Chapter 11
Reactive: The Covid-19 Pandemic

The quest for certainty blocks the search for meaning. Uncertainty is the very condition to impel man to unfold his powers—Erich Fromm

Abstract The Covid pandemic and its aftermath is a good example of an event whereby most of the responses took many of the main actors, politicians, economists, medical professionals, etc., by surprise. This was in spite of a three-day training exercise (Cygnus) by the British government in 2016, intended to determine readiness for a respiratory influenza pandemic. In reality the pandemic was an "inevitable surprise"—we know it could happen but not when and as such a detailed set of contingency plans could have mitigated the worst of its impact. The powers that be largely chose to ignore the implications of the Cygnus exercise as being too alarming—a classic case of not thinking about the unthinkable. The chapter looks at a number of future options identified by various experts post event—among them being derivative impacts not specifically health related. The method of red teaming is identified as a useful foresight approach to challenge established perspectives and assumptions.

Keywords Reactive scenario · Red Teams

11.1 Introduction

So much has been written about the Covid-19 pandemic within the last two years that this example will not seek to offer specific foresight observations or policy recommendations, but rather present a simple structured route that could have been followed during the first stages of the pandemic back in early 2020. In July 2021, I carried out a basic search on Google referencing the term Covid-19. It yielded nearly 4.6 billion items of which the vast majority would have been added since January 2020—a classic reactive response. It also needs to be understood that I am not an expert in any of the medical disciplines that have been involved in the process of analysing and attempting to resolve the health and medical related problems that the pandemic has brought about.

B. Garvey et al., *Uncertainty Deconstructed*, Science, Technology and Innovation Studies, https://doi.org/10.1007/978-3-031-08007-4_11

The pandemic though, is a classic example of a reaction to an event which seemed to take many of the main actors, politicians, economists, even elements of the medical profession, policy makers, etc., by surprise.

First of all, it was NOT a black swan event—numerous academics and thought leaders such as Bill Gates had given notice in prior years of not only the possibility of a global pandemic but the probability of one occurring. Indeed in the UK, supplies of PPE (personal protection equipment) had been set aside—the problem was that many of these supplies had not been replenished and much PPE was out of date at the time when it was needed. In reality the Covid pandemic outbreak was an "inevitable surprise"—a quadrant 2 event in the Uncertainty profile matrix—we know something like this can and will happen, we just do not know when. As such suitable contingency plans should have been in place at least during the early phases of the outbreak.

Back in 2016, the World Economic Forum produced a report (2016) on global disease outbreaks stating:

> The recent Ebola crisis will not be the last serious epidemic the world faces; indeed, public health outbreaks are likely to become ever more complex and challenging. Despite progress in some aspects of public health over the past two decades, endemic infectious diseases remain a major problem, and new or resurging infections, the spread of drug resistance and the rise in non-communicable diseases all pose enormous challenges to often fragile health systems.

The report goes on to highlight that:

> A recent study led by the University of Cambridge identified 20 known infectious diseases that have re-emerged or spread geographically, including dengue, chikungunya, typhoid, West Nile, artemisinin-resistant malaria and the plague (Coburn et al., 2013). Other known threats—such as influenza (i.e. H1N1 Swine Flu), MERS-Cov, and Ebola—continue to raise fears, especially when they take hold in densely populated areas and when treatment and prevention measures are not necessarily available. Even when known infectious diseases can be mitigated by existing treatments or vaccines, we face the risk of emerging resistant strains, mutating viruses, or a pandemic that is so large it renders response supplies inadequate.

