



Dealing with uncertainty – forecasts, scenarios and contingency plans

There are any ways of dealing with uncertainty, from forecasts to scenarios to predictions. Throughout 2020 we looked at all of these in a variety of situations

Covid-19: could we see it coming?



Image by Javier Rodriguez from Pixabay

I have been searching for predictions of coronavirus to see if this was foreseen by anyone. I haven't come up with anything yet but a few people have pointed to the similarities with a novel written in 1981 by Dean Koontz called 'The Eyes of Darkness' about a killer virus called **Wuhan 400**: *'In around 2020 a severe pneumonia like illness will spread throughout the globe, attacking the lungs and bronchial tubes and resisting all known treatments. Almost more baffling than the illness itself will be the fact that it will quickly vanish as quickly as it arrived...'*

How did he get date right and moreover why did he chose to name it 'Wuhan'? Forty years ago the city name was unknown outside China. However, the novel positioned the virus was a biological weapon with a kill rate of 100%, so perhaps this wasn't an accurate prediction but it does explain why conspiracy theories abound about its source as a man-made virus . I have heard this rumour in Italy so it is not confined to the US.

In the sixteenth century astrology carried much more credence than it enjoys today. Princes and Emperors paid for forecasts of 'what the stars foretold'. Both Nostradamus and John Dee were well aware of the power they wielded in foretelling



the fate of leaders, and took care not to give bad news. Nostradamus was approached by Catherine de Medici to write horoscopes for her seven children, but this provided a challenge of diplomacy as he had already foretold their tragic fates.

Nostradamus not only used astrological calculations but he also relied on his visions which came to him through the medium of water. In the same way a clairvoyant might use a crystal ball he used a bowl of water and stared into its depths until he saw images. He then wrote up what he saw in a series of four lined riddles we now call 'Quatrains'. Many books have been written claiming he foresaw specific events in succeeding centuries, but I have found no mention of our current plague.

John Dee born only 25 years after Nostradamus was feted by Queen Elizabeth for his ability to predict the future through astrology and conjuring 'magic'. The latter got him into brushes with the authorities, especially with regard to alchemy and his pursuit of the philosopher's stone and the transmutation of base metals into gold. Dee survived to outlive Elizabeth and anyone interested in him should read 'The Queen's Conjuror, the life and magic of Dr Dee' by Benjamin Woolley.

Today in an age of science astrology has fallen from grace as a predictive tool, replaced by statistical models and algorithms used by investment banks and hedge funds to make financial forecasts. It is not about predicting success on the battlefield but in the stock market. Probability has become a matter of data processing not patterns in tea leaves or entrails. Technology should have predicted the 2008 financial crash and it should have predicted the 2020 one, but it didn't. Accurate prediction is impossible without an element of luck. Uncertainty can be reduced but it can never be eliminated.

Who knows what inspired Dean Koontz to choose the date of 2020 for his global pneumonia virus or to give it the name Wuhan 400. Maybe he used the Nostradamus method of visions or maybe he used the planetary alignments forty years ahead, or maybe he just got lucky.

*Written by Garry Honey, SAMI Associate and founder of Chiron Risk
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What will a post-virus world look like?

