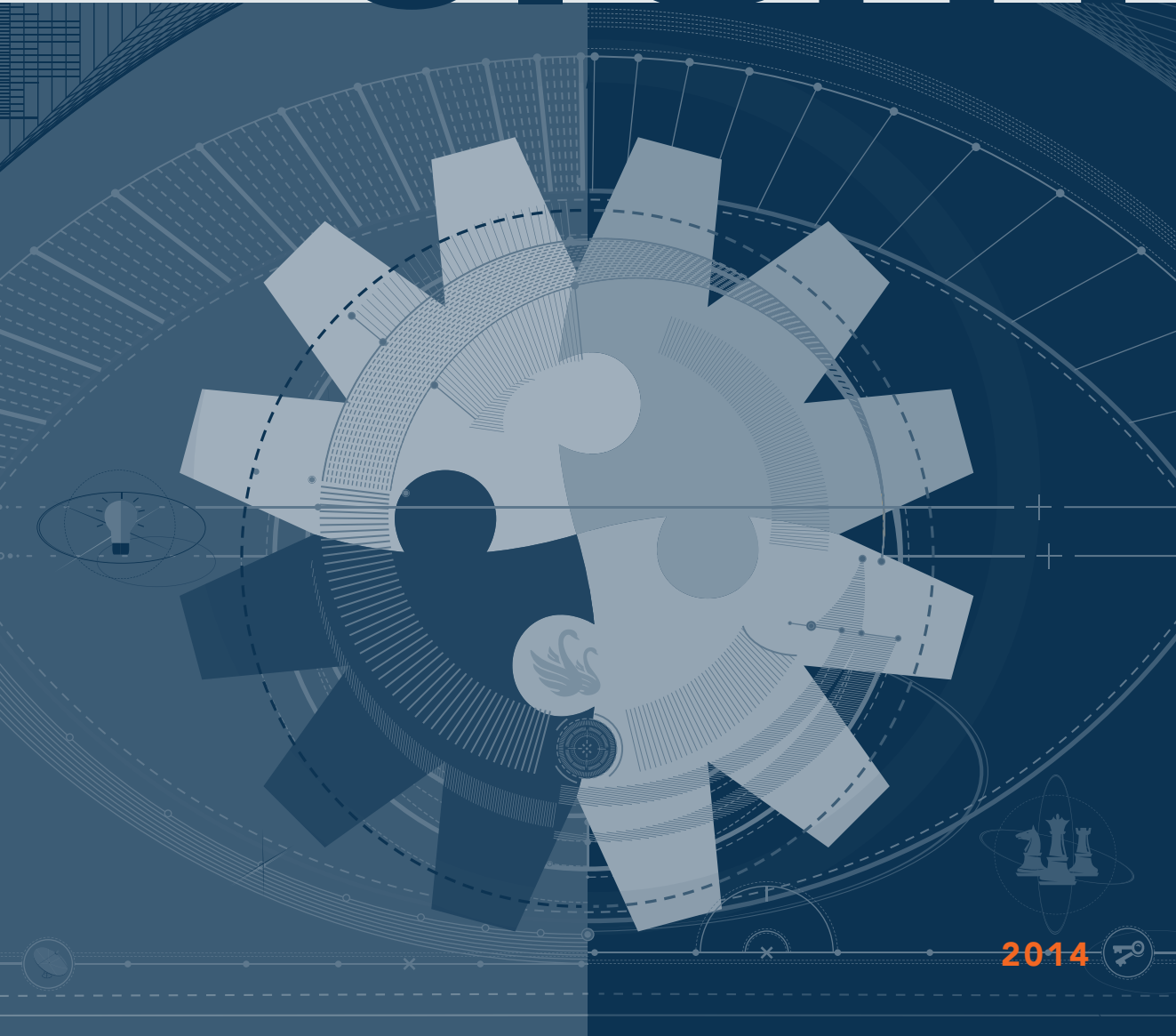


CENTRE FOR STRATEGIC FUTURES

FORE SIGHT



2014



About the Centre for Strategic Futures

The Centre for Strategic Futures (CSF) was established in early 2009 as part of the Strategic Policy Office in the Public Service Division of the Prime Minister's Office. This situates it at the heart of the government, with the ability to reach across agency stovepipes.

The Centre is very much like a think tank within government, with the freedom to focus on issues of strategic importance even if they are not perceived to be immediately urgent.

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Public Service Division, Singapore
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Centre for Strategic Futures,
Public Service Division, Prime Minister's Office
100 High Street, #07-01 The Treasury
Singapore 179434
Email: psd_csf@psd.gov.sg
www.csf.sg

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Printed in Singapore

Contents

Foreword	03
Welcome Note	04
Introduction	
Foresight and the Future of Governance	05
2013 Highlights	13
Research & Analysis	
Evolving Role of the State	19
Participatory Futures: After Our Singapore Conversation	31
Using Causal Layered Analysis to Explore the Socio-Economic Aspirations of Singaporeans	37
Turning Risks into Opportunities	45
From Foresight to Strategy: Emerging Strategic Issues 2.0	53
Capability Building	
Developing Talent in Futures	61
Meet the Team	65

Foreword

I recall when I was the Permanent Secretary in the Ministry of Trade and Industry around 2005, there were many discussions on the possibility of a peak oil scenario, and how we might need to respond. We were worried about sharply declining energy supplies and the consequential price volatility. It has only been a few years since, and today, the conversation has shifted significantly, to the promise of shale gas and the advent of cheap energy. With the benefit of hindsight, it is easy to criticise our assessment of the situation at the time, but in reality, it is almost impossible to predict disruptions, such as abrupt shifts in the energy security landscape or the combination of different technologies to create disruptive innovation. The real lesson here for us is not how we can improve our near and medium term assessments, but how we can think and prepare ourselves for the future(s) that might be.

There is a strong practice of foresight within the Singapore Public Service. We began applying scenario planning in the late 1980s to systematise futures thinking within the Service. The Centre for Strategic Futures (CSF) was established in 2009 as a futures think-tank within the government to pursue long-term and open-ended futures research, experiment with new methodologies and build foresight capabilities across the Public Service. These developments bear testament to the importance we place on foresight work and on having strategic conversations about the future.

Foresight guides our thinking on policy, and our interest in it is not academic. We have convened and maintained cross-agency discussion platforms at various levels within the Service, to generate wide-ranging discussions on the future, the possible implications on Singapore and how we might respond. Good foresight for Singapore not only draws attention to the broad global trends that will affect us, but also gathers insights from the society that we serve, to ensure the human element is preserved in the decision-making process of government and public policy. Our foray into participatory futures through Our Singapore Conversation saw us reaching out to Singaporeans from all walks of life to discuss the kind of future Singaporeans wanted to see and how we could get there. This allowed us to better understand the needs and aspirations of Singaporeans, with regard to issues such as society's definitions of success and the desire for a greater sense of assurance. This prepares us for the future, in both adaptive and normative ways, and has led to tangible shifts to policy-making in Singapore.

Good foresight for Singapore not only draws attention to the broad global trends that will affect us, but also gathers insights from the society that we serve, to ensure the human element is preserved in the decision-making process of government and public policy.

I hope the ideas and insights in this publication will set you thinking about our uncertain future.

Peter Ong

Head, Civil Service

Chairman, Centre for Strategic Futures Advisory Board

Welcome Note

At the Centre for Strategic Futures, we deal primarily with the business of surprise. When people get surprised by current events, they often look to futures for the answers. The more forward-looking actively seek to spot surprises before they even occur, and prepare themselves accordingly. In identifying and highlighting surprises, the futurist is often a knowledge broker, a devil's advocate, a facilitator, sometimes all at the same time. The proverbial black swan is extremely difficult to find, but we try our best.

Our processes are therefore highly iterative. We spark conversations to generate more insights, and to put emerging issues on the radar of decision-makers. In that sense, futures work is not just about crafting scenarios, but also identifying issues, sense-making the environment, generating conversations, and designing strategies. It is also about knowing how to get decision-makers to pay attention to the issues that we think are important and to decide when to re-surface them when seemingly unsurprising issues gain momentum. As Leon Fuerth, Director of the Project on Forward Engagement at George Washington University, very succinctly puts it in a meeting we had in Washington, DC, "the value of futures work is to lead to a suspension of disbelief".

In identifying and highlighting surprises, the futurist is often a knowledge broker, a devil's advocate, a facilitator, sometimes all at the same time.

Given our mandate to generate surprise and challenge assumptions, the CSF's content needs to cover both breadth and depth. In 2013, we had many conversations with other government agencies and our network partners about the issues highlighted in the Emerging Strategic Issues cards, which we completed at the end of 2012. From these discussions, some key questions were identified for further research. We had a Foresight Conference in July 2013 to focus on some key threads, on the future of growth and governance, as well as how these shape trust, well-being and power. We also put together some initial thoughts and questions about the evolving role of the state – a key question for governments everywhere.

Yet the CSF's role is not just to think about the future, but also to think about how we think about the future. Our Singapore Conversation created an opportunity to engage the public on the future that they want to see in our country and society. It also gave us the space to explore more participatory and normative mechanisms for foresight. In applying the Causal Layered Analysis methodology to the insights from Our Singapore Conversation, we found new ways of sense-making and deepened our understanding of the practice of foresight. We continue to believe in the importance of our capability-building efforts, so that as a foresight community in the Singapore Public Service, we are able to better identify new connections, generate insights from knowledge and translate these into perspectives for public policy.

I hope you will discover some surprises as you engage with the ideas, and develop your own "a-ha!" moments. We would love to hear your thoughts on these issues.

Kwa Chin Lum
Head, Centre for Strategic Futures

Foresight and the Future of Governance

Peter Ho

Adapted by Terence Poon from a speech that Mr Peter Ho, Senior Advisor to the Centre for Strategic Futures, delivered in January 2013 at the Horizon Scanning and Futures Symposium organised by the Defence Science & Technology Laboratory of the United Kingdom.

Introduction

On a cool Saturday morning on 17 December 2010, in Sidi Bouzid, Mohamed Bouazizi set himself on fire in protest against the authorities for harassing him and preventing him from making a living. This act sparked demonstrations and riots throughout Tunisia. The flames of dissent and revolution spread like wildfire to other parts of the Arab world. Four governments collapsed (Tunisia, Egypt, Libya and Yemen), three countries saw changes to their governments (Kuwait, Bahrain and Oman), and Syria descended into civil war.

It would have taken even the bravest analyst a huge leap of imagination to predict the Arab Spring. British historian and politician H. A. L. Fisher wrote in 1935 that “men wiser and more learned than I have discerned in history a plot, a rhythm, a predetermined pattern. These harmonies are concealed from me. I can see... only one safe rule for the historian: that he should recognise in the development of human destinies the play of the contingent and the unforeseen.”

The Arab Spring has spawned a growth industry. Countless political and social scientists, historians and Arabists are all trying to explain the Arab Spring. Many will find convincing reasons why these events unfolded as they did. But all these will be in retrospect. It is in the very nature of such post-mortem analysis that thinking and explanation must proceed backwards. Explanations after the fact are the norm for strategic surprises like the Arab Spring, because there are no simple and understandable patterns in our complex world.

This captures the concept of “retrospective coherence”. The current state of affairs always makes sense when we look backwards. But it is only one of the many equally logical patterns that could have emerged. While today is the result of many actions and decisions along the way, retrospective coherence says that even if we started again, and took the same actions and made the same decisions, there would be no certainty that we would end up in the same situation.

Simply because we can provide an explanation for the current state of affairs does not mean we can forecast the next political drama or catastrophe, which always seems to lurk somewhere, surprising us when we least expect it. The future is neither inevitable nor immutable. The lessons of history are not enough to guide us down the right path into the future.

Retrospective coherence says that even if we started again, and took the same actions and made the same decisions, there would be no certainty that we would end up in the same situation.



Emerging from Complexity: Challenges for Government

Retrospective coherence arises because of “complexity”. “Complex” is not the same as “complicated”. An engineering system is complicated. It could be a missile, an airplane or a satellite. Its inner workings may be hard for a layman to discern. But it is designed to perform certain pre-determined functions that are repeatable, in stable patterns. It embodies the Newtonian characteristics of predictable cause and effect. In contrast, a complex system will not necessarily behave in a repeatable and pre-determined manner. Cities are complex, as are human societies. The earth’s ecology is complex. Political systems are complex. Countries are complex. The world as a whole is complex and unordered. Complex systems are characterised by “emergent” outcomes that are not always predictable.

Black swans, as described by Nicholas Nassim Taleb, are rare, hard-to-predict events with a large impact. Black swans result, at least in part, from complexity. Connections and interactions in a complex system are hard to detect, inexplicable without hindsight and emergent. The agents are countless. In a complex system, we cannot assume that cause and effect are linked such that the output can be determined from the input, in which one step leads predictably to the next. The problem is that we often make such an assumption, and then we are surprised, even shocked when events defy our plans. Black swans cannot be ignored. Although they happen infrequently, black swan events develop very fast, catching governments, societies and nations unprepared and severely challenged to find a rapid and cohesive response.

The last decade and a half has seen three economic black swans – the Asian Financial Crisis of 1997/98, the global economic and financial crisis of 2008/09, and the on-going Eurozone crisis. Economics, the dismal science, has become even more dismal because it appears to have failed to anticipate these black swans. The economist Paul Ormerod writes that conventional economics assumes individuals act rationally in markets, responding to incentives and disincentives. “The one thing these hypothetical individuals do not do ... is to allow their behaviour to be influenced directly by the behaviour of others.”¹ Traditional economics does not take into sufficient account the complexity of the real world, where individuals are interdependent. They interact and influence one another in complex and emergent ways.

The Tohoku earthquake and tsunami of 2011 surprised us. Why? Earthquakes happen often in Japan, one of the most seismically active regions. And tsunami, after all, is a Japanese word. Part of the reason is that the risk of an earthquake is known, but it is hard to assess when it will occur. Predicting tsunamis is just as difficult. The chain of events—starting with the earthquake, then the tsunami, which then damaged the Fukushima nuclear power plant causing a meltdown and radiation leakage—resulted from complex interconnectivities combined with human failures, including outright negligence and what Margaret Heffernan called “willful blindness”.² It was highly unpredictable. It is hard to estimate the cumulative effects of such complex events. Preparing for unforeseen situations is fraught with difficulty. It also adds to the challenges of governments operating in complex situations.



Complexity not only generates black swans, but also gives rise to what the political scientist Horst Rittel called “wicked problems”.³ Wicked problems have no immediate or obvious solutions. They are large and intractable issues. They have causes and influencing factors that are not easily determined beforehand. They are highly complex problems because they contain many agents interacting with one another in sometimes mystifying ways. They have many stakeholders with different perspectives and possibly different goals.

Tackling one part of a wicked problem is more likely than not going to lead to new issues in other parts. Satisfying one stakeholder could make the rest unhappy. A key challenge for governments is to align perspectives and goals among many stakeholders. But this requires a lot of patience and skill at stakeholder engagement and consensus building.

Pandemics are an example of a global wicked problem. So are aging populations in the developed world. Sustainable economic development, which is not unconnected to the triangular problem of food, water and energy security, is a wicked problem. The 2011 London riots were a wicked problem because of their spontaneous and self-organising nature. In our increasingly inter-connected and globalised world, wicked problems do not manifest in a singular fashion. Their impact, like the Arab Spring, will be felt worldwide, in many forms, in many fields like politics, economics, and in the social and other dimensions.

Stephen Hawking said, “The twenty-first century will be the century of complexity”.⁴ The huge technological leaps forward of the last 50 years—in telecommunications and the internet—and transport innovations, like the container and commercial jets, have catalysed globalisation. They have vastly increased trade and people flows around the world. The resulting connections and feedback loops have in turn greatly increased complexity globally. Globalisation will likely continue unabated. With it, complexity will grow.

Stephen Hawking said, “The twenty-first century will be the century of complexity”.

Complexity as an Opportunity for Governance

Governments should not ignore growing complexity. It will generate more uncertainty, raise the frequency of black swans and other strategic surprises, and create more wicked problems.

Those governments that learn to manage complexity, and how to govern effectively in complex operating environments, will gain a strategic competitive advantage. While they cannot avoid black swans altogether, they can better subdue the impact of strategic surprise, reduce uncertainty and exploit opportunities ahead of the rest. Professor Kees van der Heijden, the Dutch scenario planner, said, “There are winners because there is uncertainty. Without uncertainty there can be no winners. Instead of seeing uncertainty as a problem, we should start viewing it as the basic source of our future success.”⁵

Those governments that learn to manage complexity, and how to govern effectively in complex operating environments, will gain a strategic competitive advantage.

