 2019: a global pandemic and deep global economic downturn. The problems that you mentioned in India—access to resources such as health care and food, and good jobs—have, of course,*

worsened, as they have in every other nation affected by the COVID-19 virus. With so much of the country in turmoil, how does a company like Tata respond?

Chandra: The past year has no doubt been very challenging, but I have to say that it has also brought out the best of 'One Tata', as individuals and group companies came together to solve for critical gaps exposed by the pandemic.

A healthier India has long been an aspiration of ours, and COVID-19 gave added urgency to this mission. Tata scientists and employees have worked tirelessly to blunt the impact of the disease. We devoted aid, financial support and research capacity to the fight. Under the leadership of Mr. Ratan Tata [the chairman of Tata Trusts], we have committed over $200 million to COVID-19 relief. Our employees have also, in their own capacity, contributed to various projects as well.

I am most impressed with the deep collaboration exhibited by our people, underscored by Tata's legacy of putting community first.

Our COVID-19 response has been comprehensive— ranging from procuring equipment to producing ventilators and gathering vital public health data, Bridgital health platforms, increasing hospital capacity and providing meals, shelter and sustenance. Last

month we announced the roll out of our CRISPR COVID test, a pathbreaking testing technology developed in partnership with ICMR-IGIB.

This moment is, in many ways, akin to walking on a bridge. We are not yet sure what is on the other side. But this bridge is different because we are not passively waiting to see where we end up. We have a hand in building our destination. Above all else, I am most impressed with the deep collaboration exhibited by our people, underscored by Tata's legacy of putting community first.

On the "Bridgital" Approach to Solving India's Economic Issues

TCS: *We imagine that you now believe even more strongly in the core message of your book: That India must use digital technology to transform the way the government, health care, education, business and other sectors operate, but do so in ways that create millions of new jobs—not automate and replace humans with machines.*

Chandra: For the coming decade to be India's decade, we have to solve what I call our twin challenges: on the one hand, solving the access challenge to make services like health and education available to all; and on the other hand, jobs. In other words, India has an overwhelming demand for vital services, and an overwhelming supply of human capital. It just doesn't know how to build a bridge between them.

I believe artificial intelligence (AI), the cloud, machine learning and the Internet of Things (IoT) can be that bridge. It's an opportunity unlike any other we have had in the past to solve these challenges. To do this, it is mission-critical that AI and other

digital innovations are not designed for the elite, but instead for the common person. Our vision shouldn't just include software engineers and other white-collar workers, but farmers, teachers, doctors and truck drivers.

If we focus on solving our access challenges, it will create markets that haven't existed before; Along with establishing new markets, comes the creation of local jobs. In this way, Bridgital solutions address access while leading to more and better jobs. On my conservative estimate, we can positively impact thirty million jobs in the next few years. And most importantly, these jobs would be for low and mid-skilled workers, who can substantially benefit from technology that augments their roles.

COVID-19 has made the case for Bridgital more vividly than any book could. It has laid bare the shortcomings of our health service and put millions of jobs at risk. The twin challenges are no long-term term structural problems. They are urgent crises that must be addressed now. At the same time, the pandemic has shown how far digital solutions can go in addressing access, while augmenting the work that—importantly—still needs to be carried out by people at the end of the day.

TCS: *How is this different from the ways that India tried to boost employment and provide critical services in the past?*

Chandra: Historically, we have always tried to solve access and jobs independently. For example, to boost employment, we would focus on boosting specific sectors—say, films or textiles—that were doing well, by tweaking regulations to promote job growth. To address access challenges we would undertake school and hospital building programs and try to graduate more doctors.

Now, we just do not have the time or resources to follow traditional approaches. Think about how long it takes to graduate a doctor, or how expanding the pool of teachers has resulted in systemic quality challenges.

It is only now that technology-led approaches, at scale, are possible, providing answers to problems that just a few years ago may have been intractable. Here too, the approach to technology needs careful consideration. Not technology for technology's sake, but technology in context—applied in ways that make sense to people, and that can help increase the yield of India's existing human and physical resources.

On my conservative estimate, we can positively impact thirty million jobs in the next few years. And most importantly, these jobs would be for low and mid-skilled workers, who can substantially benefit from technology that augments their roles.

On Charting Strategies in Disruptive Times

TCS: *Over the last year, you've publicly talked about the importance of company leaders everywhere to think in terms of digital ecosystems rather than in conventional industry terms. One reason is to be better aware of digital startups. Yet digital disruptors such as Uber, Lyft and Airbnb have seen their revenue plummet in the downturn. Do you still believe ecosystem thinking is important?*

Chandra: I actually believe it is more important today. The pandemic has sparked breathtaking digital acceleration, in everything from ecommerce to health to schooling. The digital economy will unquestionably be the driver of the next decade. In turn, digital disruption involves reordering value from siloed industries into cross-cutting digital ecosystems.

This means understanding what ecosystems are emerging, and how best to capture value. For instance,

companies may need to be the anchor or a key player, or seed the ecosystem if it hasn't yet emerged.

Of course, there can be questions around the scope and fundamental profitability of these ecosystems. Though many of the startups mentioned have positive unit economics, their long-term profitability is still a question mark. While they will form and re-form as they face the challenges of the market, the underlying trend is here to stay.

