Navigating Uncertain Times
A Scenario Planning Toolkit for the Arts & Culture Sector
Literature Review

Literature on the practice of scenario planning is abundant within the business sector, focusing primarily on how to develop scenarios and use them in a way that benefits a company. Literature from around the 1970s – 1990s focused on high level theory and methodology, with case studies of the advertising agencies, financial services, or the Shell corporation (the archetypal example of business scenario planning). More contemporary studies also include urban planning, transportation, or other public services.

The most helpful literature discussing the value of scenario planning often comes from sector or workshop summaries, enumerating the value each individual group received from the practice alongside general assumptions. Key takeaways from these show that scenario planning makes people comfortable in uncertainty, expands thinking, confronts change and possibilities, and prepares leaders to adapt for futures "that might happen, rather than the future they would like to create" (Wilkinson and Kupers).

Below is a selected list of general literature on the best practice of scenario planning and helpful summaries of other scenario planning processes, demonstrating what that best practice might lead to.

Scenario Planning Methodologies

1. Aldrich, S., Field, P., and Fierman, E. "Managing Risk and Uncertainty: Collaborative Approaches to Climate Change." Lincoln Institute of Landy Policy: Landlines, 2012. https://www.lincolninst.edu/publications/articles/managing-risk-uncertainty

2. Ansoff, H. I. "Managing Strategic Surprise by Response to Weak Signals." *California Management Review*, 18(2), 21–33, 1975.

3. Burt, G., & van der Heijden, K. "Towards a framework to understand purpose in Futures Studies: The role of Vickers' Appreciative System." *Technological Forecasting and Social Change*, 75(8), 1109–1127, 2008.

4. Chakraborty, A. "Enhancing the role of participatory scenario planning processes: Lessons from Reality Check exercises." *Futures*, 43(4), 387–399, 2011.

5. Courtney, H., Kirkland, J., and Viguerie, P. "Strategy Under Uncertainty." *Harvard Business Review,* 1997. https://hbr.org/1997/11/strategy-under-uncertainty

6. Dator, J. "Alternative Futures at the Manoa School." *Journal of Future Studies,* 14(2): 1 – 18, 2009.

7. Davidson, C. "Future Demand: Insight into the scenario planning methodology." New Zealand Ministry of Transport, 2014. https://www.transport.govt.nz/assets/Uploads/Our-Work/Documents/2f6ad45acc/fd-international-experiences-of-scenario-planning.pdf

8. Deloitte. "Episode 8: Scenario Planning: Tune in to possible futures, risks, and actions with Mike Kearney, Peter Schwartz, and Andrew Blau." *Resilient: Confronting the COVID-19* crisis podcast, 2020. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/finance/resilient-covid19-podcast-episode-8-transcript.pdf

   Deloitte. "The world remade by COVID-19: Recover: Planning scenarios for resilient leaders," 2020. https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/covid-19-scenarios-and-impacts-for-business-and-society-world-remade.html

9. Durance , P., & Godet, M. "Scenario building: Uses and abuses." *Technological Forecasting and Social Change*, 1488–1492, 2010.

10. Futrell, J. "How to Design Your Scenario Planning Process." American Planning Association Planning Advisory Services, 2019. https://www.planning.org/publications/document/9180327/

11. Phadnis, S., Caplice, C., Sheffi, Y., & Singh, M. "Effect of scenario planning on field experts' judgment of long-range investment decisions." *Strategic Management Journal*, *36*(9), 1401-1411, 2015.

12. Ramirez, R., Churchhouse, S., Palmero, A., & Hoffman, J. "Using Scenario Planning to Reshape Strategy." MIT Sloan Management Review, 2017. https://sloanreview.mit.edu/article/using-scenario-planning-to-reshape-strategy/

13. Rohrbeck, R. and Schwarz, J.O. "The Value Contribution of Strategic Foresight: Insights from an Empirical Study on Large European Companies" T*echnological Forecasting and Social Change,* 80(8), 1593-1606, 2013. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2194787

14. Roxburgh, C. "The use and abuse of scenarios". McKinsey & Company, 2009. https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-use-and-abuse-of-scenarios

15. Schoemaker, P. J. H. "Multiple scenario development: Its conceptual and behavioral foundation." *Strategic Management Journal*, 14(3), 193–213, 1993.

16. Schoemaker, P. J. H. "Scenario Planning: A Tool for Strategic Thinking." MIT Sloan Management Review, 1995.

17. Vecchiato, R. "Scenario planning, cognition, and strategic investment decisions in a turbulent environment." *Long Range Planning*, 2019.

18. Waldron, L., Searle, R., and Jaskula-Ranga, A. "Making Sense of Uncertainty: Nonprofit Scenario Planning in the COVID-19 Pandemic." The Bridgespan Group, 2020. https://www.bridgespan.org/insights/library/strategy-development/nonprofit-scenario-planning-covid-19

The Bridgespan Group. "Scenario Planning for Nonprofits Amid COVID-19," 2020. https://www.bridgespan.org/bridgespan/Images/articles/nonprofit-scenario-planning/nonprofit-scenario-planning-covid-19-toolkit-pdf-editable.pdf

19. Wilkinson, A. and Kupers, R. "Living in the Futures." *Harvard Business Review*, 2013. https://hbr.org/2013/05/living-in-the-futures

COVID-19 (and Other) Scenarios

Below is a summary of several organizations' COVID-19 specific scenarios and/or the methodology behind scenario planning in light of the pandemic.

1. American Alliance of Museums: Center for the Future of Museums. "The Scenario Edition: A Tool for Museum Planning." Trendswatch, 2020. https://www.aam-us.org/wp-content/uploads/2018/07/2018_TrendsWatchScenarios-Edition-redesign.pdf

2. BCG Henderson Institute. "How Scenarios Can Help Companies Win the COVID-19 Battle." 2020. https://www.bcg.com/publications/2020/win-covid-19-battle-with-scenarios

3. Columbia Business School. "Inflection Points in the New World of Business." Bizcast. May 2020. https://www8.gsb.columbia.edu/articles/columbia-business/inflection-points-new-world-business

4. Deloitte Monitor Institute. "An event or an era? Resources for social sector decision-making in the context of COVID-19." July 2020. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/about-deloitte/us-deloitte-monitor-institute-scenarios-for-the-social-sector.pdf

5. Gurumuthy, R. and Leadbeater, C. "Four coronavirus futures." NESTA, May 2020. https://www.nesta.org.uk/blog/four-coronavirus-futures/

6. Kantar. "Anticipating the Balance of 2020: Scenarios exploring COVID-19." https://www.kantar.com/inspiration/coronavirus/covid-19-what-comes-next

7. Long Crisis Network. "Our COVID Future: the Long Crisis Scenarios," May 2020. https://www.globaldashboard.org/2020/05/22/covid-19-futures-the-larger-us-scenarios/

8. McKibbin, W. and Fernando, R. "Global macroeconomic scenarios of the COVID-19 pandemic." CAMA: Centre for Applied Macroeconomic Analysis, June 2020. https://cama.crawford.anu.edu.au/sites/default/files/publication/cama_crawford_anu_edu_au/2020-06/62_2020_mckibbin_fernando_0.pdf

Books

There are many full-length publications on the topic of scenario planning and on the greater subject of strategic foresight; the following is a selected list of those texts with their publisher-provided summaries.