But governments often ignore complexity. They treat wicked problems with simple, deterministic, even linear, policy solutions. This approach is understandable. It seems intellectually easier, requires less resource and may lead to positive outcomes – but only in the short run. Governments tend to focus on immediate problems. They would rather defer expenditure on something that may or may not happen. This tendency to place less emphasis on future risks and contingencies, and place more weight on present costs and benefits is a common cognitive bias called hyperbolic discounting. Many, if not all, governments indulge in it. One example of hyperbolic discounting at work is

climate change. Governments understand the theoretical need to consider the effects of global warming on future generations, but tend to discount those effects and instead emphasise the current costs of mitigation and adaptation, leading to suboptimal policies — in the “long view”.

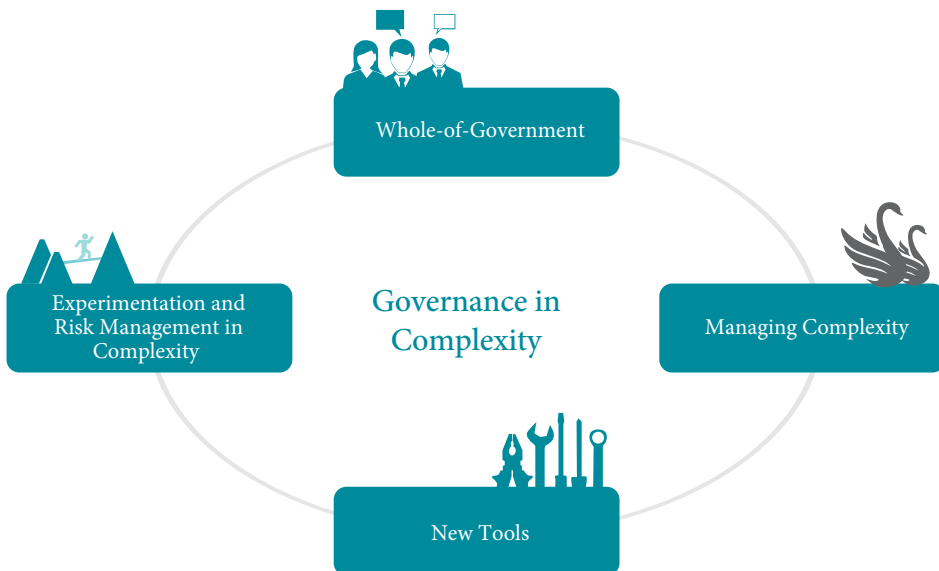
Governance in Complexity

To better manage complexity while mitigating the cognitive biases that afflict them, governments must change how they organise themselves. Their toolbox must be enlarged.

In a hierarchy, the leader at the top receives all the information and makes the decisions. Under stress, such as during a black swan event, however, hierarchies can be unresponsive or even dangerously dysfunctional because of decision-making bottlenecks at the top. As hierarchies, governments risk paralysis when confronted by a black swan or strategic shock. The world today is too complex and too fast changing for top leaders to have all the expertise and answers to call all the shots, because of what Nobel economist Herbert Simon calls bounded rationality.

In decision-making, the rationality of an individual is constrained by the information that he has and the finite time given to make a decision. Our limited cognitive ability to access and process information further circumscribes our rationality. The decision-maker cannot possibly make a rational and optimal choice. Instead he will often choose an action that is somewhat acceptable, but not optimal. Bounded rationality is salient when dealing with black swans and wicked problems. The decision-maker at the top is either surprised and all his cognitive synapses saturated, or lacks sufficient bandwidth to comprehend the full scope of the problem.

As hierarchies, governments risk paralysis when confronted by a black swan or strategic shock.



In such situations, the natural approach is to break down a problem into smaller parts and then leave it each agency to make its own decentralised and bounded decisions. An example of this is the free market in which individuals making their own decisions are better for the system as a whole than a centrally planned economy. Another is the British Empire, clearly a complex system. Whitehall ran a sprawling empire by leaving it to officials in far-flung colonies to do essentially as they pleased. There was really no central colonial policy. Instead, they entrusted the empire to a small group of administrators selected for shared values of class and education, and a strong belief that Britain had a civilising role. It was messy. But the strength of the British imperial system was a fault-tolerant, or safe-fail, attitude. It was not fault-free, nor was it expected to be. The system tolerated and worked around faults.



Whole-of-Government

Another approach is to adapt to the complex environment, by taking an agent's perspective to detect problems and identify strategic opportunities. This is the whole-of-government approach. People, or agents, from different organisations, from within and outside government, come together and pool their knowledge to discover potential solutions to wicked problems. This approach multiplies the system's collective cognitive capabilities and mental processing power. It harnesses the capabilities of the many to overcome the limitations of the few. It requires cooperative mechanisms to enable information sharing and strengthen collective action, and the usual safeguards against dominance and groupthink.

The whole-of-government is intuitively the right way to go, because insight and good ideas are not the monopoly of a single decision-maker, agency or government acting alone. The whole-of-government approach looks messy and antithetical to the tidy organisation of a conventional hierarchy, because it injects complexity into the policy process.

In an insightful commentary, Yaneer Bar Yam, a systems scientist, wrote that "the most basic issue for organisational success is correctly matching the system's complexity to its environment."⁶ Whole-of-government is not meant to simplify, but to ensure that the complexity of the government matches the complexity of the operating environment.

While the whole-of-government approach may be an imperative, it is not easily achieved. Governments, like any large hierarchical organisation, tend to optimise at the departmental level rather than at the whole-of-government level. Thus vertical silos need to be broken down, so information can flow horizontally to other departments.

Agents and agencies should have access to information that they "need to know." They should also know enough so that each can respond to issues and challenges as they arise. An environment that encourages the spontaneous horizontal flow of information will enrich the worldview of all departments, raising the chance that connections hidden by complexity, as well as emergent challenges and opportunities, are discovered early. Breaking down these silos is a necessary but Sisyphean task.

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Managing Complexity

In a complex operating environment, governments should aim to reduce the frequency of black swans and strategic shocks by thinking about the future systematically. This process, sometimes called foresight or futures thinking, is not about predicting the future, which is impossible.

It is not possible to prepare exhaustively for every contingency. Instead, governments should try to reduce uncertainty. The “search and discover” approach is an important option in this regard.

Instead, foresight seeks to gather data and make sense of it so that people can think in different and new ways about the future. The data might be analysed using qualitative or quantitative techniques, or both. Information emerging from this analysis and interpretation allow an organisation to better understand its past and present, including its latent assumptions and biases in perceiving the world, providing the basis for using foresight methods to explore potential futures. This is the fundamental reason for historical analyses. They provide a way of making sense of an uncertain and complex future environment.

The practice of foresight in government is about identifying the factors that will shape the future. Policy makers can then devise strategies and formulate policies to maintain positive trajectories and shift negative ones. The goal is to shape the future, not to predict it.

Governments often have to make big decisions, and develop plans and policies, amid incomplete information and uncertain outcomes. It is not possible to prepare exhaustively for every contingency. Instead, governments should try to reduce uncertainty. The “search and discover” approach is an important option in this regard. The military calls this approach the OODA loop (observe, orientate, decide, act)—a cycle of decision-making that acknowledges and exploits the uncertainty and complexity of the battlefield.

Scenario planning is one way of carrying out the OODA loop. It projects futures based on our understanding of the operating environment today. It can help in planning and overcoming cognitive biases by challenging mental models. Scenarios are one of the most popular and persuasive methods used to provide a plausible description of what might happen in the future. They help in selecting strategies through identifying possible futures. Scenarios make people aware of problems, uncertainties, challenges and opportunities that such an environment would present. They open up the imagination and initiate learning.

For the past two decades, the Singapore government has been using scenario planning and has found that it better informs policies, plans and budgets of the challenges and opportunities that could arise in the future. But this approach is insufficient in a complex unordered environment, because scenario planning cannot adequately account for hidden connections and interactions. As traditionally practised, scenario planning is limited by its focus on what is logical, such as using a systems map to plot the interrelationships among driving forces. Scenario planning tends to undervalue the impact of the irrational on future outcomes.

Methods that focus on the non-rational drivers of change should thus be part of the governance toolbox. They include:

- ▶ **Back-casting** - looking backward from the future to understand how shifts in values and principles can drive change);
- ▶ **Policy-gaming** - akin to military war-gaming, but applied to the civilian policy context to condition policy-makers to complex and uncertain situations, and to help them confront cognitive biases; and
- ▶ **Horizon scanning** - the process of detecting emerging trends, threats and opportunities.



New Tools

Applying new concepts and tools to complement scenario planning for strategic anticipation will be vital. A few areas may be further explored to augment foresight work:

- ▶ **Sentiment Analysis** - Sentiment analysis is growing more relevant as new media emerge. Sentiment analysis applies computational linguistics to determine authors' attitudes towards topics. Sentiment analysis could help improve public service and government policies by helping policy-makers feel the public's pulse. Singapore is experimenting with sentiment analysis as part of the effort to "sense-make" social media. Through such experiments, we are learning how social media data can help us better understand people's concerns and the effect of policies on them.
- ▶ **Big Data** - According to IBM, we create 2.5 quintillion bytes of data every day. This data comes from everywhere: sensors used to gather climate information, posts on social media sites, digital pictures and videos, purchase transaction records, and mobile phone GPS signals, just to name a few. This data, nowadays collectively called big data, refers to large and complex data sets, which are often multidimensional, longitudinal, and digitally generated. With enhanced computational capacity, it is possible to distil vast amounts of data in new ways to find meaningful correlations to emerging patterns and trends in our environment.

Singapore's Risk Assessment and Horizon Scanning (RAHS) programme is a major initiative. It uses a suite of computer-based tools to search for weak signals that could evolve into sudden shocks. Technological advances like sentiment analysis and big data hold exciting possibilities for RAHS. For example, enterprise search engines can handle a larger variety of sources, have better extraction tools and have more sophisticated visualizations. They function as sieves through which large amounts of data can be filtered. RAHS is moving beyond conventional horizon scanning into sentiment analysis, and narrative capture – which augments traditional survey techniques – aided by big data tools for synthesis and analysis. But technology serves the analyst in creating value. It cannot and will never displace human analysis.



Experimentation and Risk Management in Complexity

Conventional efforts to model complex systems, like the Club of Rome's model of economic and population growth, have often gotten it wrong, because the parts of a complex system interact in ways that defy deterministic, linear analysis. In complex operating environments, exploration and experimentation are more valuable than predictions of analytical models.

So rather than plan exhaustively for every contingency before we move, we must be prepared to experiment, even if we cannot be entirely certain of the outcome. The approach is to probe, sense patterns and act, even in the absence of complete information. We must learn to operate not in a "fail-safe" mode, but a "safe-fail" mode. Pilot programmes, prototypes and "beta versions" should be the norm in dealing with wicked problems. If they succeed, they can be expanded. If they fail, the damage is limited.

The approach is to probe, sense patterns and to act, even in the absence of complete information. We must learn to operate not in a "fail-safe" mode, but a "safe-fail" mode.

Governments must also be able to manage risks amid complexity. Big decisions will have to be made under incomplete information and uncertain outcomes. There will be threats to national outcomes, policies and plans. No amount of analysis and forward planning will eliminate volatility and uncertainty in a complex world. These threats constitute strategic risk.

The Singapore government is developing a Whole-of-Government Integrated Risk Management (WOG-IRM) framework – a governance chain that begins with risk identification and assessment at the strategic level, to monitoring of risk indicators, and finally to resource mobilisation and behavioural changes to prepare for anticipated risks. WOG-IRM also plays a role in discovering the interconnections among risk factors.

Conclusion

The rise of complexity in the world today throws up enormous challenges for governments worldwide. They will face black swans and need to deal with wicked problems. Foresight will help governments to better deal with complexity and its challenges. But fundamental changes are needed to the organisation of government. The governance toolbox needs to be overhauled. A new mindset – whole-of-government – should be nurtured. The future of governance lies in such systems-level coordination, to facilitate better foresight and futures thinking.

Notes

¹Paul Ormerod, *“Crime: Economic Incentives and Social Networks”*, Jun 2005.

²Margaret Heffernan, *“Wilful Blindness: Why We Ignore the Obvious at our Peril”*, Apr 2011.

³Horst W. J. Rittel, Melvin M. Webber, *“Dilemmas in a General Theory of Planning”*, Jun 1973.

⁴Stephen W. Hawking, *interview in San Jose Mercury News, Morning Final Edition*, Jan 2000.

⁵Kees Van der Heijden, *“The Sixth Sense: Accelerating Organizational Learning with Scenarios”*, Aug 2009.

⁶Yaneer Bar-Yam, *“Making Things Work: Solving Complex Problems in a Complex World”*, 2004.

2013 Highlights

Nicholas Tan

The Centre for Strategic Futures' (CSF) mandate is to systematically think about the future to uncover insights relevant to public policy in Singapore. To this end, we experiment with and apply a range of foresight tools to research and analyse issues of strategic importance to Singapore, and raise awareness of such issues to policy-makers and decision-makers in the Public Service. This section provides a summary of the work that the CSF has undertaken in 2013, some of which have been featured in this Report.

Research and Analysis

The Singapore Public Service has been using Scenario Planning as a foresight tool to guide its longer-term strategic thinking since the 1980s. Today, the CSF applies a broader set of foresight tools to complement Scenario Planning on a variety of issues that are pertinent to public policy – we call this set of tools, applied to various stages of the foresight process, the Scenario Planning Plus (SP+) toolkit. This includes how we identify areas of concern, sense-make the operating environment and develop possible strategies for decision-makers to consider.

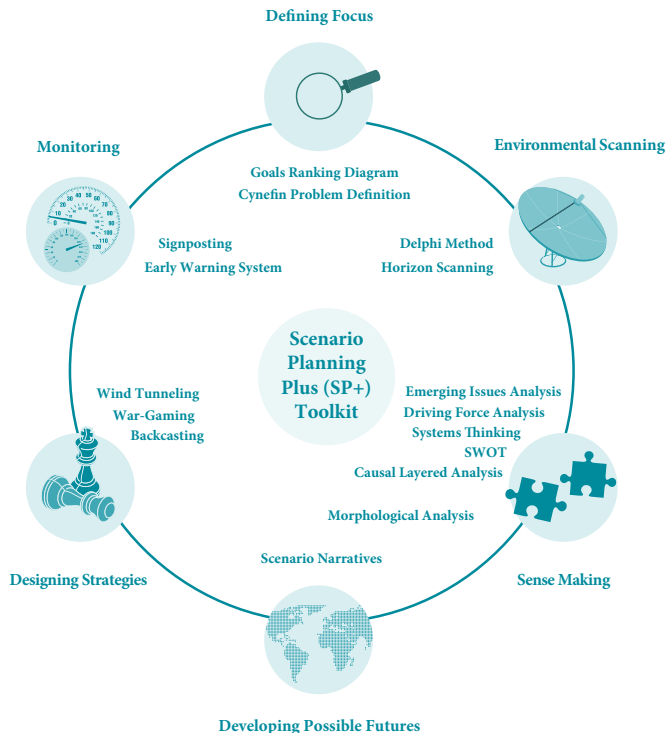


Figure 1: Scenario Planning Plus (SP+) toolkit

Sense-making with Causal Layered Analysis

One of the tools we have been experimenting with over the past year has been Causal Layered Analysis (CLA). While the traditional Scenario Planning tool helps us to explore a wide range of driving forces to develop plausible futures, the CSF has found CLA to be a particularly useful tool to achieve depth of understanding. The tool helps us to surface and make sense of the underlying, deep-seated assumptions and beliefs that shape the way different stakeholders view and respond to issues. By uncovering these perspectives, CLA helps to reveal the points of disagreement between stakeholders. CLA also presents an opportunity to construct alternative futures, by forming new narratives that transform the underlying beliefs and encompass the interests of different stakeholders. Our experience in applying the CLA method to analyse the socio-economic aspirations that Singaporeans expressed in Our Singapore Conversation, the nation-wide dialogue held in 2013 involving Singaporeans from all walks of life to discuss a shared vision of the future, can be found at pages 37 to 44.

Emerging Strategic Issues and Wildcards

In 2013, we initiated research projects as a follow up to our earlier work on Emerging Strategic Issues (ESIs) and Wildcards. In 2012, we had worked with government agencies to identify, consider and prioritise issues that had yet to surface as critical issues on the radar of agencies, but which could have significant impact if they did arise. In this next phase of work, we are working with agencies to consider how we can better respond to some of these ESIs – this is described in further detail at pages 53 to 58. Given our role as a think tank for government, we have also conducted research on governance issues, such as the evolving role of the state, which can be found at pages 19 to 30.

