Journal of Futures Studies 2022,Vol. 26(4) 15-22 DOI: 10.6531/JFS.202206 26(4).0002

Article

Leadership Beyond The Great Pause: Climate Change And Other Wicked Problems

David Ross1*, Bob Leonard2, Sohail Inayatullah3

¹VUCA Strategist, Phoenix Strategic Management, Sydney, Australia

Abstract

The purpose of this paper is to provoke discussion and reflection in leaders with respect to the styles of leadership now required across sectors to deal with the significant wicked and super wicked problems now faced.

Many business leaders now understand that their current management structures and leadership styles are not up to the challenge of successfully leading their organisations in a VUCA world... and our climate crisis guarantees a VUCA world for the foreseeable future. Yet, they do not know how to successfully deal with our climate crisis. They have never faced a situation like this before. There is no precedent or roadmap. Having excelled historically at solving linear-style problems, they want to know what to do to not only survive, but to thrive, in this new abnormal, full of wicked problems like climate change.

A different form of leadership is required, one that is more agile, ambidextrous, and flexible. The application of futures thinking within organisations is a vital skill in accomplishing this, individually and cultural. The article applies scenarios developed for a covid world by Milojević and Inayatullah (2021) to a world that must confront climate change and other wicked problems. These scenarios are then interrogated to identify the benefits to leaders of unearthing the narratives that leaders and their organisations are unwittingly bound by.

Keywords

Climate, VUCA, Leadership, Culture, Transformation

Welcome to the 21st Century

The world is experiencing momentous and turbulent change. Exponential change that leaders, political and otherwise, are struggling to deal with.

Leaders must deal with a growing list of significant and complex social, economic, and environmental challenges each of which have the potential to adversely impact the viability of their organisations. The mother of all crises — climate change — is on our doorstep. However, most leaders and organisations have deferred meaningful action. Many are waiting to see what governments will do, what regulations and mandates they will need to adhere to as they are uncertain of the return on investment (Lee and Klassen, 2016). Those positioned best for the future need to anticipate likely regulations, budget for them, and put strategic plans into action (Porter and Reinhardt, 2007).

Swiss Re, the insurance giant, provides an example of an organization that isn't waiting for government mandates. Swiss Re has committed to transition its investment portfolio to net-zero greenhouse gas emissions by 2050. It has already announced concrete targets for how to achieve this (Cooper, 2021).

Many leaders are like firefighters who reflexively put out fires. They sense urgency and they act. That is fine, but it is not enough. Our climate crisis is also an existential risk but (because it has been slow moving... perceived

E-mail addresses: David Ross@phoenixstrategic.com.au (D.Ross)*. Bob.Leonard@thisspaceshipearth.org (B.Leonard). Sinayatullah@gmail.com (S. Inayatullah)

²Climate Foresight Advisor, This Spaceship Earth, Portland, United States

³UNESCO Chair in Futures Studies, Sejahtera Centre for Sustainability and Humanity, IIUM, Malaysia; Professor, Tamkang University, New Taipei City, Taiwan; Government of Abu Dhabi, Culture and Tourism, UAE

^{*} Corresponding author.

to be at a distance), it has not gained as much attention from organisational leaders. Climate scientists and other experts are emphatically making the point that this is a true emergency. The planet is close to reaching a tipping point where any further warming could become self-sustaining... a runaway hothouse effect points of no return (Spratt and Armistead, 2020).

The situation facing decision makers and the wider society is exacerbated by a world becoming increasingly volatile, uncertain, complex, and ambiguous (VUCA). A term coined originally by the US Army War College, but now readily applied to the business world, VUCA conveys what we have been experiencing, globally with the pandemic; namely:

- The rate and pace of change imposed upon organisations and leaders by the pandemic has shocked many (volatility). It has left an array of businesses feeling brittle, and yet many were able to quickly shift operating models to institute work from home procedures, to make supply chain changes and several other adjustments. They learned that they could act swiftly and decisively when necessary.
- Uncertainty remains due to an inability to confidently predict how different segments of society will recover. Most pundits agree, global society will not go back to "normal". We will rebound into a "new abnormal", but what will that look like? Futures thinking can help us shape that.
- Climate, like COVID, is an extraordinarily complex and interconnected phenomenon. It requires strategizing that considers and integrates multiple and competing parameters including the health and wellbeing of individuals, communities, and societies versus the strength of local, regional, and international economies. Our climate crisis is even more complex it impacts every aspect of life.
- Since the virus was new (novel), it embodied many unknowns. It had unique characteristics that needed to be discovered... and it mutates! How best to manage it? Do we focus on the health aspects, or the economic ones? Our climate crisis is unprecedented. We have no previous experience to draw on. And it is a moving object, morphing as a planetary system reacts to airborne pollutants that keep growing day by day. These are ambiguous situations... ones that cannot be clearly defined and which can change without warning (Leonard and Ross, 2021).