1. Chermack, T. Scenario Planning in Organizations: How to Create, Use, and Assess Scenarios. Berrett-Koehler Publishers, 2011

2. Ed. Schreiber, D. and Berge, Z. Futures Thinking and Organizational Policy: Case Studies for Managing Rapid Change in Technology, Globalization and Workforce Diversity. Palgrave Macmillan, 2019.

3. Schwartz, P. Learnings from the Long View. CreateSpace Independent Publishing Platform, 2011.

Scenario Planning Methodologies

1) Aldrich, S., Field, P., and Fierman, E. "Managing Risk and Uncertainty: Collaborative Approaches for Climate Change." Lincoln Institute of Landy Policy: Landlines, 2012. https://www.lincolninst.edu/publications/articles/managing-risk-uncertainty

Exploring the benefits of collaborative scenario planning in regard to their work on climate change, representatives of the Consensus Building Institute (CBI) reports on their success in running workshops with environmental groups.

In matters like climate change, which is inevitable and therefore impossible to ignore but uncertain in its exact trajectory, scenario planning is especially valuable in recognizing this uncertainty and translating it into decision-making and thought rather than paralyzing fear. By bringing together multiple groups from NGOs, state agencies, and the private sectors in their workshops, the CBI found that the combination of groups helped them gain understanding and proved the value of working with a diverse group of stakeholders to gather local knowledge and multiple perspectives.

The effects of teamwork are essential because most people do not spend their days thinking of so many alternative futures, finding more comfort in linearity and in "rational decisions based on facts and our own perceptions and preferences." Issues as complex as climate change, though, require a comfort with the unknown and similarly complex manner of thinking, best aided by including many parties in the scenario planning process. Among their observations, when it comes to building scenarios, "it may be clear in principle that using major uncertainties to structure future scenarios makes sense, but when it is time to select those uncertainties, this decision making becomes harder than it sounds."

Ultimately, the practice of scenario planning, when combined with other decision-making processes like adaptive management, helps decision-makers engage in "decision-making processes that accommodate these challenges rather than try to make decisions in spite of them."

2) Ansoff, H. I. "Managing Strategic Surprise by Response to Weak Signals." *California Management Review*, 18(2), 21–33, 1975.

H.I. Ansoff is a frequently cited author in other scenario planning literature reviews; this is one of many texts, chosen for its focus on strategic foresight in crisis management and "strategic surprises."

Strategic surprises are "sudden, urgent, unfamiliar changes in the firm's perspective which threaten either a major profit reversal or loss of a major opportunity." To combat these surprises, firms need to either mitigate problems in advance to minimize surprise and to develop "capability for crisis management." (Ansoff uses the analogy of a fire station, who cannot predict fires but has a regulated system to respond quickly and efficiently when one arises.)

The challenge lies in acquiring information, for if a firm waits too long to engage in strategic planning, they will be more surprised by crises, but if they accept vague information, they cannot successfully strategically plan. It is thus important to be flexible, and while Ansoff does not explicitly refer to

"scenario planning," he outlines the development of flexibility by calling on firms to 1) compile a list of strategic issues: events and trends that may have an impact on the business and 2) estimate the impact of each issue on the business.

By undergoing these actions, both commonly associated with scenario planning, firms can combat their otherwise rigid and delayed planning cycles, increase their ability to recognize potential issues, and adopt a system that incorporates more than a single unit of the firm.

"In summary, preoccupation with system and organizational dynamics of the planning process leads to an inability to cope with the dynamics of rapidly developing threats and opportunities," and enhancing decisiveness means that risk attitudes and values of managers must change as much as technology and systems do.

3) Burt, G., & van der Heijden, K. "Towards a framework to understand purpose in Futures Studies: The role of Vickers' Appreciative System." *Technological Forecasting and Social Change*, 75(8), 1109–1127, 2008.

This article tackles the idea of how to determine the purpose of Future Studies and scenario planning projects by offering a framework based on "Vickers' definition of an Appreciate System, highlighting how decision making involves three areas of judgment — reality judgment, value judgment, and instrumental judgment," the three deficiencies that drive decision-makers to undergo Future Studies exercises. This framework is meant to offer guidelines on how to determine purpose for a client who may not understand the true goals and consequences of scenario planning exercises; clients who know this goal, they find in their case study of a workshop with a Scotch whisky company, receive more out of the exercise and "learn how to learn" alongside the "learning."

Reality judgements are the results of the process of making sense of any situation based on perceived "facts" and what is unfolding in the context within which the decision will be taken. It involves constant examination of perception and understanding, and therefore it depends on collaboration and group discussion to remove biases and challenge perceptions. "The process iterates between raising new and significant questions about the puzzling situation at hand, and learning what is known in the world about these questions."

Value judgments decide whether the reality judgment is positive or negative, desirable or undesirable, and possibly calling for corrective action.

Instrumental judgments consider whether something can be done about a situation deemed unsatisfactory and is based on developing an understanding of available levers for action.

4) Chakraborty, A. "Enhancing the role of participatory scenario planning processes: Lessons from Reality Check exercises." *Futures*, 43(4), 387–399, 2011.

Urban planning professor Arnab Chakraborty offers an assessment of a series of scenario planning exercises in the Washington Metropolitan region and the State of Maryland "within a broad and evolving framework of participatory planning," which has been deemed valuable in gathering support of the public over a civic or business elite. These exercises incorporated daylong sets of activities using tools that "encouraged stakeholder participation to develop scenarios focused on long-term regional sustainability."

By combining divergent viewpoints with evolving tools, scenario planning "helps us develop multiple visions for the future that look beyond the traditional limits of scale, time-horizon, and disciplinary and institutional boundaries."

Though it is difficult to measure the effectiveness of scenarios in the moment thanks to the number of variables and limitations in pinpointing value on any one aspect of an exercise, Chakraborty finds that the combination of these exercises and a developing participatory framework adds intrinsic value "in capturing the issues of the future and in creating awareness and knowledge." The considerations that led to such value and dialogue include the early engagement of stakeholders and flexibility of tools and diversity among organizers.

Lastly, the findings suggest that "when timed with favorable external conditions and designed within suitable institutional frameworks, [scenarios] have the potential to provide a foundation from which tangible regional benefits can be realized."

5) Courtney, H., Kirkland, J., and Viguerie, P. "Strategy Under Uncertainty." *Harvard Business Review,* 1997. https://hbr.org/1997/11/strategy-under-uncertainty

While a future with only 2-3 alternatives might best be served by decision analysis, situations with a multitude of possibilities are better served by scenario planning.

Within scenario planning, it is important to develop a strategic posture to orient the goal of the exercise and define "the intent of a strategy relative to the current and future state of an industry." The three options are (as defined by the authors):

1. Shaping – driving your industry toward a new structure of your devising and creating new opportunities.

2. Adapting – choosing where and how to compete within the current industry structure.

3. Reserving the right to play – making incremental investments to stay in the game without committing to a new strategy prematurely.

With a posture, then there can be a portfolio of strategic moves (again, using the authors' words):

1. "Big bets" – major commitments that will generate large payoffs in some scenarios and large losses in others.

2. Options – modest initial investments that enable you to ramp up or scale back your investment later as the market evolves.