Risk Management

An important aspect of the CSF's work is monitoring the strategic risks that Singapore faces. These risks are often interconnected, and to address them adequately, we believe in taking a holistic and co-ordinated approach. This means considering the risks as an entire portfolio, rather than isolated risks facing individual government agencies, and helping them look beyond their individual agency perspectives to consider the broader strategic risks that Singapore faces. This year, the CSF has worked on building an understanding of the opportunities that can be exploited through risk, and we have included our thoughts on this on pages 45 to 52.

Engagements and Connections

The CSF has actively sought to grow and deepen our networks in the region and beyond. We are grateful for the privilege of working and exchanging perspectives with our contacts locally and abroad, which has helped us to develop our thinking and practice in futures methodology and content.

Engagements

The CSF holds discussions between policy-makers and thinkers on specific topics to spark new insights and consider the implications on public policy.

In the past year, we have had thought-provoking conversations with thinkers and futures practitioners, from individuals such as Nicholas Nassim Taleb and Sohail Inayatullah to our counterparts in other organisations such as the World Economic Forum's Strategic Foresight team, myForesight, the Malaysian Foresight Institute and the Horizon Scanning Secretariat in the UK's Cabinet Office. We have also held FutureChats for foresight practitioners across the Singapore Government to engage thought leaders in a range of fields, including Barbara Heinzen on the topic of serious gaming, and Adam Kahane on transformative scenario planning.

The CSF's networking in 2013 also involved several trips to connect with our international network, to gather fresh perspectives and insights, as well as to enrich our practice of foresight. We met thinkers around the world from the US and Europe to China and Japan; attended conferences such as the Institute for the Future's ReConstitutional Conference on Reimagining Governance and the New Cities Summit in São Paulo, as well as methodology courses such as the University of Houston's Strategic Foresight course and the Oxford Scenarios programme. CSF also presented a paper on Participatory Futures at the International Foresight Academy Seminar in Zurich. The paper, which documents Singapore's experience in Our Singapore Conversation, is also included in this publication at pages 31 to 36.

Foresight Week 2013

Jointly organised by the CSF and the Risk Assessment and Horizon Scanning (RAHS) Programme Office (RPO) and the Nanyang Technological University's Complexity Programme, Singapore Foresight Week 2013 is the flagship event for the foresight community in Singapore. In July 2013, the international foresight and complexity community gathered in Singapore to attend the three components of Foresight Week: the RPO's International Risk Assessment and Horizon Scanning Symposium, the Nanyang Technological University's Workshop on Complexity and Governance and the CSF's Foresight Conference.

The theme of the 2013 Foresight Conference was "Foresight and Public Policy". During plenary sessions, participants explored topics such as the future of growth, the future of the middle class, the future of cities and the future of relationships between citizens, corporations and governments. Participants also discussed the future of trust, power and wellbeing in various breakout sessions.

Participants at the Foresight Conference 2013 included:

- ▶ [Anies Baswedan](#), President of Paramadina University, Indonesia
- ▶ [Manu Bhaskaran](#), Director of the Centennial Group
- ▶ [Catherine Fieschi](#), Director of Counterpoint UK
- ▶ [Pankaj Mishra](#), writer and historian
- ▶ [Dick O'Neill](#), President, Highlands Group (who also acted as the Chief Facilitator)
- ▶ [Ann Pendleton-Jullian](#), Distinguished Professor of Design at Georgetown University
- ▶ [Peter Schwartz](#), Senior Vice President for Global Government Relations and Strategic Planning at Salesforce.com
- ▶ [Xue Lan](#), Dean of the School of Public Policy and Management, Tsinghua University



Figure 2: A visual recording of the plenary session on growth at Foresight Conference 2013

Capability Building

Developing the Public Service’s ability to think about the future continues to be a key part of the CSF’s role. Our experience in talent development in futures work, which builds on the competency framework we developed with the National Security Coordination Secretariat (NSCS) in 2012, can be found at page 61 to 64.

Futurecraft

The CSF builds awareness of the SP+ tools across Government through a series of workshops dubbed “FutureCraft”. Besides sharing the usage of the SP+ tools, FutureCraft serves as a platform for foresight practitioners within the Singapore Government to exchange their experiences on the successes, challenges and best practices for foresight. A detailed description of these workshops is at page 61 to 64.



Research and Analysis



Evolving Role of the State

Cheryl Chung and April Chin



Introduction

In recent years, the debate in contemporary political science has centred around the political institutions that limit or check power, like democratic accountability and the rule of law. However, as Francis Fukuyama has pointed out in his article, “What is Governance”, little attention has been paid to the institution that actually accumulates and uses this power - the state.

While there have been repeated claims of the withering of the state over the past decades, few of these have proven accurate. In fact, there has been a need for increased government capacity to deal with the increased demands placed on the state. In many countries, this has been exacerbated by an underinvestment in public sector capacity over the past few decades. This article goes beyond the usual conversation about how the state carries out the business of governance and back to the more fundamental questions of what is the role of the state and why this is important.

Understanding the Context: How is the Role of the State Evolving ?

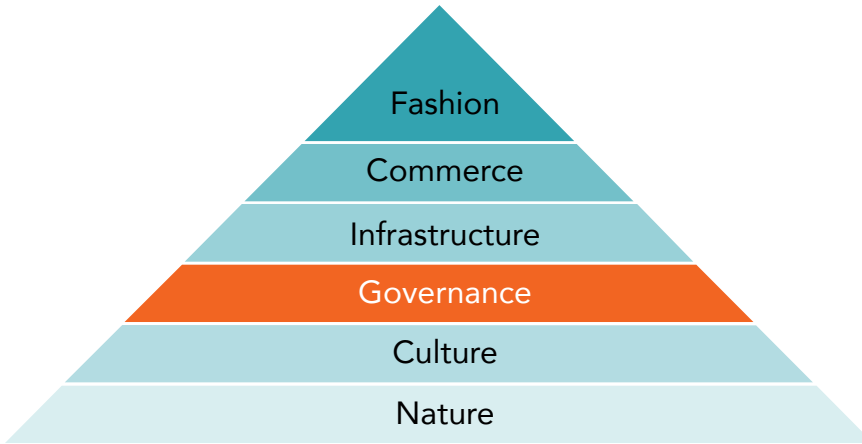


Figure 1: A pace-layered cross section of society by Steward Brand

To understand the trends that affect the role of the state, we have to consider the context in which the state operates. Figure 1 illustrates a framework to think about how governance, largely the responsibility of the state, relates to other components of society. Governance falls roughly between the fast- and slow-moving components of society. This presents an interesting challenge for states because the components that change quickly get all the attention, but those that change slowly have all the power. The fast learn, propose, and absorb shocks; the slow remember, integrate, and constrain.

This framework also suggests where the state's levers to affect change in society might be. For example, the state may have limited levers to influence slower-moving components like culture and values, and may need to evolve new ways to lead or govern in these areas of society. Managing the tension between the fast- and slow-moving components of society is core to the role of the state and how it will evolve. In Singapore, it might mean that while it is relatively quick to change policies with regard to home loan restrictions, cultural norms and values around home ownership can take a longer time to shift.

In his book, "The End of Power", Moises Naím suggested that we were "on the verge of a revolutionary wave of positive political and institutional innovations". Naím described the shift in power through three revolutions, which in turn would impact the role of the state:



The More revolution

As people became more numerous and were living fuller and longer lives, they became more difficult to regiment and control.



The Mobile revolution

As people became more mobile with the ease of migration, power lost its captive audience.



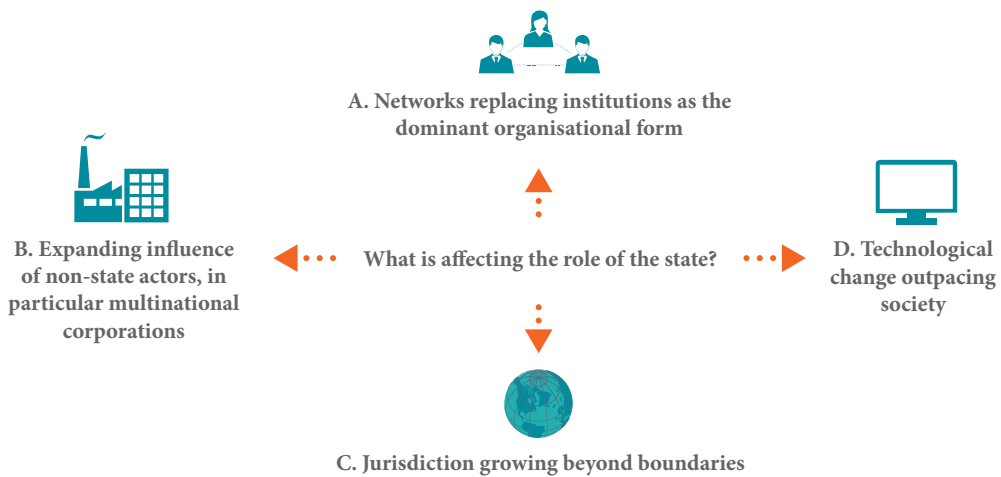
The Mentality revolution

As people became more affluent, they had higher expectations of living standards.

Looking at this from the perspective of relative rates of change, one observes that these revolutions have taken place within the timespan of one to two generations, much more quickly than similar changes which have taken place in the history of societies. This has led to a compression of timescales within which the state operates. The middle-class uprising in countries like Brazil, where there has been a mismatch of expectations around the sustainability of economic growth and improved standards of living, is a manifestation of the tensions that can emerge from these revolutions.

Understanding the Changes: What is Affecting the Role of the State?

Is governance able to keep pace with the changes in the rest of society? With the above frames in mind, we explore four themes affecting the role of the state and discuss the trends under each:



A. Networks Replacing Institutions as the Dominant Organisational Form



Figure 2: Basic forms underlying the organisation of all societies by David Ronfeldt

According to David Ronfeldt, new information and communication technologies have enabled dispersed, often small actors to connect, coordinate and act jointly as never before. This favours and strengthens network forms of organisation and represents a structural change in the operating environment for states.

A.1 Breakdown of Economies of Scale

When institutions and markets were the dominant organisational form, there were economies of scale allowing for the efficient management of large units, in many cases by the state. However, in a network, the state is but one of many stakeholders in the network. Without economies of scale through centralisation, common market-based measures of state performance, like efficiency and productivity, also become less useful.

A.2 Changing Nature of Leadership in a Network Structure

Not all participants in a network are equal, and leadership still matters. In a network structure, the state would have to adapt the way it exercises power and performs its role. Leaders can have a louder voice, but have to build the legitimacy to exercise it. This would increasingly become the challenge for states operating within the network. Ronfeldt therefore suggests that power and influence appear to be migrating to actors who are skilled at developing multi-organisational networks, and at operating in environments where networks are the dominant organisational form. In general, non-state actors are ahead of state actors operating in this environment and this may present a shock to established centres of power, as will be described in the following section.

B. Expanding Influence of Non-State Actors, in Particular Multinational Corporations

In a network form, other entities compete with the state for influence within the web, like environmental, human rights, and other activist nongovernmental groups, which operate at many levels of government around the world. This new dynamic changes the role of the state.

B.1 Increasing State-Like Function of Non-State Actors

Non-state actors are starting to have state-like power and capability, ranging from diplomacy to urban planning to provision of public services. For example, Zappos' founder, Tony Hsieh, invested \$350 million to transform the decaying and blighted part of the old Vegas Strip into the most community-focused large city in the world. The Downtown Project has already funded over 60 tech start-ups and 21 small businesses with the ultimate goal being to invest in 100-200 entrepreneurs. This makes Tony Hsieh the de-facto mayor of downtown Las Vegas. This type of activity is not limited to entrepreneurs. According to a CNN report in 2006, "Hezbollah did everything that a government should do, from collecting the garbage to running hospitals and repairing schools"³ Non-state actors can be more innovative, flexible and adaptable than many states. They are sometimes more suited to governance functions and have more power and influence in a network. States are therefore often crowded out of their own space.

B.2 Increasing Control that Multinationals have over the Network

Globalisation and the free movement of capital have enabled multi-national corporations to become a network of supranational entities, exporting goods and services as well as culture and ideology to the states in which they operate. For example, Proctor & Gamble was the first company to hire women in Saudi Arabia.⁴ Although Saudi labour laws have a provision for employing women, many companies have been unwilling to cause cultural controversy. Multinationals also form the basis of connectivity in a transnational network, providing air travel, sea freight and global telecommunications capabilities. What results is that domestically, multinationals have assets and access to resources that can rival some states. They have a disproportionate say on the regulation and public policy agenda when they represent industry lobby for national safety standards as a result of their global supply chain.

C. Jurisdiction Growing beyond Boundaries

One of the roles of the state is to manage the resources under its jurisdiction and correct market failures. The state is relatively good at dealing with the problems that are defined in terms of the Westphalian concept of state, for example, sovereignty and international trade. The state typically has established mechanisms to safeguard its interest and power. However, it has become increasingly difficult to establish what the state actually has jurisdiction over and this creates new forms of market failures.

C.1 Growing Trans-Boundary Nature of Problems

While states retain the jurisdiction to manage resources within their physical and geographical boundaries, many resource and public-good problems resist a state-centric approach. For example, governance by norms, spheres of influence and interlocking societal relations rather than comparatively inflexible international law could make the management of trans-boundary problems easier.

C.2 Lack of Global Leadership in a G-Zero World

In a G-Zero world, where every state is for itself, ineffective mechanisms to deal with the growing trans-boundary nature of problems will lead to more pressure for a distributed, bottom-up model of global governance system.⁵ Small states like Singapore have a clear interest in an open, rule-based system as they face heightened risk in a system where there are no longer strong institutional platforms to safeguard their interests.⁶ Such states may find themselves shifting from playing price-taker or “pivot” roles to advocating for strong international rule of law and no unilateral actions.

C.3 Rise of the Interests of Non-Voters

Today, many individuals regard themselves as “city-zens”, that is, their residency in a city is core to their identity regardless of their actual citizenship and voting rights. However, the current governance system is not good at taking into account factors such as the preferences of the non-voter (for example, city-zens), the environment and future generations. What results is not only rising expectations on the part of citizens (voters in the political process), but that the state increasingly also has to look at the interests of non-voters as well.

D. Technology Changing Faster than Society

As technology expands at an ever increasing rate, society struggles to keep up.

D.1 Erosion of Social Mobility

The rise of robotics and automation is wiping out many middle-skill jobs. Coupled with the expansion in higher education opportunities in emerging markets, there will be fierce competition for such jobs. In addition, the structure of the modern economy is changing. The increased demand for high value services imposes a high barrier to entry. Only a fraction of the workforce is able to participate in value creation that these sectors provide. What results is what Kenichi Ohmae called the “M-shaped society”, where income distribution in Japan is becoming polarised due to the impact of technological change and globalisation. The same can be seen in the US where society is turning into a “two-caste society”, with poor families trapped in a cycle of poverty. The ability to provide education and middle-skilled high-paying jobs was one of the state’s levers for upward social mobility in the past, but this has eroded over time.

D.2 Rise of Monitory Democracy

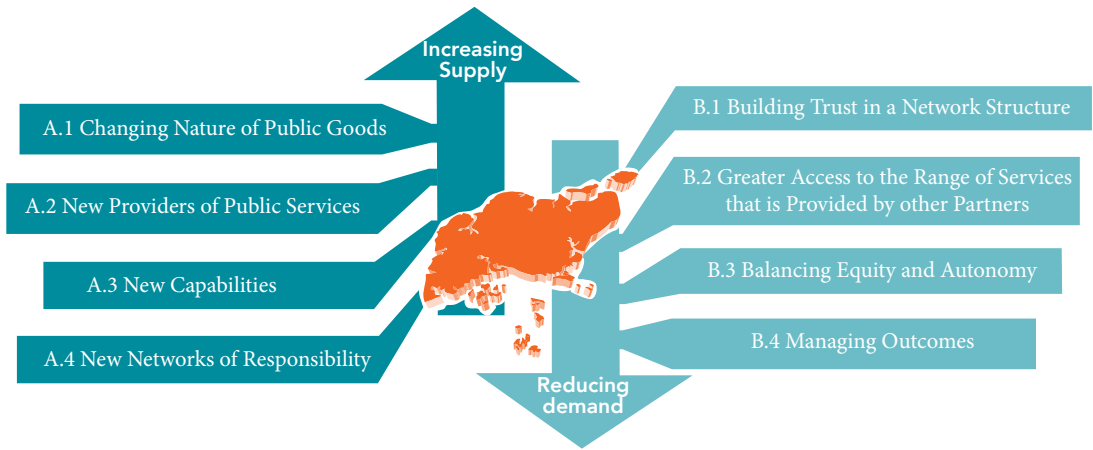
The rise of social media and surveillance technologies has led to changing expectations of the policy making process. On the one hand, individuals are more empowered; on the other, empowered individuals demand more from the state. What results is what John Keane calls “monitory democracy”, where “the powerful consequently come to feel the constant pinch of the powerless”. Those who make decisions are “subject constantly to the ideal of public chastening, tied down by a thousand Lilliputian strings of scrutiny”.

