ESSEC
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REVIEW

**INSIGHTS INTO
THE COVID-19 CRISIS**

EDITORIAL

At the dawn of 2020, few could have guessed what the year had in store. Fast forward six months, and the COVID-19 pandemic has swept the world and wreaked havoc on populations and economies. It has added new terms to our vocabulary, with phrases like "social distancing" and "flattening the curve" becoming part of our everyday vernacular, and has changed the way we interact with each other and the world around us, with masks and hand sanitizer becoming essential accessories. Millions of people around the world are working from home, balancing job and familial responsibilities and adjusting to the new normal.
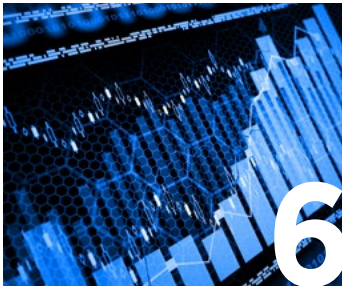
While it is a time of change, it is also a time of opportunity: the world of tomorrow will look different, and it is a chance for us to rebuild it together. A time like this requires innovative research and the insight and perspective of thought leaders across the globe. At ESSEC, our mission has always been to prepare future leaders for the challenges of the future through the power of innovation, humanism, and pedagogical and research excellence. ESSEC professors have responded to the current situation by sharing their insights and expertise on topics such as the economic impact of the crisis, healthcare management, managing work during the crisis, the impact on different sectors and on an international scale, and life after the crisis. This special issue gathers the articles published by ESSEC Knowledge over the last few months, featuring the expertise of professors in management, marketing, information systems, accounting and management control, statistics, finance, and economics. The articles chosen for this issue provide unique insight into the complexity of the COVID-19 crisis, prompting us to imagine the next chapter for humankind and question how each of us can contribute to creating a more sustainable, inclusive future.
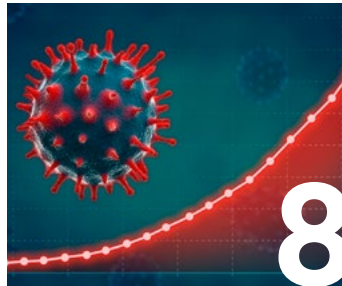
Julia Smith
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CONTENT

COVID-19 AND THE ECONOMY

Sridhar Arcot *teaches Corporate Finance and Mergers and Acquisitions in the MSc and the Advanced Masters programs. Sridhar's research interests are broadly in corporate finance with emphasis on corporate governance, capital structure, private equity and venture capital. He has published in the Journal of Financial Economics, Journal of Business Venturing etc. He was the joint winner of the GAM Gilbert de Botton Award for Finance Research in 2006 awarded by the Financial Markets Group, London School of Economics. He is also a Research Associate of the Financial Markets Group. In addition to his academic work, Sridhar has nearly ten years of professional experience in the Information Technology and Finance areas, both in the UK and India. He holds a Ph.D., in Finance, London School of Economics.*

The COVID-19 pandemic is sweeping the world, resulting in millions of cases and hundreds of thousands of deaths. In contrast, the SARS epidemic of 2003 infected 8096 people and resulted in 774 deaths[2]. To fight the pandemic, governments around the world are confining people to their homes and ordering a total shutdown of social activity, including the shuttering of schools, universities, and all kinds of leisure activities. The shutdown in turn is having a deleterious effect on economic activity. Financial markets have turned fearful, with equity markets collapsing. For example, the S&P 500, which was trading at a level of 3250 in the beginning of 2020, was closed at 2398 on March 18th, an unprecedented collapse of 26%. The question in everyone's mind is the likely impact of the pandemic on the world economy and the corporate sector.

The most recent economic crisis faced by the world was the financial crisis of 2007 and 2008. As the name suggests, the financial crisis started in the financial sector with the collapse of financial institutions. The weakness in the financial sector soon spread to the rest of the economy because of tightened credit supply, resulting in a recession. In contrast, in the current crisis, real economic activity across the world has come to a standstill, which in turn is causing financial markets to collapse. Unlike the financial crisis of 2007 where real economic activity was ongoing, and. people still had jobs and money to spend, the current situation is unprecedented and economic activity is severely diminished. With people confined and unable to spend money on goods and services, businesses have reacted by shutting down production. With no production, people are worried about their job security and unwilling to spend money, perpetuating a vicious cycle. To quote an adage from economics, one person's spending is another person's income. That relationship, between spending and income, consumption and production, is at the core of how an economy works. The pandemic and the subsequent

1. "Novel coronavirus (COVID-19) situation". World Health Organization. *https://experience.arcgis.com/experience/685d0ace521648f8a5beeeee1b9125cd*. Retrieved on March 23, 2020.
2. "Summary of probable SARS cases with onset of illness from 1 November 2002 to 31 July 2003". World Health Organization. *https://www.who.int/csr/sars/country/table2004_04_21/en/*. Retrieved on March 2020.

lockdown have directly affected some industries more than others especially entertainment, travel, hotels and restaurants. It has hit small businesses and shops particularly hard. The result will be a sharp fall in activity in the first half of this year. Many households and businesses are also likely to run out of money soon. Given low interest rates in the past few years, corporations have taken on too much debt. A recent OECD report says that at the end of December 2019 the global outstanding stock of non-financial corporate bonds reached an all-time high of $13.5tn, double the level in real terms against December 2008. Further, the report notes that compared with previous credit cycles, today's stock of corporate bonds has lower overall credit quality, longer maturities, inferior covenant protection — bondholder rights such as restrictions on future borrowing or dividend payments — and higher payback requirements. In the face of a recession, lower quality borrowers who have overextended themselves will be unable to service the debt or roll it over, exacerbating the recession.

To stave off the crisis, central banks and governments across the world have been reacting. Most central banks have announced cuts in their interest rates, the rate at which they lend to banks. Central banks have also announced other measures to inject liquidity into the system like asset repurchases. These steps make sure that the financial system remains well functioning and does not lack liquidity. However, these measures are not available for households and corporates. Governments across the world have announced various steps to help businesses. The French president, Emmanuel Macron, recently announced measures worth €300 billion to guarantee the loans of businesses and provide relief from taxes, expenses and social charges for the next three months. The final piece of the puzzle is to assist households to both compensate them for lost income and provide an incentive to spend money. Such measures have not yet been finalized but are likely to take the form of "helicopter money", which literally involves sending a cheque to each household. President Trump in the US has sent out a $1200 stimulus cheque to qualifying Americans, at a total cost of hundreds of billions of dollars. Given the unprecedented situation facing the world, there is still a question mark over the efficacy of these measures.

When discussing how the pandemic will impact the economy, we all tend to ignore an important long-term effect. The pandemic has forced governments to shut schools and universities thus curtailing the education of children and thus the development of human capital. Given the importance of human capital for modern economies, this can be a serious loss for future generations. At the end of the day, the first priority of governments faced with a crisis of this scale should be to ensure that its citizens are healthy and to help normal life, especially for children, resume quickly. We must all take steps to support the measures proposed by health officials to ensure that it is achieved as soon as possible. Be safe. ■

Originally published on March 23rd, 2020.

STATISTICS IN THE TIME OF COVID-19

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The spread of COVID-19 has put the entire world under an unprecedented pressure. In this context, any tool that can give us reliable predictions on the development of the pandemic is invaluable. Data on the spread of COVID-19 from different countries is analyzed to try to predict what we can expect from the epidemic.

In the very beginning of the COVID-19 epidemic, scientists began to talk about the exponential growth of the number of cases. This growth indicates that the number of infected people always doubles after the same time frame, very quickly leading to alarming numbers. In some countries, including France, people are enduring quarantines with strict restrictions. The goal of these restrictions is to slow down the rate of exponential growth. Without such restrictions, will growth continue to be exponential? Evidently, no, as if a large part of the population already has or has had the virus, growth will slow, first becoming linear and then stopping completely.

The rate of exponential growth depends on the basic reproduction number, R0, which refers to the number of people infected by a person with the infection. This number is estimated to be around 2.5 for COVID-19. If the reproduction number is larger than 1, the number of cases grows exponentially. So to stop it or slow it down, we need to reduce this number, getting it down to a number equal to or smaller than 1. In reality, if we assume that those who have already been infected are now immune, the reproduction number depends on the proportion r of people who have already been infected, meaning it is equal to R0 (1-r). The more people who are immunized, the lower the reproduction rate. The epidemic will stop propagating once R0 (1-r) is less than 1. If we assume that the current basic reproduction number is 2.5, this requires 60% of the population to be immunized, which seems far too high a figure given current estimates of the case fatality rate of COVID-19. It is clear from this model that lifting the confinement will be tricky. If there is not sufficient herd immunity, i.e. the proportion of r is not high enough, and there are still a non-negligible number of patients, the exponential growth is likely to resume.
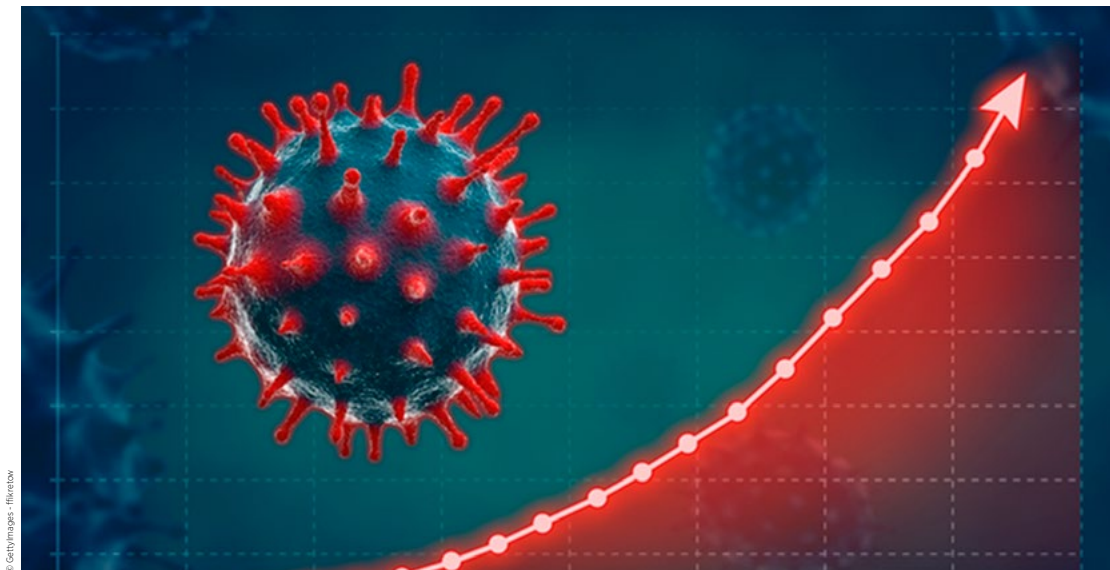
Generally speaking, models used to predict the evolution of epidemics have been known for a while now. They are based on differential equations that describe the evolution of the number of people who are healthy, susceptible, infectious, and recovered. Once the basic parameters have been estimated, these models can make predictions about the size and possible length of the epidemic. It should be noted that these models are a simplification of reality as they do not take into account many factors that can influence the propagation of a virus, for example how people interact with one another. The predictions that these models provide are only useful if we have good estimates of the basic parameters. Is this the case for COVID-19? Unfortunately, the estimates of certain key parameters are still rather fuzzy.

Take, for instance, the example of the case fatality rate and the proportion of people who are contaminated (the prevalence). These two parameters are essential to predict the evolution of an epidemic and the likely number of victims. Obtaining reliable estimates of these two parameters is complicated by the fact that we have incomplete data for the number of deceased and the number of cases. In reality, we don't know how many people have been infected by COVID-19 and how many people have passed away from it. The publicly released numbers represent the number of people who have passed away after receiving a positive diagnosis of COVID-19 or after a post-mortem diagnosis. This means that the true number of COVID-19 deaths is unclear, since perhaps the individual did not undergo a test or showed a false negative.

What's more, understanding the dynamics of the number of infected people is essential to determining the basic reproduction number and the case fatality rate. One crucial data point that we are lacking is the number of asymptomatic cases or cases with mild symptoms, which are not included in the official statistics. The low testing rate in France makes the true number of cases quite unclear. The problem is that even for making projections of a few weeks out, a difference of a few points can produce vastly different results. To create effective strategies to lift the confinement, we need reliable data. This means that obtaining data that reflects the reality of the pandemic is of the utmost importance.

One solution would be to execute random daily tests of the population to get a more realistic idea of the number of cases and the evolution of COVID-19's spread. However, this would be challenging to put in place under the current confinement conditions and with the limited tests available. We must come up with innovative solutions to collect epidemiological data that can address the challenges of the COVID-19 pandemic that will undoubtedly spawn new developments in the methodology of epidemiological studies. ∎

Originally published on April 8th, 2020.

CYCLICALITY, CORONAVIRUS AND CONSUMERS OF THE LUXURY INDUSTRY

Ashok Som *is a professor of management at ESSEC Business School. Professor Som is one of the pioneering thought leaders in designing organizations and an expert in global strategy. He is the author of the following books "The Road to Luxury: The Evolution, Markets and Strategies of Luxury Brand Management" (Wiley, 2015, translated in Mandarin in 2016), "International Management: Managing the Global Corporation" (McGraw Hill, 2009) and "Organization Re-design and Innovative HRM" (Oxford University Press, 2008). He has authored more than 60 case studies for which he has been recognized by the EMFD Case Writing Competition and the Case Centre. His current research is on creative industries focusing on luxury, movie and art industry. He is a regular speaker in international conferences and consults with European and Indian multi-nationals. He holds a PhD in Business Administration from the Indian Institute of Management in Ahmedabad.*

A moot point in the field of luxury business is whether or not it follows a business cycle. Those who are for the motion will argue that the luxury industry is today a global business. Though luxury goods and services are made and distributed primarily from France and Italy, the consumers are global. Thus any natural calamity or disaster would have direct implications on the business. Those who are against the motion will argue that luxury business is not like any other business. It is dependent on the enhanced disposal income. In the world of today, wealthy consumers with growing disposable income know how to protect their wealth, leading economists studying rising income inequality to posit that the rich get richer while the poor get poorer in most nations today. These high net worth individuals would hence suggest that they will continue to consume and thus luxury businesses will constantly deliver results, regardless of the cycle[1].