3. No-regrets moves – actions that pay off no matter what happens, such as cost-cutting initiatives and competitor intelligence.

The authors also address the residual uncertainties that remain even after analysis and thinking, divided into four levels:

1. A Clear-Enough Future – a single forecast that is precise enough for strategy development, where residual uncertainty is irrelevant.

2. Alternate Futures – analysis cannot identify which outcome will occur, but it may help establish probabilities. Some, if not all, elements of the strategy would change if the outcome were predictable.

3. A Range of Future – that range is defined by a limited number of key variables, but the actual outcome may lie anywhere along a continuum bounded by that range.

4. True Ambiguity – multiple dimensions of uncertainty interact to create an environment that is virtually impossible to predict.

Scenario planning is most helpful for cases 2 and 3 (4 is quite rare). While level 3 will have a greater range of scenarios, at both levels, participants should undergo a valuation model, gather ample information about the relative probabilities, and conduct decision analysis to evaluate risks and returns. It is equally important to identify the different possible future outcomes but also to think through the likely paths the industry might take to reach those alternative futures. "Shapers" used 2-4 to try and create order out of chaos; level 2 is designed to increase the probability a favored scenario will occur, but at level 3, shapers try to move the market in a general direction because they can identify only a range of possible outcomes. At level 4, which occurs only after major technological, macroeconomic, or legislative shock, no one knows the best strategy and shapers "provide a vision of an industry structure and standards that will coordinate the strategies of other players and drive the market toward a more stable and favorable outcome."

The traditional approach of applying analytic tools to a situation trying to predict the future well enough to choose a strategic direction only works in stable businesses; to combat instability, only looking at various scenarios and strategies can businesses make themselves resilient.

6) Dator, J. "Alternative Futures at the Manoa School." *Journal of Future Studies,* 14(2): 1 – 18, 2009.

This essay illustrates how the Hawaii Research Center for Futures Studies of the Political Science Department of the University of Hawaii at Manoa conceives of and uses "alternative futures".

The necessary components of a futures visioning process are:

1. **Appreciating the past** - a discussion of a common understanding of the history of the community or group involved

2. **Understanding the present** – its problems and possibilities

3. **Forecasting aspects of the futures** – challenges and opportunities, plus what from the past and present might still be present and what will be new

4. **Experiencing alternative futures** – the scenarios created from trends, emerging issues, challenges and opportunities from the future, and also based upon different idea about how the world works.

5. **Envisioning the futures**—a visioning exercise in which participants now are better prepared to envision a preferred future for the community or group 20-50 years in the future

6. **Creating the futures**—a discussion and decision of what to do now and in what sequence in order to begin moving the community/group towards the preferred future

7. **Institutionalizing futures research**—setting up an ongoing "futures" unit which can keep the future-oriented process going

Everyone who will be impacted by the "plan" that results from a futures process should be part of the futures process, especially as different people will have different likes and dislikes about the present to consider. There is no attempt here to get people to think "correctly" about the future, but instead to think more clearly and deeply about whatever their beliefs and preferences might be.

In running the "four futures" exercise, the goals are:

1. To have people "experience" at least one future substantially different from the present

2. To honor and have people experience images of the future actually held by some people today, and to determine how they might successfully thrive in such a future.

3. To decide in what ways a specific future is preferable and in what ways it is undesirable.

4. To consider what needs to be done to move towards a desirable future.

5. To consider what needs to be done to prevent an undesirable future from happening.

6. To encourage people to move beyond any of the presented alternative futures and to develop a collectively-preferred future of their own

They emphasize that there is no goal for a "best" or "worst" case scenario, as people should find a way to live successfully in any future.

7) Davidson, C. "Future Demand: Insight into the scenario planning methodology." New Zealand Ministry of Transport, 2014. https://www.transport.govt.nz/assets/Uploads/Our-Work/Documents/2f6ad45acc/fd-international-experiences-of-scenario-planning.pdf

This report for the New Zealand Ministry of Transport reviews the scenario planning methodology, including an exploration of its popularity, usefulness, and the debates surrounding it.

One of the initial benefits in using scenarios is that participating members "engage in learning and communication about the way they could be affected or shaped, depending on the way the world, or their operating environment, could develop." This shifts people from "day-to-day" thinking toward understanding longer term uncertainties. They are for developing resilience to future shocks and therefore scenarios made need to include specific shocks alongside uncontrollable ones, like consequences of climate change. It is also key that these scenarios not cause stress and paralysis but instead drive strategic capability, discussion, and identification of common responses across scenarios and types of thinkers.

The notion of common responses is important in driving organizational change alongside individual strategic thinking. Organizations often look to the future and try to position themselves in it based on current operation, ignoring the adaptation that might need to accompany changes in environment. Scenarios force organizations out of that thinking and to consider both ideas, ultimately acknowledging "as a fact that in the future they will be operating differently to how they operate today."

8) Deloitte. "Episode 8: Scenario Planning: Tune in to possible futures, risks, and actions with Mike Kearney, Peter Schwartz, and Andrew Blau." *Resilient: Confronting the COVID-19 crisis* podcast, 2020. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/finance/resilient-covid19-podcast-episode-8-transcript.pdf

Deloitte. "The world remade by COVID-19: Recover: Planning scenarios for resilient leaders," 2020. https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/covid-19-scenarios-and-impacts-for-business-and-society-world-remade.html

Deloitte's "The world remade by COVID-19" provides four scenarios, plus additional reflection questions including "Is there a scenario that your organization is currently ignoring—but shouldn't?" and "what capabilities, partnerships, segments, and workforce strategies do you need to learn more about?"

Noted scenario planning pioneers and two members of the team who developed these scenarios, Andrew Blau and Peter Schwartz, spoke with fellow Deloitte associate Mike Kearney more in-depth about how these scenarios might be used, especially in such especially uncertain times like these.

In general, they note that scenarios are commonly used by leaders for identifying strategic choices, weighing unexpected options, identifying risks, innovating, educating, and undergoing organizational design.

With the endless uncertainty COVID brings, scenario planning's initial purpose of planning for uncertainty is more important than ever as the "antidote" to the traditional strategy of making predictions. It is especially necessary as the pandemic has offered as many short-term scenarios to imagine as long-term ones, which people need to assess in order to deduce where they want to come out in the long-term.

Beyond doing the planning exercise, leaders should then ask themselves things like "what are the indicators that I should watch to tell which ones are happening?" "which risks can I afford to take?" and "what are the opportunities that might emerge during those scenarios?" All of these will help them truly understand what they are seeing, not just what they are expecting or believing, and identify the resources they need to move forward, whether that means in leadership, data analytic technology, or others.

To ensure a good process, leaders can engage the critical stakeholders and decision-makers, as they are the ones needing to feel compelled by the dialogue to enact change. They also need to make clear the consequences of each scenario and the options they present, because without the dialogue that comes from discussing the real actions beyond the "story," no one will feel more comfortable to truly ponder or cement a later course of action.

9) Durance , P., & Godet, M. "Scenario building: Uses and abuses." *Technological Forecasting and Social Change*, 1488–1492, 2010.