Difficulty with how this momentous and turbulent change has even led several thought leaders to have coined different acronyms to capture the momentous change that we are experiencing. Some have identified this change as being Brittle, Anxious, Nonlinear, and Incomprehensible or BANI (Cascio, 2020); Rapid, Unpredictable, Paradoxical and Tangled or RUPT (CCL, 2020); Turbulent, Uncertain, Novel and Ambiguous or TUNA (Rhoods and Babor, 2018). We employ the VUCA acronym because it is the most established, well-known, and otherwise, there is the risk of debating which is the most appropriate at the expense of confronting the salient issue.

Organisations are facing unprecedented decisions. The uncertainty and complexity associated with our climate crisis makes it difficult for leaders to figure out how to address it. What is the way forward? In a VUCA world, we have little confidence in how to proceed nor have the capabilities to deal with such interconnected dilemmas.

Linear problem solving no longer suffices

Historically, leaders have been brilliant at solving linear problems, often immediately and instinctively... generally based on technical expertise and experience. This highlights the power of the long-standing story behind our expectations of leaders. For generations, the narrative was of the "heroic" leader (derived from a warring mindset... one that divides humankind into winners and losers). These leaders were seldom challenged due to the severity of the potential consequences. (Kakabadse, 2000).

The heroic leader is relevant to how organisations traditionally handled problems, and it has implications for the future. Confronted with a linear, technical question, leaders have resources – data and subject matter experts – to help them devise solutions. Typically, there is a single optimum solution that is formulated with confidence and certainty. An example would be fixing a quality problem to keep a production line up and running.

When a leader must find a solution to a problem that their organisation is facing, they seek a rational answer by gathering data and analysing it. They often share the process with a relatively small group of individuals, who usually have similar interests and perspectives, to devise an ostensibly rational decision. They announce the decision and expect all affected stakeholders to support it.

But the world, as informed by Rittel and Webber (1973), is now non-linear. Our problems are "wicked". Wicked

problems are significantly more complex. No single mind, or small group of minds, can encompass the full array of information needed to solve a wicked problem.

Wickedness isn't a degree of difficulty. Wicked problems are different because traditional processes can't resolve them. A wicked problem has many contributing factors, is itself a root cause of other problems, is difficult to describe, and does not have a straightforward solution that can be carried out with confidence (Rittel and Webber, 1973). Our climate crisis is a prime example of a wicked problem. Conventional techniques are not up to the task of solving wicked problems.

Wicked problems often crop up when organisations face constant change or unprecedented challenges. They occur in a social context often spawning disagreements between stakeholders. People with different perspectives and experiences view wicked problems through a variety of lenses.

What happens when leaders are confronted with a "wicked" problem? Solving a wicked problem requires more time, effort, information, collaboration, bridging of different perspectives and a tolerance for uncertainty. Several potential solutions will be developed, and each of them have a significant potential of creating unintended consequences. Many traditional leaders are poorly suited to effectively manage wicked problems.

The fork in the road: Post-COVID opportunity or perish

R. Buckminster Fuller (1969) predicted that humanity would soon reach a fork in the road. He wrote, "Whether it is to be Utopia or Oblivion will be a touch-and-go relay race right up to the final moment... Humanity is in a final exam as to whether or not it qualifies for continuance in the Universe." The pandemic has exposed many leaders who still employ traditional leadership styles. It also has shown the vulnerabilities of traditional organisational structures and cultures that focus on efficiency. That efficiency (e.g., "just in time" supply chains) makes the organisation brittle and unable to quickly adapt to rapidly evolving circumstances. Leaders face a challenging path ahead.

Continuing to lead with a mindset devoted to incremental tweaks to improve productivity and short-term profitability makes an organisation incapable of successfully navigating our climate crisis. Bold decision-making is required. As is, in most cases, a requirement to confront existing corporate cultures and business models. The conventional "set the goal; plan; execute the approved plan" approach is not suitable for today's challenges. Organisations must reinvent themselves for a new abnormal... for the era of climate change and a VUCA world.