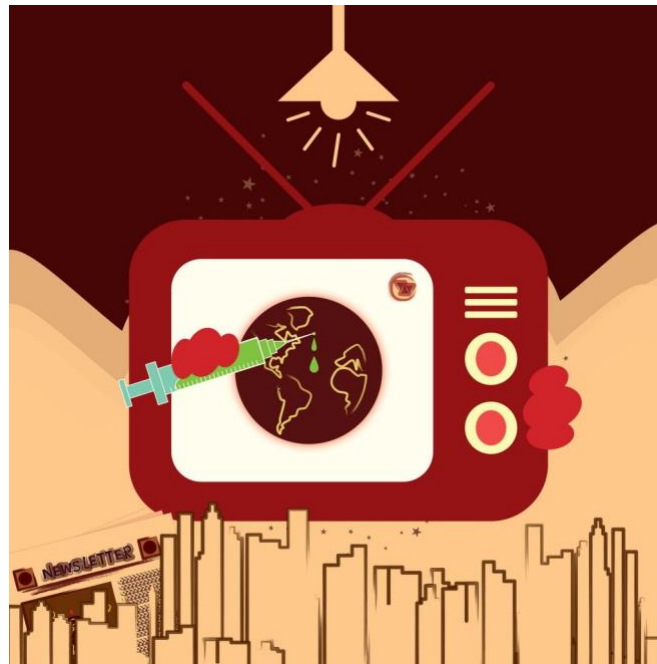


Image by ooceey from Pixabay

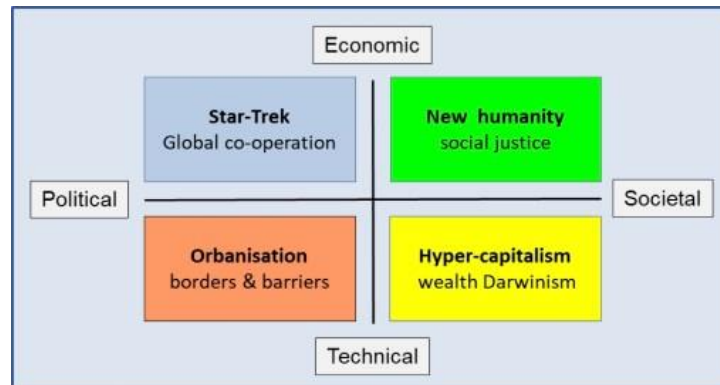
At the time of writing Europe is the epicentre of the Coronavirus pandemic with daily death rate climbing in Italy, Spain and the UK. Based on the news from China, the death rate should start to fall within a few weeks, and policies of social distancing and lock-down begin to be relaxed. There is still a long time before a vaccine will be made available and there are forecasts of a resurgence and second wave to come. Much is still unknown about the virus that causes Covid-19, but the economic impact of isolation and quarantine will be severe. The world will be different on the other side.

Disruption will herald big changes in the way we live, work and interact. As someone who works in the field of risk and uncertainty, I am used to helping organisations separate their 'known unknowns' from their 'unknown knowns' to reduce uncertainty and ultimately better understand risks they face. The coronavirus throws up enormous uncertainty – political, economic, social and technical – so it seems the best way to look at future scenarios is to examine where each of these determinants might lead. The four scenarios set out below use the political-social and economic-technical axes.

Out of the four scenarios, two are optimistic and two are pessimistic. The optimistic ones show us where humanity can benefit from this upheaval and become more resilient for future shocks. A more evolved species if you wish. The pessimistic ones show us a more regressive world where we fall back on bad habits and behaviours



that have got us to where we are. These will not equip us for future shocks but will be attractive to states and institutions currently enjoying wealth and power. I have chosen to set out the pessimistic ones first:



1. **Orbanisation**

Named after the Hungarian leader Viktor Orban, who has suspended parliament, and intends to rule by decree indefinitely. His name serves as a label for any drift towards draconian powers seized to enforce social distancing, whether by totalitarian or democratic government. Human rights groups fear that governments who suspend democracy or remove citizens' rights in time of crisis are often reluctant to restore them when normality returns. Whistle-blowers are not thanked but imprisoned, authorities are intolerant of criticism and will find ways to censure or restrict voices of dissent.

Within this envisioned future we can expect a retrenched nationalism with more border controls and a surge in xenophobia. Trading blocs like the EU will retreat from the Schengen agreement of open borders and tariffs will be used as barriers for protectionism. We have already seen this between the US and China, where trade becomes a weapon of power. There will be health checks at the border and points of entry with strict quarantine at airports and ports. The virus will be portrayed as foreign and foreigners unwelcome.

2. **Hyper-capitalism**

Under this scenario the wealth disparity between rich and poor is exacerbated post virus. Many businesses will be forced to close by the global recession and many people will never work again. The world of work will be much more polarised between the 'Haves' and the 'Have-nots'. Those who have wealth will invest it for profit and will find opportunities to gain from adversity. Those who have no wealth will find it hard to secure state support as jobs disappear to be replaced by AI or other new technology.



This could be seen as a form of wealth Darwinism where the fittest survive. In a sense this is a continuation of a system that is exploitative and uncaring, a small few do very well through harnessing technology and adapting to a new world of work. There is very little incentive to share wealth, unless one chooses to live in a high tax culture like Denmark, where the state redistributes the wealth to create a more equal society.

3. *New humanity*

This is an optimistic scenario where the future is brighter because humanity has recognised that exploitation is unsustainable. The epidemic reminds us that the people who are paid least are actually valued by society the most: the vast army of nurses, carers, cleaners and delivery drivers and army of workers who keep society working and grease the wheels to keep in on the road. These people are finally recognised for the work they do in terms societal value, what the investment firm Blackrock would call TSI – Total Societal Impact.