Following the above argument, the most important driver for luxury brands to succeed is, thus, dependent on the disposal income of its clientele, which translates to consumer buying power. The disposable income of high-net-worth individuals has increased substantially during the preceding 10 years. As mid to high income society has become relatively more affluent, consumers with disposable income have been "created" through strategic decisions of brand building which created the desire, and hence the demand, for products beyond the individual's basic needs.

These strategic decisions were planned and are at the very core of luxury brands. The decisions were executed and seamless execution was the hallmark of strategy implementation. But what if, when all is going well, certain events are not under our control? For example, in 2001 the world watched as the terrorist attacks in New York and Washington took place, followed by the war in Afghanistan in 2001 and the invasion of Iraq in 2003. The early 2000s also saw a recession in many countries of the world,

1. Luxury goods succomb to the cycle. Financial Times. February 2nd, 2009. *https://www.ft.com/content/7702cf42-f153-11dd-8790-0000779fd2ac*

aggravated by the outbreak of SARS in Asia in 2003. In 2004, the tsunami in Asia killed hundreds of thousands. In 2007, the subprime mortgage crisis that began in the United States housing market spread all over the world and caused, among many other things, the collapse of Lehman Brothers and the European debt crisis of 2011, which continued to have effects such as the Cyprus bailout and political turmoil in Russia and Italy. During 2009–2013, this industry felt the impact of the crises[2].

The lessons from the crisis had deeply affected the luxury world, but in a way that was somewhat predictable. For many years, the luxury brands were undergoing constant growth and no one thought they could be affected due to the belief in non-cyclicality, product, geographic & sectoral diversification, category segregation and demand frustration. The general opinion was rebound is imminent and that the losses would soon be overshadowed by the perennial story of growth and profitability.

In 2020, the situation has repeated itself with the outbreak of coronavirus. The rapid spread of the respiratory illness COVID-19, or, novel coronavirus, resulting in deaths, travel bans, store closures and face mask shortages, has awakened the industry once more. The outbreak, which originated in the Chinese city of Wuhan and proceeded to spread across the globe, has infected millions of people and killed hundreds of thousands (as of June 15th, 2020). The crisis is very real as far as the luxury world is concerned. The response of the luxury sector revealed to the analysts, researchers, investors, and other stakeholders that luxury was also sensitive to the economic situation of the global world, just like every other sector.

In fact, it is almost naïve to pretend that luxury was invincible. This is in fact the consequence of the evolution of the luxury world. Not only big and financially strong conglomerates with millions of customers faced the crisis— it is also faced by small family-owned

players of the luxury business. They are all affected by this crisis and the stock market. For example, on February 25th, 2020, the S&P 500 just wiped out about $1.737 trillion of its value during its two-day market sell-off, according to S&P Dow Jones Indices[4]. None of us were prepared. Even all strategic planning experts could not have predicted these events and the extent of its effect on business. Historically, the luxury industry has been resilient. The strength of the brands and the rising disposable income in emerging and frontier markets make it resilient. As the consumers' sentiment rebounded, the luxury industry became the industry to look forward to, especially in the CAC40, which saw a 20% rise in the last five years primarily due to the luxury stocks of LVMH, L'Oreal, Kering and Hermès. The crisis comes as the luxury sector was trading near all-time highs of about 26 times forward price-to-earnings, after years of strong growth driven in large part by Chinese consumers. The effect over one month

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2. For a detailed analysis of strategic response to crisis, please refer to Chapter 1: *Definition and Crisis of Luxury in The Road To Luxury: The Evolution, Markets and Strategies of Luxury Brand Management* (Som & Blanckaert, 2015)
3. COVID-19 Dashboard. World Health Organization. *https://covid19.who.int/*
4. *https://www.cnbc.com/2020/02/25/coronavirus-wipes-out-1point7-trillion-in-us-stock-market-value-in-two-days.html*

or one quarter is a localized event, but the effect over a year can be an entirely another story. To start with, travel retail has been heavily affected. The supply chain has been severely affected. Business at stores has been affected. Stores need to be closed. Consumers have to stay indoors.

The strategic response to the crisis will not be easy. It shows that the evolution of the luxury sector is ongoing. Responses to the 2009 crisis were varied. A change in consumer behaviour was observed during the recession, during which consumers spent more time comparing prices of various fashion brands on the internet. Thus, the conversion of a potential customer into an actual customer required more time and resources. Before, a consumer bought 10 products, but then they bought just one, and only after careful deliberation. The broad strategies adopted by players during the crisis involved two fundamental orientations: internal and external. Internal strategies, as the name suggests, were internal to the company and were those that were not visible to the consumers. External strategies were those that were undertaken to gain the consumer's attention and buy-in. The internal strategies included cost-cutting, relocating the supply chain, relocating inventory, greater focus on the product quality, financial restructuring, and downsizing. Managers explained that the natural tendencies of companies during a crisis such as this one are to cut costs, drop prices, and stop expanding, as these strategies have the most immediate impact on numbers.

The external strategies included expansion in terms of both product offering and geography, repositioning, up-scaling of the brand to tap the richer among the super-rich, or downscaling to recruit a larger customer group. In response to the crisis, as a knee-jerk reaction, some luxury brands tried hiring freezes, reducing the number

and the size of the collections, rationalizing media spending, and reducing headcounts. It was felt that dropping prices and cutting costs were the last resorts. The press referred to it as cost containment.

What can luxury brands do in this scenario? What would be their strategic response to this crisis?

- Renew and re-engage in relationships.
- Use data-mining to establish personal connections with all stakeholders including family members, customers, employees, and suppliers.
- Identify and keep the interest of the loyal consumers.
- Harness and engage with the power of e-commerce by moving products and preferences.
- Customized attention to all loyal clients with rewards for loyalty.
- Encourage participation and interaction on social media over handheld devices and mobile apps.
- Wait, watch and keep in touch.

A salesperson at Place Vendome reiterated:

"This year, the fashion shows will be different. China is absent. Many empty seats. At the last show, we had a pink croc jacket. We never thought it would sell. It was for the show. At the end of the show from nowhere a Chinese client came up to the buying area and ordered the coat for 130,000 Euros. We are going to miss them this time around".

Only time will tell what the unfolding events of cyclicality will lead to, how the industry will face COVID-19, and how consumer tastes and preferences will change. ■

Originally published on March 12th, 2020.

CORONAVIRUS IN BRAZIL: A HEALTH OR ECONOMIC CRISIS?

Christina Terra *is a professor of economics at ESSEC Business School. She has a PhD in economics from Princeton University and has taught in France, Brazil and the United States. Previously, she was the Director of the École Doctorale EM2P at Université de Cergy-Pontoise and Director of Graduate and Undergraduate programs at Fundacao Getulio Vargas, Brazil. Her main research interests are International Economics and Development Economics. She has had several articles published in international economic journals and is the author of the textbook Principles of International Finance and Open Economy Macroeconomics. She is a member of the editorial board of the Journal of Applied Economics and associate researcher at THEMA and at CEPII.*

As a society, our lives are intertwined by intricate economic and social relations. This pandemic is breaking links in that chain. What will come of it depends on how we, as a society, deal with the situation. The case of Brazil exemplifies the greater challenges developing countries face in dealing with this pandemic. The Brazilian government has fewer financial and logistical capacities to provide help, adopt policies, and assure a minimum production and distribution structure of supplies to fulfill basic needs during lockdowns.

Brazil, like many developing countries, is at a crossroads. With no quarantine, there will be a humanitarian tragedy. The health system cannot cope even with current health care needs, let alone the avalanche of critically ill patients brought by COVID-19. Letting the virus run wild means facing a high mortality rate in the population in the coming months. The horror will last for a relatively short time, as both the contagion and the eventual death from the disease happen in a few days. From there, we bury the dead and life goes on. Or what's left of it. It is doubtful that the economy would remain immune to the chaos and the social unrest that might arise from the public calamity. This is the option that the president Bolsonaro seems to prefer. In a recent speech to the nation, he states he is against the quarantine strategy for it will ruin the economy, and he asks governors and mayors who are locally adopting confinement strategies to rethink their decisions. Going against the president's position, the Minister of Health is recommending quarantine. States with more cases of COVID-19 have locked down non-essential services, while others have forbidden only larger gatherings. Schools are closed in most of the country. While many people have entered a self-imposed quarantine, others are against it, voicing their dissatisfaction in motorcades. Interestingly, the organized crime groups have imposed curfews after 8pm in the favelas of Rio. Opinions are divided, both within the government and among the population. The reluctance to adopt a lockdown in the country is understandable. The option of a quarantine for everyone lessens the immediate health tragedy, but creates another one, both now and later: the victims of the economic crisis. Brazil has a much more fragile economic situation than those of European countries, which are massively adopting

lockdowns. Its income distribution is very unequal. Hence, although it is a middle-income country, as much as one fifth of its population lives with less than 5.5 dollars a day, while the richest 1% of the population keeps near 28% of the national income. Moreover, more than 40% of the Brazilian workers are in the informal sector, that is, they are either employees with no work contract or self-employed, not paying social security charges. This means that a large part of the population will need massive economic assistance during the pandemic crisis. The Brazilian government, in turn, is in a fragile fiscal condition due to the overspending in the past. Despite the recent rebalancing effort, the situation is still delicate: in 2019 the government ran a fiscal deficit of almost 6% of the GDP. A lockdown will avoid overloading the health system and will prevent many deaths from illness in the immediate future. But what about those who cannot afford to feed themselves during the lockdown? And those who will lose their jobs? The companies that go bankrupt? The production structure that collapses? What will be left of the Brazilian economy after confinement? A humanitarian tragedy, again, seems to be the most likely scenario. It is a catch-22 situation. Unless… There is no way out, unless

there is an avalanche of solidarity. The solution I see is: lockdown + solidarity. The government must, of course, do its part. So far, the Brazilian government has increased the Bolsa Familia program (a cash-transfer program directed to the poorer households); it is offering credit for small and medium-sized businesses with low interest rates and a 2-year grace period; and it will give a monthly aid of R $ 600 (about 150 euros) for informal workers. These initiatives are commendable, but far from sufficient. Beyond the financial needs, there are also several logistic issues that arise in a developing nation like Brazil. What is the best way to identify those in need, so that they get help? How to guarantee the supply of food to poor communities, where the markets are mostly informal? Furthermore, in the poorer areas, children get most of their food in the school. With the schools closed, they will have less to eat, and many will spend their days wandering around in insalubrious neighborhoods. It is not clear this situation will be less conducive to the spread of the virus. Overall, the government is failing in its role of leading the war against the virus. Some measures are being taken, but there are conflicting messages from the different spheres of the government and there is no unified

team to organize a strategic plan to fight the epidemics in all fronts: economic, health, logistical and psychological.

Solidarity cannot come only from the government, particularly when it is showing so many flaws in dealing with the pandemic. Each of us, individually, must contribute. If you continue to receive your salary at the end of the month, paying the salary of your housekeeper who cannot work is a start. Paying your service providers in general (hairdresser, the restaurant you frequent…) is another way to help. At a broader level, you can help organize the distribution of food and medicine to those in need or financially contribute to initiatives that are emerging to address that need. Psychological help is also important. You can call elderly people who are alone to offer moral comfort. (You will see how comforted you will also feel in return!) Look around and see who and how you can help. This pandemic is inviting us to experience solidarity, to learn that it is possible and pleasurable to have a simpler life and use the surplus to help those in need. I am sure that, one day, the Brazilian society will be more egalitarian. Then, we will look back and say, ashamed: how could we live in such inequality? ■

Originally published on April 6th, 2020.

FARAWAY, YET SO CLOSE

Anca Metiu is a management professor and Associate Dean for the Ph.D. Program. Anca studies the dynamic processes through which teams and individuals engage in knowledge work. She examines virtual teams and distributed organizing, developing world work contexts, and the practices of new generations of workers. Her work has been published in Administrative Science Quarterly, Organization Science, Organization Studies, and Oxford Review of Economic Policy, and her book The Power of Writing: From Letters to Online Interactions was published in 2012. She is a member of the Editorial Boards of Organization Science and Organization Studies. She earned a BA in Law and Economics from the University of Sibiu, an MBA at the University of Illinois in Urbana-Champaign, and a PhD in Management from the Wharton School of the University of Pennsylvania.

The future has arrived faster than we thought. In less than one week, office workers around the world (albeit not concurrently) packed their essential tools (computers, some books, some folders), carved a work space in a corner of their home, scribbled 'ON AIR' on a sheet ready to be pasted outside their improvised office's door, and started working remotely with colleagues they were used to seeing in person. Even taking into account the many who were used to working remotely part-time or on occasion, the speed of adjusting to working 100% remotely has been remarkable. Despite physical distance, we have been making use of the abundance of technology at our fingertips to feel close to colleagues, managers, and friends.

The same goes for students and faculty in universities around the world. From one day to the next, faculty migrated in mass to online teaching. For some, it was the first time they delivered their courses online. Students, more familiar with technology but still used to seeing their teachers 'in the flesh,' were equally, if not more, quick to adapt. Students' transition often came in difficult circumstances, such as in a tiny room in a student residence, far away from family and friends or in their homes, in spaces not conducive to academic work, with stress about their job prospects in the post-pandemic economy looming over their new learning environment. Many students went from living on campus or close by to living with their families again, often far away from their peers and professors, sometimes in different cities, time zones, or even countries. Despite these challenges, students participated fully, even enthusiastically, in the new online courses.

For all, formal meetings became a row of faces on Zoom, or Microsoft Teams, or Google Hangouts. Informal encounters, long thought as key to innovation, disappeared. And still, work is getting done, projects are advancing, and new ideas are springing up and being implemented.

How is this possible? How is it possible to feel so close with people who are so far away?

Clearly, when faced with a dangerous situation, people prove to be

remarkably resilient, flexible, and resourceful. Very likely, the pandemic accelerated trends already deep at work in organizations and societies. The omnipresence of technology, combined with the urgency to protect human lives, led to a leap in adopting new work practices. Both explanations are reasonable. They are also compatible with the results of a study in which I examined the factors that make people feel close to faraway colleagues.