The speed with which society, business, government, etc. had to change is now standard operating procedure. Finding solutions that can be confidently deployed will not be possible for every challenge. We need to get comfortable adopting "least-worse" options. Key stakeholders will convey their opinions and expectations. Organisations that do not proactively address our climate crisis will pay a price in the marketplace and in the battle for talent.

We are at a point when "time is plastic". Literally anything can happen. Milojević and Inayatullah (2021) observe that society has entered a highly uncertain and unpredictable period. Many will be tempted to go back to the world we knew, one where nature is still seen as an externality, and profit is the core focus of all activities. However, Milojević and Inayatullah (2021) also observe that this is an opportunity to create a different world and instigate real structural changes. Furthermore, as biosecurity expert Peter Black argues, "Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It can become a portal, a gateway between one world and the next." (personal communication, 6th April 2020).

Stakeholder engagement, morale and loyalty are growing in importance. Will employees who have a choice want to work for a company that isn't a climate champion? Will consumers who have a choice want to buy from a company that isn't a climate champion? There is no competitive advantage in complying with mandates and regulations. Those organisations that take steps prior to being forced to, will reap benefits in the marketplace. Yet, many CEOS are hesitant to be the first mover, concerned that they may lose market share to competitors who continue business as usual. Such a plastic time, and what that could entail as described above, calls for bold leadership.

Futures thinking

Leaders who are better informed on these unprecedented matters make better decisions. Decisions that are more effective not only for themselves and their organisations, but also for all stakeholders. Futures thinking can make a critical contribution by enabling leaders to navigate by developing anticipatory mindsets.

Leaders often tackle the development of vision and strategy based on current trends and historical data. In a time when literally anything can happen, it is dangerous to rely solely on what we know today. It is difficult to fully grasp what options for the future may lie ahead. What do scenarios of the future look like? How do they "feel"? We are entering uncharted territory where the past is no longer a viable predictor of the future.

Futures thinking enables organisations and their leaders to get a glimpse into different, but plausible, views of the future – including scenarios that call on not just current trends pushing us into the future, but also images or views *pulling* us into the future. That requires the deliberate development of anticipatory mindsets... not just by executive management, but across (and even beyond) the organisation.

Scenario planning helps leaders develop confidence by working through several plausible futures to see what the implications are for each. Scenario planning outlines these potential futures, enabling leaders to familiarize themselves and to develop strategies and tactics should these "futures" arise.

The main challenge in developing long-term risk management strategies is the high level of uncertainty and complexity inherent in our climate crisis. Scenario planning should examine how the various components of risk will evolve in response to climate issues. It is important to understand that scenarios should NOT focus solely on the risks. Scenario planning must simultaneously consider changing consumer trends, technological developments, potential changes in regulations, and more.

Scenarios are alternative maps to the assumed future we already have. Scenarios are composed of integrated narratives of how the future may unfold. Futures thinking is much more than scenario planning. Organisations can struggle to free themselves from old habits, cultures, and leadership styles. Futures thinking enables leaders to understand where their organisation has come from through time and the entrenched narratives that the organisation is unwittingly adhering to. Consequently, it also enables leaders to reflect on their own worldviews, experience epiphanies and truly appreciate how their mindset contributes to the organisation's status quo.

That is crucial for leaders struggling to determine a way forward.

The reflections, facilitated by futures thinking, powerfully enable leaders to gain clarity not only with respect to their organisation's underlying story, but also their own.

The narrative is crucial. How do they see themselves? What is the internal story they tell themselves? With future foresight, they can tell a new story. If the leader makes that shift, and communicates it well, that story creates an organisation of futurists. They are all operating from that same anticipatory mind frame. We change the cultural story of the organisation. The future is democratised.

What lies beyond the Great Pause

Scenario planning is not only crucial for organisations utilising futures and indeed, employing narratives, in general. When explored in tandem with, for example, causal layered analysis, scenario planning allows leaders to identify preferred futures, discerning a particular position on the future.

As argued above, we are progressing towards a "new abnormal". Time is plastic and there are significant opportunities for leaders to shape the future of their organisations through facing our climate crisis and reframing it as a seismic opportunity for the organisation.

There is significant value in reflecting on how nations and their people have responded to the pandemic. This is because there are parallels that will be of relevance for organisations, public and private, regarding what can be anticipated in relation to our climate crisis.

Subsequently, five narratives that have emerged out of the pandemic (Milojević and Inayatullah, 2021) are described below that also have relevance to climate change (Table 1).