On Leaders' Responsibilities in Trying Times

TCS: *People everywhere, in India and the rest of the world, are looking to their political, health care and other government leaders for hope and ways out of the crisis. How important is it for business leaders to do the same with their employees?*

Chandra: To me, this is part of the fundamental job description of a business leader—we need to provide clarity where there is chaos, hope when there is excessive pessimism and solutions, especially where there seem to be none.

Good leaders can consider times like this as periods to build on valuable reservoirs of trust, rather than draw down on them. What I mean by this, is that this is precisely the time in which we have to demonstrate resilience—in our case, say through reimagining supply chains; creativity and agility—launching our new medical and diagnostics business; and care—responding to our communities' micro and macro needs.

The hardship of the pandemic has been tempered by heartening acts of collaboration and altruism. Companies, citizens and governments have come together in ways that, pre-pandemic, would have been hard to imagine. I hope this presages a new era of individuals and organizations more readily joining forces in pursuit of noble causes.

In the past, pandemics inspired progress in medicine, urban planning, architecture and countless other fields. I have no doubt that when we are done with this one, we will be looking at a world of tremendous change, and opportunity.

About Perspectives

Perspectives is Tata Consultancy Services' management journal. Since 2009, Perspectives has provided the best and most practical thinking of TCS experts—consultants who have helped many of world's most successful companies solve key business challenges. The journal also publishes interviews with leading authorities on business, management and economics, as well as case studies on companies at the leading edge.

In addition to the authors, this edition is the product of numerous TCS contributors:

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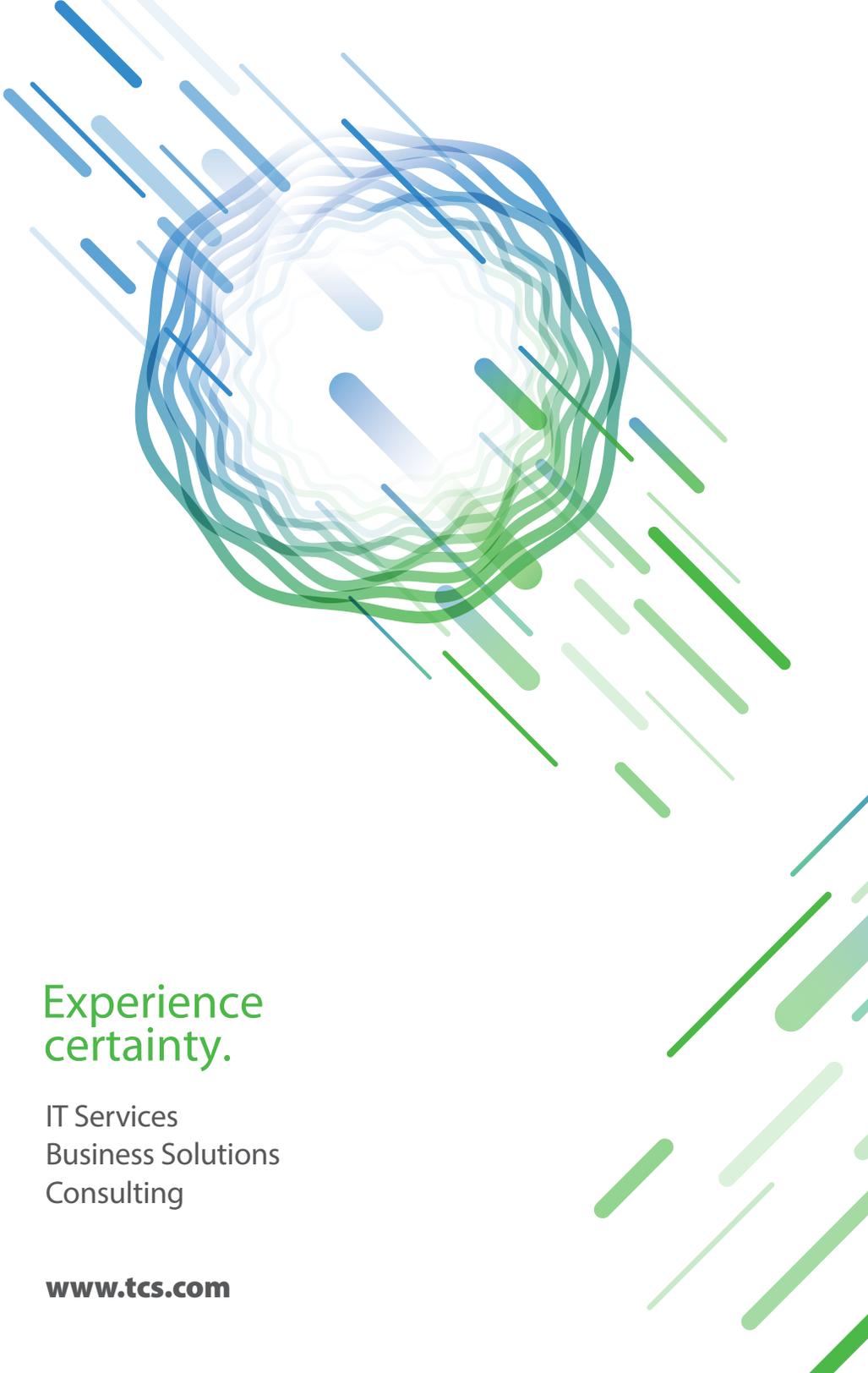
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