My research identifies specific factors that help explain the speed and smoothness of the adaptations to remote work. Together with my co-authors, Michael Boyer O'Leary (Georgetown University) and Jeanne Wilson (The College of William & Mary), we used the term perceived proximity to designate the feelings of closeness between coworkers, collocated and remote.

In the BC (before COVID-19) world, our study showed that the real (physical) distances between colleagues (objective proximity) actually had generally weaker or mixed relationships with feelings of closeness (perceived proximity) – and no effect on relationship quality. In other words, on average, people felt as close to their

remote collaborators as they did to collocated ones. A few years ago, those findings were surprising. Nowadays, they seem premonitory.

We also found that people develop feelings of closeness with distant others when they communicated, via technology, to uncover deep similarities, and to develop a pool of shared experiences. While it may seem impersonal, technology can be used to build community and connections: think of the popularity of dating applications and social media networks. It makes sense that technology can also be used in a workplace setting to stay connected (in both senses of the word) to our colleagues, despite being physically distant.

These findings help explain the speed and effectiveness of the adaptation. In the first weeks of the lockdown, co-workers relied on an existing pool of shared experiences, and students often know one another from around campus. Further, we shared in the strangeness and stress of adjusting to the new normal.

BUT as the crisis continues, and as organizations and employees decide they want to continue, at least partially,

to work remotely, that pool may decrease – due to turnover, expansion in new markets, and so on. Therefore, managers and leaders should refrain from declaring the transition a success and simply carry on with the current practices. With time, the loss of context will increase, with negative effects on collaboration and morale. Therefore, it is in the following weeks and months that managers and indeed all employees will have to make an effort to prevent this huge loss of context from impeding collaboration.

What does that look like in practice? Below are a few recommendations based on previous research and adapted to the current climate.

The first two recommendations are based on my previous article:

1. Ensure that dispersed teams have time to bond.

It is important to carve out time to identify, learn, and discuss areas of common ground because this creates a

basis for trust and strong relationships. Thus, teams must fight the tendency to be hyper-task-focused; people need the opportunity to identify deep similarities (attitudes toward work, reliability, values) as opposed to surface similarities (demographic characteristics). What matters is that the technology enables the creation of vivid images of the faraway others, that it reduces uncertainty about the others' work, and helps envision the other's context. For example, managers could implement regular virtual "coffee breaks", where team members have the chance to chat about both work and non-work subjects much as they would in person.

2. Overcommunicate in predictable, regular ways.

This may seem painfully trite, but I see the volume and predictability of communications as a major lesson (from our work and others) to combat especially fuzziness surrounding role clarity, heightened tendency to run up the ladder of inference and make faulty attributions, and to keep conflicts from escalating.

There's nothing worse in remote work than putting something out for team members to consider and then just not hearing back from them. Did they not like my idea? Are they swamped with work? Did they have a holiday I've forgotten about? Or maybe something's really wrong there? I don't recall any big news stories, but maybe I missed something... You get the idea. The wheels spin too quickly when teammates are out of contact. This can be especially complicated given the particular conditions of the crisis, such as partial unemployment and homeschooling, that mean people may be on different schedules than previously. Under these conditions, it is all too easy for emails and messages to fall through the cracks, especially when you don't see colleagues in the hallways to jog your memory.

How can we avoid playing a game of Broken Telephone? One way to do this is by establishing regular calls as a larger group and in smaller breakout groups, where all members share what they have been working on and people have the opportunity to ask questions or make comments. Regular meetings will also ensure that team members have a sense of each other's workloads, holiday time, etc., to reduce the possibility that wires get crossed along the way.

To (attempt to) coin a phrase, it's not so much absence or distance that matters as it is silence. As Daniel Barenboim, the great conductor, says when discussing Wagner, "Sound tends to go to silence, unless it is sustained."

This is the job of project managers, to lay the infrastructure for the sound, for the communication.

The next two recommendations are tailored to the current crisis:

3. Trust your employees and colleagues.

The next managerial implication is that employees can be trusted – both in crises and in normal times. Most of the adaptations to the COVID-19 crisis were done individually; often with the guidance of their hierarchical superiors and the technical assistance of their IT colleagues. But we can agree that the switch to online work was largely due to individual efforts, initiatives, and ideas. People value this autonomy that makes them feel valuable (and sometimes, when their efforts are recognized and praised, also valued). They want to maintain this autonomy, so far touted as the prerogative of an elite, the white-collar workers. So managers will have to first recognize the employees' efforts, congratulate them, and open frank discussions about how

employees see the future of work and about the practices and lessons from the crisis period worth maintaining in a – hopefully – calmer future. An oft-repeated concern about remote work is its impact on productivity, with some worried that employees may get distracted and work less effectively when at home. Past research has indicated that this is not the case and that in fact, productivity can improve when working remotely (c.f. Bloom et al., 2014), highlighting the importance of trusting your employees and colleagues to get the job done.

A related recommendation is that there is no reason for not extending this invitation for frank discussions about the desired way to accomplish one's work to employees who did not switch to remote work because of the sectors in which they operate. Cashiers, nurses, doctors, drivers, cleaners, and other essential workers have all adapted to working in dangerous conditions. They did so without so much as a murmur. With increased danger comes increased responsibility and dignity. Let's acknowledge that this dignity includes the right to have a say in the way their work is organized and executed.

2. Listen to employees' larger concerns.

Another recommendation is to listen to employees who may have to deal with increased strain due to family and home-related issues. The COVID-19 crisis revealed that the home front can be a huge source of stress for employees, due to cramped lodgings, home-schooling, and even domestic violence. While it is not managers' responsibility to resolve such issues, being attentive to the particular needs of some employees, adjusting schedules so as to help alleviate the stress when possible, or lending a friendly ear can go a long way in helping a person under strain.

One way to do this would be by encouraging people to join virtual meetings early and leaving time for socializing at the end. This gives people the opportunity to have informal discussions. Another, more proactive way, is to offer a friendly ear for those who need it.

Managers may also want to encourage people to use Zoom working together in silence – the presence of others focused on their work helps us stay focused on ours. Such practices may also be conducive to casual conversations and quick questions. An initiative like this would need to be implemented carefully and with the recognition that not everyone may be comfortable with this, but it could be a means to foster the "closeness" that develops naturally when sharing an office with someone.

In times of crisis, people tend to learn a lot about themselves and about the world. The lessons from the current crisis will continue to be revealed over time, but we know one thing already. While we may not be in the office with our colleagues every day, sharing offices and chatting by the coffee machine, we can still nurture our relationships and work together productively. In other words, we could be faraway, and yet feel so close. ■

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MANAGING WORK DURING A CRISIS

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The nature of recent debates on work changed seemingly overnight due to the COVID-19 crisis. Are you still thinking about workplace well-being and psychosocial risks in this time of quarantine and social distancing? Organizations are faced with a new crisis, one that is massive and risks being fatal.

Many are no longer able to work, either because of decisions made by the authorities or because supply chains have been disrupted. The collaborative nature of work, namely interactions with colleagues, has been challenged by quarantine and social distancing. In a world of work where all is managed, predicted, and standardized, those who are still working are seeing themselves thrust into the unknown without guidelines on how to act in these unprecedented times.

Disruption has already begun, and the workplace experts of tomorrow will surely be able to identify the important, effective, and sustainable elements of the current turmoil. For the time being, we will turn our attention to three

aspects of management: modalities of working, who is working and how to work through and overcome the crisis, and preparing for post-crisis life.

Work modalities

Remote work is no longer reserved for thirty-something parents employed at large organizations in urban areas. The world of work is already being transformed by the crisis and it will be critical to continue examining how we can update our work modalities even after the storm has passed. For those who must, can, and want to continue working, it is important to take another look at our tasks, review our priorities, integrate preventative measures in accomplishing mundane tasks, and reorganize our teams to manage absences. It is very clear that work requires all of us to be responsible, to take initiative, and to persevere to identify how we can best manage our personal work situations: qualities that traditional organizations and contemporary sociology have not necessarily emphasized in the past.

1. Thévenet, M. *Manager en temps de crise.* Eyrolles, 2008.

Of course, work also changes because remote work becomes the norm and increasingly an obligation, even for those who have not already tasted its charms. Most people will find that they are able to accomplish more than they could have imagined. This extraordinary situation has already reduced much of the resistance to using technology; our systems must adapt, and identify what will continue to require in-person meetings and what can be done at a distance. This crisis will accelerate the development of new ways of working.

Without a doubt, we will eventually, but not immediately, begin to see what working at a distance does not allow us to do. In crisis situations, urgency prevails, perhaps at the expense of a thorough critical analysis, but we often learn that a lot of standard tasks are not necessarily essential. The crisis may actually be an opportunity to question reporting and control activities that contribute little to the common good. We may also identify helpful aspects of face-to-face interactions: after all, you don't know what you have until it's gone.

Individual behavior

Crisis situations call to mind the fundamental principles of human behavior. They also reveal a lot about people: some people will rise to the occasion, whereas others will falter or withdraw. These times shine a spotlight on people's personal values in a way that we don't tend to see in normal times.
Times of crisis also bring out the best and worst of humanity: some will continue to provide a service, feeling responsible for doing their part for the good of society, and others will slink away, stocking pasta and stealing masks as they do.

Even more interesting is the way the crisis sheds light on the dynamics of behavior, as seen in diaries of people who have gradually entered crisis situations like war, imprisonment, or sickness. Sometimes we may become irritated with the behavior of others, either due to what we perceive as negligence or excessive caution, but it is important to keep in mind that we don't know the full story. In reality, how people act in these situations tends to evolve and pass through different stages at their own rhythm.

At the beginning, there is denial: the crisis will not impact us, it's the problem of other countries, industries, companies, or social classes. Then there is anger and we start to blame scapegoats for the problems we are facing, and to think that those in power are maliciously obfuscating the solutions. Finally, we move into acceptance and adjust our behavior to our new reality, leading us to be inventive and creative. One thing is for sure: information, and more specifically confidence in those who share that information, is a means to accelerate this process. Organizations and managers can thus draw on the confidence that they have nurtured over time.

On a more individual level, Marion Muller-Colard[2] identified three phases we go through when faced with a crisis. The first is complaining and rebelling against the situation, feeling angry at those we see at perpetrators, and feeling a deep sense of injustice that we have to go through such an ordeal. Then there is the feeling that the crisis is threatening all we hold dear and all

2. Muller-Colard, M. *L'Autre Dieu : la plainte, la menace et la grâce.* Albin-Michel, 2017.

we used to take for granted. The last stage is acceptance: accepting not only the crisis but acknowledging that it can bring us new joys, discoveries, or sources of hope. It is essential for all individuals and organizations to note how reactions change day-to-day: this will allow us to see the way forward once the crisis has passed.

Resources for the post-crisis period

The transformation of how we work and behave is now shaping the world of tomorrow and the big question is how to best prepare for our new reality. During a crisis in the 20th century, a major automobile brand stated that "when the going gets tough, get back to basics". We have a better shot at overcoming a crisis if we have more resources and if financial resources are not the only kind at our disposal. Of course, having more resources - not of pasta, but of employee engagement - will be inestimably useful to overcome the crisis. If this is not the case and we played the grasshopper rather than the ant, there are three points that can guide how we manage work.

The first concerns the purpose of the organization in the most basic sense, namely what it is supposed to deliver. An organization survives by delivering something of use to the outside world and does not solely exist for its employees and shareholders, but to contribute to the common good. Remembering this purpose and responsibility to the world is invaluable in these times.

The second point is about strengthening links between people, even if done at a distance. Solid relationships are like health in that we don't know what we have until it's gone. Nurturing relationships is no longer done by playing foosball and going for happy hour drinks, but there are innumerable ways to continue to strengthen those bonds after a week of quarantine. It's an opportunity to be creative and, perhaps more challengingly, to persevere. The third point refers to our approach to our management in our new reality. In the throes of a crisis, what seemed indispensable a week ago now seems mundane. While there are a multitude of analysts, lecturers, and experts of tomorrow chiming in on how to behave during the crisis, it is of the utmost importance to recognize our personal and collective fragility, to recognize the necessity of working together, and to avoid judging our future selves too harshly as it is hard to say how we will react over the course of the crisis and when it comes time to build a post-crisis reality. ■

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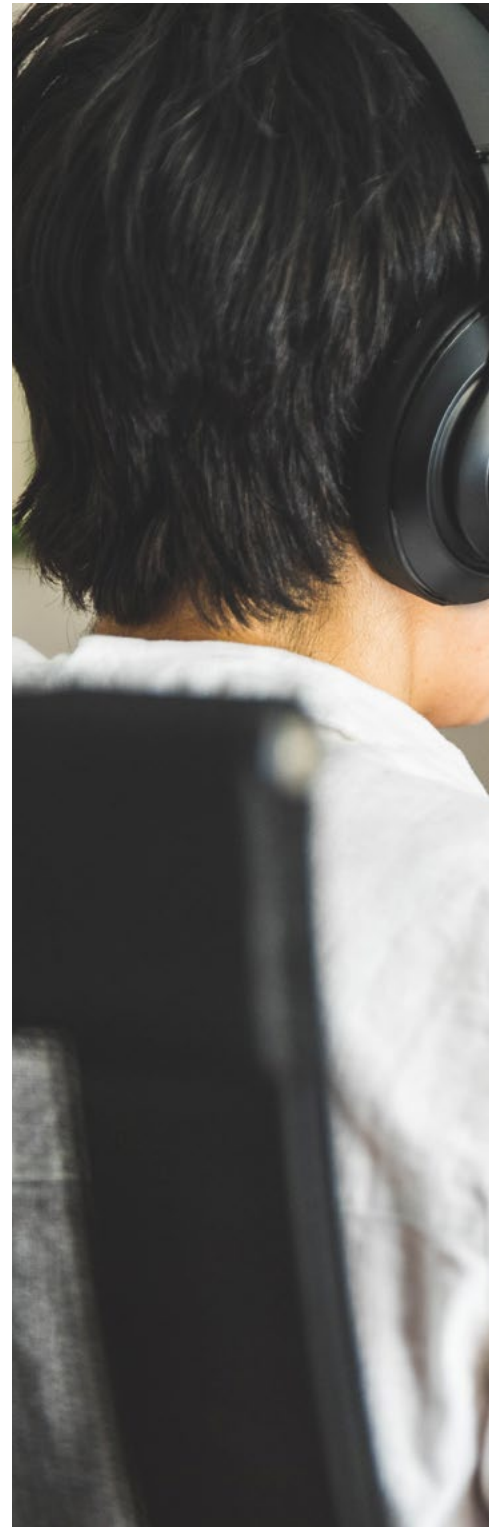
HOW TACTICAL MEDICINE IS USEFUL FOR COVID-19 CRISIS MANAGEMENT

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Under the current crisis conditions, hospitals are facing a massive influx of patients, putting strain on the organization of teams. At the Pitié-Salpêtrière hospital, teams have been working for several years on how to manage extreme crises (terrorist attacks, pandemics, industrial accidents), with tactical medical teams like those of special forces[1]. But how do these teams go from the preparation and organization phase to action, given that putting the plans in action involves many more staff, and how do they adapt practices and recommendations to the specific needs of the current situation? Here, we explain the specificities of high-trust organizations in crisis mode, and explain how the tactical medical teams have built a crisis-mode organization. We will also discuss how the organization has adapted, which was used to inform other Crisis Medical Directors and their offices in other hospitals. Finally, we will provide key takeaways and managerial recommendations for managers dealing with the same crisis.