The blame game	It is "their" fault. That is, no matter what a group hears, they will not accept		
	information even if it is based on scientific evidence or expert evaluation. Such groups		
	are suspicious and are dominated by a mindset that complex issues are "black or white".		
	There is not an appreciation of the complexities nor a respect for legitimate views that are		
	different to theirs.		
Conspiracy theories	Evidence is drawn from marginal websites by fringe groups, believing that the pandemic		
,	is much more than it is assumed to be. It is believed that the pandemic is a cover for other,		
	often health-related, concerns that are not based on evidence.		
	Both of these first two conspiracies are using the pandemic as a portal for victory. "Our		
	way of knowing the world will win."		
	Climate denialism is a conspiracy theory of sorts. Climate denialists claim there is a cabal		
2	of scientists and media propagating falsehoods to advance an anti-fossil fuel agenda.		
A team of experts	At the same time, there has been amazing cooperation and collaboration in science and		
	medicine around the world to come together and fight the common enemy – COVID. And		
	we are also seeing this in the climate space with consortiums of scientists, meteorologists		
	and academics uniting to publicize the urgency of our climate emergency.		
This is but the 1 st inning	We must be anticipatory. How do we prevent the next pandemic rather than wait for it to		
	happen and battle it then? This is not the end of the game. This is the first inning. We		
	know that climate change and human development encroaching on wild lands are the root		
	causes of these diseases. There is a recognition that we must address the root causes.		
	So how do we prepare? We need to address our economic system, how we think about		
	food, how we design our cities. Focus on preparing for the next crisis and being part of the		
	solution.		
A team of five million	Inspired by New Zealand's Jacinda Arden, can we create a team of eight billion, a global		
11 todaii of five minion	anticipatory system? We are in the same storm, different boats. Why are some boats		
	cruising while others are foundering?		
	cruising white others are foundering:		

Table 1: Pandemic lessons for managing climate change

Such narratives present opportunities for leaders to consider how these lessons can be applied to an even greater and more enduring crisis... climate change.

Transcending the heroic leader

There is much for leaders to reflect on regarding how society has responded to the pandemic and how this can translate to surviving (and having an opportunity to thrive in) our climate crisis.

Just as there has been a wide-ranging spectrum of narratives in response to the pandemic, so too there are parallels for how leaders can successfully navigate climate change – and other wicked problems – in the context of a world that is increasingly VUCA.

It could be argued that many laggards have remained anchored to scepticism of climate change. This is due to the identification of conspiracy theories – that scientists are pushing this cause and the levelling of blame for some form of financial gain or man-made climate change is being exaggerated by white tower academics. This has been the experience within Western societies paralysed by fear.

Yet, some of these pandemic narratives also provide hope and agency. There is a belief that a team of experts with different perspectives will be necessary during climate change collaborations if an agreed path is to be identified. However, the narrative focused on "this is but the first innings" provides caution and consideration of the bigger picture. While there may be discussion on climate change, it is not the only wicked problem that will be faced. Even if we were to provide a committed effort towards climate change, we must also confront other social, economic, and environmental wicked problems that may overlap with one another.

Hence, the "Team of 5 M" must be considered as the preferred position on the future. If leaders are to tackle all that may be experienced, a co-created and co-delivered future must be preferred.

Within Table 2 is a review of how these pandemic narratives can inform the transformation of leadership styles, in the form of a Causal Layered Analysis (CLA). This analysis helps to create transformative space by opening the

past and present (Inayatullah, 1998). In the present situation, reflecting on how different styles of leadership are anticipated to confront climate change (or not) the CLA allows us to "dig beneath the surface" of the current context, from the litany, and helps us to understand and reflect on the deeper systemic issues, worldviews and stories that influence a leader's thinking and actions.

	5 thinking and actions.		
	Traditional leadership	Progressive leaders	The collaborative futures thinking leader
Litany	Maintain focus on business-as- usual rather than climate change	Accepting of climate change in the context of increasing VUCA; concerned about risks to organisational viability	Accepting of climate change in the context of increasing VUCA; anticipates seismic opportunities
System	Heavy reliance on processes & procedures Market-focused solely	Reliance on vision and strategy Market- and non-market focus	Reliance on vision and strategy Agile, antifragile, anticipatory, ambidextrous
Worldview	Control and stability. Antipathy or ambivalence towards climate change My way or the highway The market or government policy is the be-all end-all	Shared control Appreciate that this "is but the first innings"	Leader aware that they do not have the answers Shared leadership
Myths /	The hero	Lying awake at night moment	"The ambidextrous leader"
Metaphor /	Turn back the clock	Calling on "a team of (internal)	"Team of 5 M"
Story		experts"	