This brief primer addresses the questions of what a scenario is, how to judge the quality of a scenario, and which strategies work best for each scenario. In order for scenarios to be both credible and useful, the authors argue they must follow five conditions: pertinence, coherency, likelihood, importance, and transparency. Without these conditions clearly laid out in the written scenario, the reader will lose interest or not believe in the plausibility.

They also call for a distinction between normative (those constructed with alternative images of the future, whether desired or feared) and exploratory scenarios (those concerned with past and present trends and lead to likely futures. They are also summarized by saying "exploratory scenarios are devoid of human values, whereas normative scenarios are the expression of human values."

It is also important to remember a scenario is not an end in itself but has meaning as an aid to decision-making. It requires ample time to be done correctly—in developing the scenarios, answering them, reviewing them periodically as new trends emerge, writing plans based on them, and bringing them around to a variety of stakeholders.

The collaborative process is more important than the scenario itself, as the group can tackle contentious issues and break out of their shells; after all, "there are no statistics on the future," meaning that "personal judgement is often the most reliable element available." More informed judgements lead to a better consensus, which in turn leads to a better strategic direction.

10) Futrell, J. "How to Design Your Scenario Planning Process." American Planning Association Planning Advisory Services, 2019. https://www.planning.org/publications/document/9180327/

This clear summary follows the scenario planning process from design to execution, including how to get the rest of one's organization on board. Selling the idea, Futrell names scenario planning's benefits as "helping planners navigate uncertainly or pinpoint a preferred combination of variables to reach a specific target." Scenario planning is also useful in "defining concept for plan organization," generating ideas for more detailed planning work, and acting as a component in a greater planning process.

The three outcomes Futrell names as possible for scenario planning, depending on the needs and approaches of the organization, are education and awareness, strategic direction, and action identification.

Education and awareness come from the general completion of the process and the gathering of multiple stakeholders and perspectives to develop a dialogue.

Strategic direction may come in several forms; "for example, an organization needing a new strategic planning effort might take stock of their needs and decide on normative scenario planning to identify the variables that "identify the preferred combination of variables that reveal clear strategies to work towards the target" or on exploratory scenario planning, which "can help establish various 'driving forces of change' and generate a set of strategies to help navigate specific areas of uncertainty."

Action identification "targets decision making and often takes the form of policy and project pinpointing and selection." Scenario planning directly influences this outcome by recognizing specific, planned actions for operations and implementation. Speaking practically, "in a normative scenario planning process, the variables that are part of the 'preferred scenario' would inform the concrete actions chosen for implementation." And in "an exploratory scenario planning process, the contingent and robust responses would provide similar decision-making direction."

It is important for organizations to be open-minded and clear in their desires from the scenario planning exercise, especially because they will find these guidelines useful when completing a gap analysis post-process to identify additional resources and needs for the organization moving forward.

11) Phadnis, S., Caplice, C., Sheffi, Y., & Singh, M. "Effect of scenario planning on field experts' judgment of long-range investment decisions." *Strategic Management Journal*, *36*(9), 1401-1411, 2015.

This text explores how scenario influence expert judgement, based on three field studies of long-range investments in U.S. transportation infrastructure, an optimal choice for scenario planning thanks to the several years it takes to make and implement plans and the similarly long time that the infrastructure remains in place.

Though the text acknowledges the difficulties in measuring scenario planning's effects based on lack of publicity and the inability to pinpoint a correct decision on an ultimately unpredictable outcome, it looks instead to test via user judgement.

The results show that the use of multiple scenarios "does not categorically increase or decrease experts' confidence in judgment. Instead, experts update their judgment after using scenarios, either in favor of or against a specific investment, based on how that investment fares in the scenario used."

One-time usage of a scenario is also less likely to cause a change in judgement if the decision maker was already highly confident before the scenario exercise. (It is worth noting that firms like Shell use scenario planning on a continual basis and therefore the effects on change in judgement would likely be different in these practices.)

In contrast, they also found that after evaluating a long-range investment using multiple scenarios, a decision maker is more likely "to prefer a solution with higher flexibility to implement that investment."

12) Ramirez, R., Churchhouse, S., Palmero, A., & Hoffman, J. "Using Scenario Planning to Reshape Strategy." MIT Sloan Management Review, 2017. https://sloanreview.mit.edu/article/using-scenario-planning-to-reshape-strategy/

This text explores the Oxford approach to scenario planning—an approach based on plausibility, as opposed to normative scenario planning or probabilistic scenario planning. The Oxford approach uses "TUNA" conditions in its discussions: periods of turbulence, unpredictable uncertainty, novelty, and ambiguity, wherein organizations frequently experience serious challenges that threaten existing value chains, communities, and fields of endeavor. These conditions are unsettling and destabilizing but present opportunities for innovation and reframing of strategy, as seen in their explored case studies.

With a similar goal to these processes, though, Oxford scenario planning is meant to "iteratively and interactively generate new knowledge and insights to help organizations reperceive their circumstances."

The first case study they explore involves Rolls-Royce plc, a supplier of power systems for aircraft and the marine and energy markets. After a three-day scenario planning workshop, management endorsed the scenarios as the basis for their 2016 strategic planning and spread them around the company. What this meant in practice was "that any investment proposal had to take into account how it would be affected by each of the three scenarios and what, if anything, should be done to mitigate or exploit the scenarios; investments that didn't meet this qualification were rejected.' This approach made the scenarios a determining factor in the selection of the investment initiatives that emerged from the 2016 strategy process."

The second case study looks at the Royal Society of Chemistry, a London-based international organization involved in advancing the field of chemical sciences, who used scenario planning for developing long-term strategy. From their process, the leadership team moved toward launching new initiatives based on the scenarios, bringing the RSC "futures thinking" conversation to a wider audience, and preparing for the different possible futures through internal strategic conversations with senior

management and the RSC's external governing body. Each of these new elements were tested against opportunities and challenges identified by the scenario planning work.

13) Rohrbeck, R. and Schwarz, J.O. "The Value Contribution of Strategic Foresight: Insights from an Empirical Study on Large European Companies" T*echnological Forecasting and Social Change,* 80(8), 1593-1606, 2013. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2194787

This paper "focuses on exploring the potential and empirically observable value creation of strategic foresight activities in firms," including but not limited to scenario planning, with literature review and survey data from 77 large multinational firms.

The main value points are "(1) an enhanced capacity to perceive change, (2) an enhanced capacity to interpret and respond to change, (3) influencing other actors, (4) and through an enhanced capacity for organizational learning."

The text also emphasizes the emotional role of scenarios. The shared mental images created through personal interaction in development build emotional capacity, which becomes "a driving force for the implementation of strategy concerning the fourth phase of the dynamic-capabilities process." These emotional connections also extend to the group dynamic, as the collaborative and open dialogue needed in creating scenarios drives a shared understanding of a situation, thus makes it easier to act when the time is right, and fosters conversation about overall strategy, especially when planning involves members who typically look toward the company's external roles and those that look at the internal.

Relating to emotional capacity, the authors also note that "in cognitive terms, a foresight process should enhance an organization's memory of the future"—these "memories" of the future then become subconscious guides for managers and decision-makers as they make sense of incoming signals. Additionally, "on a more generic level, it can be argued that the role of a strategic foresight process in an organization cannot predict the future, but can prepare for it," especially when the scenario planning rightfully focuses on blind spots and knowledge gaps.