1. See the article published on March 20th, 2020 by Dolain, Petitjean & Laborie in Le Grand Continent. [https://legrandcontinent.eu/fr/2020/03/20/faire-face-guerre-coronavirus/faire-face-guerre-coronavirus/

Organization and coordination of high-reliability organizations in crisis mode

Management research has highlighted the importance of "high-reliability" organizations (HROs), like air traffic controllers, nuclear centres, criminal police services, and hospitals[2]. These organizations are typically the first ones to develop ways of working during a crisis. They operate in an environment with complex, high-risk activities that can potentially lead to major accidents, requiring a high level of security over a long period of time and specific organizational methods to manage in the event of a crisis, with precise coordination and communication processes and decision-making. In the event of a crisis, it is critical that the actors in charge of critical activities have a collective awareness of the situation (collective mindfulness) that permits them to adapt to new,

sometimes disruptive, information and share it amongst themselves and that they are able to engage in both individual and collective sensemaking to act in the most effective way possible (enactment). In a word, teams in high-trust organizations prepare themselves for crises, know how to adapt to different levels of crisis, and are prepared to change their mindsets if possible [3]. Their agility during a crisis is the key to overcoming complex and dangerous situations.

The first analyses of the Paris and Oslo terrorist attacks [2] show that it is essential to rethink the empirical and theoretical frameworks we use so that we can better understand the complexity that hospital teams must manage and the way they tend to respond when faced with major crises. In extreme crisis situations, hospitals serve as the cornerstone in managing the flow of sick or injured people. Via its crisis medical director, the hospital has a comprehensive view of the flow of incoming and outgoing patients and

can thus develop the best strategy for managing the crisis.

This is the basis of the work on which tactical medical teams and hospital teams have been collaborating for several years now (for example, the collaboration between the Pitié-Salpêtrière hospital and RAID's tactical medical team): preparing themselves with a cohesive strategy for dealing with unfamiliar situations.

The army, the Army Health Services and interior SWAT teams like RAID have developed the chain of command in operation that has now been adopted by firefighters and inspired the structure of the Crisis Medical Offices in French hospitals. This aims to streamline the flow of information, information processing, writing and analyzing possible situations, and coming up with manoeuvers, with the goal of preserving brainpower for the decision-makers.

When armed forces intervene in a hostage situation, they are operating in an urgent or deteriorating situation. The medical universe in crisis situations is comparable. Moreover, in terrorist attacks where there are attacks at

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2. As examples of major academic work on the topic, we suggest Weick & Roberts (1993) on air traffic, Journée (2009) and Kerveillant (2017) on nuclear power plants, Schakel et al (2016) on criminal police services, Faraj & Xiao (2006) on hospital emergency services.
3. Lagadec (2020).
4. For information on the 2015 Paris terrorist attacks, see Hirsch et al. (2015) and Service Médical du Raid (2016) and Raux et al. (2019); for information on the Oslo terrorist attacks, Rimstad & Sollid (2015).

several locations or in the event of natural or industrial catastrophes, all emergency services must act together and in parallel with firefighters, police officers, and hospitals. Coordination should be done with an overall strategy in place, one that does not focus on the influx or the outflux but rather takes both into consideration as well as the onsite capacity. The medical teams must manage process discontinuity, increasing ambiguity surrounding decisions, and mounting interdependence, complexifying coordination within the team and between different teams, to come to a global understanding and avoid silos and division.

Capitalizing on experience and collaborations between tactical medicine and hospitals

Tactical medical teams and hospitals have together faced several crises in recent years, notably for taking care of victims from the 2015 terrorist attacks. Their complementary approaches led them to build an innovative shared methodology.

The operational contributions of tactical medicine: the example of RAID's medical service

RAID has had medical support for all of its operations since 1994. The doctors who form RAID's medical service combine regular medical work in emergency rooms or anaesthesia-intensive care with their tactical medicine work with RAID. They also act as coordinators between the traditional hospital world and police

services. They are familiar with the functioning of RAID and with the emergency rooms, intensive care units, and surgery departments at their respective hospitals. Tactical doctors dedicate themselves to "rescue and care", but they are also fully integrated into the assault units. Their mission goes beyond executing technical acts, care, or advice. RAID doctors must also make critical decisions to optimize treatment and evacuation to hospitals. To carry out this mission, doctors must make medical and organizational decisions in highly tactical and threatening situations. Making decisions is common for all emergency doctors, but making them in highly complex and unusual situations is the particular challenge facing the tactical doctors of RAID.

RAID's teams have shown in recent unprecedented crises that they have impressive know-how enabling them to act and be resilient in difficult and unusual situations, and at the same time coordinate various players who may be less at ease in that type of chaotic environment. Their experience with decision-making when faced with incertitude and management in tactical and operational units may be precious for the hospital teams that must manage the current global COVID-19 pandemic.

The Pitié-Salpêtrière hospital, under the impetus of Professor Riou (then head of the emergency department) understood this challenge after the Paris terrorist attacks, and decided to collaborate with the RAID teams to build a Chief Crisis Medical Office that would make use of the feedback from the decision-making structures of the special forces teams. This collaboration permitted the different players to learn how to work together and to innovate to better manage future crises. In the following section, we present the recommendations from tactical medicine, which have

served to organize the Medical Crisis Office in various AP-HP (Assistance Publique - Hôpitaux de Paris) hospitals.
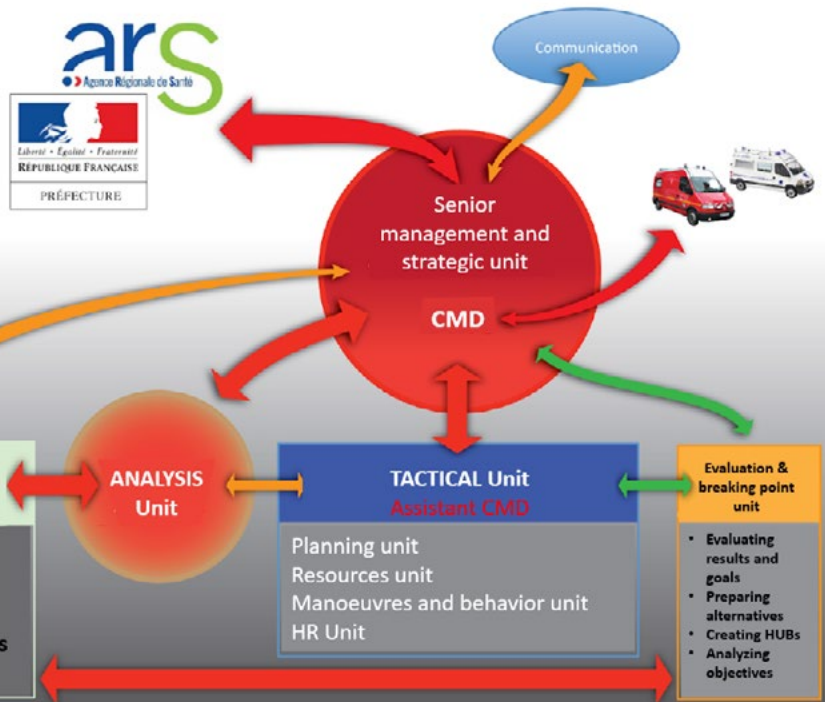
The organization of the Crisis Medicine Office

Since 2016, hospitals must set up a crisis organization structure in addition to their day-to-day organizational systems. During a crisis, hospitals must organize themselves so that they can manage the crisis and work with the first responders. Having an in-house crisis unit enables them to establish a better overall care strategy when faced with an influx of injured or sick people, especially when this influx is spontaneous and due to the hospital in question being the obvious choice of refuge in situations of panic or public health emergencies. The duration and rhythm of the crisis impact the response: after a terrorism attack or industrial accident, the dynamics change quickly. During a pandemic, the situation plays out over a longer period of time. However, the structure and methodology for reacting to the crisis remain the same in both scenarios. Hospitals must nonetheless deal with changing conditions over the course of the crisis, such as the current dwindling stockpile of supplies (materials, antibiotics, anaesthetics) and staff burnout. It is thus of the utmost importance to have a strong system and effective coordination measures so that the organization is able to be flexible and reactive in their decision-making over the crisis and avoid reaching the breaking point.

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Planning unit
Resources unit
Manoeuvres and behavior unit
HR Unit

Evaluation & breaking point unit
• Evaluating results and goals
• Preparing alternatives
• Creating HUBs
• Analyzing objectives

The organization of a strategic unit of the Medical Chief Crisis Office

The crisis Medical office is formed of several units, each with their own function. The final decision on strategic matters is made by the Chief Medical Crisis director.

The importance of the Crisis Medical director

The role of the Crisis Medical Director is to help the hospital build a strategy for dealing with unusual situations that still respects standard care procedures. As building such a strategy involves taking risks, the director must be familiar with the type of care given, the hospital's resources and patients' prognosis, and have crisis management training. The director cannot wait for a thorough analysis or all possible assessments to begin treatment. As such, the ability to make decisions quickly and anticipe next steps are often essential to guarantee the quality of care.

The crisis medical director has an overall view of the crisis. They are in constant communication with first responders and are familiar with the capacity of their structure, and can organize the flow of patients to maintain an equilibrium vital to keeping the hospital running. The organization of a hospital during a crisis is similar to that of an aeronautical hub. This requires a crisis office that is able to sustain long term analyses and manoeuvres, all the while anticipating and innovating to adapt to the situation.

The role of the crisis medical director is primarily strategic. They create different units that serve to both execute strategic choices and to organize the flow of information to ensure continuity of services, understand unusual situations, and quickly change tactics if necessary.

In critical situations, there must always be equilibrium between a structure that can effectively manage the flow of patients and the quality of care provided. This requires anticipation, agility, imagination, and sometimes innovation.

The strategic unit

This is made up of a small number of people (around 6): a representative of the Crisis Medical Office, a secretary, a coordinator for authorities and institutions, a coordinator for other units, and one or two medical representatives.

The primary role of the tactical unit

The tactical unit, made up of experts in the field, does not concern itself with the overall strategy but rather executes this strategy, identifies primary and secondary goals, and organizes priorities. One of its main goals is to establish a coordination system with the top-level and also cross-department communication. To carry out its missions effectively, the unit must be agile and adaptable, remaining constantly in contact with the evaluation unit. Within the tactical unit, the resources division lists all the resources necessary for effective functioning: beds, medical material, biological material, and logistical tools. It organizes the distribution of these resources based on the predicted length of hospitalization, predicted patient flow, and models that optimize distribution of beds and equipment. The unit works with the evaluation and "breaking point" units to manage the availability of hospital beds and with the innovation unit to come up with new solutions.

The HR unit

The HR unit anticipates staffing needs and acts as a headhunter to recruit for positions identified by the crisis unit. It works in synergy with the resources unit to anticate reinforcement needs and manage the patient flow. The HR unit also arranges for psychological support for the staff.

The innovation unit: where reflection rules

The innovation unit plays a major role, but does not lead the crisis response: rather, its role is reflection. The unit aims to prevent teams from encountering blind spots (such as neglecting non-Covid-19 patients) during their crisis management and by suggesting innovative solutions inspired by feedback from the field and discussions with people in the non-medical world. The innovation unit is not involved with the implementation of solutions. It is linked to the evaluation and analysis units.

The evaluation and breaking point unit

The unit is not directly involved in the hospital's operations, but its role is nonetheless essential. It analyzes the results and evaluates them relative to the goals and identifies the saturation point, anticipating when it will occur. It raises the alarm when the system is reaching the saturation point. The evaluation unit helps ensure coherence between intermediate objectives and acts as a link between other units.

The analysis unit: eyes on the long-term and normal times

The analysis unit is composed of 5 people maximum: public health researchers, epidemiologists, sociologists, psychologists… It works on a 24/7, permanent basis with the ARS (Autorité Régionale de Santé, the trustee of hospitals). It aims to develop a long-term plan. It is also responsible for recording the crisis and fact-finding, a time-consuming but indispensable activity both for medical and legal reasons and for learning from the crisis.

What are the takeaways?

The crisis puts both hospitals and companies under extreme pressure, requiring a vast amount of resources and staff activity. The way that tactical medicine inspired the crisis management in certain hospitals may inspire both other hospitals and companies to facilitate agility, adaptability, flexibility, and ongoing learning.

A collective organizational crisis response

The first takeaway from tactical medicine is that the crisis response is organizational: a team effort. The teams prepare for battle in a different way than in their "normal" organization, but there is no room for mavericks or lone heroes. For tactical medicine, decisions are made by the group. All goals must be clear and understood by all so that everyone can adapt their behavior to the new reality. Working in silos, frowned upon in hospitals and in organizations, is no longer appropriate and must be avoided. In hospitals, the evaluation unit can identify the existence of silos.

Structuring the crisis office and its units and assigning roles within small teams is one of the most important parts of the crisis response. The crisis office is organized like a project office and allows for the coordination of actions at all levels by gathering and analyzing internal and external information. It plays a balancing act to maintain perspective over the long term and think of innovative solutions, all the while suggesting concrete actions that will allow senior management to come up with a thorough strategy.