Late in 2016, the British government and health authorities held "Exercise Cygnus",[1] a three-day training exercise intended to determine readiness for a respiratory influenza pandemic. Cygnus aimed to test coordination between hospitals, health authorities, and those tasked with tracking the disease and central government. The results of the report on the exercise were alarming with indications of the health services and supporting agencies being completely overwhelmed. Indeed the results were considered initially as being so alarming that they were deemed too sensitive for release to the public. The report only became public after the pandemic had taken hold **and** only after it had been leaked to "The Guardian"

[1] Exercise Cygnus was a three-day simulation exercise carried out by NHS England in October 2016 to estimate the impact of a hypothetical H2N2 influenza pandemic on the UK. It aimed to identify strengths and weaknesses within the United Kingdom health system and emergency response chain by putting it under significant strain, providing insight on the country's resilience and any future ameliorations required.

newspaper in May 2020. The complete 57-page report was not officially released by the Department of Health and Social Care until 23 October 2020!

11.2 Scenario Proposals in Reaction to the Pandemic Event

As already mentioned above much has been written post the commencement of the pandemic. In this chapter, I have selected just a few comments from acknowledged foresight specialists which at least highlight some of the implications of the pandemic beyond just medical and health considerations—taking into account secondary and tertiary possible outcomes. Although the pandemic is an example of a largely reactive response to an event which has already manifested itself, this does not absolve decision makers from exploring any secondary and tertiary impacts from the event itself.

In a briefing note by a group of researchers early in the pandemic, at consulting firm McKinsey and Company (2020) two main scenarios were outlined which explored how the interplay between the virus and society's response might unfold and the implications on the economy. The two scenario choices were

1. The impact of a delayed recovery
2. A prolonged contraction

In the delayed recovery scenario two levels were explored:

- Epidemiology—where the researchers provided an overview of current knowledge about the pandemic itself—in effect a reactive response to epidemiological data.
- Economic impact—here relatively short-term (up to two years) observations were made about the implications that the pandemic might bring about for the global economies and business sectors for the coming two quarters.

The second scenario used the same base of epidemiological impacts as the first case but looked at a different economic scenario component whereby the assumption was made for a prolonged contraction.

It can be argued that scenarios were limited in their choice of variables emanating from the pandemic outbreak with only economic and business considerations being addressed—albeit the two presented cases did explore the problem from two different time frames (short and longer term). The team argued that addressing the *"near term is essential, but don't lose focus on the longer term (which might be worse)"*. They did acknowledge that whilst immediate and effective response is vital the coronavirus crisis is a story with an unclear ending.

What is encouraging however, is that the McKinsey team realised that the situation was rapidly evolving with multiple uncertainties indicating that continual, iterative work was required over the duration of the pandemic. In essence this required decision makers to finally adopt a more exploratory approach rather than just reactive.

11.2.1 Not Just Health

Also in March of 2020, a team of academics led by Arjen Boin et al. (2020) of Leiden University in the Netherlands proposed a number of challenges facing leaders during the pandemic. The team took a more holistic approach to potential challenges rather than specific sectors or disciplines. As such, the offering is multi-faceted and not restricted to just the health and medical perspectives.

Boin confirms that *"the COVID-19 pandemic has become the ultimate stress test for communities, countries and the world. It falls into the 'once in a lifetime' category, but the dynamics and challenges it will entail have been studied for years by researchers investigating 'super wicked problems', 'transboundary crises' and 'mega crises'"*.

With time at a premium senior decision makers (in the political, public service, and major corporate sectors) have to perform "in the face of exceptional threats, gaps and flaws in the available data, and high levels of uncertainty about how any interventions will play out".

Key to Boin et al's argument is the need to identify key current and future leadership challenges, along with a number of recommendations so as to navigate a highly complex and evolving landscape. Their observations are worth summarising as follows.

11.2.1.1 Challenge 1: Detecting Incoming Issues in a Fast-Changing Situation

The speed and scale the COVID threat have surprised most, if not all, governments. By the time it became an "official" crisis, the virus and its impact were already cascading across national borders and economic sectors from health to tourism and hospitality.

Recommendation: Now in new territory, where the normal rules of problem emergence and problem definition no longer apply. Leaders will have to grasp quickly the evolving nature of the crisis to stay ahead of the curve. Timing and framing are everything.