Table 2: Different leadership styles in relation to climate change

Leaders must confront the internal world

Maintaining the dominant worldview and narrative of the heroic or command and control leader will sustain the same problems that are faced now by organisations that are dominated, culturally, by the views of the few. Traditional CEOs are made uncomfortable by an external world that is threatening and uncertain... and moving at lightning speed. Their core metaphor is excellence on one playing field (for example, a clay tennis court). But the world is no longer one type of playing field.

When an organisation confronts several novel problems, a top-down structure can become a choke point. As issues are escalated, they pile up on the desks of senior leaders who often lack the knowledge or the bandwidth to make timely and effective decisions.

In a formal hierarchy, the power to initiate change is concentrated at the top. But by the time a problem becomes critical enough to capture the CEO's attention, the organisation is already running late. Leaders are insulated – organisationally, culturally, and geographically – from the fringes where new trends often occur. And many senior executives are shackled by their own timeworn beliefs. Despite this, they are expected to strategize for the future.

This will be confronting for many leaders used to generating elegant solutions to linear style problems. Indeed, in Western organisations, the leader exacerbates the situation by breaking problems down into simple issues, rather than viewing and handline them holistically (Li, 2016). A mind or culture closed to the reality of wicked problems will experience significant implications for viability, productivity, and corporate reputation.

Maintain a risk-averse culture at your peril

Organisations must cultivate a culture that accepts risk as a necessary part of doing business. In a networked world guaranteed to be increasingly VUCA, risk averse organisations will wither on the vine.

Instead of trying to maintain the status quo, we must accept that risks are essential to a successful business. Risk awareness as part of an organisational operating system incorporates vigilance with respect to strategic risks, and to business opportunities.

Risks are often thought of only as hazards, even though they can present significant opportunities for organisational innovation and competitive advantages. In fact, risk and opportunity are a duality – like two sides of

the same coin. By focusing on the downside of risk, companies may forego opportunities. Risks examined closely, with an eye toward uncovering opportunities and managing polar opposites together rather than separating them out, often bear fruit (Befeki et al., 2008; Li, 2016).

Risk-aware cultures either avoid disruptions altogether, or they are prepared to quickly address them. They innovate continuously because their vigilance constantly anticipates risks and either controls them or transforms them into opportunities. Risk-aware cultures master complexity via equal dexterity in handling situations on opposing sides of their operating environments.

These organisations can profit from the products and processes of past successes while capturing the opportunities that will define the future. They can manage the downside risks on the one hand while focusing on value creation by capitalizing on opportunities. The organisation is, accordingly, ambidextrous. So too must be the leader.

For example, the secondhand fashion market is booming... and is expected to continue to grow along with the trends toward decreased consumption and a circular economy. Fast fashion purveyors can get ahead of this trend by visualising a future when curating a wardrobe of second-hand clothes via "thrifting" demonstrates creativity and a unique sense of style. How might retailers profit in a market driven by "conspicuous non-consumption"?

Build the force

There are significant benefits to organisations from calling on the "Team of 5M" narrative (Milojević and Inayatullah, 2021), to co-create a way forward with respect to climate change. Through calling on collaborative and anticipatory methodologies – and thereby, a diverse array of perspectives from stakeholders on climate change and its management – organisations can generate diverse and plausible scenarios. This, in turn, enhances insights and innovations. In an era of declining trust, the resulting agreements with stakeholders streamline strategies and the achievement of objectives.

The "Team of 5M" enables an evolutionary shift in the C-suite to embrace complexity and risk... to examine threats for hidden opportunities and generate better plans. So, change the metaphor from a "clay court specialist" to an individual who can play on any court. The leader is then playing tennis for the fun of the game.

Leaders should reflect on their relationship to competition. Are they playing to beat the other guy? Or are they playing for the fun of it and to improve their skills? A mindset focused on competition comes at a significant cost. Competition is wasteful. It sidelines talent and diverse perspectives. We cannot afford to do that anymore. Every idea must be marshalled and considered. Diversity must be nourished and cherished.