The innovation and evaluation units in some Crisis Medical offices, based on the structure of intervention forces, are a source of inspiration for companies. The innovation unit acts on both a short-term and long-term basis: it makes predictions for the duration of the crisis and after the crisis and also comes up with innovative strategies for the situation at hand.

1. A dynamic plan, not a ballistic one

Many companies have prepared a Business Continuity Plan (BCP) that serves as a benchmark in the crisis.

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However, seeking to implement the BCP at all costs is not the solution. It is necessary to be able to make it evolve, and to take a dynamic approach to planning, accepting to give up the comfort of a ballistic trajectory provided for in the initial plan, according to the distinction between ballistic and deterministic planning, and dynamic and meaningful planning, analyzed by Philippe Lorino (2019).

Planning is essential because it allows us to anticipate situations, question assumptions, work collectively on courses of action and put ourselves in an analytical position. The arguments of Arie De Geus in *"planning as learning"* published in 1988 in the Harvard Business Review, are still relevant today. In planning, reasoning, discussions, and brainstorming work count at least as much as the plan itself. You have to know how to deviate from the plan, in a normal situation and even more so in a crisis situation. You must assess the evolution, its means, and government decisions to adapt and innovate. Nothing ever goes as planned. In both normal and crisis situations, organizations can revise their plan while it is being implemented, either to reschedule their trajectory or to replan their objectives. But in a crisis situation, revisions must be more frequent,

even daily at present. Actors must constantly ask themselves: what is the current situation? Is the vision I have of it consistent with reality? Are the decisions taken yesterday consistent today? What are the foreseeable situations that await me tomorrow? It is a question of switching to *"navigation"* mode as opposed to the traditional *"steering"* mode.

2. Going from steering to navigating

In management, the metaphor of steering has made it possible to highlight the dynamic work of decision-makers, who rely on tools, processes and information systems to act and modify how they act. However, this metaphor often suggests that the pilot's mission is to choose the right roadmap according to the data available to him, from a repertoire of existing plans. However, the experience of tactical medicine in extreme crisis situations seems to us to be more in line with the metaphor of navigation, theorized in strategy by Robert Chia as *"strategizing as wayfinding"*. Sailors try to stay on course and have to deal with environmental conditions that are often too complex and changing too quickly to be modelled before decisions

are made, they develop strategies that they re-evaluate very regularly, they use their experience of navigation, their training and their *"sense of the sea and navigation"*, a practical sense, calling on their knowledge as well as their situational awareness.

3. Agile leadership

The management practices of intervention teams such as RAID and tactical medical teams highlight the characteristics of agile leadership in crisis situations. They place themselves in a trial-and-error dynamic, and do not force things: if an action does not work, they try something else. The right to make mistakes is part of experimentation and the search for innovative solutions. Leaders nonetheless require themselves to act quickly and efficiently. Interventions where the situation has deteriorated remind us of the importance of good managers when operating outside the standard framework. The way intervention teams operate also gives us a lesson in humility: leaders take on their responsibilities without seeking merit or recognition, they own their decisions and their consequences vis-à-vis their supervisory authority, the government, and society.

As Dolain, Petitjean and Laborie (2020) note in their recent article on special forces: "Humility and self-sacrifice remain fundamental values. In combat units, there is a lot of emphasis on these qualities: simplicity, good humour, but also a sense of sacrifice for the greater good. This state of mind contributes to the success of the mission. Especially in a crisis situation, you are defeated from the moment you start to think of yourself as a hero, that is to say: alone. Thinking like a champion actually slows down the group, killing its unity, and has indirect effects on the structure, which is the ultimate guarantor of victory. It is also from this humility that the capacity for adaptability comes; it is this humility

that protects against the inclination that some people might have to be overly sure of themselves. To face up to it is to leave one's ego aside and to open up to adaptability by refusing to close one's mind".

4. The flow at the heart of the crisis

In hospitals, managing patient flow is one of the main concerns of the Crisis Medical Office. The Crisis Medical Director constantly oversees the flow and reevaluates resources (limited from the start and increasingly scarce), searches for additional resources, and considers the possibility of managing patient flow by organizing transfers. The key reference point is the anticipated breaking point, a threshold that must absolutely not be crossed. All efforts are concentrated on the dynamic between the breaking point and the flow. In businesses, the flow of primary materials or merchandise and monetary flow are a major concern during a crisis. Dynamic management that unites the Crisis Medicine Office can allow a better look at elements that might be coordinated but not necessarily synchronized in real time. Simply sharing information is not enough during a crisis: it is a question of reflecting together to build a global vision, anticipate the effects of decisions as accurately as possible, and therefore increasing sharing information, ideas, and actions.

5. Feedback

Collective learning and sharing experiences are at the heart of crisis management. The Crisis Medical director must also keep in mind that there will be feedback. The goal of this feedback is not to point fingers and identify scapegoats, but rather to learn and understand what lessons can be learned for the reprise of normal activity and to better prepare for

future crises. Tactical medical units in SWAT forces go from crisis to crisis, as it is their reason for existing. For most organizations, a crisis is a highly unusual situation. However, a pandemic can also teach us to better prepare for any other crisis that may occur in business, energy, or finance. Moreover, many of the actions experienced during the crisis, and the cross-functional organisations set up, can remain relevant as the situation returns to normal. This feedback must be able to take place quickly and be based on reliable elements. Recording the crisis, as done in the hospital Crisis Medical Office and inspired by the practices of special forces, plays a valuable role in structuring the post-crisis analysis.

Conclusion and takeaways

During this crisis, doctors and other medical professionals are faced with difficult care situations and the disruption of how they normally operate: they are required to function under tense conditions with limited resources. They must face team burnout and resource scarcity. The crisis medicine structure is established to facilitate coordination and decision-making to enable them to work as best they can under stressful conditions. Lessons from tactical medicine and intervention forces are invaluable. There are countless organizations that face these stressors today. As such, we can all learn a few lessons from tactical medicine, namely:
• Organizing and structuring the crisis response into agile sub-units .
• Using the business continuity plan dynamically (i.e., being flexible and quick to react).
• Keeping an eye on changes and flow (i.e., patient flow in hospitals).
• Quickly organizing feedback and sharing information. ■

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AGILE SOFTWARE DEVELOPMENT TEAMS DURING AND AFTER COVID-19

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The COVID-19 crisis that has hit the world in 2020 has affected workers in two markedly distinct ways. On the one hand, professionals in the most critical roles—including medical professionals and caregivers, emergency service providers, or those working in food and agricultural sectors—continue to go to work on a daily basis. This has resulted in a renewed recognition of their societal contribution, which will hopefully survive the crisis. On the other hand, a large part of the working population has to work in their home office. Even though this may be a comfortable situation for many compared to the struggles of front-line workers, this situation is not without challenges. Even beyond more critical challenges related to social justice and family life, important questions emerge as to whether working from home actually works.

One profession that is worth looking at more closely is software development. Software development has never been more relevant, given our digital age and especially in times where human experiences and professional and social exchanges often exclusively rely on digital technologies (Yoo, 2010). At first glance, we may be tempted to think that the impact of working from home is less dramatic for software developers. Coding can be done everywhere. The tech-savvy software developers should not have a problem with using collaboration tools. Many practices in modern software development are inspired by the way open-source communities work. So as long as GitHub is working, we should be fine, right?

Of course, there is some truth to this. Software development is one of the activities that can be done (and regularly is done) in a distributed way. But there are caveats as well. Software developers forced to work at home will have the exact same personal challenges during such exceptional times than everybody else does. But there are also work-related intricacies that software development teams have to deal with, particularly those that follow an agile software development approach. These disruptions come in the form of challenges related to the software product, the development process, and social aspects of the team.
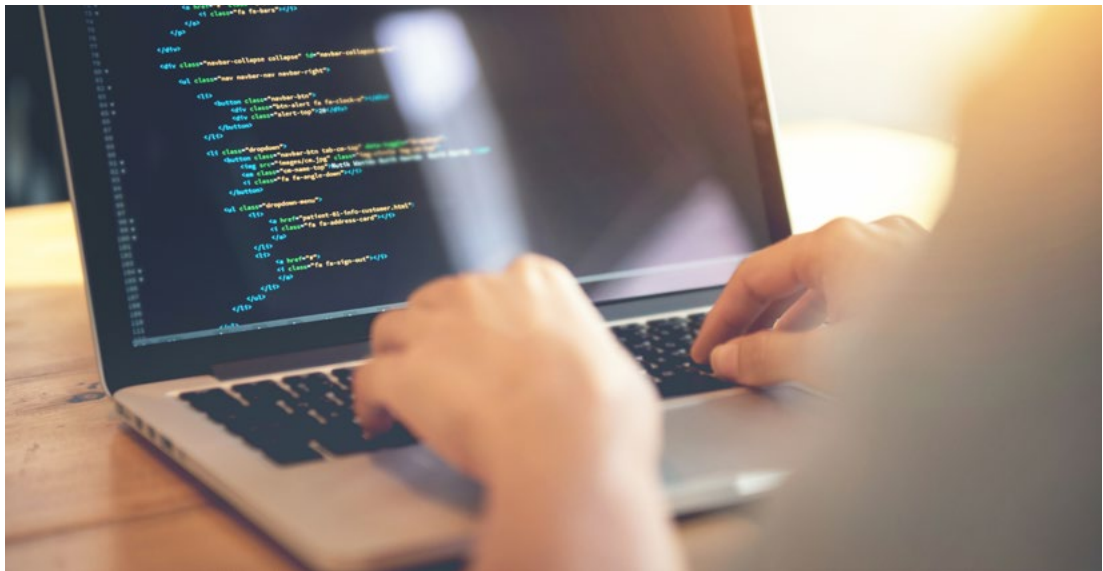
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The challenges of agile software development from home

First, there are challenges related to the software product itself and its architecture. Software architecture is the fundamental structure of a software system and describes how the system is split up into components and how these components interact with each other. Systems can be more or less modular, which has direct implications for the extent of communication and coordination that is necessary within and across development teams. Teams working on modular systems should find it easier to adjust to a work-from-home situation. However, contemporary agile software development strives to be adaptive and lean, which often means that architectural decisions are postponed as much as possible. Such postponement of architectural decisions leads to architectures that are, to some extent, emergent. This has certain benefits in normal times but may be less adequate in a work-from-home situation as it requires more intensive coordination. In fact, platform structures, which prescribe an extensible basis in advance based

on which agile teams can work rather independently, may be a better fit.

Second, challenges in times of forced work-from-home may relate to the process of software development. One of the key tenets of agile software development is its focus on iterative and collaborative work. Team members have shared code ownership, meet regularly, and follow collaborative practices, as prescribed by methods such as Scrum or Extreme Programming. For example, a common practice that agile teams follow is pair programming, where two developers jointly develop code (Kude et al., 2019). One goal of pair programming is to ensure instant quality control. As opposed to the high-touch approach of pair programming, teams may also rely on low-touch, high-tech solutions for quality assurance, such as automated testing. Pair programming extends beyond quality control as it helps create the positive teamwork structures and behaviors that are desperately needed in exceptional times (Kude et al., 2019). Yet, when primarily aiming for quality assurance, one can easily assume that low-touch approaches such as automated testing work more reliably than high-touch approaches. The

collaborative and iterative approach of agile development also extends to clients and end-users, who are regularly involved in the development activities early on and on a continuous basis. This can be a problem in times of a crisis like the current one because client feedback may not be available if users or client organizations are not working normally. Third, the social fabric of a team may experience challenges. Many of the immediate communication and coordination needs can indeed be done via communication tools when teams have to shift to working from home. In particular, teams that are used to distributed work may find it relatively easy to switch to a work-from-home setting, and this may work well in the short run if the challenges discussed above can be addressed. However, if teams are accustomed to exchanging on-site at least sometimes, the fully distributed set-up may become more problematic over time. In fact, while explicit communication may relate to quick task-related interactions that can be done online, a lot happens between the lines. Research tells us that teamwork factors, such as psychological safety or shared understanding (Edmondson 1999; Kude 2019), are a cornerstone of functioning software

development teams. In teams where members trust each other and feel safe to speak up (in other words, teams where psychological safety is present), the fail-fast-learn-fast culture of agile approaches may work very well and make teams stronger. In teams that lack psychological safety, team members are at risk of interpreting often direct and sometimes harsh feedback the wrong way. In work-from-home settings, misunderstandings and perceived inadequate criticism may pile up and deteriorate the precious remaining trust. This is less likely to happen in teams with shared understanding about each other, the development process, and the final software product. Shared understanding needs to be nurtured, however, and it may get obsolete quickly as circumstances change. Nurturing the team's shared understanding may be tricky in crisis mode.

Developing from home in practice

The example of one French media and advertisement company illustrates the relevance of these challenges. At this organization, the norm for the software development teams was to work on-site. In fact, team members would sit physically close to each other, making communication very instantaneous and immediate. I had a first conversation with the technical lead and Scrum master (a key role in Scrum teams that facilitates the Scrum approach) of one of the company's development teams shortly after the forced work-from-home situation had started. At that time, the situation seemed mostly under control and the sudden work-from-home context seemed less problematic. In fact, the main problem seemed to be that developers had difficulties setting up the remote connections to the servers. Before the crisis, the company had been rather conservative when it comes to remote work and home office culture due to concerns about security. As a result, the

technical infrastructure needed to be set up first to actually be able to work from home. Once this problem was solved, everything seemed to go into the right direction.

However, the two subsequent conversations a few weeks into the lockdown revealed new and unexpected challenges. First, again with regard to the software development process, it turned out that the firm-internal end-users for which the team was developing a specific solution were not available for feedback. Given that the solution was to be used "in the field," there was no way to evaluate prototypes in real-life settings, thus thwarting the rapid prototyping approach the team usually follows. Second, two fundamental challenges emerged with regard to product architecture. On one hand, the interviewee reported a rather critical issue of cross-team coordination. The team made an update to a component that was also used by another team. The team had sent a short message to the other team, who responded positively. But, likely due to the challenging circumstances, the other team had not realized the wider consequences of this change. As a result, the other team struggled with the loss of important data and resolving the issue required major coordination efforts. The interviewee explained that in normal times, the teams would have had more discussions about this change and its implications, and "not just a chat message. You can't explain such a complexity in just one sentence... The thing is, the guy is just in front of us [normally]."