11.2.1.2 Challenge 2: Making Sense of a Dynamic Threat with Limited Information

Problem of understanding the speed, scope, and consequences of COVID. There are numerous variables and not enough information. Seemingly dramatic predictions are based on modelling efforts that make use of disputed input variables leading result, navigating in semi-darkness.

Recommendation: Be aware of what happens in other countries but recognise that threat trajectories and success measures do not automatically translate into valid

prescriptions for different environments. Deep uncertainty is the essence of the crisis. Accept major limitations to your information flow rather than waiting for better conditions for decision-making to emerge.

11.2.1.3 Challenge 3: Making Life-or-Death Decisions

The COVID-19 crisis brings all the dilemmas that crisis experts fear most: choosing between who will live and die; weighing how much economic damage we will take to save the lives for a select category of fellow citizens; balancing unpopular measures against the necessity of legitimacy.

Recommendation: Avoid the temptation of heroic leadership—the historic model of the ultimate decision that demands the ultimate sacrifice. Stick with the limited hard data that is available whilst realising that experts will not take all values into consideration.

11.2.1.4 Challenge 4: The Art of Strategic Coordination

In a global crisis such as the pandemic, many organisations—public and private, will need to work together, as the effectiveness of the overall response is dependent on them co-operating and coordinating their different responses.

Recommendation: Explore responses across sectors and across (geographic) boundaries. Integration with the key stakeholders is key. Office-driven or agency-centric command and control are overrated.

11.2.1.5 Challenge 5: Keep Worried Publics and Wary Workers On Side

Crisis communication "best practice" needs to be identified and consistently deployed with the need for clear, timely, and repeated messaging and actionable advice, delivered by credible sources. Yet often the quality of communication can be the Achilles heel of crisis response, being "behind the curve" or offer ambiguous messaging. In the UK we have indeed seen evidence of this in relation to discussions as whether new lockdown measure should be introduced. Leaders often fail to convince, be disconnected from people's experiences, overly cautious to avoid panic leading to a failure to communicate the whole truth.

Recommendation: If you get it wrong, rumours and intensifying criticism will soon let you know. Be aware of such social dynamics and do not let it get to that point.

What is informative about Boin's arguments is that whilst accepting that a crisis has already manifested itself, decision makers need to be made aware of unfolding uncertainties—and that a whole plethora of stratagems need to be deployed in order to respond in the most effective way to such a complex and dynamic series of events.

Presented in this way we can see how the three core axes of the approach expounded in this book, scenarios, behavioural factors, and the deconstructed components, in an environment characterised by high levels of uncertainty, allow decision makers to better formulate their responses even when in react mode.

Other informed commentators have also addressed derivative components beyond just responding to the "medical and health" implications of the pandemic. Researchers at Chatham House, an internationally renowned think tank identified in a February 2021 report (Hakmeh et al., 2021) that *"The COVID-19 pandemic has underscored that tech governance must be based on human-centric values that protect the rights of individuals but also work towards a collective good"*. In addition the report also recognised that:

> The COVID-19 pandemic has put many of these aspects into sharp relief. The unprecedented digital adoption has shown how important and indispensable digital technologies are, and for the millions of people who have transitioned at speed into a more "virtual" way of living, the benefits as well as the risks abound. Reaching a sound approach to tech policy has been made all the more complex by the pandemic.

Whilst basing its findings as a reaction to an event, the Society of International Futures (SOIF) published in January 2021 a report called *"The long pandemic after the Covid 19 crisis"* where it attempts to take a longer term view as to how the pandemic might pan out. In addition much of its findings address, what can be termed secondary and tertiary issues, rather than just concentrating on purely health, medical, and epidemiological factors of the event itself.