The virus lockdown prompts a rebalancing of values and a questioning of obscene salaries paid to football players, TV celebrities and ineffective corporate leaders. This doesn't have to be a new form of socialism but there are examples of countries like Finland experimenting with a standard basic wage so that the absence of work doesn't cause people to starve. The world of work will be different and states will need to find a new way of providing economic support that are constructive, educational and humane.

4. *Star-Trek*

This scenario envisions a future with an international community not unlike that found on the fictional USS Enterprise. Full global co-operation to deal with global problems: resource management and environmental protection, never mind extra-terrestrial threats and aliens. Before we can 'boldly go' in to space we need to heal the planet and ensure that is fit for future generations. For the past fifty years scientists have warned that we cannot go on at the current rate and the Extinction Rebellion movement today shows how urgent this has become.

The fragmented way in which the world has responded to the virus shows not only how ineffective the World Health Organisation is, but also how badly we need a species-level response and global leaders capable of marshalling effort. The upheaval of the Second World War prompted creation of the United Nations and World Bank, the corona virus prompts a similar leap in co-operation for planetary stewardship. Climate change needs more than conferences it needs action.



2020 Blogs

From these four alternative futures the more optimistic ones, New Humanity and Star Trek, both offer hope for mankind in that they envision constructive change. The challenge for politicians and world leaders is to find ways to make these achievable against a mind-set that all too easily slips back into the pessimistic and regressive alternative futures of Orbanisation and Hyper- capitalism.

*Written by Garry Honey, SAMI Associate and founder of Chiron Risk
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What do you do when a “wildcard” hits? Thoughts from a futurist



Image by Karen Arnold from Pixabay

We've all read loads of prognostications about how the coronavirus outbreak will change the world – or not. But it got us thinking more generally about “wildcards” and what to do about them. Serious “wildcards” tend to be high impact low probability events. These are generally the most difficult risks to justify a business case for investment in preparedness, given there will always be competing requirement for more likely events. However, they also have a very high reputational risk for both Governments and the private sector. Dealing with such issues has been the subject of Government thinking for some time, including the 2011 Blackett Review of “High Impact Low Probability Risks”.

Most good horizon scanning will throw up things which, although not actually “black swans” in the sense we would never have thought about them, are remote possibilities with extreme consequences. Pandemics have long been high on this list. In SAMI's recent newsletter we noted that both the US National Intelligence Council, in “Global Trends 2025: A Transformed World” (November 2008) and the UK Cabinet Office in the 2017 National Risk Register, identified viral infections very similar to the current one as a high risk.

Some wildcards can be even more extreme – asteroid hits and alien landings. Others are not very “wild” at all – an outsider winning the next election, a new competitor with disruptive technology. Some you will not think worth worrying about – unless you are SETI; others you really should develop contingency plans for.

If you are the Government and your teams have identified a pandemic as a serious enough wildcard to worry about, then you will have developed a contingency plan. Similarly, as a business you will have built a Business Continuity Plan to deal with risks you've identified (you have done that, right? Did it include “lockdown”?).



So when a wildcard hits, what do you do? Let's use coronavirus to explore that – but looking at the principles that apply more generally.

Detect: you should have systems in place that identify the “weak signals” that one of your wildcards was about to land. Make sure you flag this up. With the virus, news emerged early November, warning papers were in the Lancet in January.

Review your contingency plan: determine whether it addresses what seems to be emerging. Unless you are lucky, the reality probably differs in several ways from what you postulated. Even for repeat events (such as foot and mouth disease) what worked last time may not be appropriate in the future due to changing environments. So it is critical you don't just blindly roll out the plan. Dealing with pandemic flu is not exactly the same as dealing with coronavirus. There is still a lot we don't know about how it will behave, we can't assume it will be the same as flu. In business, a new competitor may break the conventional rules.

Determine speed of action: can you watch how things develop, or do you need to act now? Don't just put things off until the crisis hits – try to pre-empt the problem. How far up a chain of command does it need to be escalated? Identify key trigger points – eg the virus reaching Europe – and actions to go with them.

Keep monitoring: things may not be developing the way you thought they would; it's unlikely they will be. Make sure decision-makers are listening. In this case, testing for the virus is vital.

Adapt the plan: remember the old adage that no plan survives contact with the enemy. If possible, learn from how others are reacting; South Korea did well to stem the spread, probably because of their recent experience with MERS – they are watching for a second wave, we should watch and plan too.