On the other hand, given the lack of opportunities for ad-hoc communication, coordination was relegated to formal meetings. When one specific question regarding a new feature required additional coordination, the product owner of the team approached one developer directly and coordinated activities in a one-on-one fashion—as opposed to raising the issue in one of the team meetings, which would have created awareness in the entire team. The product owner may have pushed more than usual for this new feature, given that the future of the project was unclear in light of the current crisis and the product owner was working toward producing quick results. In situations like these, it may sometimes be difficult to predict what changes to the code are relevant for the rest of the team. In fact, fostering awareness and shared understanding among team members is one strength of agile software development in collocated settings. For this team, the change resulted in cascading coordination challenges that temporarily affected the flow of the team.

What will happen to software development teams when the crisis is over?

What medium- and long-term effects will the current situation have on software development teams? Which teams will handle the situation particularly well? What is going to happen once teams come back to the office and develop software on-site again?

Although these are open questions that need more research, what will likely be the case for organizations at large can also be expected for software development teams: The current crisis is likely going to widen the gap between teams that function well and those that don't. Many teams may struggle now, but those that had not been doing well before the crisis will probably struggle even more after the crisis. By contrast, those teams that worked well before the crisis might be able to even benefit and come back even stronger.

Teams that have been struggling before the crisis, in terms of both technical and social aspects of teamwork, may suffer even more when coming back. They may somehow make it through the forced work-from-home period. But the crisis mode may take its toll in the aftermath. Teams that don't work well will already have a harder time during the current crisis as they lack appropriate architectures and processes and lack critical teamwork factors. But these teams may struggle even more once the immediate health crisis is overcome and teams go back to work on-site. During the crisis, communication may be reduced to the minimum to keep going. This may mean that formal procedures and architectural decisions may be bypassed to achieve short-terms goals, taking the path of the least resistance. During the forced work-from-home phase, looming conflicts may escalate, further aggravating teamwork. The more likely scenario, however, is that disagreements that should have been brought to the table are suppressed, which will likely backfire in the future through reemerging conflicts. Thus, while working from home, teams that don't work well may not only build "technical debt," in terms of technical obligations that need to be addressed later on (Ramasubbu and Kemerer 2016), but also "social debt," which refers to the future consequences of decisions related to people and their interactions (Tamburri et al. 2015).

The aftermath of the crisis will likely play out differently for teams that function well, i.e., those that work based on architecture and development processes that balance stability and flexibility and those that have developed sound teamwork structures and behaviors, e.g., by successfully developing team psychological safety and high levels of shared understanding. Those teams may in fact be able to leverage the special circumstances and take the opportunities associated with it. As individuals, most of us have experienced how facing the situation of a pandemic has implications for our personal life and well-being. Individuals may or may not easily find suitable personal strategies for handling the crisis. In any case, such an extreme situation may very well shift priorities and let individuals refocus on the presence and on the essential aspects of life that are truly important for them. Such increases in mindfulness may actually also be possible for software development teams: software development teams may strengthen their "team mindfulness" (Yu and Zellmer-Bruhn 2018, Liu et al. 2020) which has been defined as the "shared belief among team members that their interactions are characterized by awareness and attention to present events, and experiential, nonjudgmental processing of within-team experiences" (Yu and Zellmer-Bruhn 2018, p. 324). Teams that made it in good shape through the crisis may have the resources afterwards to apply their learnings and reassess their routines, development processes, tool support, and architecture. In doing so, their functioning teamwork structures and behaviors will likely be of great help. Also, teams that function well will have realized that they can count on their trusted relationships and their shared mental models and that these teamwork factors help them navigate through uncertain and challenging times. This will help teams to be even more mindful about these teamwork factors and continue to cherish and develop them.

Summing up, interesting effects can be expected for the time when teams come together again after the lockdown. We will likely see teams that have created technical and social debt struggle for extended periods of time to get back on track. Getting back on track will require solving technical problems and social issues that have emerged during the work-from-home period. Teams that did well before may leverage the unusual situation and external trigger to grow even more into a mindful and tight-knit group. It will be interesting to study in more detail what can be learned more generally from this extreme situation about software development teams and beyond. ■

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WHAT ROLE DO MANAGEMENT CONTROLLERS PLAY IN CRISIS MANAGEMENT?

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The current crisis is long and systematic. The evolution is the pandemic is shrouded in incertitude and there are not yet any guaranteed solutions. All businesses are impacted, with the majority seeing a massive reduction in activity, others stopping activity entirely, and a rare few reorganizing and even increasing their activity. In this turbulent phase, finance directors and management controllers have an important role to play to put in place the right tools handling the crisis and especially cash management, assist management in drawing up different possible scenarios, guide managers in their decision-making, and maintain the company's financial equilibrium, all the while watching out for short-term and predatory decisions.

Here, I identify 10 key roles for management controllers during the shift to cash culture that companies must now take and in crisis management leadership.

Cash: the crux of the crisis

The decrease, and even elimination, of turnover threatens the company's profitability. The real danger, however, lies in the disappearance of cash, which threatens the company's very existence by financial asphyxiation. Companies will not only see their turnover plummet: clients may also default on payments. Meanwhile, most charges are continuing to come in during the crisis. It is therefore essential to focus on managing cash flow rather than P&L (profit and loss) accounts, which will require a major culture shift in many companies and controlling teams.

Management controllers should take on a leadership role in the crisis to put adapted tools into place, organize teams, and lead the culture change regarding how cash flow is viewed in the company.

1. Rethinking forecasting tools:
Traditional budgetary tools are proving inoperable in the current conditions. Initial hypotheses are obsolete. In these conditions, it is useless to "revise" the budget: it is wiser to turn over a new leaf, with new hypotheses and new scenarios. The goal is not to establish detailed and reliable forecasts, but to set a new course that can be followed loosely rather than to the letter. It is thus essential to accept this, and have
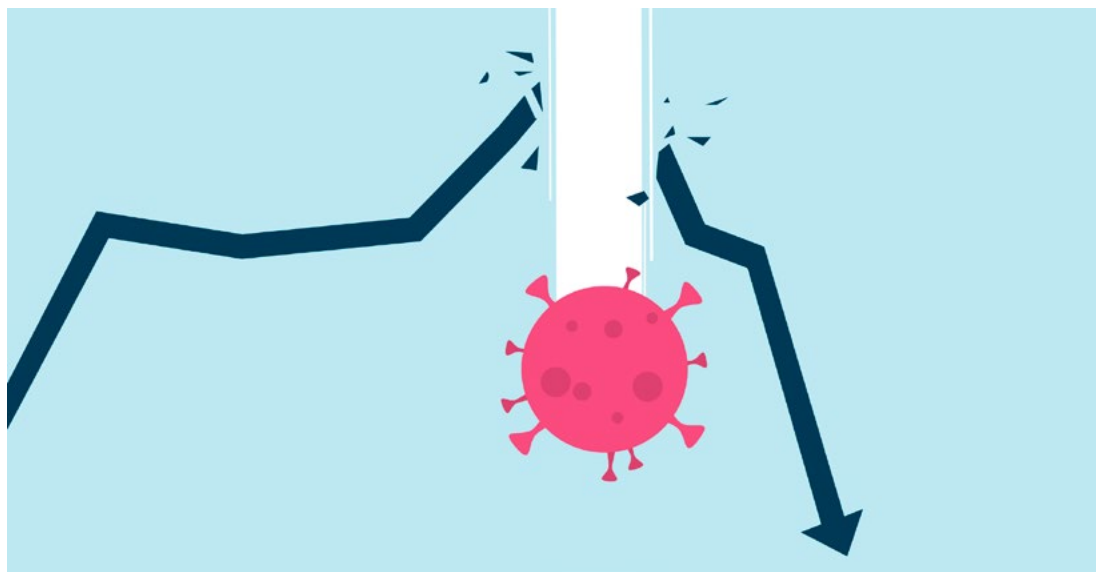
the management teams accept it, by strengthening communication. It is therefore necessary to work on forecasting cash flow rather than profit and loss forecast using simple tools, for example Excel, as complex cash flow forecasting tools are not suited to a crisis situation where parameters are constantly changing and forecasting needs to be done continuously.

2. Cash flow scenarios must be based on the operational structure, department by department, to be as close as possible to the realities of the business model and of the financing and ordering methods. This will also allow controllers to work more easily with the managers of different departments to identify ways to save expenses and manage payment delays from clients. We refer to "scenarios" rather than "forecasts" to help teams understand that the models are based on multiple hypotheses that could eventually be invalidated.

3. Tighter steering: It is essential to review how cash-flow is modeled, by taking into account changes in regulations and taxes: this should be done entity by entity and by type of collection (for example, if sale prices

are determined in fine, by the volume of annual purchases, the discount may not apply before the end of 2020).

4. Looking for ways to save: The company may suspend some upcoming expenditures if they are not essential or no longer pertinent following the crisis, working with the managers of operational units to identify these: pushing back office renovations, or promotional offers that are now obsolete… but beware of going overboard on cost killing! Decisions must not impact the mid to long term outcomes, and controllers have an important role to play in identifying ways to save and evaluating their impact.

5. Make the accounting teams aware of the need for information for management and monitoring in crisis time: The necessary accounting information is no longer the same, nor are the deadlines for obtaining it. The quality of cash management and forecasts rely on proper updates of the suppliers and customers accounts balance. The need for information and the deadlines for providing the information should be clear and reviewed with the accounting teams, as

they may not have the same limitations and visions of the company's needs.

6. Instill a "cash culture" amongst the operational teams: The marketing, commercial, and production site directors have a strong grasp on their respective operating income statements and know how to act on them. However, they do not have insight as to the cash generated, as they are not necessarily involved with the payment and collection deadlines. With the crisis, it is important that they integrate those elements into their decision-making, and controllers are ideally situated to instill this "cash culture", by specifying those elements and giving them the means to have the necessary information with the new crisis management tools.

Becoming a leader in crisis management

Controllers also have an important role to play in managing the crisis. The role of "business partner" must pivot to "crisis manager" and become actively involved in the company's crisis management.

7. Responsible crisis management:
Controllers are accustomed to being watchdogs, and they are well placed to alert managers about the consequences of their decisions as they have an overall vision of the company: long-term financial consequences, but also the company's image, product quality, etc. In this especially tense period, controllers must also be guarantors of responsible management and warn leaders and managers about unethical or even illegal behaviors and decisions, such as: using partial unemployment to reduce the costs of one's business unit or sacrificing suppliers, landlords, and subcontractors on the altar of cash-flow by not respecting payment deadlines, etc. Opting for such irresponsible choices could ruin the company's image, undermine employee, client, and supplier confidence, and have consequences that may outlast the crisis.

8. Organizing one's teams in project mode: Crisis mode calls for a reorganization of controlling teams. This means pivoting to "project mode" rather than the typical "organizational mode", i.e. by simplifying relationships with internal stakeholders, particularly for different business units, like buying and supplier relationships, HR and the impact of shutdowns, etc. Control directors should also ensure the coordination and sharing of information within different groups by organizing shorter but more frequent meetings, avoiding overly long video calls, and establishing ad-hoc communication systems with chats or themed discussion groups.

9. Be a driving force in team performance evaluations:
Performance evaluation systems and bonuses are under review in many companies. By virtue of expertise in performance evaluation, controllers can become a driving force in establishing a "COVID" evaluation system that takes into account the efforts of certain teams and the situation that the company is experiencing.

10. Assist in the evolution of the post-crisis business model
Some companies have already swiftly adapted a new model, by developing online sales, new ways of distribution, and new production methods, and controllers can and do assist with this pivot. That being said, there are also many companies that will modify their business model after the crisis, to secure their supplies, diversify their offerings, and refocus their targets. Controllers can help managers with developing economic scenarios of these changes, and can also take the opportunity to identify new ways of evaluating their impact by putting into place shared value indicators, and proposing social and environmental indicators, that are more and more commonly integrated into management and performance systems.

Management controllers usually want to be considered as both business partners and experts in performance management. These roles are more crucial than ever during this crisis. It is in management's best interest to draw on their knowledge of how the company works, of information management systems, and of forecasting and scenario methods and tools to turn the tide of the crisis and establish an adapted performance management system, with relevant tools, and a new focus on cash, all the while continuing to act as a watchdog to prevent the company from turning to short-sighted or irresponsible choices. ■

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CULTURE IN THE TIME OF CORONAVIRUS

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As COVID-19 is wreaking havoc on the world economy, one of the hardest hit sectors is the cultural industry. A perfect storm is forming, as the forced closure of venues, the dwindling attendance and a swooning stock market conspire to endanger the survival of many cultural institutions, especially those not relying on state subsidies for the major part of their budget. The direct impact from the cancelled performances and uncollected ticket revenue will be substantial, but the indirect effects may be no less significant, as the slowing world economy can be expected to lead to reduced donations. For example, given how closely intertwined the art market and the financial sector have become over the last decade (see this), one can only wonder how deep the economic effect will be, as art fairs are being cancelled and globetrotting collectors cut short their itineraries.

The pernicious effects of the health and financial double crisis will be felt most intensely by small organizations that have a limited capacity to withstand interruption of their activities. Even at the best of times in the cultural sector, the majority of organizations can only maintain a tenuous financial balance, with disaster an unpredictable event away. The current predicament is so unexpected and so massive in its impact that the disruptions on the balance sheet will be felt way past the point when the contagion starts to subside.

The coronavirus episode will serve as yet another reminder that the world needs to find ways to better manage its global interdependencies, their inherent risks and multifaceted effects on local markets and organizations. Governments may need to consider the creation of emergency funds that can be used to support cultural organizations in turbulent times, when the customer is either compelled or encouraged to abstain from attendance of events. It is likely that insurance premiums for temporary exhibitions will go up and that new stipulations will be written into agreements on the exchange of artworks between museums. Many organizations will be forced to review the extent of their vulnerability to unpredictable disruptions to their primary sources of funding and to assign more realistic probabilities to yet unknown threats.