D.3 Regulation Gets Left Behind

New technology presents governance challenges as the state struggles to regulate in an increasingly complex and uncertain environment. For example, stringent IP laws may become obsolete with new production technologies like 3D printing and autonomous vehicles could change the transport landscape, creating new liability issues.

Understanding the Challenges: What are the Implications on the Role of the State?

In response to these trends, we should consider what the implications on the role of the state might be. We will also highlight weak signals that suggest how the role of the state might evolve in Singapore. Broadly, the state faces two challenges to its role, as follows:



How to Increase the “Supply” of the State?

One of the roles of the state is the redistribution of wealth through taxation and the provision of public services. Globally, austerity measures have forced states to cut back on their fiscal spending and this has constrained their ability to supply public services. In Singapore, one of the fiscal challenges highlighted in the “Singapore Public Sector Outcomes Review” is how to raise sufficient revenue to invest in the range of capabilities and infrastructure that Singapore needs to survive and succeed in the future.⁷ In this constrained environment, the state needs to find other ways to increase the “supply” of the state.

1. Changing Nature of Public Goods

First, the nature of what might be considered a public good can change over time.⁸ Technological innovation can enable the private provision of previously public goods. For example, the traditional argument for state involvement in the energy sector is that a natural monopoly exists because of the high fixed cost in power generation. However, technological development that enables small-scale power generation can negate the role of the state.

Technological innovation can also create new public goods. For example, internet connectivity has in this time become such an important part of daily lives that many Singaporeans now see this as a basic need that should be met wherever they are in Singapore. When the Land Transport Authority introduced a trial in January 2014 to implement free wireless internet at 28 Mass Rapid Transit (MRT) stations across Singapore, commuters were frustrated with the poor Internet connectivity on train platforms and their inability to surf the Internet while waiting for a train.

Beyond Internet connectivity, what other public goods will the state have to renegotiate?



2. New Providers of Public Services

Secondly, governance is a competitive marketplace. There can be both private and public supply of social services and individuals are mostly free to choose which they prefer. For example, in a society where there is a widening gulf between rich and poor, the rich may live increasingly separate lives and provide for their own “public services”. On one hand, this could allow the Government greater focus in providing services for the needy; on the other, the rise of gated communities and privatised social services could signal the beginning of deterioration in the quality of public services as the rich opt out.

The state also needs to consider what public services it has a role in supplying vis-à-vis other stakeholders, and how it might partner them to deliver better services. The provision of public services by the state may not necessarily keep pace with the increase in demand; in fact, sometimes the increase in supply of public services also increases the demand. In this case, the role of the state might be to play specific coordination functions, and allow civil society or private sector partners the space to grow as new providers of public services.

As the state seeks to be more responsive to growing public pressure, how can it work with new or existing providers of public services to split the load?



3. New Capabilities

Joseph Nye argues that transactional hard power skills, like organisational ability and political acumen, are just as important as transformational soft power skills, like communications, vision and emotional intelligence.⁹ The state must develop a kind of “contextual intelligence” to be able to apply the best combination of hard and soft power skills in different situations. It bears consideration what new capabilities the state should invest in to be able to ensure “supply” for the future, both in the ability to deliver on its promises and the ability to shape the direction that it is moving in. In retail parlance, “consumer insights” provide a key to what the “supply” should be. Likewise, for the state to undertake this type of sense-making work, it has become important not only to get data from economists and engineers but also insights from sociologists and anthropologists.

As Singapore approaches fifty years of rapid progress, sense-making would also have to take into account the development of its slower-moving components – in terms of its history, culture and heritage. In August 2011, the Government launched the Singapore Memory Project, a nationwide movement which aimed to capture and document precious moments and memories related to Singapore. Intangible assets such as collective memory are important in maintaining the resilience of our country, as Singapore seeks to become more adept at managing its pace of change.

What capability gaps have arisen because of the change in the operating environment?
What new capabilities should the state invest in to ensure “supply” for the future?



4. New Networks of Responsibility

The rise in the network structure and the expanding influence of non-state actors also presents opportunities for states to facilitate networks of responsibility and build inclusive institutions in place of traditionally more extractive ones.¹⁰

What results is greater experimentation and decentralisation, leading to more robust processes and outcomes. There are weak signals of this happening in Singapore. In 2013, local social enterprise SYINC launched a collaborative, community-focussed project “Under the Hood” to crowdsource innovative solutions to Singapore’s urban poverty challenges.¹¹ The initiative brought together a range of organisations from the private and people sector, and acted as a lab to prototype micro-level, local solutions that are scalable, if proven successful. The potential for greater collaboration with such initiatives creates a specific role for the state in the network to identify successful ideas and scale them, leveraging its resources and existing infrastructures to augment the delivery of public services.

How might the state create more space for network actors to take greater responsibility?

The state often retains the reputational risk and overall accountability for outcomes.

How can the state share responsibility while maintaining the influence over outcomes?



How to Reduce the “Demand” on the State?

Some argue that only looking at increasing the “supply” of the state with limited resources leads to a vicious cycle. One of the reasons for this is that increasing the “supply” of the state can enlarge the issues that come under the purview of the state, thereby creating its own demand. When there is surplus demand for public services, the instinct is for the state to fill the gap. However, this sometimes generates more demand for said services. Therefore, a more sustainable solution might be to find ways to reduce the “demand” on the state that can lead to a more virtuous cycle.

1. Building Trust in a Network Structure

The nature of trust may be different in a networked structure. Even though the quality of public services has improved, there has still been a declining level of trust in governments, institutions and elites. There is a growing sense amongst the middle class that the “system” is rigged in a self-serving way and that it lacks the capacity to deal with emerging challenges. Trust in a network structure depends on long-term reciprocity of relationships, where there needs to be fair outcomes for stakeholders in these networks, and a perceived “fair” allocation of costs and benefits. Contribution, participation and reciprocity then lead to trust outcomes over time. In this environment, the appropriate scale of decision-making may be smaller, which can favour small states like Singapore, although it bears consideration how we might further localise decision-making to build more trust.

Efforts to invite participation from the network have to be designed with care. In 2006, the New Zealand government undertook a review of their Policing Act. One stage was to open up the act on a wiki for two weeks and the public was able to contribute. However, the parliamentary council office came out to express concerns at the format required and the expertise of the public in being able to meaningfully contribute to drafting legislation. Furthermore, in a low-trust environment, the public may question the role of a preventative government in protecting its citizenry and the potential legality of an infallible prosecutor.

How can we build trust in a network structure to reduce the overall demand on the state? Who watches the watchmen?



2. Greater Access to the Range of Services Provided by Other Partners

“The Birth of the Relational State”, Geoff Mulgan argued that the state needed to connect with the people. While achieving Key Performance Indicators was important, people were grateful *that* their government was delivering the services, but not grateful *to* the government, as there was no shared sense of achievement. One of the ways that the state can legitimise itself to its constituents might be to facilitate the building of relationships with the people and other sectors to co-provide solutions to problems.

There are many well-studied factors that contribute to the demand for the state, for example, the origins of crime, educational failure, indebtedness, family breakdown, psychological trauma, ill health, and others – yet the demand for the state is derivative, that is, people are actually demanding for certain services to be provided, and not necessarily for the state to provide it. This delineation opens up many possibilities for the state to co-opt other partners into the picture, with the state retaining an important role in designing the architecture of the networks in the sector, and facilitating access. For example, the 311 network in New York has included a list of charities to their hotline. By allowing access to non-state resources through a state-operated platform, they have allowed greater co-production of social services with the charity sector. In Singapore, the mytransport.sg app functions as a gateway for all things to do with transportation by aggregating available data, facilitating greater access to other non-state partners, and enabling the public to find solutions for themselves.

How can the state facilitate access to other providers of public service?
How can the state enable co-production of solutions with citizens?



3. Balancing Equity and Autonomy

One of the challenges facing the state, especially in the area of public policy innovation, is how to balance equity and autonomy. A centralised system is often viewed to be more equitable at the expense of autonomy. However, as the governance system gets more complex, there are also hidden forms of inequity in a centralised system, like the difficulty in navigating the system.

Decentralised service provision at the hyper-local level can actually help to reduce this inequity. For example, the emergence of chartered schools is a good example of how this decentralised approach worked in practice because the focus was on outcomes, rather than the process. This represents a shift in the role of the state from ensuring equity in process to equity in outcomes. How can the state better measure public service outcomes, balancing both equity and autonomy? In Singapore, this level of self-regulation exists in the way that funds are dispersed in the community to the needy by grassroots organisations, the argument being that the community leaders know who in the community is the most in need and can respond best to those needs; parity across the board is a secondary objective to improving social outcomes.

Which areas of public policy can benefit from greater decentralisation?



4. Managing Outcomes

One of the roles of the state is to ensure parity in process, if not outcomes. However, for certain areas, enforcing strict levels of compliance generates a greater demand for state intervention. For example in Singapore, the Workplace Safety and Health Act was amended in 2006 to focus on Workplace Safety & Health systems and outcomes, rather than merely on compliance, to allow for flexibility and robustness in the regulation to keep pace with technology and the nature of work.

Setting and monitoring outcomes of individual agencies, while useful, is insufficient. In recognition of this, the Ministry of Finance and other Ministries have therefore worked to jointly establish whole-of-government outcomes along with suitable indicators to track our progress towards achieving them. In addition, when the state is better able to measure outcomes, greater possibilities in funding design, beyond grant funding, open up to states to more effectively measure and manage their resources and increase their impact, for example, with the incorporation of behavioural insights.

Which areas can benefit from regulation by outcomes?
What new funding models can we use to manage outcomes?



Conclusion

The operating environment for the state has changed. Networks dominate institutions as the dominant organisational form. The influence of non-state actors, in particular multinationals has expanded. Jurisdiction has grown beyond boundaries. Technological change has outpaced society. Consequently, the role of the state has had to evolve and to succeed in this new operating environment, the state needs to both increase the “supply” of the state and reduce the “demand” for the state.

Notes

¹We refer to the state as the functioning of executive branches and their bureaucracies.

²Mark Joseph Stern, “Can Tony Hsieh turn downtown Las Vegas into a family-friendly startup utopia?”, http://www.slate.com/articles/technology/the_next_silicon_valley/2013/12/tony_hsieh_las_vegas_can_the_zappos_billionaire_turn_vegas_into_a_tech_utopia.html, last accessed Dec 2013.

³Henry Schuster, “Hezbollah’s Secret Weapon”, Jul 2006.

⁴Procter & Gamble Special Series on “Diversity in Action”, <http://news.pg.com/blog/diversity-and-inclusion/special-series-%E2%80%93-diversity-action>, last accessed Dec 2013.

⁵Ian Bremmer coined the term “G-Zero world” to refer to an emerging vacuum of power in international politics created by a decline of Western influence and the domestic focus of the governments of developing states.

⁶David Skilling, “How Small States Can Navigate a World Without Global Leadership”, May 2012.

⁷The Singapore Public Sector Outcomes Review, <http://203.211.150.164/cms-mof/spor.aspx>, last accessed Feb 2014.

⁸Economists typically refer to “public goods” as goods that are both non-excludable and non-rivalrous, thereby needing to be provided by the state. In the context of this project, we use the term to refer more broadly to goods provided by the state, even if they may not fulfil the conditions of being non-excludable and/or non-rivalrous.

⁹Joseph Nye, “The Powers to Lead”, Mar 2008.

¹⁰Daron Acemoglu and James Robinson, “Why Nations Fail: The Origins of Power, Prosperity and Poverty”, Mar 2012.

¹¹Under the Hood, “Singapore Got Poor People Meh?”, <http://underthehood.cc>, last accessed Apr 2014.



Participatory Futures: After Our Singapore Conversation

Adrian W. J. Kuah and Lim Seok Hui*

This article was adapted from a fuller paper presented at the European International Foresight Academy Seminar held in Zurich, 16-19 September 2013. A version of this paper was also published by the Civil Service College in ETHOS, Issue 13, June 2014.

About Our Singapore Conversation (OSC):

Initiated in August 2012, Our Singapore Conversation was a year-long national conversation effort, characterised by broad-based, free-ranging dialogue, between the Government and citizens, and among citizens from all walks of life, on every aspect of the Singaporean condition. An OSC Committee, chaired by Education Minister Heng Swee Keat, led it.

Our Singapore Conversation (OSC) is formally over, with the publication and release of *Reflections of Our Singapore Conversation* in August 2013. *Reflections* is markedly different from the reports produced by previous national engagements such as “The Next Lap”, “Singapore 21” and “Remaking Singapore”. Minister Heng Swee Keat, in his Chairman’s Foreword, takes pains to emphasise that *Reflections* “does not look quite like the usual official report”. Elsewhere, the publication reiterates that the OSC is “not a policy document that outlines government responses to Singaporeans’ contributions to OSC.”¹

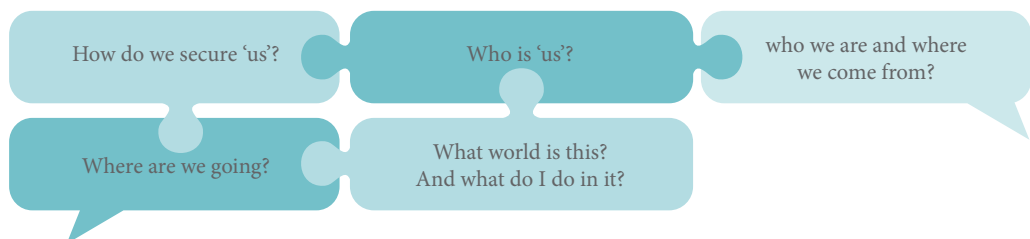
That *Reflections* should highlight this in order to manage expectations, not only of the Singaporean public but also the policy establishment, speaks to the uncharted territory that Singapore finds itself with OSC. This unfamiliarity, perhaps discomfiture even, stems from three factors. One, the OSC concept is driven by the still-developing idea of “co-creation”, of a partnership between those who govern and those who are governed. Public policy conducted through the participatory foresight approach becomes very much a collective enterprise, and less so the elite-driven phenomenon it typically is. Two, insofar as it is a dialogue, that is an often messy and dynamic process of articulations, negotiations, compromises, persuasions and concessions, it suggests that the OSC may be valued more as a process, rather than the outcomes that it generated. Indeed, the OSC was designed “with no specific preset topics or areas for discussion...to provide as much open space as possible for Singaporeans to voice their opinions.”²

Finally and most importantly, the very term “conversation” suggests the power of speech acts, of “talking” the future into existence.³ The OSC has engendered a discernible shift in focus from threats to aspirations, resulting in a new vocabulary built on terms such as “narrative”, “myth”, “values”, “identity” and so forth.⁴ To borrow from Joseph Campbell, the late authority on mythology, myths speak to us in terms we cannot deny; they are the stories, even lies, that we tell in order to justify ourselves to ourselves. The language of these myths constitutes a person’s “final vocabulary” as defined by the philosopher Richard Rorty:

It is “final” in the sense that if doubt is cast on the worth of these words, their user has no noncircular argumentative recourse. Those words are as far as he can go with language; beyond them there is only helpless passivity or a resort to violence.⁵

The OSC, at a deeper level, can be seen as an effort to rediscover and redefine a “final vocabulary” for the nation.

For policy makers, both the process and outcome of the OSC are potentially disconcerting, particularly if it is to be taken as a model for the public policy enterprise in future. Public officials function based on understanding causality in linear, mechanistic terms — typically, they search for points at which leverage can be applied in order to cause change throughout a system. This understanding of causality — in terms of uni-directional, linear determinism — has tended to resonate very well with policymakers in general, and those in Singapore particularly, for whom “policy lever” is a key term in the working vocabulary. The problematising, complex and emergent nature of participatory futures calls this stability into question. It does so by moving away from the assumption of linear cause-and-effect — and the consequent quest for neat, deterministic solutions to problems — towards an emphasis (and celebration) of the subjectivity and messiness that characterise social reality. Participatory foresight exercises such as the OSC create space for alternative futures that are the outcome not of objective determinism, but of subjective multi-causality.