Remember the distinction between forecasts and scenarios: Forecasts are based on assumptions, usually taken from previous experience. Mathematical models are not magic Oracles, simply encoded assumptions. But this event may be different. What don't you know? What else could go wrong? Will the virus mutate into a more deadly strain? What are the second-order effects? If the whole Cabinet is taken seriously ill, can you cope? If half the NHS workforce is sick, what do we do then?

ACT!! And communicate – you need to bring people with you. But also listen because you are going to need to be flexible. Don't be afraid of making U-turns. Make sure you protect the long-term as well as coping with the crisis.

Re-configure: determine new priorities, re-deploy resources, adapt facilities to new needs.



Keep monitoring and ACT some more. Keep communicating, keep moving.

Pick up the pieces: when the crisis subsides (which hopefully it does), plan your way to getting back on track; or change your direction entirely. How do you decide which? Think through different scenarios of what you could do.

Review and reflect

What else could you have done to react? What could you have done before the crisis hit?

You almost certainly could have built more resilience into your systems beforehand – becoming “anti-fragile”. Should you replace “Just in Time” with “Just in Case”? The systemic fragility exposed by the financial crisis of 2008; the pandemic showing up the vulnerability of globally distributed supply chains, combined with health systems suffering from austerity. These are not examples to follow.

You could also become more agile and responsive. If you can procure ventilators rapidly, that’s fine – if you can’t, you need to work on it. Do you have too rigid a command and control structure that doesn’t like bad news (like China at the start)?

Is this now a “new normal”? Will we face the same problem again soon? Or has it all gone away, and old certainties returned? How will you know? Are there now new opportunities, have you developed new capabilities, identified redundant processes?

How does it affect your other contingency plans? Are there new scenarios you need to be thinking about?

You know now that “stuff happens”. SAMI’s experienced and expert consultants can help you think about the future and develop plans that enable you to react to changing circumstances, to survive and thrive. Get in touch and let us help you take:

‘robust decisions in uncertain times’.

Written by Huw Williams, SAMI Principal

Published 15 April 2020



How much should you spend on preparing for wildcards?



Image by S. Hermann & F. Richter from Pixabay

When wildcards hit, your contingency planning is tested. Did you have enough of the key equipment or resources stockpiled, are you able to switch production fast enough? The coronavirus outbreak exposed issues in government planning around the availability of critical items – personal protection equipment, ventilators, testing facilities having the required chemicals.

But wildcards – by definition, low probability events – are difficult to budget for, and shortages are easy to criticise in hindsight. How much should you spend **stockpiling** items that you may never use? There are always competing budget needs; spending on today's concerns will always take priority over remote future possibilities. And there is a vast range of wildcard possibilities, so preparing thoroughly for all of them would be prohibitively expensive, practically impossible. One could argue that the pandemic is not really a wildcard, as it has been part of the National Risk Assessment for many years with a fairly high probability score. For true “black swans”, it's impossible to plan – but there are very few of these. For low probability/high impact events on your risk register it's still very difficult to decide how much to budget for contingencies. And it's tough too when your stockpile goes out of date and needs replenishing.

A start point one might think would be to rank spend according to **likelihood multiplied by impact**. The problem with this simple approach is that the likelihood is difficult to estimate to any reasonable accuracy – even calling it “low, medium, or



high” is a very subjective exercise. On the impacts, there may be data available to make some sort of plausible assessment of the range of potential economic impacts and casualties. However, it is important not to rely too heavily on models; and most high impact events also have psychological impacts, for which there are limited assessment tools available.

Part of the answer revolves around timescales. How early can you spot the crisis coming? Investing in **monitoring and horizon scanning** will not only identify the early warning signs of your identified risks, but also should help spotting newly emerging risks to add to the risk register. However, it is very difficult to judge the relative weightings to be given to hard data/intelligence and horizon scanning. Having spotted the risk developing, how quickly can you overcome bureaucratic inertia to take the necessary actions?

How quickly can you **react** to acquire the necessary capabilities? If you can convert conference centres into hospitals in a week, there’s no need to worry about ICU wards. But if it takes months to get manufacturers to convert to producing ventilators – crucially, at sufficient scale – then your contingency plan should have thought about stockpiling them.

How fast you can acquire new stocks versus the rate of use tells you how much you need to hold to avoid a “**stockout**”. You then have to put a cost on a stockout happening, which is a matter of judgement. If you’re a retail store, can you sell the customer something else, or have you lost that sale completely, or worse have you lost the customer to the competition for life? It’s a standard business stock control problem with subjectivity thrown in. If you try to avoid stockout entirely across a range of risks, you will go bankrupt. On the other hand, a stockout of PPE costs lives.