14) Roxburgh, C. "The use and abuse of scenarios." McKinsey & Company, 2009. https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-use-and-abuse-of-scenarios

This 2009 report from McKinsey provides a lighter overview of the benefits of scenario planning and the potential risks involved in underdeveloped methodology.

On the positive side, scenario planning "expands one's thinking, forcing one to confront the possibility of rapid change, not just change that is slow and gradual." More than that, it forces one to examine "all possibilities, not just possibilities based on historical evidence" by asking "What would have to be true for the following outcome to emerge?" Longstanding practice and thinking are interrogated, especially by encouraging a non-hierarchal debate.

Risks emerge in a variety of ways, the first in becoming paralyzed in the face of choice in creating scenarios and in answering to them. Although they are valued in incorporating uncertainty, leaders should also be cautious in falling back on scenarios in saying things like "the future will be good, bad, or terrible, but I can't say which," thereby losing a sense of direction in communicating with staff.

Similarly, not using extreme scenarios ("risk and probability are not the same thing"), discarding scenarios too quickly, or thinking the team has constructed all possible scenarios leads to a false sense of security that should be avoided.

To combat these risks, McKinsey recommends using four scenarios instead of three, avoiding a "middle" and thereby forcing people to not lean in one direction while still not overwhelming them. It is also helpful to create a "most likely" scenario as a base case but should not become the sole focus Above all, making it a collaborative process so that stakeholders can learn from being wrong and listen to contrary voices.

15) Schoemaker, P. J. H. "Multiple scenario development: Its conceptual and behavioral foundation." *Strategic Management Journal*, 14(3), 193–213, 1993.

This paper examines the multiple scenario approach and how scenario planning tries to meet methodological, organizational and psychological challenges.

The psychological benefit of scenario planning "appears to lie in the exploitation of one set of biases (e.g., conjunction fallacies) to counteract another (such as overconfidence)." There is the added benefit of providing people with the concrete, coherent narratives they need to better understand and remember complex issues and feel like ideas within the scenario are certain, even if the ideas across scenarios are uncertain.

In creating consistency in scenarios, there are three types to check for: 1) trend consistency 2) outcome consistency and 3) stakeholder consistency. "Trend consistency concerns the compatibility of the trends within the chosen time frame. Outcome consistency involves the correlations referred to above, i.e., do the scenarios postulate outcomes for the key uncertainties that indeed fit together. Stakeholder consistency requires that the major actors in each scenario are not placed in positions they dislike and can change."

Good scenarios will deepen the realization of what is significant vs. what is ephemeral, providing a less intimidating way to combat these "possible" scenarios (as opposed to permanent ones). A good scenario process will incorporate a diverse range of perspectives, serving as a consensus building exercise. Managers can then use these consensuses as a sort-of head start on strategic thinking; they also provide a framework within which to "scan, encode, update, and understand the future as it unfolds."

16) Schoemaker, P. J. H. "Scenario Planning: A Tool for Strategic Thinking." MIT Sloan Management Review, 1995.

The oft-cited Paul J.H. Schoemaker uses this article as a general overview of scenario planning as a tool to capture many possibilities in rich detail, combating the usual errors of decision-making: tunnel vision and overconfidence. To illustrate his point and provide a basis for developing scenarios, he provides case studies of Interpublic, an international advertising agency, and Anglo-American Corporation in South Africa.

Organizations facing the following conditions will especially benefit from scenario planning:

- "Uncertainty is high relative to managers' ability to predict or adjust.

- Too many costly surprises have occurred in the past.

- The company does not perceive or generate new opportunities.

- The quality of strategic thinking is low (i.e., too routinized or bureaucratic).

- The industry has experienced significant change or is about to.

- The company wants a common language and framework, without stifling diversity.

- There are strong differences of opinion, with multiple opinions having merit.

- Your competitors are using scenario planning."

To face the pitfalls of under- and over-prediction of change, scenario planning divides knowledge into two areas: "(1) things we believe we know something about" (demographic shifts, new technology, etc.) and "(2) elements we consider uncertain or unknowable."

From there, the steps to build scenarios are: define the scope, identify major stakeholders, identify basic trends, identify key identities, construct initial scenario themes, check for consistency and plausibility, develop learning scenarios, identify research needs, develop quantitative models, and evolve toward decision scenarios.

To determine if the final scenarios are good, they should be evaluated for relevance to multiple parties. They should be internally consistent and archetypal (describe generically different futures rather than variations on one theme.) They should describe a system that might exist for a length of time, not something transient.

Beyond the practice of building scenarios, analyzing them and responding to them will allow organizations to "(1) identify early warning signals, (2) assess the robustness of your core competencies, (3) generate better strategic options, and (4) evaluate the risk/return profile of each option in view of the uncertainties."

Only by actively seeking opportunities, even if those are hidden within bleak scenarios, can organizations similarly begin to perceive routes for action and change.

17) Vecchiato, R. "Scenario planning, cognition, and strategic investment decisions in a turbulent environment." *Long Range Planning*, 2019.

One of the only available long-term studies on scenario planning's effects, this text explores how scenario planning contributes to cognitive dynamics and strategic investment decisions in a changing environment, based on longitudinal case study of Shell's ventures in Russia between 1994 and 2016.

While the examination ultimately reveals that Shell's scenarios did not foresee several major events that occurred in the market, the scenarios did envisage the rising role of gas, the strategic relevance of the gas transportation infrastructure, and the growing intervention of the Russian government. The scenarios thus proved useful in helping Shell's managers to "adapt their strategic beliefs and ultimately enabled them to notice, assess, and respond successfully to external changes" despite the changes not being foreseen by name.

The findings also show that "decision makers are likely to hold strong beliefs about the new sources of competitive advantage that they predict through scenarios.' Managers who fail to anticipate future sources of competitive advantage, in contrast, are likely to constrain their search processes and develop beliefs that are not correct, leading to inertia instead of adaptation.

18) Waldron, L., Searle, R., and Jaskula-Ranga, A. "Making Sense of Uncertainty: Nonprofit Scenario Planning in the COVID-19 Pandemic." The Bridgespan Group, 2020. https://www.bridgespan.org/insights/library/strategy-development/nonprofit-scenario-planning-covid-19

The Bridgespan Group. "Scenario Planning for Nonprofits Amid COVID-19," 2020. https://www.bridgespan.org/bridgespan/Images/articles/nonprofit-scenario-planning/nonprofit-scenario-planning-covid-19-toolkit-pdf-editable.pdf

While neither of these documents include specific scenarios, The Bridgespan Group provides recommendations specifically for nonprofits using scenario planning to navigate the COVID-19 crisis.

The first document outlines the scenario planning process from the first step, which they name as identifying the organization's "guiding principles" to better articulate one's approach to tradeoffs between mission, finances, staff, etc.

From there, scenario planners should move on to the following four steps:

1. **identify key drivers** of the organization's economics and impact—typically in the three categories of programs, operations, and funding—so those can be analyzed for risk and priority

2. **develop and model scenarios** that anchor on those key drivers

3. **create a portfolio of actions** to effectively manage each scenario, typically falling under the categories of actions appropriate for any scenario, smaller-scale and more flexible, and larger and more permanent

4. **determine key trigger points** that will prompt decision making and action on the part of the leadership team

Scenario planners should also revise their documents continuously to account for changing information and assumptions.