In a sense, Singapore has come full circle, albeit having done things back-to-front. Singapore’s strategic foresight enterprise had its roots in the military-security milieu, in which the question of the day was: “How do we secure ‘us’?”⁶ It is only belatedly that Singapore, both government and the governed, has begun to address the more fundamental question of “Who is ‘us’?” through participatory futures. Bell points out that members of groups — societies, organisations, and nations — find meaning and purpose in their charter or founding myths, which form the basis for their societal identity and values. He further argues that the “charter myths of a particular group or society [is] a standard by which to evaluate the desirability of alternative images of the future...”⁷

There is an irony in realising that charting the way(s) ahead for Singapore rests on revisiting its charter myths. In one sense, the OSC has turned out to be an attempt to address “where we are going” by way of “who we are and where we come from”. This is clearly demonstrated in how participants reminisced about the “kampong spirit” (literally, ‘village spirit’, referring to the spirit of community), whether real or imagined, of yesteryear. The OSC participants have expressed sentiments that hint at a wistful longing for the past:

I pray that our country will be more caring towards the old and have the *kampong* spirit to help each other. Nobody appears to really care for one another’s wellbeing as well. There is a loss of *kampong* spirit, that sense of neighbourliness.⁸

The road to the future appears to run through the past.



Past, present, and future are inextricably intertwined. The past continues to cast its shadow on an ephemeral present. Yet also, far from being immutable, the ever-present past is subject to constant revisions and reinterpretations; the past — or rather, its significance — can be changed. Similarly, our present assumptions and images of the future shape our current actions, which in turn produce the future “present”. The growing importance of aspirations and the new modality of co-creating desirable futures by both state and society jointly suggest that Singapore’s foresight policies, far from being the straightforward application of tools and techniques, will have to be guided by the Aristotelian trinity of *logos* (the “how” of things), *ethos* (the questions of values and ethics) and *pathos* (how well we identify with each other). After all, participatory foresight is at heart an attempt to articulate and attain “the good life”: a fundamental philosophical question with tremendous practical impact.

Reflections, Refractions and Diffractions

Chairman Heng’s Foreword to *Reflections* concludes on an optimistic note:

Our Singapore Conversation does not end here. The spirit of speaking up constructively and hearing each other out sincerely and respectfully continues, just as making Singapore our best home is a continuing work in progress.

It is hoped that the myriad conversations will continue. Indeed, in his critique of the OSC within *Reflections*, Kenneth Paul Tan, a local academic and an OSC committee member, writes:

Instituting the habit of public participation and nurturing the skills to do this well are, in my view, a more important contribution of OSC than recording the aspirations that will feature in the final report.

Within the OSC Secretariat, the view is that Singaporeans are developing “conversational muscles” and they are not afraid to use them. Has the OSC, in providing the valve by which Singaporeans’ existential angst and anxiety about the future could be released, led to an irreversible *refraction* of Singaporean society into a spectrum of distinct colours, competing values and diverging aspirations?

The rationale, design, conduct and experience of the OSC recalls Max Weber's vision of an age marked by a contestation of ideas, in which no one single idea attains the monopoly status of a "grand narrative."⁹ It is no coincidence that emergence, contestation and messiness — trends evident in both the experience of OSC and the social climate in which it took place — have manifested at this advanced stage in Singapore's economic and urban development. Postmodernism — informed by plurality and difference, with a suspicion or even hostility towards the notion that there are universal and eternal truths — has been argued to be an advanced phenomenon of the "city":

Decide who you are, and the city will again assume a fixed form around you. Decide what it is, and your own identity will be revealed, like a map fixed by triangulation. Cities, unlike villages, and small towns, are plastic by nature. We mould them in our images: they, in their turn, shape us by the resistance they offer when we try to impose our personal form on them. In this sense, it seems to me that living in the city is an art, and we need the vocabulary of art, of style, to describe the peculiar relation between man and material that exists in the continual creative play of urban living. The city as we imagine it, the soft city of illusion, myth, aspiration, nightmare, is as real, maybe more real, than the hard city one can locate in maps and statistics, in monographs on urban sociology and demography and architecture.¹⁰

The OSC process may simply have exposed our notions of identity, history, and values as the contested narratives that are continually prone to unraveling. It remains unclear if these growing instabilities and emerging challenges, borne simultaneously of contestation between and co-creation by state and society will result in a diffraction of established and familiar policy paradigms. The post-modern thinker Foucault defines "heterotopia" as "capable of juxtaposing in a single real space several spaces, several sites that are themselves incompatible."¹¹ Has post-OSC Singapore become a proto-heterotopia, a place of ambiguities yet laden with possibilities, in which Singaporeans continually ask "What world is this? And what do I do in it?" Or have these tensions always been part of Singapore's existential challenge? Now that would be worth a conversation of its own.

Notes

*Lim Seok Hui is an Analyst in the Strategic Planning and Research Cluster in the Public Service Division of the Prime Minister's Office, Singapore. She was concurrently serving as a member of the "Our Singapore Programme" Office for the duration of the Our Singapore Conversation.

¹"Reflections of Our Singapore Conversation", http://www.reach.gov.sg/Portals/0/Microsite/osc/OSC_Reflection.pdf, accessed Feb 2014.

²"Our Singapore Conversation" website, <http://www.oursgconversation.sg>, accessed Sep 2013.

³For a fuller discussion, see: Adrian W. J. Kuah and Seok Hui Lim, "It's good to talk: the Rationale, Design and Processes behind Our Singapore Conversation", http://www.zhaw.ch/fileadmin/user_upload/engineering/_Institute_und_Zentren/INE/veranstaltungen/Papers_IFA/Kuah_Adrian.pdf, accessed Mar 2014.

⁴Adrian W. J. Kuah, "Facing up to Identity, Myths and Politics in S'pore", <http://www.todayonline.com/print/78261>, accessed Feb 2014.

⁵Richard Rorty, "Contingency, Irony, and Solidarity", 1989.

⁶Adrian W. J. Kuah, "Foresight (and) Policy: Thinking about Singapore's Future(s)", *Social Space 2013/14*. Singapore: Lien Centre for Social Innovation, Singapore Management University, 2013.

⁷Wendell Bell, "Foundations of Futures Studies: Values, Objectivity, and the Good Society", *Human Science for a New Era*, Volume 2, 2003.

⁸Quotes from OSC participants, taken from the OSC newsletter, *Perspectives arising from Our SG Conversation*, p. 17, http://www.reach.gov.sg/portals/0/microsite/osc/osc_newsletter.pdf, accessed Feb 2014.

⁹"... general views of life and the universe can never be the products of increasing empirical knowledge, and that the highest ideals, which move us most forcefully, are always formed only in the struggle with other ideals which are just as sacred to others as ours are to us." Max Weber, from *The Methodology of the Social Sciences*, translated by Edward A. Shils and Henry A. Finch.

¹⁰Jonathan Raban, "Soft City", 1974.

¹¹Michel Foucault (translated by Jay Miskowic), "Of Other Spaces", in *Diacritics* 16:1 (Spring 1986), 1986.

Using Causal Layered Analysis to Explore the Socio-Economic Aspirations of Singaporeans

Adrian W. J. Kuah, April Chin, Bai Huifen

What is Causal Layered Analysis (CLA)? What does it mean to apply CLA? Well, if you have ever interrogated someone about something important to them – whether it is their lifestyles, values, aspirations, worldviews– to the point where they get exasperated and are unable to articulate why, that would give you a sense of what CLA is about.

In March 2013, the Centre for Strategic Futures (CSF) initiated an inter-agency project to apply the Causal Layered Analysis (CLA) methodology to uncover what lies beneath Singaporeans’ socio-economic aspirations that were highlighted through The Our Singapore Conversation, and explore alternative futures that would encompass these aspirations.^{1,2} Here, we share some of the insights from the workshop.

Our Understanding of CLA

The CLA methodology is intriguing because it goes beyond the usual “if-then” analysis of actions and reactions, causes and effects. Rather, it posits that there are multiple layers of “reality” underpinning thoughts, speech and actions. The purpose of CLA is to uncover and interrogate these layers, particularly at the deepest, most elemental levels of the human condition.

The CLA methodology assumes four levels of reality: litany, systemic, worldview, and myth/metaphor.

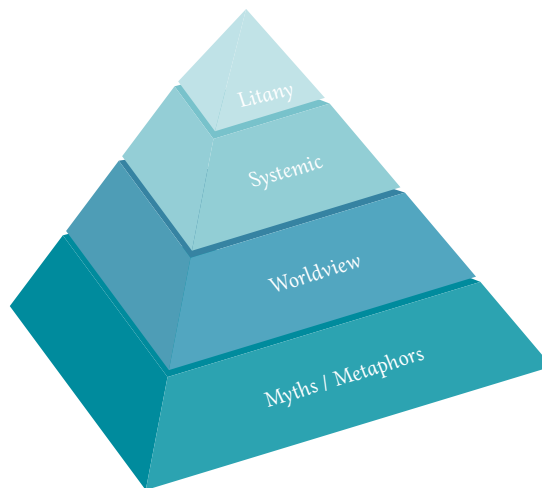


Figure 1: Four levels of reality in the CLA methodology

CLA integrates the objective and subjective; it assumes that reality is socially constructed, and therefore has to be deconstructed and critically interpreted. In analysing the multiple layers of the human experience, CLA leads to a fuller understanding of the present and a richer imagination of desired futures.

The ability of CLA to unearth the layer of the myth/metaphor was the most compelling aspect of this project. The objects of analysis at this level take the form of images, stories, mantras and symbols. It is at this level that CLA distinguished itself as a uniquely insightful tool in uncovering Singaporeans' hopes for (and fears of) the future.

Why do myths and metaphors matter? As Carl Jung puts it, the human being is a symbol-forming organism. He has constant need of a meaningful inner formulation of self and world in which his own actions, and even his impulses, relate to the "outside" world as he perceives it. Myths and metaphors therefore respond to a human need and fulfil a vital function, that of bringing to light the deepest elements of the human condition.

CLA Workshop on Singaporeans' Socio-Economic Aspirations

The half-day workshop was conducted on 8th May 2013 with a group of 13 participants from the public, private and people sectors. The discussions centred on examining the underlying assumptions, beliefs and motivations of Singaporeans' socio-economic aspirations in three areas: definitions of success, the pace of life and the economy.



Figure 2: 12 core aspirations of Singaporeans uncovered during the Our Singapore Conversation.³

The workshop was divided into two parts:

- ▶ **Understanding “The World as it is Today”**: Participants were divided into three groups to share their views on current definitions of success, the present pace of life and the state of the economy today. The discussion started from their observations of the litany, followed by the systemic factors, worldviews, myths and metaphors. The emphasis was on drawing out a range of perspectives and highlighting possible tensions between different stakeholder groups.
- ▶ **Imagining “The World as it Could Be”**: Participants were redistributed into two groups to envision an alternative Singapore in 2030 with (1) broader definitions of success while retaining a strong and vibrant economy; and (2) a fulfilling pace of life while retaining a strong and vibrant economy. By transforming the existing myths and metaphors to resolve as many tensions, CLA assumes that sustained and meaningful change is created across the worldview, systemic and litany levels to achieve the desired vision.

(We reproduce below only the segment on how success is defined today.)

Insights on “The World As It Is Today”

What do you Think of How Success is Currently Defined ?

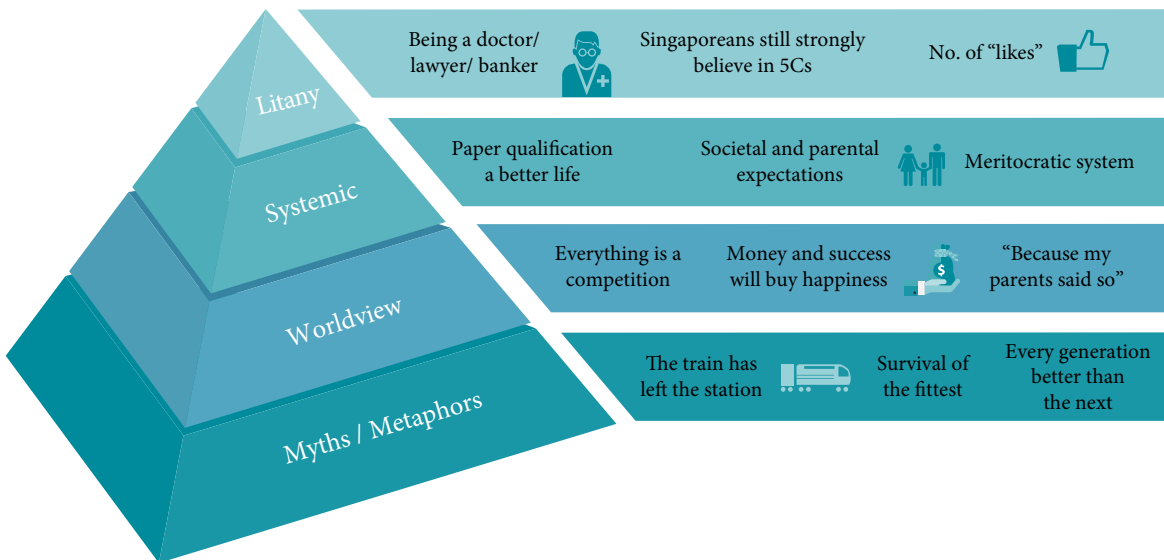


Figure 3: Actual post-it notes from participants on how success is currently defined today.

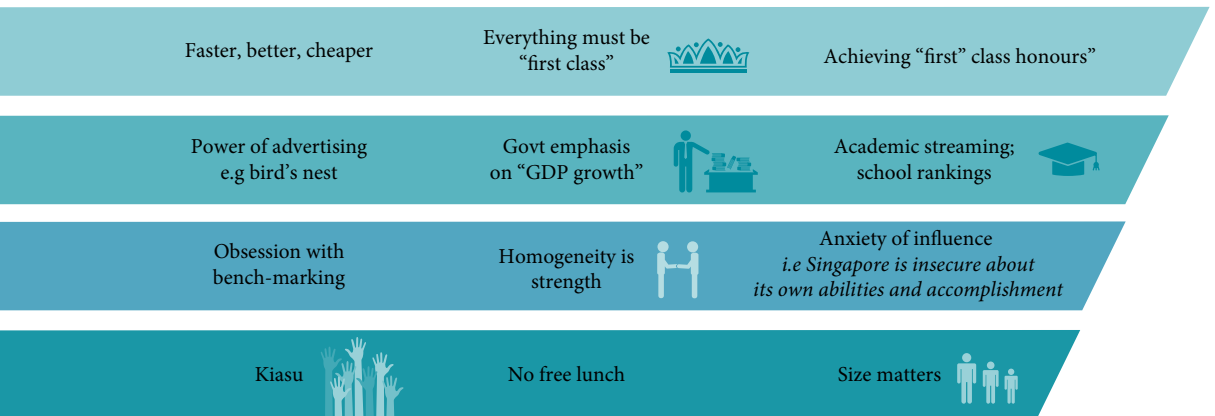
Success today continues to be measured in terms of the material and the tangible, with an emphasis on the ability to impress others (for example, paper qualifications and tangible trappings of wealth). There is a strong element of conservatism as “tried-and-tested” pathways to success continue to be celebrated and actively pursued. Importantly, high value-added, specialist careers with hefty incomes are regarded as synonymous with success and prestige (for example, being a doctor or a lawyer). Furthermore, new measures of success have also emerged in the digital age (for example, gauging one’s popularity on social media platforms).

The definition of success is shaped by extrinsic factors such as a meritocratic system that streams individuals into different ability groups and academic/career pathways based on their performance, a strong national focus on growth metrics – rankings, benchmarking and other indices – as measures of success; societal norms and parental aspirations which are projected onto children, and the impact of mental conditioning through aggressive marketing and advertising.

These factors have established a culture of competition and comparison (or locally known as a “kiasu culture” which means “fear of losing out”). This can be taken to an extreme when compounded by (1) a herd mentality that derives security from following others, and (2) a siege mentality undergirded by a profound sense of insecurity that narrowly defines success and happiness in relation to others (that is, we cannot truly be happy or successful unless we are doing better than others).

Such success is based on the assumption that life is a zero-sum game. Furthermore, there is an inherent discomfort with the unquantifiable and the subjective. Hence, we have grown obsessed with metrics and benchmarking as gauges for success and for defining quality. As individuals and a society, our desires and personal aspirations are sharply influenced by the expectations of others. Some saw this homogeneity of success as a strength, whereby people derived comfort from the fact that their idea of success is similar to how others define it. The participants also identified a postcolonial anxiety in which Singaporeans have not overcome the insecurities about their own abilities and accomplishments. This discomfort at the national level has shaped both government rhetoric and the popular discourse, and permeated through to the level of the individual.