It may be worth looking at resources that will be useful in **several different wildcard events**. Much of a hospital’s Major Incident Plan will apply whether it’s a natural disaster or a terrorist attack. Both will require similar capabilities and strategies. Postponing elective surgery is a favourite response to any hospital crisis.

This links in with issues around **bureaucracy and centralisation**. In “normal” times, centralising production and control is often both more cost-efficient and a way of guaranteeing consistent quality. But in times of crisis, the “Dunkirk spirit”, decentralised activity – sewing medical scrubs for example – meeting local demand in a flexible and responsive way without much central control, may be what is called for. The Indian concept of *Jugaad* – a non-conventional, frugal innovation, or hack – gives greater responsiveness. Strict centralised business processes may not be what you need in turbulent times – empowering people to be innovative can be more effective.



Another form of contingency investment you can make is in **capacity and capability**. Organisations operating at 100% capacity won't have the flexibility to respond to the unexpected. Clearly you can't have expensive resources like doctors sitting around doing nothing, but you can have slack in the system so that when the key people are needed you can backfill their roles. Can you summon a High Impact Team just when you need it? If military analogies are appropriate, where are your "reservists" who you can call up to free trained resources by taking on the less critical tasks?

Training people in how to respond to shocks is also a sound investment. Just as you have first-aiders and fire marshals, you could have strategic eagles who fly in to tackle business emergencies. Regardless of the exact nature of the challenge, these people – trained in how to respond, how to implement contingency plans, how to bring together teams and resources – will spearhead your response. Running exercises is also an important tool for training responders and testing the contingency plans – provided you act on the results.

High impact low probability events generally result in high reputational damage. However, how much you spend, how many precautions you take is a judgement call, depending on what you can afford and your **risk appetite**.

As Clint Eastwood said in the film *Dirty Harry*,
"You've got to ask yourself one question: 'Do I feel lucky?' Well do ya, punk?"

*Written by Huw Williams, SAMI Principal
Published 13 May 2020*



Looking to the future from an uncertain present

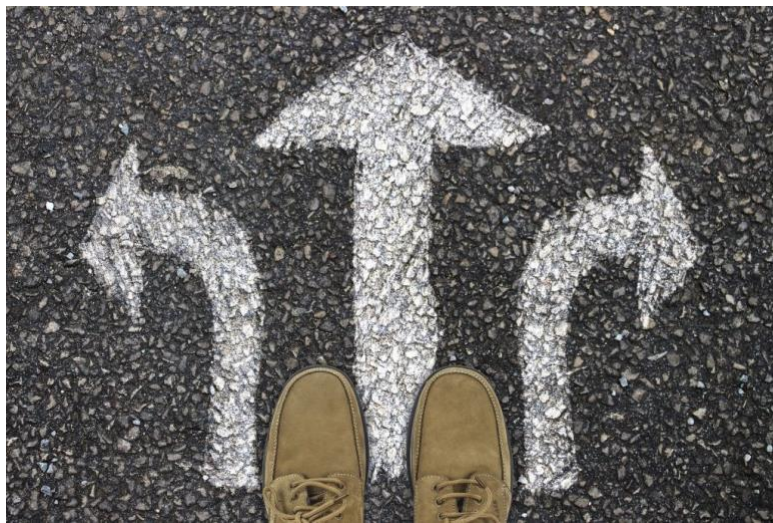


Image by Gerd Altmann from Pixabay

I was in a meeting a little while ago when someone asked “can we really make scenarios of the future when the present is so uncertain?” It’s a question I’ve kept coming back to.

The obvious answer is that the present is always uncertain. When one is going through a strange period, the present seems more uncertain than when it is life as usual, but the idea that we are ever in a “certain now” seems to me to be a comfort rather than a fact. We know what is within our immediate range – what we can touch, hear, see, smell or feel. Everything else is a report, and reports are subject to bias. Worse, we never get all the reports – so we know what we read or what we are told, but not what we are not. The absence of information is something that we parse within ourselves to make what we regard as certainty out of what is, in fact, an absence of information. It’s just that we are primed to live within that uncertainty and turn it into the bubble in which we live.