The second document is the toolkit itself, providing charts and worksheets related to these four steps.

19) Wilkinson, A. and Kupers, R. "Living in the Futures." *Harvard Business Review*, 2013. https://hbr.org/2013/05/living-in-the-futures

Two former Shell scenario planners give insight into the company strategy and its benefits, emphasizing that "Shell-style scenario planning has never really been about predicting the future." Instead, "its value lies in how scenarios are embedded in—and provide vital links between—organizational processes such as strategy making, innovation, risk management, public affairs, and leadership development. It has helped break the habit…of assuming that the future will look much like the present.." The goal is ultimately for leaders to "prepare for futures that might happen, rather than the future they would like to create."

They emphasize the need for scenarios to be plausible, not necessarily probable, encouraging participants to look away from their everyday assumptions about how the world works and embrace new dynamics of thinking. "Plausible" also implies that scenarios not just be a result of current data and information, instead encouraging judgement and intuition as much as trends and creating a safe space to confront uncertainty. From uncertainty there also comes the breaking of habits, which in turn leads to conversations about overall strategy that get to the heart of an organization's capacity to adapt.

Disagreement and discontinuity become assets instead of hurdles, and "scenarios have the power to engage and open the minds of decision makers so that they pay attention to novel, less comfortable, and weaker signals of change and prepare for discontinuity and surprise." Realities that might otherwise be overlooked emerge, as does creativity that might otherwise lie dormant.

This ambiguity is key, because "how can anyone determine in advance if one decision is better than another?" By maintaining a sustained scenario practice, leaders can become comfortable with the ambiguity of an open future, countering hubris. It will also "expose assumptions that would otherwise remain implicit, contribute to shared and systemic sense-making, and foster quick adaptation in times of crisis."

COVID-19 (and Other) Scenarios

1) American Alliance of Museums: Center for the Future of Museums. "The Scenario Edition: A Tool for Museum Planning." *Trendswatch,* 2018. https://www.aam-us.org/wp-content/uploads/2018/07/2018_TrendsWatchScenarios-Edition-redesign.pdf

The American Alliance of Museums (AAM)'s annual Trendswatch skips an analysis of ongoing trends in favor of providing four scenarios for museum planning, set in the year 2040—close enough to within practical range (especially for major investment projects) but far enough to allow for creativity.

1. **Bright Future**: America is more tolerant, less divisive, and more socially and economically equitable. Automation (robotics and artificial intelligence) has increased productivity and profits, but regulatory bodies have addressed public concern about privacy in kind. Education is less traditional and more experiential and inquiry based. The prevalence of AR and VR also make it more accessible for classroom learning but people prefer in-person social interaction. Global climate action has stemmed the worst effects of climate change.

2. **Dark Future/Fragmentation**: People have aggregated into communities of similar backgrounds. Income inequality and gentrification have created homogenous societies. Nationalism is on the rise and trust in public bodies, nonprofits, organizations, and the government is at an all-time low. The US population is shrinking and aging and there is little economic mobility. AI has displaced the workforce, privacy is a luxury good, education is neither universal nor public, and climate change has met worse-case projections.

3. **Equilibrium**: The US population is larger and more diverse, but economic stratification has continued to grow thanks to the displacement of the workforce by automation. Digital consumption continues to rise, but so has demand for unique place-based real-life experiences. Public education remains largely the same, with college degrees necessary for most jobs and students using community college to avoid widespread debt. Transportation is more accessible and widespread; funding for the arts comes more from private donors than the government. Climate change has destroyed certain areas and crops and there has only been minimal adoption of alternative energy sources.

4. **Wild Card:** America has a large nonprofit community, with organizations meeting basic human needs. Tax-exemptions are limited to health and human services. The government is minimalist and nonpartisan, using social services to fill in gaps in government services. Organizations that lost their non-profit status struggle to survive, leaving millions unemployed, communities without anchors, and an economic blow to travel and tourism.

2) **BCG Henderson Institute. "How Scenarios Can Help Companies Win the COVID-19 Battle."**
   2020. https://www.bcg.com/publications/2020/win-covid-19-battle-with-scenarios

The BCG Henderson Institute strategy for understanding the crisis is to break it down into phases: lockdown, transition until the outbreak is under control, and the "new-normal" environment that will follow. Frequently updated scenarios within each of these periods can then inform decision making.

To encapsulate the crisis, scenarios should be combinations of assumptions: The Public Health Situation, Direct Impact of Government Measures, Macroeconomic Environment, and Business-Specific Demand.

To inform the scenarios and keep them up to date, companies should build a dashboard to view backward and forward-looking KPIs for each of these factors in real time. Good data can promote informed decision making, but it is still paramount for leaders to "take a leap of faith" and also decide what they think the future will look like.

They recommend four guidelines to maximize the impact of scenarios on decision making:

1. Build strategies based on the company's starting point and reference scenarios.

2. Consider different time horizons (ex: Flatten - two to three months, Fight - the subsequent 12 to 18 months, and Future - likely around the end of first half, 2021).

3. Use the military's OODA loop to continuously adapt action plans. (*Observe* to adjust based on the dashboard indicators; *orient* by identifying the strategic options; *decide* on the most effective option; and *act* quickly and accordingly.

4. Increase the chance of success by proactively shaping the business environment – ex., by lobbying or increasing safety measures with regulators.

They also recommend setting up two temporary crisis offices so that strategy can lead to better execution.

The first is called the intelligence and anticipation office (IAO) and focuses on strategic decision making across all time horizons.

The second unit, the COVID response office (CRO), is in charge of operations during the flatten and fight phases. It has the authority to define immediate actions along the dimensions of workforce management, operational continuity (placing the critical business functions at the forefront), and stakeholder engagement.

This two-office system will "enable companies to continuously observe changes in the environment in order to adjust scenarios, to orient their strategic options, to confidently decide upon an action plan, and to act on that plan quickly."

3) Columbia Business School. "Inflection Points in the New World of Business." *Bizcast.* May 2020.
    https://www8.gsb.columbia.edu/articles/columbia-business/inflection-points-new-world-business

    This episode of Columbia Business School's *Bizcast* podcast invites Professor Rita McGrath, author of *Seeing Around Corners: How To Spot Inflection Points in Business Before They Happen.*

    An inflection point is an external change in environment that causes underlying business assumptions to shift. Previous assumptions regarding this pandemic include wanting to be in close proximity to other people or having the ability to get on a plane at a moment's notice.

    She briefly outlines four financial scenarios:

    1. **Les Misérables**: investors take bulk of corporate benefit and the economy continues to suffer

    2. **Rinse and Repeat**: the economy recovers but still continues to honor shareholders above everyone else

    3. **Broadly Shared Prosperity**: an "FDR rendezvous with destiny" moment where rules of capitalism are rewritten and there is more experimentation

    4. **Rethink Capitalism**: times get better rapidly and there is a sort-of Great Society 2.0 of broadly shared prosperity, leading to greater investments in wellbeing

    In planning for the futures, McGrath urges leaders to make the distinction between preference and prediction. Leaders also should accept that their job is "to uncover the genius in their teams" and should incorporate many members of their teams into scenario planning.

    Above all, leaders should remember that "in an uncertain situation, you can't be right" and thus should welcome experimentation over any fear of failure.