To confront the problem, leaders need to confront themselves

Effectively addressing our climate crisis and other wicked problems requires constant innovation. The skills, experience and indeed, worldviews needed differ from those required to manage an existing business navigating relatively calm waters. Innovative ideas must not only be generated, but they must also be tested continuously as they are deployed. An idea may seem terrific on paper but may not play out that way in reality. Successful innovation requires that ideas be pressure tested and tweaked... adapted until an optimal solution is arrived at. But even that is not enough (Ross and Leonard, 2020).

In response to these problems and opportunities, leaders need to be agile, adaptable, and collaborative – a Team of 5M or 5B(illion), underpinned by the capacity to deploy emotional intelligence. That may require reflection, resilience, and reskilling.

And in an increasingly VUCA world, leaders must be able to bridge different time horizons, different focus areas and different perspectives all at the same time. Just as an ambidextrous person can manage with the left or right hands, the ambidextrous leader must be comfortable managing short-term versus long-term issues and linear versus wicked problems. Ambidextrous leaders are needed to successfully orchestrate a Team of 5B.

For many leaders, such a move will be confronting and uncomfortable. That shift will require questioning dominant business assumptions and the leader's sense of position in the organization. Our perfect storm of economic, social, and environmental wicked problems demands nothing less.

References

- Befeki, T., Epstein, M.J. and Yuthas, K. (2008). Managing opportunities and risks. The Society of Management Accountants of Canada, the American Institute of Certified Public Accountants and The Chartered Institute of Management Accountants. https://www.cimaglobal.com/Documents/ImportedDocuments/cid_mag_managing_opportunities_and_risk_march08.pdf.pdf.
- Cascio, J. (2020). Facing the age of chaos. Medium. https://medium.com/@cascio/facing-the-age-of-chaos-b00687b1f51d.
- CCL. (2020) Navigating disruption with RUPT: An alternative to VUCA. Center for Creative Leadership. https://www.ccl.org/articles/leading-effectively-articles/navigating-disruption-vuca-alternative/.
- Cooper. R. (2021). Swiss Re announces ambitious climate targets including phase out of coal by 2040. https://www.climateaction.org/news/swiss-re-announces-climate-targets-including-phase-out-of-coal-by
- Fuller, R.B. (1969). Utopia or Oblivion. Lars Muller Publishers.
- Inayatullah, S. (1998). Causal layered analysis: Poststructuralism as method. Futures. Vol. 30, no. 8, pp. 815-829.
- Kakabadse, A. (Jan-Feb 2000). From Individual to Team to Cadré: Tracking Leadership for the Third Millennium. Strategic Change. Vol. 9, pp. 5-16.
- Lee, S.Y. and Klassen, R.D. (2016). Firms' response to climate change: The interplay of business uncertainty and organization capabilities. Business Strategy and the Environment. Vol. 25, pp. 577-592.
- Li, P.P. (2016) Global implications of the indigenous epistemological system from the east: How to apply Yin-Yang balancing to paradox management. Cross Cultural & Strategic Management. Vol. 23, no. 1, pp. 42-77.
- Leonard, B. and Ross, D. (2021). Future of Work Sustainability. http://insights.cermacademy.com/314-bob-leonard-david-ross-future-of-professions-sustainability-interviewed-by-james-kline-ph-d/
- Milojević, I. and Inayatullah, S. (Jan. 2021). Narrative Foresight and Covid-19: Successes and Failures in Managing the Pandemic. Journal of Futures Studies. https://jfsdigital.org/2021/01/21/narrative-foresight-and-covid-19-successes-and-failures-in-managing-the-pandemic/
- Porter, M.E. and Reinhardt, F.L. (Oct. 2007). Grist: A Strategic Approach to Climate Change. Harvard Business Review.
- Rhoods, S. and Babor, A. (2018). The future of global research: A case study on the use of scenario planning in the publishing industry. Learned Publishing. Vol. 31, pp. 254-260.
- Rittel, H.W.J. and Webber, M.M. (1973). Dilemmas in a General Theory of Planning, Policy Sciences. Vol. 4, no. 2, pp. 155-169. June edition.
- Ross, D. and Leonard, B. (2020). Executive leaders must consider context. https://www.linkedin.com/pulse/executive-leaders-must-consider-context-david-ross-vuca-strategist/
- Smith, Noah. (2020). A Team of Five Million. How New Zealand Beat Coronavirus. https://www.directrelief.org/2020/08/a-team-of-5-million-how-new-zealand-beat-coronavirus/.
- Spratt, D. and Armistead, A. (2020). COVID-19 climate lessons: Unprepared for a pandemic, can the world learn how to manage the bigger threat of climate disruption?