When uncovered, the “survival of the fittest” myth features strongly, shaping our belief that constant progress and societal evolution is critical for success. The predominant image is of an unforgiving, dog-eat-dog world of relentless competition, with no second chances to catch the train.



(We reproduce only the segment on a Singapore with broader definitions of success, while retaining a strong and vibrant economy.)

Insights on “The World That Could Be”

How might we Achieve Broader Definitions of Success, while Achieving a Strong and Vibrant Economy in 2030?

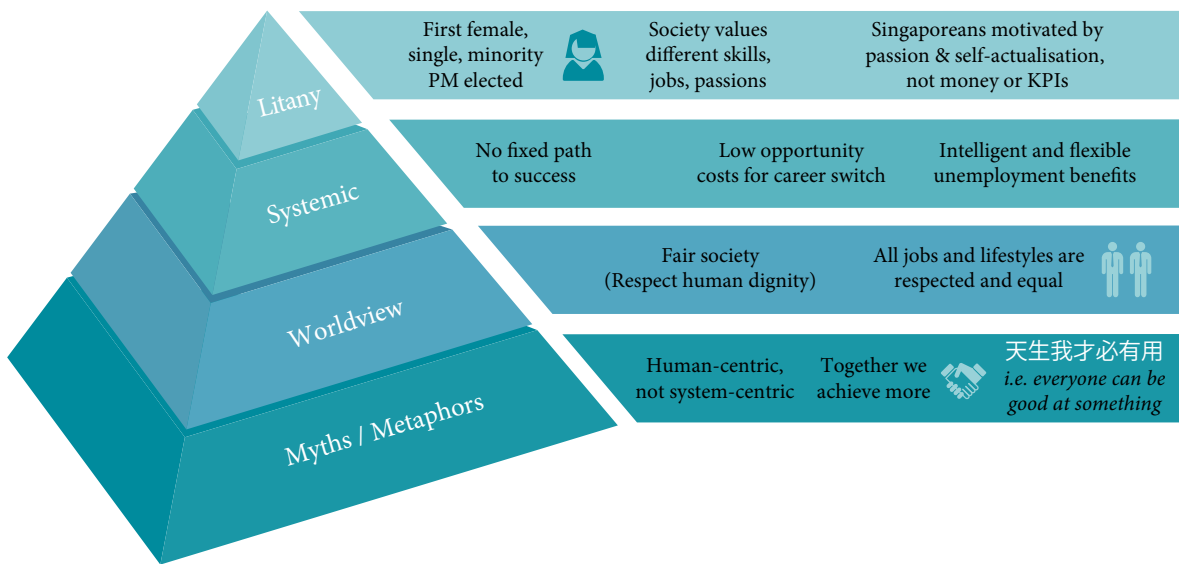


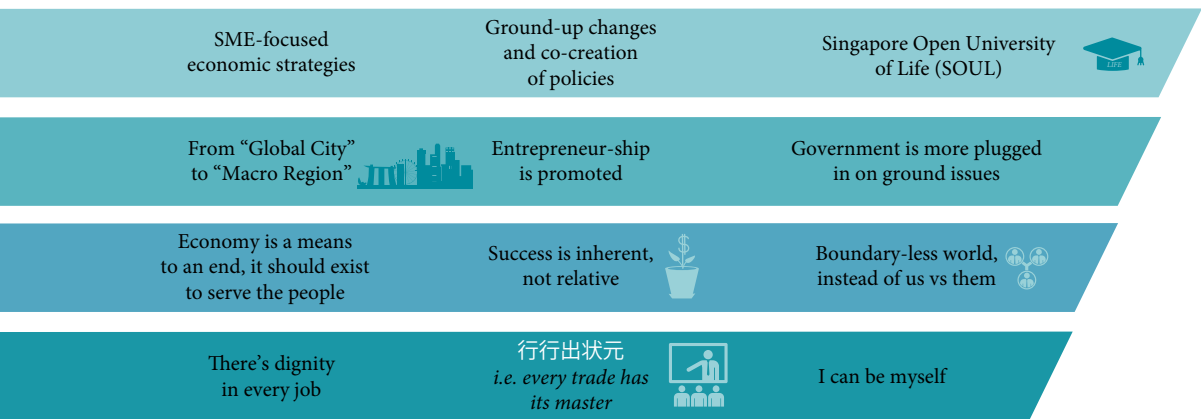
Figure 3: Actual post-it notes from participants on how we might achieve broader definitions of success, while achieving a strong and vibrant economy in 2030.

In 2030, Singapore will be an egalitarian society where every Singaporean will be valued and enjoy an equal chance to succeed. Singaporeans will be supported to contribute to society in his own way, as society respects the inherent dignity in every job and worker. This is underpinned by the belief that 天生我才必有用 (“everyone can be good at something”). This is epitomised in the imagery of electing the first female, single, minority-race Prime Minister. In such a society, any attempt to define success will be seen as moot and irrelevant, and any sense of achievement will be intrinsic rather than defined in relation to others. Singaporeans will feel liberated to pursue their passions and are motivated to achieve more together.

In order to sustain strong economic growth, there is also a shift in focus from being a “global city that is relevant to the world”, to a “global city that is part of a thriving mega region”. Instead of feeling like human digits in the economy where one has to be subservient to larger economic objectives, there is a desire for a more human-centric economy that values and prioritises the individual over the system, and provides the space for the individual to fulfil his potential. Coupled with

strong community support for longer, more sustainable routes to success, Singaporeans will be driven to take ownership of one's path towards self-actualisation, which encapsulates a broader range of pursuits beyond academic and material success. To support this, there will be flexible grants to lower the opportunity costs for Singaporeans to change education and career paths. A Singapore Open University of Life (SOUL) will also be established as a space to encourage Singaporeans to continue to learn and pursue their passions throughout life.

There will also be a strong push towards entrepreneurship, initiated by the Government and by citizens. SMEs hold the key to Singapore's growth as the emphasis is no longer on size alone; instead SMEs will be an integral part of a more complex economic eco-system. Small entities become increasingly successful as they are more agile and able to respond faster in times of economic downturn, and navigate the system through flexible business models. Schools will become "playgrounds for learning" and there will be community labs for Singaporeans to innovate and design new products and services. Passionate citizens will take the initiative to drive change and proactively co-create policies with the Government.



Transforming Existing Narratives

By drilling down to the emotive dimensions of the issues depicted through myths and metaphors, CLA also served as a framework to understand shared narratives today, as well as a tool to transform such narratives. Two alternatives are highlighted below.

The Human-Centric Economy

The concept of a "human-centric economy" resonated with the participants across different groups, despite looking at different facets of the socio-economic aspirations. The "human-centric economy" of the future would be one where Singaporeans are motivated and emboldened to achieve through a wider range of pathways that are either carved out by the individual, or cater to increasingly diverse aspirations. Instead of people existing for the system, the system should exist for the people. This is shaped by a longer term perspective that fulfilled workers will naturally lead to productive and more innovative outcomes. This would require a shift from measurable indicators of success such as GDP growth, to a more whole-of-society, qualitative notion of progress. More space will also need to be created for start-ups to emerge.

Embeddedness of the Individual Within the Community

Over time, the chase to secure success and security for oneself has cast doubts on the strength of communal relationships in Singapore, leading to higher levels of individual atomism. In the future, the participants would like to see a society where individuals are deeply embedded within the community, even as each person pursues individual fulfillment. In this desired future, the dichotomy between an individual and community is an artificial one, as there is a greater respect and celebration of the dignity and contributions of each person. There is a desire to seek the well-being of each other.

The role of the government will therefore need to broaden from one as “regulator, arbiter and provider”, to a more facilitative role by convening and providing the platforms for citizens to explore, initiate and collaborate. The mindset will also need to shift from one of control to one of influencing for outcomes. While the government remains largely the steward of the public commons, there will be a need to rethink how authority and accountability can be shared to engender ownership over the collective interests of the community and country.

Narratives are ultimately derived from values and aspirations, and serve as a framework to define and communicate the vision. The above two examples illustrate how existing narratives can be transformed to ensure resonance with Singaporeans. However, given the increasing diversity of the Singapore society, the alternative narrative is likely not going to consist of one definitive myth. For example, the idea of a human-centric economy may not resonate with low-wage workers who could have a more pragmatic view of their work aspirations and place a greater importance on monetary compensations to meet the basic needs in life.

Potential of CLA as a Public Policy Foresight Tool

We found CLA to be a useful tool in unpacking the multiple layers of the human experience in the present and to spark ideas about the future. While the insights gleaned from a standalone workshop cannot be generalised to the broader national level, the value was found in the “outlier perspectives” that challenged our assumptions about how Singaporeans might perceive the world today and in the future.

In an era of greater political participation and contestation, the impetus for government to lead in transformative leadership is more urgent than ever.⁴ As a foresight methodology, CLA stands out as one of the few tools that is capable of uncovering the beliefs that drive the patterns of shared experiences that shape (and are shaped by) our lives, thus shedding light on the psychology of the future. The CLA methodology also fully fleshes out what Clifford Geertz refers to as “thick descriptions”: descriptions of preferred futures that resonate with both the people who govern and those who are governed.

Where worldviews, myths and metaphors have typically been overlooked as inputs into the traditional policymaking process, they are increasingly recognised as important variables in the policymaker’s calculus. CLA challenges the prevailing orthodoxy in public policy of solving “the problem” at a systems level. The appreciation of how the “myth, worldview, and social context create particular litany problems...”⁵ can inform the policymaker of the mismatches between the layers of systemic causation and the other deeper and more visceral layers. For example, a director at an MNC said:

“CLA is a comprehensive and refreshing approach which is different from the typical public policy approach that tends to focus on the ‘litany’ and ‘systemic’ layers. It is valuable as a sense-making tool and the workshop questions were crafted in a thought-provoking way.”

In a complex world where we have to shift from causal determinism to a network-based approach, there is a greater need for sensemaking to monitor and adapt to emergence. There is an increasing interest to evolve the strategic foresight enterprise away from being an elite-driven exercise to one of collaborative “public futures.” From the experience of conducting this workshop, CLA has exhibited the potential to serve as a participatory foresight tool for public policy and serves as a useful complementary tool to augment other traditional foresight tools such as scenario planning.

Notes

¹*The project team members included futurists from the Housing Development Board, the Ministry of Manpower, the Ministry of National Development and the Ministry of Social and Family Development.*

²<http://www.reach.gov.sg/Microsite/osc/index.html>

³http://www.reach.gov.sg/Portals/0/Microsite/osc/OSC_newsletter.pdf

⁴*Graham Leicester, Rising to the Occasion: Cultural Leadership in Powerful Times, http://www.missionmodelsmoney.org.uk/sites/default/files/23974676-Rising-to-the-Occasion-by-Graham-Leicester-2007_0.pdf, accessed Jul 2013.*

⁵*Sohail Inayatullah, CLA Defined, <http://www.metafuture.org/causal-layered-analysis/>, accessed Jun 2013.*

Turning Risks Into Opportunities

Terence Poon and Leong Ming Wei

When people mention risks, they often mean dangers to avoid, and problems to solve. Sometimes, they use the adjective “risky” to describe situations that pose threats, where rules are changing, in which uncertainty abounds and outcomes are unpredictable. Taking this view of risks, decision makers may overlook opportunities in risky situations. Such opportunities include a chance to gain a foothold in an emerging market or to create new markets through new products like the iPhone. Decision makers thus need what Max Weber described as a “sense of proportion.” They need to switch between one lens, which sees risks as threats, and another, which sees risks as opportunities.

In this article, the Centre for Strategic Futures (CSF) explores four types of “opportunity lenses” to help decision makers perceive and extract opportunities in risky situations. The CSF’s mandate includes coordinating the Whole-of-Government Integrated Risk Management, or WOG-IRM, framework. This framework helps agencies look beyond their own agency concerns and consider cross-cutting strategic issues that may help Singapore achieve its desired outcomes or prevent it from doing so.

Switch between one lens, which sees risks as threats, and another, which sees risks as opportunities.

Opportunity Lenses: Seeing Opportunities in Risks

Opportunity lens #1: Address Your Biggest Threats to Create Value Beyond Your Organisation

When an organisation faces and addresses an existential threat, it may create greater value by scanning for solutions then applying these solutions in other countries, markets or situations. For example, in developing water reclamation technologies over decades to address its lack of water resources, Singapore spawned globally competitive companies like Hyflux (see Example 1). By expanding globally, the local water industry has gained more revenue and expertise than the Singapore market itself could have provided. By explaining and communicating such existential threats, moreover, organisations can galvanise change in itself, among stakeholders or in the broader society.

When an organisation faces and addresses an existential threat, it may create greater value by scanning for solutions then applying these solutions in other countries, markets or situations.

Example 1: Singapore Ups Water Security by Scanning for Technology, Turns Liability into Asset

Singapore was able to mitigate its reliance on water import by scanning the horizon for advances in water technologies. As early as the 1970s, it experimented with water reclamation (purifying used water) but scrapped it because the technology then was too expensive and unreliable. It continued to keep abreast of water reclamation technologies, enabling it to spot an opportunity to test new technologies, such as reverse osmosis, in the late 1990s. It introduced reclaimed water, which it named NEWater, from 2002 as one of Four National Taps for Singapore. The other three taps in this water strategy were desalination (introduced in 2005), reservoir water and imported water.

Singapore also persuaded its reluctant citizens to accept reclaimed water by underlining the risks of insufficient water supply, and by demonstrating the safety of reclaimed water. For example, Singapore built a visitor centre to inform community leaders and the public about reclaimed water. Using bottles of reclaimed water, it proposed a toast for 60,000 people at the 2002 National Day Parade. By communicating the risks of water insecurity and addressing concerns about reclaimed water, Singapore was able to adopt water reclamation to boost its water supply. In the process, it created opportunities for local companies, like Hyflux and SembCorp, to build expertise and grow into global leaders in water technology.¹

Opportunity Lens #2: Invest in Future Flexibility when Responding to Risk

When organisations go the extra mile in responding to risk, they should plan for the long term and build additional flexibility for the future. This was how Portugal built the first bridge over the Tagus River in Lisbon (see Example 2). Organisations thus position themselves to take advantage of unanticipated opportunities in future, while curbing the risk of excess capacity today. Borrowing the terminology of financial options, risk experts call such investments for future flexibility “real options.”

“Real options”—investments for future flexibility.

Example 2: Portugal Builds Bridge Today for Tomorrow

When the Portuguese government built the Ponte de 25 Abril, the first bridge over the Tagus River in Lisbon, in 1966, it introduced a single deck on the bridge for automobiles. Although they were unable to predict future uses of the bridge, the designers built in extra capacity and made the bridge strong enough for a second deck. After joining the European Union in 1986, Portugal tapped EU funding to build a mass transit system in Lisbon and to open a second deck for trains to travel across the Ponte de 25 Abril in 1999.²

The early investment in a bridge strong enough for trains paid off. On the one hand, Lisbon avoided building a second deck for cars, which might have been underutilised in the 1960s and 1970s. On the other, it was able to adapt the bridge for the mass transit system, when the need arose in the 1990s.

Opportunity Lens #3: Manage Risks in a Portfolio and Adopt Cost-effective Risk Mitigation

An organisation can pursue strategies that yield higher returns in two ways. First, it can adopt effective and cheap mitigation measures for catastrophic risks, thus guarding against great harm, even if the chance of catastrophe is slim. Some analysts argue that Japan could have trimmed the chance of the Fukushima nuclear disaster by protecting back-up power generators, used to cool the nuclear reactors, from floods. For example, the Japanese could have built emergency power generators in watertight bunkers or on higher ground.³ By considering the cost-effectiveness of mitigation in addition to the likelihood and impact of a risk, an organisation builds a margin of safety against catastrophes, enabling it to pursue higher-yielding strategies.

Adopt effective and cheap mitigation measures for catastrophic risks, thus guarding against great harm, even if the chance of catastrophe is slim.

Second, it can pay attention to the overall risk portfolio, rather than each risk alone, or the risks each sub-unit faces alone. Portfolio diversification enables the organisation to take certain risks in the portfolio that yield higher returns and others that are safer (see Example 3). This approach provides a margin of safety—the risks that work out soften the impact of risks that sour—while raising overall returns compared with a portfolio comprising only the safest of risks. One part of an organisation, for example, may expand in emerging markets with regulatory uncertainty, raising overall returns, while another may focus on well-regulated advanced economies, offering a buffer against a coup or expropriation in emerging markets. A seemingly risky approach within a sub-unit, therefore, can be part of a more beneficial organisation-wide strategy.