4) Deloitte Monitor Institute. "An event or an era? Resources for social sector decision-making in the context of COVID-19." July 2020.
    https://www2.deloitte.com/content/dam/Deloitte/us/Documents/about-deloitte/us-deloitte-monitor-institute-scenarios-for-the-social-sector.pdf

    In July 2020, Deloitte's Monitor Institute, their social impact unit, released a series of scenarios for non-profits and other organizations in the social sector. Their scenarios are in response to COVID-19 and to ongoing discussions of racial equity.

    In building the scenarios, they assume that a significant number of nonprofits will need to close or consolidate in response to needs outnumbering capacity, the disproportionate impact of the crisis on marginalized communities, and different degrees of crisis depending on geographic location and time.

    The two axes they used in building unique scenarios are the severity of the crisis and the level of social cooperation. There are also key broad level takeaways on the social sector, including: the simultaneous crises of health, economy, and society; the response level by nonprofits and funders in

light of government action; and more stable position of philanthropic funders versus those they support and what that means for the types of actions they take.

The four scenarios are as follows:

1. **Return to "normal**": An early vaccine sets life and the economy back on track by the end of 2021. There is a limited appetite for more structural changes, leading to modest reform but not revolution. For funders, nonprofits seek less restrictive grants. For nonprofits, some organizations close but those left make better relationships with funders and government.

2. **Social fabric unraveled:** New treatments help control the virus, but there is no vaccine. The effect of the virus on communities of color leads to an unraveling of the social fabric, and by the end of 2021, there is no collective narrative of the crisis, leaving people to fend for themselves. People turn to nonprofits to fill in gaps from government, but funders are left questioning which gaps they can and should fill in an increasingly politicized sector.

3. **A nation on the brink:** The crisis gets progressively worse, and there is more demand for fewer resources as municipal government go bankrupt. Politically, there is no more "center" but instead fringe views reign. The nonprofit sector contracts significantly thanks to the plummeting economy, and funders are torn between funding the few left or filling in gaps left by government failings.

4. **Rising from the ashes:** The complete economic and social crisis leaves people more open to structural change. By the end of 2021, people begin toward a decade-long effort to build a new social compact. Philanthropy is a key funder of policy and system change, but the state of the economy means that resources need to be allocated very strategically for maximum impact. Nonprofits adopt leaner operating models and new approaches to making impact and supporting structural change.

Their advice for leaders and organizations using these scenarios is to adapt the scenario frameworks as necessary, find their anchors in values and beliefs, test current strategies against each scenario, and develop plans for 12-18 months in 6 month increments to allow for flexibility.

5) Gurumuthy, R. and Leadbeater, C. "Four coronavirus futures." NESTA, May 2020. https://www.nesta.org.uk/blog/four-coronavirus-futures/

The UK's NESTA, an innovation foundation dedicated to programming and research, often in the cultural sector, provides four government-based scenarios for COVID-19 that organizations can explore.

The scenarios are:

1. **The return to normal:** A general return to the life as it was in November 2019—the economy will take a hit but will eventually right itself, people will return to their daily lives, and everyone

will learn many lessons about how much PPE to keep on hand and other crisis preparation. This scenario is increasingly less likely as the pandemic continues.

2. **Permanent emergency:** The state and citizens will be perpetually on guard for the next crisis, whether it is climate change or something else. The state will need to increase its reserves and safety buffers, and every current system will be tested.

3. **The post-coronavirus settlement**: the crisis becomes a turning point, and the settlement would make the health and wellbeing of citizens its central goal. There would need to be people before profit and providing work for all.

4. **The big brothers**: a turn towards more authoritarian future because the state would be more dependent on financial markets and large companies. Citizens will have to share more data with those companies. Big government, big companies, big data, and big (American) money would emerge with the most power.

6) Kantar. "Anticipating the Balance of 2020: Scenarios exploring COVID-19."
https://www.kantar.com/inspiration/coronavirus/covid-19-what-comes-next

The Futures Practice at Kantar, a media research and consulting company, provides scenarios spanning 6-12 months after the initial COVID outbreak. The three uncertainties they are concerned with are how consumers will behave, how the disease will behave, and how institutions will behave.

From a Consumer Point of View, four scenarios are:

1. **Close Call:** after an initial selloff, markets stabilize and only a moderate recession takes hold due to government intervention. The worst is over by later summer and consumers return to previous consumption levels thanks to pent-up demand.

2. **Panic Attack**: federal, state, and local government fail to handle public hysteria and panic selling continues on Wall Street, leading to a global recession.

3. **Recurring Nightmare:** A substantial economic downturn in 2020 will continue into 2021 when another outbreak begins. Businesses have to adjust between the splurging and hoarding by consumers.

4. **Brave New Reality:** Governments and the private sector make systemic changes to deal with seasonal outbreaks. State leaders take charge with new regulations on sanitation. There is a severe economic downturn during the 2020 outbreak but people adjust their habits accordingly.

From an Institutional Point of View, four scenarios are:

1. **Brief Chaos:** Lack of government action leads to severe outbreaks and impacts. People and communities become more self-reliant as institutions fail to show up but the economy forces

many people into bankruptcy and homelessness. The virus is never really contained and kills many in its wake.

2. **Surviving the Storm:** The federal government coordinates a strong response and provides support to businesses. Consumers comply with health advice and the immediate danger passes quickly.

3. **New Normal:** Before a vaccine, ensuing outbreaks are managed with previous health measures in mind. The economy reorients around COVID-19 with "minimizing risk" as a priority over "maximizing efficiency."

4. **Putting Out Fires:** Local government standards take precedence in lieu of a coordinated federal response. Health care becomes more expensive as it remains in a "reactive" stance. Siloed responses lead to cycle of social, cultural, and economic disruption in which people lose national trust and damage systems.

To respond to these scenarios, Kantar provides each with further details and asks organizations to consider their strengths and weaknesses in each scenario.

7) **Long Crisis Network. "Our COVID Future," May 2020.**
https://www.globaldashboard.org/2020/05/22/covid-19-futures-the-larger-us-scenarios/

The Long Crisis Network is a network of change makers for incubating ideas, developing strategy, and building coalitions for action. The four categories of risk they build in their scenarios are acute sudden shocks, longer term stresses, deliberate disruptions, and failure to build resilience. They also address the uncertainty involved through the entire crisis, saying that the public health, economic, and polarization crises will take years to unfold and understand and thus form the backbone of their scenarios.

Their four scenarios are:

1. **Rise of the Oligarchs:** The government represents the few, and racism and xenophobia flourish as people grow in fear for their own stability. The surveillance state reigns and society as a whole is monopolized by the elite, leaving communities of "Robin Hood" types to care for themselves. There is still no vaccine and the health crisis is ongoing; the economy in kind depends on state support.

2. **Big Mother:** The government is there to help, providing vaccines, income, and a reliable future but is not particularly imaginative. Centralization of power means few people have influence and fewer feel like taking action in their communities. There is strong national cohesion and communities are for celebration instead of political organizing, but there are a few rebellious subcultures. The national reigns over the local, from everything to government to business.

3. **Fragile Resilient:** Repeated waves of COVID and crashes of the financial, food, climate, energy, and trade systems have overwhelmed the state. Local communities thrive as faced with

challenges of their creativity and resilience but there is a large amount of income inequality and subsequent suspicion of "outsiders." International cooperation is extremely low.