If there is a silver lining in what is currently unfolding, it is that the crisis may force organizations in the cultural sector to ride more assiduously the technological wave. A sacrilegious thought is becoming more acceptable – that the count of bodies on seats is a dated practice. Consumption patterns are changing and content is increasingly migrating online. What has so far been viewed as efforts at democratization of the arts, such as the broadcasting online of live performances, may receive a powerful impetus as a template for the future. With their thousands of recorded performances, platforms like Arte Concerts or Medici TV are changing consumption patterns in the cultural sector in a profound and lasting manner. A number of museums, including the Musée d'Orsay in Paris and the British Museum in London, offer virtual tours of their institutions that patrons can enjoy for free from the comfort of their couch. The Opera of Paris also made performances available for streaming. Museums, theatres and opera houses are increasingly realizing that bringing in paying customers is not the ultimate economic goal and that they need to experiment with new ways to reduce uncertainties and hedge risks.

It is very likely that the current predicament will reinforce the digitalization and commercialization of the cultural industries, as organizations strive to identify new revenue streams that do not depend on physical presence. This may involve investment in digital modes of consumption, extending the marketing scope and leveraging one's brand globally, and closer association with the luxury industries in order to explore complementarities. There is little doubt that the delayed digitalization of the performing arts sector will receive a new lease of life. An encouraging recent development is the increasing willingness of cultural organizations to extend their digital presence. For example, during the crisis a small local theatre company decided to deliver a cancelled performance before an empty audience, broadcasting online free of charge. The public interest far exceeded the expectations, with five hundred thousand views online from all over the world. The sense of solidarity that initiatives of this kind create produce significant reputation benefits that will carry over into the post-contagion period.

Cultural organizations are facing the necessity of hedging risks and reducing dependence on physical space that will inevitably lead to changes in the current business models. Managing the local-global interface in a manner that is economically viable and culturally enriching is an increasingly important competence for managers in the cultural sector. They may need to take the celebrated motto of the "Globe" Theatre more literally - "all the world is a playhouse". ◼

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THERE'S A FIRE: HOW DO WE CONTAIN IT AS QUICKLY AS POSSIBLE?

Laurent Bibard is a professor of management at ESSEC Business School. He holds PhDs in both Socio-economics (EHESS) and Philosophy (Université Paris IV Sorbonne). Laurent has been at the head of the Edgar Morin Chair on Complexity since its beginning in 2014. His research examines gender, focusing on gender-related political stakes, as well as on how high reliability organizations manage for resilience.

> **In times of crisis, it is essential to have the best possible tools at our disposal to face the crisis together.**

A fire-fighter with exceptional efficiency

First, a few comments about a firefighter interviewed by researcher Karl Weick on his method. This firefighter was called Paul Gleason. He was known by his peers in the United States where he worked, recognized for his exceptional ability to contain and extinguish even the trickiest of fires. When he was interviewed by Weick, Gleason stated, "I never make decisions!", elaborating further to an astonished Weick:

"If I make a decision it is a possession. I take pride in it, I tend to defend it and not listen to those who question it. If I make sense, then this is more dynamic, and I listen and I can change it. A decision is something you polish. Sensemaking is a direction for the next period."[1]

Gleason's argument is twofold: if a leader forces themselves to take the right decision, they lose time in trying to polish and perfect it, which is counterproductive in an emergency. The second counterproductive effect of a decision is that the decision-maker is attached to it, because they believe their decision should be the right one. Any change can thus be seen as a blow to their competence, by the decision-maker themselves and by their teams.

Settling for *interpreting* the reality and *testing* immediate responses, based of course on intuitions born of experience and expertise, and always being ready to act and change one's approach, enables an increased collective capacity to react to the emergency. In other words, we can ascribe the extraordinary agility of Gleason and his teams to their expertise backed by

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1. Weick. K., *Organizing and the Process of Sensemaking,* with David Obstfeld, *Organization Science,* vol. 16, n°4, 2005.

experience and to confident teams with a leader who is willing to engage in discussions with them and change tactics if necessary.

We can stand to learn something fundamental from Gleason's pragmatism.

What is "Jugaad"?

In ancient Hindu culture, there is a concept based on a similar pragmatism. It is called "Jugaad", meaning the capacity to manage adversity together even with a lack of resources. Crisis situations typically "impoverish" in a sense, as they are situations where standard protocols and tools do not work. Crisis situations like the one we are experiencing create totally new and previously unimaginable situations. They are close to what the political philosopher would call "infigurable": situations that are unimaginable in advance and highly uncertain. While the current pandemic is obviously a catastrophe, the unimaginable is not necessarily all doom and gloom: crisis situations tend to unleash new possibilities that may not be so bad, and some that are quite the opposite.

Already we are witnessing the launch of extraordinary initiatives that we never would have predicted, like the transformation of a pizza production chain into one that produces hand sanitizer. That represents "Jugaad" perfectly: making something out of nothing due to the requirements of the crisis, and doing it together.

It is by working together that we will overcome

This is the second important takeaway that needs to be stressed here: it is together that we will come up with responses and overcome the crises that are impoverishing the world. Far from this becoming a time of conflict born of the anguish and fear that we are experiencing, having "Jugaad" in our minds and hearts can help us be ready to fight together and become better for it: that is to say, that we will all become equipped with the necessary tools to triumph over the crisis.

It is a sign that, in ancient Greece, the god of trade and relationships, Hermes, is very close to Eros, the god of love. In Plato's *Banquet*, Diotime says that love is the "child of poverty and *practicality*".

This is exactly the meaning of "Jugaad": social ties, relationships, and love are the children of poverty, and as they have to manage in poverty, they are also the children of practicality. This is why it is doubtless essential to understand the world of trade: as we know all too well, this world can present an unsavory aspect of liberation from greed and selfishness. If we look at this world in a different way, trade is not just about economics and finance and wanting to increase one's profits with little regard for the world we live in. We can also look at this in another way: "trade" is also about teamwork, carried out in adversity or poverty but pragmatically, with leaders who change their minds if need be without feeling or being discredited by their teams.

If we are to abide by the principles of "Jugaad", this means that we must collaborate on an international level and that everyone, from citizens, to public health experts, to political leaders, must listen to one another and consider alternative solutions.

For example, there was much discussion about the effectiveness of hydroxychloroquine in treating COVID-19, a treatment touted by Donald Trump. Perhaps we can even say that the American president was not wrong (for once) in obtaining authorization to test hydroxychloroquine in American hospitals. Obviously, the tests were not conducted according to normal protocol - outside of crisis times - with comparisons of patients who were treated with the drug vs. with a placebo, etc. However, if hydroxychloroquine had proven effective when administered by qualified professionals (and not outside of hospital settings by people who do not know how to take it, as has already occurred to disastrous effect), then more widespread trials would have been conducted and very attentively studied to see

2. "Solidarity" Clinical trial for COVID-19 treatments. World Health Organization. *https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/solidarity-clinical-trial-for-COVID-19-treatments*

whether or not it works and under what conditions. On June 17th, 2020, the World Health Organization announced that they have halted the hydroxychloroquine arm of the Solidarity trial, a global research effort to find the most suitable COVID-19 treatment[2]. While the verdict is not yet conclusive on hydroxychloroquine's effectiveness, we can all learn a lesson from this: the search for the cure is one in which we do not hold all the answers and where pieces of the puzzle are still missing, but in living by "Jugaad" and being intrepid, resourceful, and collaborative, we can continue the efforts for containing, treating, and curing COVID-19, and together we will prevail. ◼

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CHANGING GDP MEASUREMENT IN THE POST-COVID-19 WORLD

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On March 11th, 2020, the World Health Organization (WHO) officially declared the COVID-19 outbreak a pandemic[1]. COVID-19 cases have, since then, been reported in more than 190 countries, spreading across the world without regard for national, political, religious and linguistic divides, affecting countries with different income per capita levels and varied health systems[2]. Only time will allow us to make a thorough assessment of the actual mortality rates, its correlates and the most efficient policy responses.

As of now, policy-makers and citizens are having to react to the health crisis, and, as Epictetus famously said, " It's not what happens to you, but it's how you react to it that matters". How are *we* reacting to it? And *who are those among us* on the front line? When answering this question, the first image that comes to mind is that of the pandemic front line workers: the health care workers.

In a 2019 working paper of the WHO, the authors studied the gendered nature of the health and social sector[3]. In Europe, 84% of nurses are women, with similar numbers around the world. And while nurses are among the visible female front line workers, women are also in the front line in less "visible" ways. These visible and (in)visible contributions of women are not a novel fact. What may be novel is how the current "war", as defined by President Emmanuel Macron, against COVID-19 is that it may be changing our recognition of these contributions.

Among healthcare workers, the contribution of female workers is undervalued. Indeed, the gender pay gap as of 2018 is no less than 28% and is higher than the global gender pay gap, which is close to 22%. Part of the gap results from a higher incidence of part-time work among women. A bigger percentage is explained by different occupational choices within the healthcare industry. Yet, an even bigger

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2. *https://www.ft.com/coronavirus-latest*
3. Boniol M, McIsaac M, Xu L, Wuliji T, Diallo K, Campbell J. *Gender equity in the health workforce: analysis of 104 countries.* Working paper 1. Geneva: World Health Organization; 2019 (WHO/HIS/HWF/Gender/WP1/2019.1). Licence: CC BY-NC-SA 3.0 IGO.

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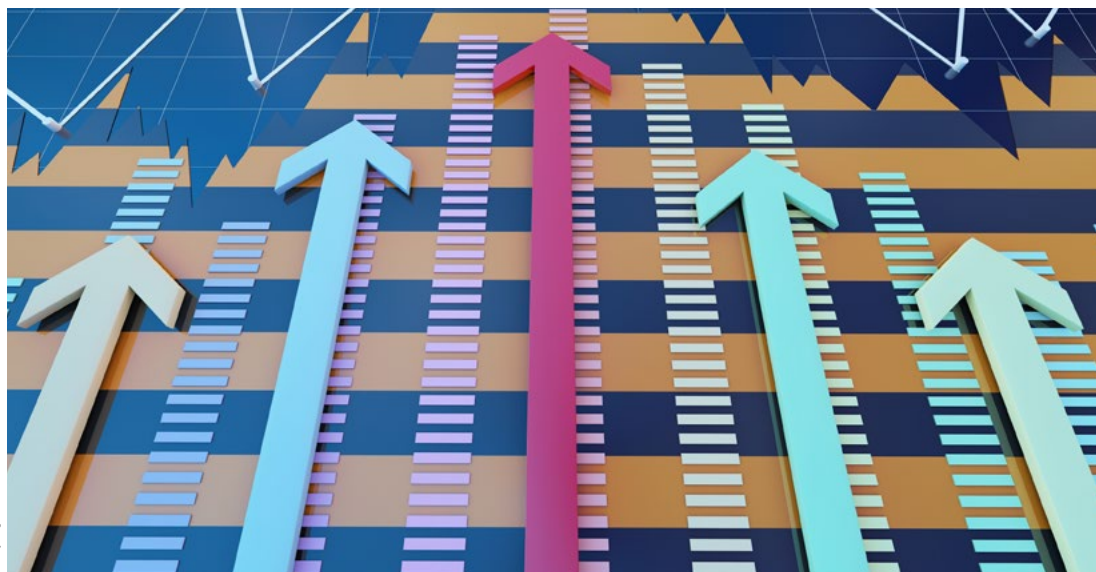
percentage is unexplained, partly the result of gender discrimination.

But women's contributions to society are not just undervalued because of distortions in the marketplace, they are also unrecognized because they often take place outside of the market altogether. Consider, for instance, that women are the main providers of household services, including caring for children and for the elderly. Similarly[4], women are more likely to work in the informal sector, allowing them the flexibility to ensure their "double shift" in the market place and in the domestic sphere.

On women's visible and (in)visible contributions to prosperity

Women's contributions, yet, are not accounted for in GDP statistics. Indeed,

the problem of leaving out household production and therefore part of women's contribution to society is considered as a major flaw in GDP measurement[5].

Yet changing the measures that society and policy-makers use for defining economic prosperity is challenging. Part of it is due to the fact that alternative measures, while numerous, tend to propose multidimensional score boards, or address tackling one issue at a time, such as inequality or environmental externalities.

Further, a major challenge for changing the statistics we use to define prosperity comes from the fact that statistics are a social convention and changing them requires significant international cooperation. Indeed, the System of National Accounts, of which GDP is the most well-known concept, was adopted by the UN following the Second World War.

Maybe, then, now is the right time to collectively rethink how we measure prosperity. A time where policy makers around the world are focusing their attention on a single common threat, a time where citizens around the world become more conscious of the value of time, of our "own time" but also the time we give to others. This crisis is making the visible and (in) visible contributions of women to economic prosperity more salient. Let us use it as an opportunity not only to acknowledge them, but also to adapt our statistical tools to better measure them. ■

Originally published on April 3rd, 2020.

4. Hicks, D. L., Santacreu-Vasut E. and Shoham A. (2015) *Does mother tongue make for women's work? Linguistics, household labor, and gender identity,* Journal of Economic Behavior & Organization 110, 19-44
5. The trouble with GDP- The Economist, April 30th 2016, pp. 21-25.

A TALE OF TWO CRISES: THE EPIDEMIC AND THE ECONOMY

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Surprising as it may seem, the COVID-19 epidemic and the subsequent economic crisis have more in common than meets the eye. How so? The market economy is a living organism, made up of a myriad of firms able to adapt or die under duress. The price system is the nervous system of the market economy, conveying the information about shocks to individual decision makers that adapt their behavior.

The first wave of the COVID-19 pandemic that started in late 2019 in Wuhan, China and then spread globally has devastated the planet. On June 29th, 2020, the Johns Hopkins Coronavirus Research Center counted 502 000 deaths and over 10.1 million confirmed cases worldwide. At that time, the pandemic appeared to be under control in Europe and Asia, and was still expanding in the United States and South America.

The pandemic has led to a major economic crisis. The June 2020 forecasts of the International Monetary Fund and OECD depict a post-apocalyptic world. According to the IMF, the world economy will contract by 4.9% in 2020. The advanced economies

will fare the worst, the Euro area could contract by 10.2%, and the US by 8% (see IMF 2020). Underemployment could reach historical heights by the end of 2020, be it in the form of classical unemployment or hidden by "partial activity" schemes (Kurtzarbeit). World trade is expected to fall by 11.2% according to the FMI or 13% according to the WTO (2020).