The present seems uncertain, then, when the reports that reach us are uncertain. But it is only because we get them. The fact that we get them does not lessen the fact that uncertainties are always there, but in most cases unreported to us. The present is always uncertain, and the fact that that uncertainty has become evident to us does not alter the fact that the future is going to come regardless. Then what of that future? It has been impossible to avoid the numerous op-ed pieces saying that “Covid-19 changes everything.” That in itself is contentious – humanity has faced pandemics before, of one type or another, overcome them and continued. Whilst it is hard to believe it when one is in the middle of it, a crisis is often not a transformational point, but simply a disruption to the world as we understand it.



2020 Blogs

Now we are achieving some sort of distance from the shock of the outbreak, the op-eds are becoming more thoughtful. Two that deserve more attention have come out in the last few days.

Samanth Subramanian's article in Politico is one. Our addiction to predictions will be the end of us: <https://www.politico.eu/article/prediction-addiction-coronavirus-new-normal/> is an informed, thoughtful warning that "This may not be the time to sketch out, with great confidence, what 2021 will look like." Drawing on Orrell's "The Future of Everything", and Margaret Heffernan's "Uncharted". Subramanian argues that "this compulsive need to map out every inch of the future, at a time when we're still at sea, suggests that our civilization has gotten itself hooked on that promise of knowability." This will be familiar ground to futurists, who eschew forecasts in favour of scenarios – looking at possible futures rather than one future target – and it is strange that Subramanian does not include futures thinking in his piece but, as a warning against confident projections, his piece is certainly welcome.

The leader in the Economist of 25 June 2020 does explicitly engage with futures thinking. "Preparedness," as the title says, "is one of things that governments are for". In a plea to think out of the box and, to mix metaphors, over the horizon, the editors argue "Scanning the future for risks and taking proper note of what you see is a mark of prudent maturity. It is also a salutary expansion of the imagination. Governments which take seriously ways the near future could be quite unlike the recent past might find new avenues to explore and a new interest in sustaining their achievements well beyond a few turns of the electoral cycle."

Again, we agree. And this is where the answer to the question in my first paragraph is found. "Humanity, at least as represented by the world's governments, reveals instead a preference to ignore [risks] until forced to react—even when foresight's price-tag is small," they say. "It is an abdication of responsibility and a betrayal of the future."

The future will happen. We need to have a view of what its possibilities are – not, as Subramanian makes clear, as predictions; rather, as the Economist says, not to do so is a betrayal of that future. And, in answer to the question, we must do it now, because now is where we are. The future is going to happen to us, however uncertain our present. And we must be ready for it.

SAMI Consulting helps governments and companies prepare for the complexities of the future. Get in touch.

Written by Jonathan Blanchard Smith, SAMI Fellow and Director

Published 26 June 2020



Risk – how do you see your future in the glass



Image by PublicDomainArchive from Pixabay

Risk as a management discipline gets a poor press. Like a hapless government agency it often appears that it has been set up to fail, due to unrealistic expectations of its power and effectiveness. Why is this so?

Risk is an estimate of a future outcome and is therefore a reflection of a level of confidence in the future. Risk management is to an extent an oxymoron because the future cannot be managed, this is part of its problem. Another is its focus on the past to predict future loss or harm based on what has gone before. We are genetically programmed for self-preservation which drives our fear of loss.

Do you have a 'glass-half-full' attitude to life or 'glass-half-empty' attitude? The former tend to be optimists who see pleasure in the remaining half pint, whereas the latter tend to be pessimists lamenting the loss of the first half. Because risk management focuses on loss aversion and hazard avoidance, risk experts tend to exhibit a glass-half-empty mentality. This restricts capacity for imagining a positive future which glass-half-full thinking would encourage.

Does this matter? It can lead to what is known as 'Maginot Line syndrome' (MLS) a belief that a system of defence in place to preserve continuity is adequate because it addresses a previous threat. It is found wanting when a new threat overwhelms it that had not been anticipated. The UK response to the Covid pandemic was based on an assumption that any future pandemic would take the form of a known flu virus and not a new variant as Covid-19 proved to be. The 2017 risk assessment ignored the warning signs of SARS and MERS which showed that new variants required consideration as Canada had found in 2012.



There are many examples of MLS that demonstrate systemic failure in thinking about risk. It is not about the state of preparedness but the lack of imagination in predicting future outcomes. In 1942 Singapore assumed any attack would come from the sea not the land, so when the Japanese invasion came from an unexpected direction, the defence was quickly overwhelmed. As risk is essentially about anticipation of possible future outcomes, risk thinking needs an injection of creative imagination if it is to be effective.