4. **Winning Ugly**: There is no heroic moment of victory but instead an extended attack on the pandemic, eventually driven by a collective willingness to adapt. There is consideration for radical change and big ideas while remaining pragmatic. Life becomes more local and virtual as people remain uncertain about their health safety, but people also band together for mutual aid as the government lacks certain resources.

8) McKibbin, W. and Fernando, R. "Global macroeconomic scenarios of the COVID-19 pandemic." CAMA: Centre for Applied Macroeconomic Analysis, June 2020. https://cama.crawford.anu.edu.au/sites/default/files/publication/cama_crawford_anu_edu_au/2020 -06/62_2020_mckibbin_fernando_0.pdf

For the Centre for Applied Macroeconomic Analysis in Australia, Warwick McKibbin and Roshen Fernando provide six scenarios meant to guide policymakers, based on current epidemiological outcomes across countries and recent data on sectoral shutdowns and economic shocks to estimate the impact of COVID-19 on the global economy. (These build upon their work several months earlier, in which they provided seven scenarios based on data from historical pandemic, but they did not account for the pandemic spreading beyond China.)

Though the range of scenarios and estimates used therein are diverse, all show a substantive negative shock to the economy in 2020 and, even in the best-case scenarios, the economy will be greatly impacted in the future.

The basis of the scenarios "revolve around how many future waves there might be and how countries will respond to those outbreaks in terms of public health responses and changes in economic policies."

1. **Scenario 1:** assumes all countries experience only a single wave in early 2020 consistent with their experience as of 20 May. All countries use lockdown measures but for differing lengths of time. After the first wave, as a vaccine is yet to be developed, there is a milder outbreak in early 2021. Shocks to households and firms are half of that experienced in 2020 and countries adopt half of the current lockdown durations. A vaccine will eliminate future waves after 2021.

2. **Scenario 2:** The first year is the same as the first year of Scenario 1 but assumes that the pandemic will recur annually with an exponential decay in the number of infections. The countries are assumed to adopt lockdowns to manage the pandemic at the same rate as the pandemic emerges over time.

3. **Scenario 3:** assumes that countries, who have managed the pandemic with lockdowns, begin to relax the movement restrictions. There is a possibility of a second wave emerging again in 2020 because easing restrictions occur too early. Countries manage the second wave better with only half of the infections and lockdown durations compared to the first wave. A third wave emerges in 2021.

4. **Scenario 4:** is the same as the third scenario but with a fourth wave in the second half of 2021.

5. **Scenario 5:** assumes after the first wave, there is no vaccine developed, and the pandemic continues to emerge in subsequent years. The countries that followed lockdown discard that policy in future outbreaks. The pandemic eventually dies out due to herd immunity.

6. **Scenario 6:** consists of twenty-four simulations. Each country alone experiences scenario 01 while all other countries experience scenario 04.

The authors provide detailed tables and statistics for each scenario for a number of countries around the globe. The shocks they measure are:

- Shocks to the labor supply (economic agents die due to the infection, workers are not able to work during their recovery if they catch the disease, and people caring for infected children also cannot work)

- Shock to total factor productivity in each sector

- Shock to consumption

- Shock to the country and sector risk premia

- Shock to government expenditure (an increase in general government spending decomposed for the broad sectors, a wage subsidy, and an exogenous increase in transfers to the households)

From all these scenarios, it is clear that health and economic policies will have to be carefully designed and adapted to get through the current phase—"withdrawing macroeconomic support and creating 'fiscal cliffs' through setting expiration dates on critical fiscal support policies in economies is likely to worsen the uncertainty and increase the economic costs." Additionally, "preventing countries from undertaking more substantial fiscal stimulus measures either through institutional arrangements or by lack of access to financing also increase the cost of the pandemic."

A global response will be necessary in addition to local responses, leading to a need for greater coordination.

Books

1) Chermack, T. Scenario Planning in Organizations: How to Create, Use, and Assess Scenarios. Berrett-Koehler Publishers, 2011.

Scenario planning helps organization leaders, executives and decision-makers envision and develop strategies for multiple possible futures instead of just one. It enables organizations to become resilient and agile, carefully calibrating their responses and adapting quickly to new circumstances in a fast-changing environment.

This book is the most comprehensive treatment to date of the scenario planning process. Unlike existing books it offers a thorough discussion of the evolution and theoretical foundations of scenario planning, examining its connections to learning theory, decision-making theory, mental model theory and more. Chermack emphasizes that scenario planning is far more than a simple set of steps to follow, as so many other practice-focused books do—he addresses the subtleties and complexities of planning. And, unique among scenario planning books, he deals not just with developing different scenarios but also with applying scenarios once they have been constructed, and assessing the impact of the scenario project.

Using a case study based on a real scenario project Chermack lays out a comprehensive five phase scenario planning system—project preparation, scenario exploration, scenario development, scenario implementation and project assessment. Each chapter describes specific techniques for gathering and analyzing relevant data with a particular emphasis on the use of workshops to encourage dialogue. He offers a scenario project worksheet to help readers structure and manage scenario projects as well as avoid common pitfalls, and a discussion, based in recent neurological findings, of how scenario planning helps people to overcome barriers to creative thinking.

2) Ed. Schreiber, D. and Berge, Z. Futures Thinking and Organizational Policy: Case Studies for Managing Rapid Change in Technology, Globalization and Workforce Diversity. Palgrave Macmillan, 2019.

This book proposes that organizational policies are what ensure the institutionalization and sustainability of futures thinking in organizations. It presents several case studies from corporations and other institutions that describe effective use of foresight methods and internal policies to respond to rapid change. The case studies address changing trends in technology, globalization and/or workforce diversity, and the impact on the economic and political well-being of the organization. The editors also develop an organizational capability maturity model for futures thinking as well as providing questions for discussion that promote critical review of each case chapter. This book will inform scholars and organizational leaders how best to utilize foresight methodologies and organizational policies to sustain successful management strategies within futures thinking organizations.

3) Schwartz, P. *Learnings from the Long View*. CreateSpace Independent Publishing Platform, 2011.

The future has never been more complex and uncertain; yet leaders of companies, governments, and nonprofits must act and adapt with confidence. Peter Schwartz, the acclaimed futurist and business strategist, first popularized scenario planning – a powerful tool for navigating uncertainty – in "The Art of the Long View" in 1991. At that time, his knowledge about foresight and scenarios was drawn mostly from his previous planning and consulting experience at Royal Dutch Shell and the Stanford Research Institute. Global Business Network (GBN) – the innovative company Schwartz had cofounded – was a mere three years old. Since then GBN has undertaken hundreds of scenario projects with a diverse range of clients: Fortune 500 companies in every sector, nonprofits, NGOs, and governmental groups around the world. This little book, completed in late-2010, reflects on that legacy. It shares GBN's mistakes as well as successes and what Schwartz got right in the original "The Art of the Long View," (e.g., the rise of the global teenager, two out of the three scenarios for 2005) and wrong (e.g., the transformative power of the Web). Finally, Schwartz looks forward once more – examining the next great global driving force (hint: more troubling than teenagers) and constructing three scenarios for the year 2025.