What parallels can we draw between the pandemic and the subsequent economic crisis?

The SARS-CoV-2 virus at the origin of the COVID-19 pandemic is a puzzling virus. While its structure is simple and belongs to a class of pathogens well known to researchers, its infectiousness was extremely difficult to gauge due to the large number of asymptomatic cases and scarce reliable tests. The amount of infected people that would need to be hospitalized and require a respirator was also difficult to anticipate. Even now, as the first wave subsides in many places and tests are more widely available, experts

are still debating the key parameters of the pandemic (Adam, 2020). One consequence of this uncertainty was the early publication of apocalyptic scenarios. An influential report by the Imperial College Faculty of Medicine on March 16th claimed that 500 000 UK residents and 2.2 million US residents would die if no action is taken. These dire forecasts prompted governments all over the world to impose harsh lockdowns. The cases of Sweden, Japan, and South Korea, who adopted a more hands-off approach, showed that these forecasts were probably exaggerated.

When it comes to the economic crisis, the basic ingredients are well known to researchers. The global economy has often been hit by major demand shocks that it has sometimes had to manage with supply shock. However, the combination of the two types of shocks is disturbing the paradigms on which standard forecasting models are built. Sailors know that the most dramatic risks happen not when the ship sails the biggest waves, but when smaller waves cross each other. Because the economy is hit by an unprecedented combination of supply and demand shocks, the econometric models used by central

banks and policymakers to forecast the dynamic of the economy could be as imprecise as the initial models used by the epidemiologists. In this crisis, the accuracy of the models depends first and foremost on their ability to correctly anticipate the response of the supply side (Baldwin, 2020).

In theory, if the economy is hit by a demand shock only, both output and prices collapse. If the economy is hit by an adverse supply shock, output collapses, yet prices might increase. The June 2020 forecasts by the ECB, the OECD and the IMF put significant weight on the decline in demand. Demand is expected to fall because of reduced consumption and investment as a result of uncertainty and fear; furthermore, the systemic nature of the crisis blocks the stabilization effect of international trade since all countries cut on imports simultaneously. If the contraction in GDP is driven by depressed demand only, a combination of fiscal and monetary stimuli could help with restoring growth without causing inflation.

However, if the COVID-19-induced supply shock is very strong, this is tantamount to a massive reduction
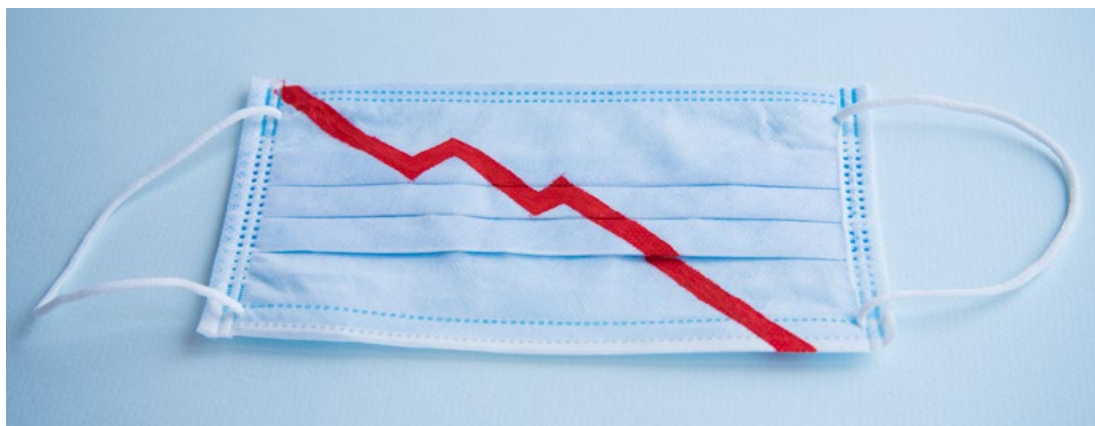
in potential output. In this case, any attempt to foster demand in order to bring the GDP close to a pre-crisis level, above this potential output, would only bring about high inflation.

There are some possible explanations for why the supply shock might be both very severe and persistent. The supply collapsed during the lockdown period, since governments forced people to stay at home through several channels: closing firms and shops, banning travel and non-essential activities, banning meetings, closing schools which obliged parents to stay at home to do child care, and using fear-inducing communication in the media (death tolls, filming hospitals and patients, funerals, etc.). In some countries, essential activities were allowed, but fear and panic prevented people from working. If after mid-May most of these bans were removed in Europe, the supply shock did not vanish, as new sanitary protocols impose specific costs on firms. The opening of schools was relatively slow, and varied between countries; this maintains a relative shortage of the labor force in many sectors. Bans on international travel prevent temporary workers from participating in agriculture, particularly Western Europe, which has already led to higher food prices in June.

Another similarity is that both the virus and the economic consequences have

been felt most strongly by certain groups. Older people are at a higher risk of passing away from COVID-19 (in Italy, of the 33.5k coronavirus deaths in June, more than 80% were aged 70 years and older). On the economic front, certain types of firms were also more at risk. Small firms seem to be more affected by the crisis than large firms. As the stock market in many countries has recovered, small cap indexes perform much worse than the large caps in June. If the crisis will lead to many small firms going bust, then the degree of concentration of the economies will rise. Against the background of increased protectionism, this would enhance the market power of large firms, and lead to higher profit margins, reversing a trend of growing competition in the global marketplace. An increase in the concentration ratio is also akin to lower potential output.

Furthermore, the risk of COVID-19 death is higher in the presence of another comorbidity factor, such as diabetes, hypertension, pulmonary diseases, or obesity. Similarly, companies that have already a weakness will be the first to go out of the market. The most prominent corporate comorbidity factor is massive short-term debt. Before the crisis, many companies were highly leveraged.

The OECD issued a strong warning in December 2019, revealing that the

volume of corporate debt reached an historical high in real terms of USD 13.5 trillion at the end of 2019, and that the share of high-yield bonds was booming (OECD 2019). If the debt bubble had burst before the crisis, many of these highly leveraged firms would have collapsed.

The number of bankruptcies has been low so far because governments all over the world, in particular in Europe, placed distressed firms into a kind of artificial coma and kept pumping oxygen (cash) in their lungs (balance sheets). There is plenty of cheap money for firms to roll over their short-term debts, even for the high-yield market. Governments in the Euro area guarantee bank loans to firms at a low interest rate, and the ECB is sponsoring at negative interest rate commercial bank loans up to four years: in June, its net balance of long-term refinancing operations (LTROs) increased by 500 billion euros in one operation. In the US, the Fed (the US central bank) is also financing the private sector in a very aggressive and direct way by buying bonds and providing loans to distressed firms to the tune of hundreds of billion dollars (Powel, 2020). Both the Fed and the European Central Bank (ECB) reinstated massive quantitative easing programs through which they buy hundreds of billions of sovereign bonds (complete with all the tensions that move entails in the Euro area).

European governments also implemented massive employee furlough schemes, pioneered by Germany during the Global Financial Crisis of 2008 and reinstated now. This meant keeping workers on the payroll even if they work part-time, and the state pays their wages. This policy is useful for maintaining the work relationship, in particular for high qualified workers; on the other hand, it also camouflages the true number of underworked hours and might block much needed restructuring in those firms who would never fully recover.

Even before the recession, experts acknowledge the mounting numbers of so-called "zombie firms", i.e. firms unable to pay their interest bills, kept alive only by revolving loans. Easy loans and employment furlough schemes only help maintain these firms. Unfortunately, if the sanitary costs must be maintained for a long period, and consumer spending behavior has changed forever, many other firms will join this fragile category.

This takes us to the last, and perhaps darkest, similarity. The sad truth is that many of the COVID-19 patients placed on respirators in ICUs did not recover, as their lungs were irreversibly damaged by the virus. When the artificial respirator was turned off, these people died. When the central banks and the government WILL cut their support to firms, these firms will go out of the market. It is normal to try to keep the firms alive until demand improves, and these firms can stand on their own feet. However, it would be a mistake to spend public money on firms that will never recover. The quicker such firms are restructured and employees can move into more profitable branches, the shorter the recession will be. Keeping workers on furlough schemes in firms that will never fully recover is a drag on productivity and prevents labor from moving to more useful activities, such as green energy. Unfortunately, it is currently almost impossible to

sort out the solvent but illiquid firms from the simply insolvent ones. Some experts call attention to the risk that the massive numbers of expected bankruptcies could still entail a financial crisis in late 2020.

How is the world fighting the pandemic? While countries have now strengthened their hospitals by increasing the numbers of ICU spots and respirators available, the most critical move is get a vaccine as fast as possible. Because the structure of the virus is known, there is real hope that the vaccine could become available in a few months. Unfortunately, the parallel between the epidemic and the economy stops here, as there is no vaccine against the recession. Why can't the government just keep on borrowing, and why can't central banks just print more and more money (sometimes the same thing)? Well, they might, if investors keep on trusting them. Yet trust is a fragile asset. At the slightest sign of inflation, this trust could vanish, calling for austerity and restrictive monetary policies. Populist calls on defaulting on public debt will not help build trust in governments. In the Euro Area, tensions between Northern and Southern models, against the background of a proven superiority of fiscal and medical management by the North, might further undermine trust in the euro.

Fluctuations in economic activity are extremely painful for society. The burden of the adjustment often falls on less qualified workers and on low-income households. In the management of COVID-19, young people agreed to significant sacrifices to protect the elders, who were the most at risk from the virus. Hopefully the economic recovery will show a similar pattern, wherein the less affected categories will show the same degree of solidarity and will agree on sacrifices to protect the most affected firms or people.

To conclude, the two crises have shown that the market economy behaves as a living being, with the weaknesses and the strengths like those of mankind. In the free economy, curiosity, creativity, trust, and competitiveness back entrepreneurship and innovation. In turn, innovation drives growth and reduces poverty, as the decentralized price mechanism ensures the efficient allocation of resources, and norms and regulations allow corrections for externalities. If there is one way to successfully fight the pandemic, it is to trust that the bright minds in private firms, supported by researchers in academia and in private and public organizations, will find the best solutions (vaccine, drugs) as fast as possible, while respecting human rights and freedom. ■

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BUSINESS SCHOOLS IN THE "ATTENTION ECONOMY"

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Universities around the world transitioned to online learning virtually overnight due to the COVID-19 pandemic. Instead of sitting in lecture halls, students have been «attending» lectures virtually, with the comforts (and discomforts) of home… and all its distractions.

On surveys, students said that they miss physical lectures. Why? Partly because they do miss each other, of course. But also because the classroom with its blackboard, chalk smell, and physical space allows them to manage a scarce resource: not time, not money… but attention. Students are not the only one longing to go back to campus. For workers who have been able to work from home, doing so has accentuated multitasking. People are required to juggle work activities (answering emails, dealing with paperwork, doing research or creative work…) while at the same time doing laundry and managing family life. Despite these conflicting activities in a single space, transitioning from home to work and back has never been faster, yet it has never been more difficult to shift our attention from one mental space to the other.

What is true about physical and mental spaces is also true about knowledge. Information abundance leads, as Herbert A. Simon identified in the 1970s, to attention scarcity. The trade-off that workers, managers and students face is not so much between work and leisure, that is, between money and time. Rather, an increasing amount of daily choices involve managing our attention budget: what should we "pay" attention to? When do we "demand" attention? And how much attention do we "give" or "supply"? Indeed, language clearly shows that, more than ever before, we are now living in the "Attention Economy", as coined by Simon himself. How then should we allocate our attention to make the most out of the oversupply of information? And what consequences does this imply for the future of education, particularly in business schools?

Our classes in tomorrow's business schools should provide the tools to search, process and utilize knowledge: in short, like old maps, we should map the way through the maze of current information, knowledge and opinions. Which study is relevant? Which authors are leading the

conversation? How and where can we find information? Scientific-based decisions for firms and organizations and ultimately individuals cannot rely solely on media or serendipity. Yet the knowledge frontier is not just one "click" away. It requires training. That could be the added value of business schools tomorrow: Creating a roadmap for knowledge acquisition, allowing students to understand not only the frontier of knowledge but also how social science research evolved through recent history, what were the key debates in the past, and the origins of the current consensus and disagreements. Ultimately, this methodology can not only enrich the process of knowledge transmission but also allow each one of our participants to investigate other realms of interest in a rigorous way, even in roads of knowledge that are "less travelled".

Political, economic and social choices require not only navigating the abundance of information, but also managing different goals. Here, again, attention plays a key role. Recent events show that we live in an "Economy of Attention", where public opinion is increasingly globalized. In a matter of minutes, the same content can become

viral throughout the world. Seizing our attention, we are now expected to react to such events, even when we do not know their context, history or details. Business schools could provide the tools to allow their students and communities more broadly to transform attention into intention. Why are others seeking our attention? How can we utilize this attention with intent? In the past, events like sports championships have served to create a sense of togetherness and build social capital. Today, globalized news attracts the attention of audiences from all backgrounds. While they see the same news, not all have the same "outlook". Nurturing intent is as important as learning the facts. Now that a globalized public opinion is emerging, how do we create a globalized social capital? Education has an essential role to play in fostering a globalized social capital that would be instrumental in fostering international cooperation in the management of common environmental goods, among other goals.

As we prepare ourselves to come back to our classrooms in the coming academic year, the classroom takes on a new meaning as a physical and

a mental space. It provides a space that levels the playing field in terms of attention. Inequalities in economic resources do translate into inequalities in the attention endowments that individuals have. Smaller endowments of attention result from inferior material conditions like small and noisy environments or spaces inhabited by conflict and struggle. By sharing a common space and time, students and professors create the possibility of a dialogue where "cards are not played" beforehand. The stability of a free society depends on such spaces delivering their full potential: let us bring into our classrooms diverse travelers that create new roads to address common challenges together. ◼

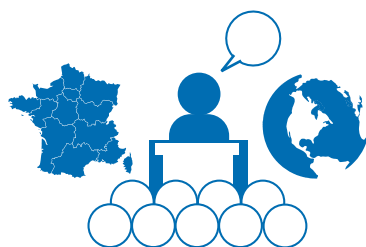*Originally published on August 31st, 2020.*

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