Nobody says that predicting the future is easy, most predictions are either lucky or wrong, but risk management as a discipline is set up to fail if it is considered primarily as one of preventing business interruption, loss or harm. Risk decisions involve an imagined future, we just need to have more imagination about possible futures, especially as we explore the impact of the current pandemic on our future lives. Risk is an integral part of an imagined future, but in the absence of robust estimates or projections into this future then the risk controls put in place will always be facing the wrong way.

*Written by Garry Honey, SAMI Associate and founder of Chiron Risk
Published 3 September 2020*



Reasonable Worst-Case Scenarios



Image by Gerd Altmann from Pixabay

We're hearing a lot from Government about "reasonable worst-case scenarios" at the moment. At first sight it seems sensible. We need to think beyond the "base case" or "central case", but no-one wants to bother with the most extreme case. But what is the methodology behind it? Or is it just a subjective assessment?

According to Government documents referring to Operation Yellowhammer, the Brexit planning process, a reasonable worst-case scenario (RWCS) is "plausible" – as opposed to the extreme worst-case scenario. A planning assumption is "The reasonable worst-case scenario you are anticipating, including the likely severity and duration. A reasonable worst-case scenario is the worst plausible, not most likely, manifestation of the risk in question." Reasonable worst case planning assumptions "should provide a common, stretching, scenario for stakeholders to plan against and for which, if plans are in place, a reasonable level of preparedness can be expected for most manifestations of the risk. It is not a likely scenario or a prediction but an outline of what could feasibly happen in a reasonable worst case. The assumptions are deliberately stretching and challenging in order to facilitate effective contingency planning."

Yellowhammer "has always been a reasonable worst case scenario and never a 'base' or 'central' scenario."

So by definition, we're in the realm of qualitative judgements as well as quantitative analysis. The National Risk Assessment is classified, so it's quite difficult to get at the groundwork. From our experience, one takes facts than can be quantified



(number of nuclear power stations) and then adds qualitative judgements (likelihood of any nuclear power station failing catastrophically in any 100 year period) and then tries to place a quantitative value of the qualitative judgement. So there is always a degree of subjectivity involved in the process, even if it's disguised by the fact that this always comes out in tables and charts and numbers.

The National Risk Register – which is the unclassified version of the NRA – has a methodology section ([2017 version, section 4, p69ff](#)) which is gloriously light. But there is some detail. For instance:

1. Each of the risks in the NRA is described as a 'reasonable worst case scenario'. For a risk to be included in the NRA, they must (note that we have taken the wording exactly from the National Risk Register):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Fulfil the definition of a civil emergency, as described on page 6. Note that long-term trends (such as climate change) increase the chance or severity of civil emergencies (e.g. floods), but do not constitute civil emergencies in themselves; | legal definition |
| Have at least a 1 in 20,000 chance of occurring in the UK in the next five years, or in the case of malicious attacks; have a plausibility score of "1" or more (see section on plausibility below); | plausibility, therefore subjective |
| Have an expected impact that reaches a minimum threshold (typically significant damage to human welfare in the UK). | minimum threshold - qualitative AND quantitative |

2. For civil emergencies:

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Experts assign likelihood scores to each risk on a scale of one to five. | likelihood score - qualitative AND quantitative |
| For each step on this scale, the probability of an event happening in the next five years increases roughly tenfold. For some risks, data such as historical analysis and numeric modelling can be used to inform estimates of likelihood (especially for naturally and accidentally occurring hazards). | quantitative |



| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <p>Scientific expertise is also sought to inform the development and review of risks.</p> | <p>qualitative</p> |
| <p>Where possible, a combination of this analysis and expert judgement is used to estimate the approximate likelihood of an event occurring.</p> | <p>qualitative AND quantitative</p> |

3. The plausibility of terrorist attacks or other malicious incidents is assessed slightly differently.

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <p>The willingness of individuals or groups to carry out attacks is balanced against an objective assessment of their capability – now and, as far as possible, over the next five years – and the vulnerability of their potential targets. The two scales are not directly comparable with one another; however, for the purposes of planning, a hazard or threat in the top right quadrant of either matrix would be given the same priority.</p> | <p>qualitative AND quantitative</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|

You'll see that we have tried to assess what type of inputs go into the assessment. And it's clear that much of it, despite the numbers and percentages that come out of the end, are qualitative judgements transferred into, apparently definitive, figures.

The introduction of the word “plausible” in the definition of the RWCS is ultimately the point here. Even if all of the data was factual, and based entirely on provable numbers, the question whether it is “plausible” by definition introduces a level of subjectivity. Fukushima, for instance, was possible, but not plausible. Plausibility does not necessarily include wild cards. But it's still not clear whether “plausible” implies 20%, 10% or 5% likelihood (even if that could be estimated).