A number of contextual factors were included in the report, namely:

- *After the health crisis is over*—highlighting what happens next after adjustment to the short-run health aspects short after adjustment to the pandemic. It observes that in many areas of society the pandemic has simply revealed existing weaknesses and made visible issues that are large, predictable, and ignored. Again the quadrant three syndrome.
- *Different speeds*—whilst the health crisis is likely to persist, possibly at a lower level, for another 1–2 years the economic impacts are likely to last for 5–10 years, given the scale of the immediate economic shock. Interestingly enough it identifies that the psychological crisis is likely to last a generation, given the impact of COVID-19 deaths, the experience of lockdown, and household anxiety about finances and the future. As has been reinforced by arguments in part 3 on behaviour, the human factor is ignored by decision makers at their peril.
- *The health crisis*—naturally enough one cannot ignore the main driver of the event—the pandemic. The report identifies that the coronavirus may continue to mutate. While vaccine development has been an international scientific success, it will likely take two years or more to manufacture and deliver billions of doses globally. With international travel returning to some form of normality such a lag exposes travellers to new forms of infection—which in turn they bring back to a territory deemed clear.
- *The economic crisis*—SOIF advances the view that whatever the government response, some industries will not recover, and nor will some businesses. The

IMF anticipates a significant output gap and a slow recovery over the next few years.

- *The psychological crisis*—the report offers an interesting perspective on how people may have been affected by the pandemic stating that *"For many, the medium term health effects are likely to be psychological. If young people have escaped the worst of the physical impacts of COVID-19, they may get the worst of the mental health impacts. The data on generations that come into the labour market in times of high unemployment suggest that their earnings never recover, so their lifetime outcomes are worse. Further, the experience makes them more adverse to risk"*. As highlighted in the section on different speeds SOIF is to be praised for identifying the impact of behavioural factors—which intercede across most of the derivative scenarios.

The SOIF document looked at the more downstream (or derivative) effects of the pandemic such as:

- the impact on the labour market
- the relationship between an ongoing financial crisis and social equality (or inequality)
- increased pressure to regulate "big tech"
- that the psychological and social psychology impacts of the pandemic are likely to be long term
- the destabilising influence of a more multi-polar world accentuated by the pandemic
- ongoing failure of global leadership to resolve not only a more evenly spread roll-out of vaccination (what hope for climate change—a much more wicked problem)
- not forgetting the impact on health and care services themselves in addition to epidemiological issues.

The SOIF analysis suggests a number of clear features and which correlate largely with the author's own conclusions.

- These issues, and many of the second-order effects of COVID-19, are not risks or uncertainties. Instead, they are predictable surprises. Within the uncertainty profile matrix most of the outcomes can and should be allocated to Quadrant 2—the known-unknown.
- Many of the impacts are interconnected and create feedback loops and other amplifying effects. As we have seen such complexity and interconnectivity confound decision makers with appeals for "black swan" status when we really know they belong in quadrant 2 (as in above).
- And, as with the pandemic—widely anticipated by epidemiologists, zoologists, and risk analysts—optimism bias leads us to assume that the unthinkable probably will not happen—that is if we even think about it in the first place.

11.3 Reacting to the Experts

One of the main observations about the pandemic itself is how effective the experts are. Unfortunately with experts there is a tendency to minimise their effectiveness when they are right but to use them as scapegoats when they are wrong—the latter behaviour manifested by politicians, tabloid journalists, and the general public alike. With Covid much of role or rather accuracy of experts has concentrated, naturally enough on epidemiological factors such as contagion rates, deaths, etc., rather than secondary and tertiary impacts. As we have seen in the case of the expert examples (McKinsey, Boin, and SOIF) provided above, all of whom look at impacts beyond just the reactive response to the medical and health drivers, one has to ask how much of this more in-depth awareness of derivative impacts is being taken on board by policy makers and decision strategists at all levels? One can assume that expert opinion will increasingly be listened too if it can be proved that such advice is generally correct AND that awareness of such accuracy is broadcast more widely in the media.

A very recent research study funded by the Winton Centre for Risk and Evidence Communication based at Cambridge University asked this very question in a paper titled "How well did experts and laypeople forecast the size of the COVID-19 pandemic"? (Recchia et al., 2021).