A seemingly risky approach within a sub-unit, therefore, can be part of a more beneficial organisation-wide strategy.

Example 3: Singapore Adopts Higher-Yielding R&D Strategies, Mitigates Risks in Diverse Fields

Singapore has been able to invest fruitfully and prudently in fields of research and development (R&D) by adopting a portfolio approach.

Through a portfolio approach, Singapore takes on selected high-yielding investments, while maintaining a margin of safety overall. The National Research Foundation, which coordinates national R&D policy and efforts, places its bets in more than one basket. Its portfolio includes the biomedical sciences, interactive and digital media, and physical sciences and engineering.⁴ Safety in diversification allows the NRF to concentrate its funding for R&D, worth \$2.8 billion in 2012, within each field on projects that could yield great returns. In the biomedical sciences, for example, Singapore focuses on selected types of research, like translational research to turn scientific research into commercial products. It also targets specific markets, such as cancer, eye diseases, infectious diseases and diabetes.⁵ This strategy of diversification and selective intensification — the biomedical sciences, for example, accounted for nearly \$1 billion of public R&D funding—takes into account Singapore's small size and limited resources, while trying to optimise returns.⁶ As an indicator of effectiveness, manufacturing output in the biomedical sciences sector grew five times to reach over \$29 billion in 2012, contributing to 5% of Singapore's economic output, over the preceding decade. Employment in the sector rose from 6,000 to nearly 16,000 people over the same period.⁷

Opportunity Lens #4: Manage Risk Better than Rivals to Gain a Competitive Advantage

An organisation can still create value and gain a competitive edge if it does a better job managing risks and converting them to opportunities than its rivals.

An organisation is unlikely to extract opportunities in every risky environment, or be able to mitigate all threats. Instead, an organisation can still create value and gain a competitive edge if it does a better job managing risks and converting them to opportunities than its rivals. This was how Nissan outperformed its Japanese rivals to minimise production disruptions after the 2011 Fukushima earthquake (see Example 4). By honing its skills at identifying, handling and tracking risks, an organisation can also cope better with everyday risks, such as minimising inventories or improving customer satisfaction. Furthermore, stronger risk management builds an organisation's reputation, helping it gain trust from its clients, investors and other stakeholders.

Example 4: Nissan Bounces Back More Quickly After 2011 Fukushima Earthquake

Nissan was able to recover quickly from the March 2011 Fukushima earthquake and resume serving its clients, despite severe production disruptions. During the following six months, Nissan's production in Japan fell 3.8%, smaller than the 24.8% drop across the industry. An effective risk management framework contributed to Nissan's ability to bounce back from the catastrophe more quickly than the broader industry.

As part of efforts to identify and manage risks early, for example, Nissan identified earthquakes as the most critical catastrophe. It laid out plans to activate a Global Disaster Headquarters and a network of regional disaster headquarters, and conducted crisis simulations to test and fine-tune contingency plans. Nissan reinforced buildings to withstand earthquakes; the headquarters building, which would house the Global Disaster Headquarters, was earthquake-resistant. Such preparations enabled Nissan to activate its Global Disaster Headquarters 15 minutes after the earthquake struck in 2011, smoothen information sharing (regional staff went to Japan to get information for their home regions) and allocate parts, like Global Positioning System units, to highest-margin goods.

Nissan's chief operating officer said: "The disaster response simulations we have carried out regularly served us particularly well. By envisioning a full range of potential situations arising from a major disaster and preparing for them, we successfully enabled ourselves to take prompt actions when the time came."⁸

Using the Opportunity Lenses

To spot opportunities in risky situations, organisations must think long term. They must overcome the propensity to overvalue the present and undervalue the future. Despite the short-term cost of experimenting with water reclamation and keeping track of water technologies, for example, Singapore kept at it because the city-state recognised the value of boosting water supplies—even if the boost only came after three decades. Similarly, Nissan's emergency simulations cost money at the time, but benefited Nissan in the future—during the 2011 Fukushima earthquake, when Nissan outshined its rivals.

Organisations must also work across boundaries to convert risks into opportunities. In building a bridge, for example, organisations can invest in real options by considering how different sub-units may use it for other uses in future—for trains, as in the example of the Ponte de 25 Abril—and adding buffer capacity. The National Research Foundation (NRF) in Singapore works with the Ministry of Education to boost basic research at universities

Work across boundaries to convert risks into opportunities.

and the Ministry of Trade & Industry to help businesses translate research findings into products. Collaboration helps NRF manage a portfolio of R&D investments. Indeed, the WOG-IRM framework in Singapore encourages individual agencies to consider how they pose risks for other agencies and are affected by the risks other agencies create.

Organisations should use these opportunity lenses within their existing risk processes. The WOG-IRM framework illustrates a typical risk governance cycle (see Figure 1), including risk identification, assessment, mobilisation and monitoring, as well as continual communication with stakeholders about the risks. In risk identification and assessment, for example, an agency should think of risks holistically in terms of an entire portfolio, rather than single risks in isolation. In communication and mobilising change, agencies should learn to consider and communicate the benefits of “real options” or pursuing higher-risk strategies.

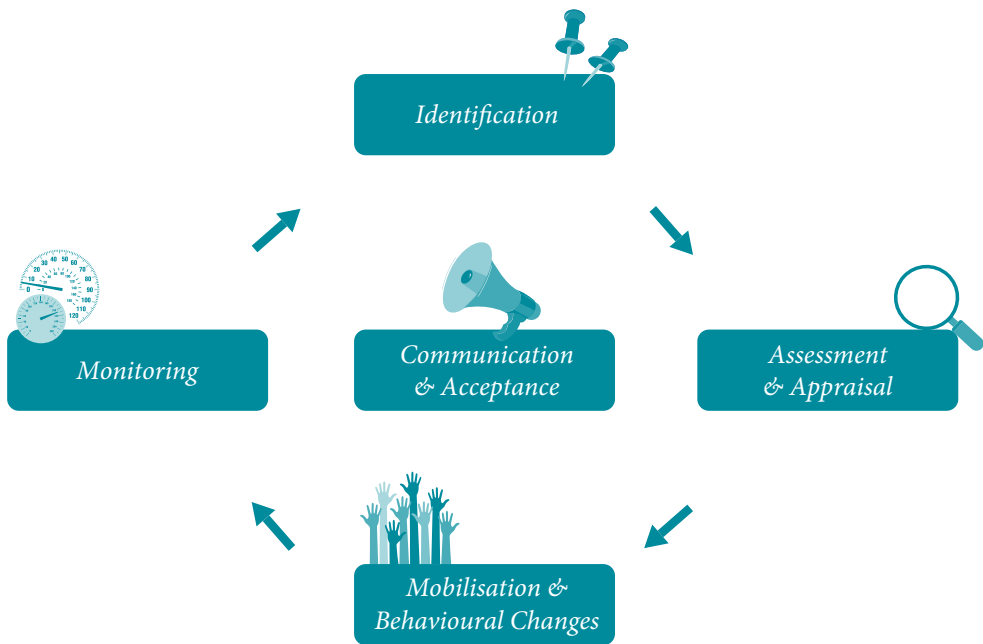


Figure 1: Singapore’s Whole-of-Government Integrated Risk Management, or WOG-IRM, framework.

Conclusion

The discussion about risks may veer towards cognitive biases. Reflecting the availability heuristic, people often estimate the likelihood of an event based on what they can easily remember, which is biased toward vivid, unusual, or emotionally charged examples. One single disaster, such as a Fukushima-scale nuclear accident or two airplanes crashing into the World Trade Center towers in New York, captures the imagination. And since there are no counterfactuals, it is hard to appreciate the benefits of a catastrophe avoided, much less the benefits of managing risks and perceiving the opportunities in risky situations.

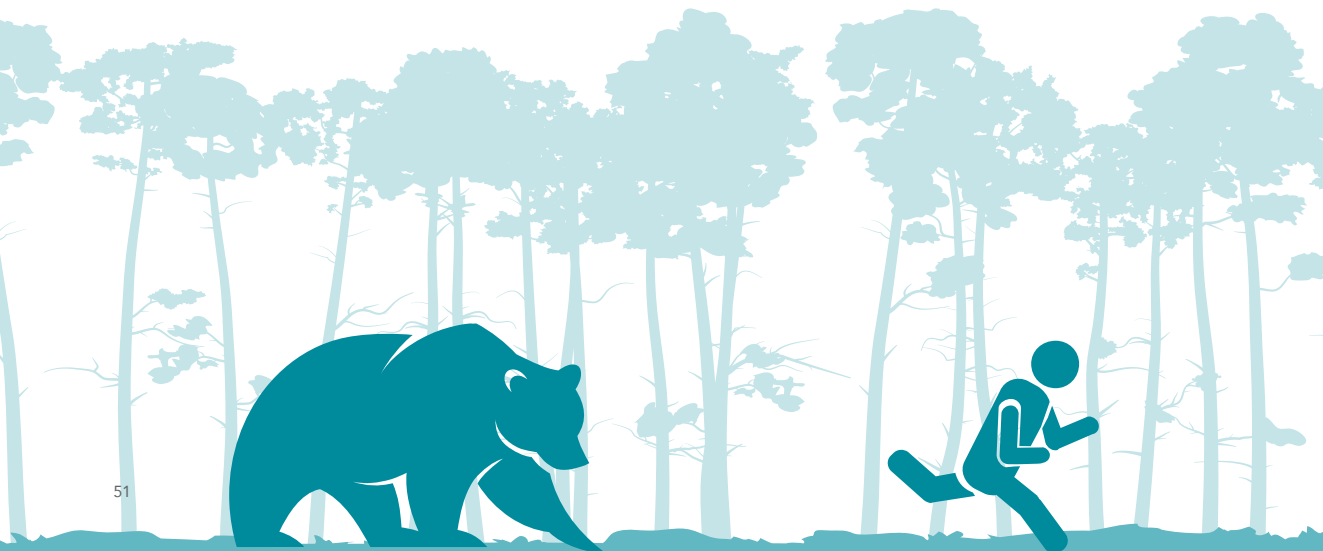
Yet risky situations and the management of risks offer opportunities, when organisations put on their opportunity lenses. They can seize upon a risk to generate solutions, build a buffer for unanticipated future needs, or manage risks in a portfolio and adopt low-cost mitigation measures to pursue challenging and rewarding strategies. Even when the risky situation proves overwhelming, an organisation may still benefit, so long as it manages the situation more deftly than rivals. In a variant of a vignette, two boys are camping when a bear suddenly appears and growls menacingly. As one boy puts on his running shoes, the other mocks him for harbouring the illusion of outrunning the bear. As he slips his feet into his shoes, the first boy simply says, “I don’t have to outrun the bear—I just have to outrun you!” With that, he dashes off, turning a risky situation to his advantage.

•••

We appreciate our discussions with Professor Ehsan Elahi at the University of Massachusetts in Boston, Professor Donald Lessard at the Massachusetts Institute of Technology, and Professor Matthew Bunn and Professor Ricardo Hausmann at Harvard University. These exchanges provided the concepts and other inputs for this article.

Notes

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³James Acton and Mark Hibbs, “Why Fukushima was preventable?”, *Carnegie Endowment for International Peace*, <http://carnegieendowment.org/files/fukushima.pdf>, accessed May 2014.

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⁷Speech by Lim Chuan Poh at the Biopolis 10th Anniversary Gala Dinner on 16 Oct 2013, <http://www.a-star.edu.sg/Media/News/Speeches/ID/1894/SPEECHBY-MR-LIM-CHUAN-POH-CHAIRMAN-OF-AGENCY-FOR-SCIENCE-TECHNOLOGY-AND-RESEARCH-AT-THEBIOPOLIS-10TH-ANNIVERSARY-GALA-DINNER.aspx>, accessed May 2014.

⁸Ioannis Kyrtzoglou, “Making the Right Risk Decisions to Strengthen Operations Performance”, http://sdm.mit.edu/news/news_articles/kyrtzoglou-supply-chain-risk-management/kyrtzoglou-supply-chain-riskmanagement.html, accessed Apr 2014 and William Schmidt and David Simchi-Levi, “Nissan Motor Company Ltd.: Building Operational Resiliency”, <https://mitsloan.mit.edu/LearningEdge/CaseDocs/13-149%20Nissan.Simchi-Levi.pdf>, accessed Apr 2014. See also Nissan’s Annual Report 2010 and Annual Report 2011, <http://www.nissan-global.com/EN/IR/LIBRARY/AR/2011/> and <http://www.nissan-global.com/EN/IR/LIBRARY/AR/2010/>, accessed Apr 2014.



From Foresight to Strategy: Emerging Strategic Issues Project

Tiana Desker

For many governments that establish futures programmes, the greatest challenge is how to translate these insights into action, or make real the “foresight-to-strategy” process. In recent years, this has been an area of focus for the Centre for Strategic Futures (CSF). We have tried to bring projects from their “birth” as futures projects into “adulthood” as strategy projects and policy reviews. We have sought to move a project along the spectrum, from being a catalyst for change, to moving and driving policy.

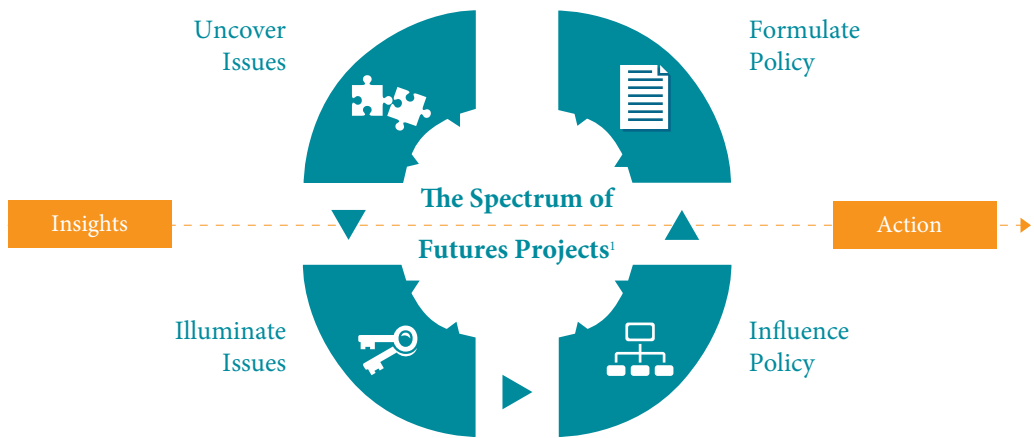


Figure 1: The Spectrum of Futures Projects.¹

Emerging Strategic Issues Project 2.0 Process

For the Emerging Strategic Issues Project 2.0 that we have pursued from 2012 to 2014, we especially focused on the link from futures to strategy. The project was intended to identify emerging issues that had impact on public policy across multiple agencies in the Singapore government, and which we were not prepared for. For this round of the project, our intent was to inspire action by government agencies to address these issues.

In 2012, we identified emerging issues through interviews with experts and workshops with academics, and by crowd-sourcing ideas from a team of officers across various agencies. At the end of this process, we had collected over 300 ideas in a database. We then combed through the data to assess each issue on the strength of the evidence behind it, the likely impact on public policy in Singapore, and whether or not we were prepared to deal with the issue. The top 50 issues were written up as a deck of cards, the Future Deck.