We would also make the point that the RWCS is not a “scenario” at all in the futurist's sense. It seems to be much more a “moderate downside” case, compared with a “base case” or “central case”; it has the feel of being a one-dimensional view of the world. Useful scenarios are much more multi-faceted, and allow for the interaction of several different disruptive (or serendipitous) events – pandemic AND “no-deal” Brexit AND an extreme weather event.

Quite possibly in reality the RWCS is a proper scenario, but we suspect what is happening here is that the expression itself is used as a convenient, flexible shorthand to communicate the idea of the base case to the general public. What



2020 Blogs

matters then is the quality of the contingency planning, and preparedness, which itself can be coloured by the cost of being prepared.

You'd expect us to promote the idea of proper, communicated, scenarios. We believe these have real value – in this case, across the whole of government and with the wider stakeholder group. Particularly, it is our experience that understanding the parameters of a scenario in detail substantially aid its usefulness. If people understand what went into it, they are more capable of making their own judgements on how to use the scenario.

As we enter the new year, with Covid-19 still in place, and Brexit finally fully biting, reasonable worst-cases are going to be critical throughout the public and private sectors. Understanding where they come from, what they are, and how to use them, will be key.

*Written by Huw Williams, SAMI Principal and Jonathan Blanchard Smith, SAMI Fellow and Director
Published 9 December 2020*



Predictions for 2021?



Image by Arek Socha from Pixabay

Regular readers of our blogs will know that single point forecasts are not scenarios – and so pretty much useless for planning for the future. That said, in this blog, Garry Honey, a SAMI associate and founder of Chiron Risk, gives his view of the first few months of 2021.

Predictions for 2021

Despite a difficult year for public health and the economy caused by the virus epidemic, we face that time again when tradition demands a forecast for the next year. At the time of writing we know that the UK will have left the EU, but we don't know whether this will be with a trade deal or not. Nevertheless here is one view of the first few months of 2021 –

January – Foreign Office halts policy of 'habitual xenophobia' and gunboat diplomacy. The EU has more gunboats and the French have threatened asymmetric warfare: while British citizens would be free to live in France under 'confinement', all French property registered to a British citizen would be commandeered by the French state without financial compensation.

February – Home Office takes control of entire Easy Jet fleet for new programme of mass deportation of aliens from the new sovereign state. This follows new government definition of 'alien' to include holders of any passports not blue. UK Border Force to be expanded to police both Welsh and Scottish borders following name change to EBA (English Border Agency).

March – Business department to set up tax and tariff free zones around Southampton, Felixstowe and Harwich to promote import and export trade hubs trade as Freeports. Bi-lateral trade deals to be announced with interested parties in



2020 Blogs

Sicily, Somalia and Colombia. Plans to mine the channel to deter foreign shipping subsequently quietly dropped.

April – Health department finally agrees sale of NHS to American hedge fund for undisclosed fee. New owners promise to improve standards of service to bedrock services of GP surgeries and A&E departments to all registered citizens of the new sovereign state. Surgery appointments will require a UTR tax code and outpatient appointments an acceptable Experian credit score.

May – Transport department decides to abandon Stonehenge tunnel as the government disputes UNESCO right to declare heritage sites within a sovereign state. Transport secretary says: ‘The site was ripe for development anyway, and Wiltshire badly needs a nuclear power station’. The lorry park of Kent to be leased to France, and the channel tunnel to be closed and filled in.

June – Education department agrees to new A levels sponsorship programme. These will now be free to anyone buying a Big Mac meal or KFC bucket. New one year university degrees launched with remote access only and no certificates for completion. Graduates receive an enamel badge for their lapel or tie with the word ‘Achiever’ clearly visible for job interviews.

July – DCMS decides to promote the delayed Tokyo Olympic games, but refuses to back demands for popular track & field events to be accessible to BBC/ITV terrestrial channels, where rights for live coverage are bought by Sky and Amazon for pay TV customers. DCMS manages to secure terrestrial TV live coverage for skateboarding and baseball.

Aug – Treasury decides not to repeat the hospitality stimulus ‘Eat out to help out’ which it launched last August, but to replace it with ‘Stay home alone’ because the borders are shut. Treasury also decides that Universal Credit claims are costing the country money that could better be spent on HS2, Lighthouse Labs and other projects where accountability is more opaque.

*Written by Garry Honey, SAMI Associate and founder of Chiron Risk
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