The researchers conducted a survey in April 2020 of 140 UK experts and 2086 UK laypersons and where all were asked to make four quantitative predictions about the impact of COVID-19 by 31 Dec 2020. Overall the findings showed that experts exhibited greater accuracy and calibration than laypersons. According to the survey it nevertheless showed that experts substantially underestimated the ultimate extent of the pandemic, and that experts should consider broadening the range of scenarios they consider plausible. The results indicated that *"predictions of the public were even more inaccurate and poorly calibrated, suggesting that an important role remains for expert predictions as long as experts acknowledge their uncertainty"*.

The researchers go on to point out that before making conclusions about expert predictions, it is critical to compare them to nonexpert predictions. Acknowledging that if *"expert predictions are disregarded by the public, nonexpert predictions are liable to drive behaviour in their stead"*.

A key observation from the study was that experts showed a certain amount of overconfidence in their predictions (out of the four intervals that experts expected outcomes to fall within 75% of the time, fewer than half of actual outcomes fell within these intervals on average).

On the other hand, nonexpert predictions were less accurate than expert predictions, and that nonexperts were more overconfident than experts in their predictions. They summarise the results as follows:

> . . .although our findings on expert accuracy and overconfidence may read as a cautionary tale against taking expert predictions at face value, it is critical to highlight that we could do worse: we could believe the predictions of people who are not experts. We have arguably witnessed many examples of the latter approach being taken by individuals across the globe,

> sometimes with dire results. Focusing solely on poor expert performance may simply make nonexperts more adamant about their own preconceptions—not a good thing if they are already even more inaccurate and more overconfident than the experts, as our results suggest.

This would indicate that our discussion in Chaps. 9 and 10, relating to behavioural factors shows that issues such as inherent biases and cognitive dissonance are very much in evidence even in responses to a reactive event such as the pandemic. The report authors conclude however that: *"The ultimate message may be that 'the experts have much to learn, but they also have much to teach"*'.

11.4 A Note on MTTs

In an ideal world one would hope that we should be better prepared to avoid too the worst effects of having to react to scenarios such as COVID-19. As has been argued hereto in this book the vast majority, if not all events, can be identified to a greater or lesser extent—the variety of MTTs which can help us to improve decision-making when faced with complex scenarios is already in existence. The great challenge lies at the behavioural level—the willingness to move beyond just seeing discrete, linear outcomes to events. Acceptance that what is termed "Uncertainty" consists of varying degrees of "Inevitable Surprises" and can thus be foreseen and accommodated.

There is one method that I should like to introduce readers, but which has largely been deployed by defence and military organisations but rarely seen in the corporate world.

11.4.1 Red Teaming

Red Teaming can be defined as the art of applying independent structured critical thinking and culturally sensitised alternative thinking from a variety of perspectives, to challenge assumptions and fully explore alternative outcomes, in order to reduce risks and increase opportunities. The process should:

- identify strengths, weaknesses, opportunities, and threats, hitherto unthought-of; challenge assumptions
- propose alternative strategies
- test a plan in a simulated adversarial engagement
- and ultimately lead to improved decision-making and more effective outcomes

The benefits of red teaming include: broader understanding of the operational environment, filling gaps in understanding, identifying vulnerabilities and opportunities, reducing risks and threats, avoiding groupthink, mirror imaging, cultural miss-steps, and tunnel vision. It can reveal how outside influences, adaptive

adversaries, and competitors could counter plans, concepts, and capabilities as well as identifying desired or undesired second- and third-order effects and unforeseen consequences.

The main premise of the red team is to "think like your enemy" and to do so, red team participants need to be fully immersed into the behaviour, cultures, and thought process of the opposition. In essence it is a more structured way to "think the unthinkable", moving out of one's comfort zone and avoiding groupthink and other cognitive biases which might influence decision makers.

A variety of publications exist which introduce red teaming in more detail. These publications are generally published by military type organisations or agencies but as mentioned above can readily be deployed in the commercial and general organisational settings. I refer readers to those documents in the footnote below[2,3,4]

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