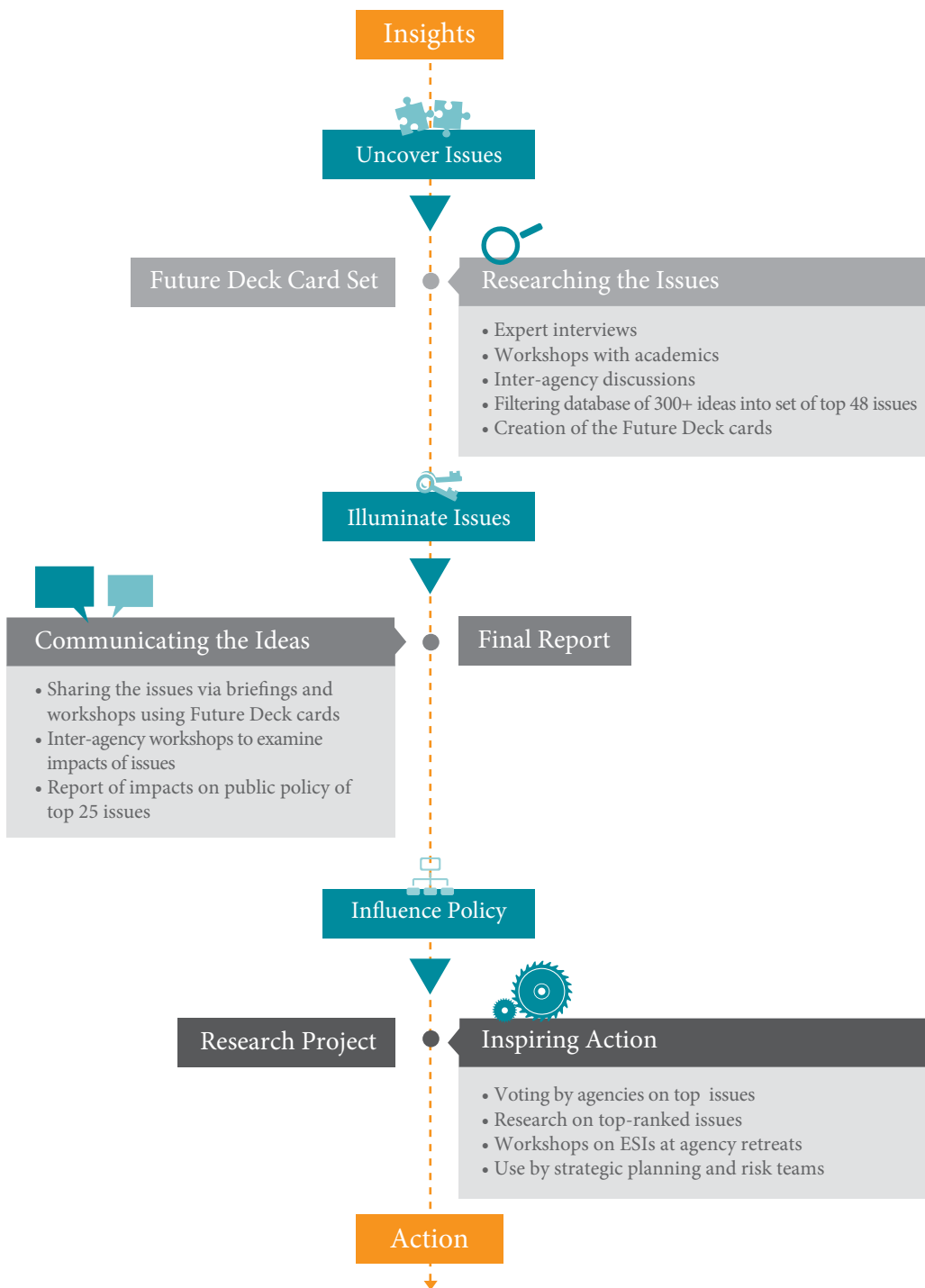


Figure 2: The Emerging Strategic Issues Project 2.0 process

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- ▶ **Strategic Planning.** We used the Future Deck cards in workshops with ministries and non-government partners to identify the impacts of the issues on their agency, and explore how multiple issues could interact and affect their agency. The cards have been used by organisations ranging from the Singapore Armed Forces to the National Trades Union Congress.
- ▶ **Risk Management.** We also shared the Future Deck cards with risk management officers in government agencies ranging from the Ministry of Manpower to the Ministry of the Environment and Water Resources, as a tool to identify emerging strategic risks.
- ▶ **Learning Tool.** The Future Deck cards are being used as a learning tool in milestone courses for high-potential public servants, to sensitise them to emerging issues. The cards are used to spark discussions on issues that their agencies may need to focus on, and work together to address.

Unlike the formal report, the Future Deck cards are not a “one-way” form of communication. They encourage “multi-directional” conversations, so they are much better suited for engagement than the formal report. Unlike the formal report, they do not contain classified information, and so can be shared with the public. This allows a conversation with our partners outside of government, in academia and in the wider community.



Automation of High-End Jobs

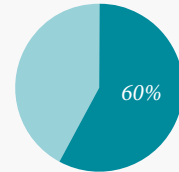
The pace of automation has increased. Machines now possess capabilities previously thought to be uniquely human, such as understanding speech and recognising complex patterns.

Whereas the previous wave of automation hit manufacturing jobs, the next wave will affect higher-end service jobs - such as those in accounting, finance, sales, marketing, and legal services

This means that in future, the skills required in high-end jobs will be those abilities that machines lack - asking the right questions, solving unexpected problems, and programming machines.

The Future of Work

% of Existing Jobs Likely To Be Displaced by Computers By 2030
(National Research Council, 2008)



“By one estimate, one lawyer is now as productive as 500 used to be. You might not lay off 500 lawyers, but the next time you might hire a few people and some software to read documents - Prof. Andrew McAfee, MIT

CSF



As a **spark**:

- To generate ideas
- To generate conversations
- To communicate what the future might look like



As a **tool**:

- To identify impacts of issue on public policy
- To prioritise issues for further study
- To build scenarios about the future

Figure 3: Example of an Emerging Strategic Issues card and how the Future Deck can be used.

Generating Action by Inspiring Policy Reviews

In mid-2013, every ministry in the Singapore government voted on which issues were of greatest concern to them, and we prioritised three clusters of issues for further study. It was at this point that the project moved from “pure futures” into the realm of strategy.

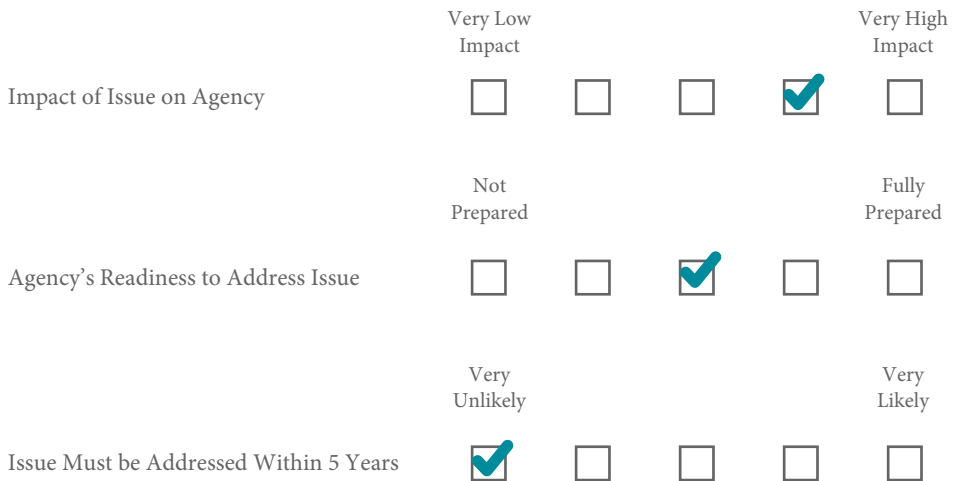


Figure 4: Voting and prioritisation by 26 government agencies in the Futures Network.

In some cases, the mere act of assessing the impact of the issue was sufficient to inspire an agency to address it. In other cases, the follow-up was less straightforward. There were complicated topics with wide-ranging consequences, not yet fully understood. In these cases, more research was needed. As a result, the Centre for Strategic Futures is currently working on several follow-up projects, on issues that were voted by multiple agencies as being high impact and relatively low preparedness. In each case, we are working with an agency partner that wants to use the research to generate policy options.

Case Study: Project on the Impact of New Forms of Automation

The first project is on the impact of new forms of automation – in particular machine learning and mobile robotics – on jobs in Singapore. Whereas a previous round of automation had affected routine work, the next wave of automation is likely to affect types of work previously believed to be not susceptible to automation. This includes work such as truck and taxi driving, sales, accounting, security services, legal research, and cleaning.

In the paper by Carl Frey and Michael Osborne titled “The Future of Employment: How Susceptible are Jobs to Computerisation”, probabilities were assigned to the likelihood of a job being computerised in a twenty-year timeframe.² Those jobs that required perception and manipulation in an unstructured environment, for example the home, would be less likely to be automated. Likewise, jobs that involved creative intelligence or originality, and social intelligence, such as negotiation, persuasion, and caring for others, would also be difficult to automate.

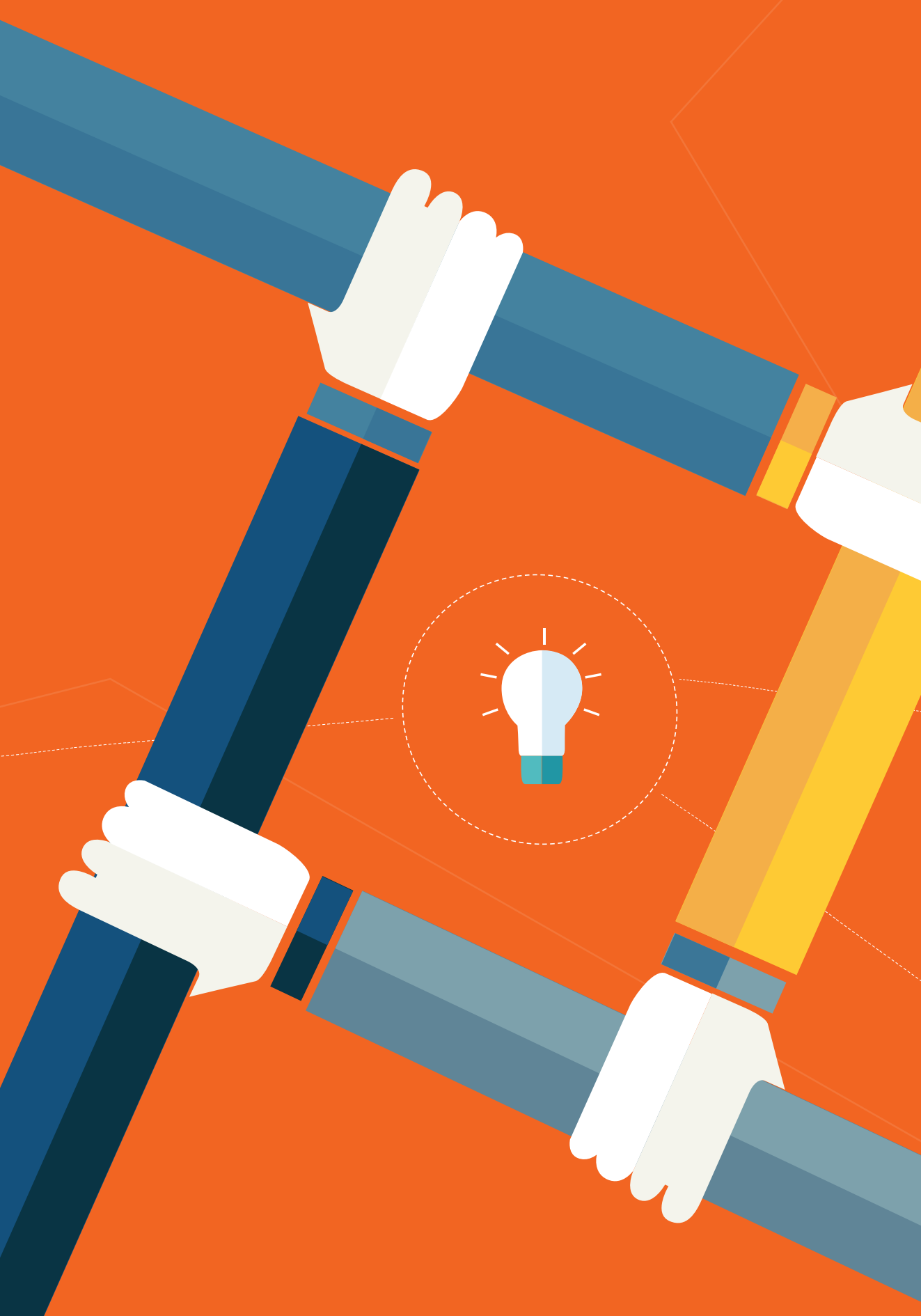
The Centre for Strategic Futures is now partnering with the Ministry of Manpower to run a similar study using Singapore labour data. This study will study the risks and opportunities arising from new forms of automation. As part of this study, we are also identifying new types of jobs likely to be complementary to new forms of automation. This research will lead to concrete policy recommendations on policies such as education and skills training as well as regulation and incentives to encourage job redesign and automation.

Let me conclude with two observations on the foresight-to-strategy process. Firstly, units that engage in strategic futures work typically need to maintain a portfolio of projects at various stages of development, from the “early-stage” projects that bring interesting ideas to the table, to the “late-stage” projects that produce actionable recommendations. Secondly, it is critical to sustain the momentum on futures projects as they proceed from the early work of uncovering insights, to eventually translating these into practical policy recommendations. It is a process that requires a commitment to working with stakeholders on developing the policy response to futures research.

Notes

¹Adapted from Andrew Curry, “Understanding Best Practices in Strategic Futures Work”, *The Futures Company*, Nov 2011.

²Carl Frey and Michael Osborne, “The Future of Employment: How Susceptible are Jobs to Computerisation?”, *Oxford Martin School*, Sep 2013.



Capability Building



Developing Talents in Futures

Leong Ming Wei

Beyond the pieces of work that you see in this Report, one practical issue we often consider is how to find and develop people to do the work that we do. In our context, this is a non-trivial issue because the CSF does a variety of work, from content research and experimenting with foresight methodology, to training other government agencies and working with them to translate foresight to policy.

What Makes a Good Futurist

There are many sources – online or otherwise – that describe what a futurist is and the characteristics a futurist should have. The only conclusion that we can draw from these sources, is that there is probably no single mould of a good futurist. Indeed, our experience bears this out as well - the current team is diverse in terms of their academic disciplines (historians, economists, engineers, philosophers and scientists), experiences (various government agencies, private sector and academia) and personality types (extremely assorted).

Nonetheless, reflecting on the attributes of good futurists we have had with us or come across, there are some common habits of mind and spirit that we typically observe (the caveat of course is that these are neither in any order of importance nor intended to be comprehensive - just some of our observations):

- ▶ **First**, they have an insatiable intellectual curiosity – always seeking to learn more, or to dig deeper. In the words of Louis Pasteur, fortune favours the prepared mind, and the futurist prepares his or her own mind voraciously to pick up emerging issues, by reading widely and taking an interest in a broad range of topics
- ▶ **Second**, they are open-minded and tolerate uncertainty with a higher level of threshold. In this regard, the futurist's intellectual flexibility meets Scott Fitzgerald's test of a first rate intelligence – “the ability to hold two opposing ideas in mind at the same time and still retain the ability to function”.
- ▶ **Third**, they typically have a can-do attitude, and are not easily discouraged by setbacks or the frustrations of driving change in organisations.

Competencies

Such traits are not easy to come by, tricky to observe, and even harder to train - as habits, they take a long time to cultivate. Thankfully, we see a good futurist as also having competencies that can be more rigorously defined, and developed as he or her gains more experience. Together with the National Security Coordination Secretariat, and assisted by a HR consultancy, the CSF has derived a set of competencies that map out the skills that a futurist needs. There are 12 competencies in total, sorted into three groups as follows:

Foresight



This group comprises competencies most related to the upstream work of identifying emerging trends and issues. The competencies are:

- ▶ **Knowledge of Futures Methodologies**, which is the ability to demonstrate knowledge and appreciate the strengths, limitations and differentiating features of existing futures tools and techniques.
- ▶ **Developing New Futures Methodologies**, the ability to survey the futures space to create and evaluate new potential futures tools and techniques
- ▶ **Training and Facilitation**, the ability to design and deliver interventions towards maximising transfer of futures skills and enabling rich dialogue amongst groups.
- ▶ **Networking**, the ability to establish contact and relationships with key local and international players in the futures space, and to form alliances for mutual benefit.

Foresight to Strategy



This group comprises competencies most related to the downstream work of translating key insights and issues identified, into concrete strategy and ground action within government agencies:

- ▶ **Domain Knowledge**, the ability to know and understand the various domains and day-to-day issues and challenges facing the agency that the CSF is engaging.
- ▶ **Policy thinking**, the ability to understand the policy environment in which the CSF and agency is operating in, and to enhance it by seeding insights about the future.
- ▶ **Engaging and Partnering**, the ability to work with government agencies through dialogue and projects, which often requires an appreciation of the agencies' priorities and mindsets.
- ▶ **Consulting**, the ability to manage the entire process of engaging agencies, from the initial scoping of the assignment through to delivering a meaningful final solution.
- ▶ **Creative Communication**, the ability to visually present information and insights, in a manner that resonates with the audience and captures their attention.

Others



This group comprises competencies that support the entire process of Foresight through to its application towards Strategy:

- ▶ **Information Distilling and Gathering**, the ability to scan and filter large amounts of information on emerging issues, and to perform deep-dive analysis on topics of interest.
- ▶ **Critical Thinking to Develop Insights**, the ability to analyse info to provide meaningful ideas and conclusions, often involving interpreting data to arrive at alternate perspectives.
- ▶ **Project Management**, the ability to effectively coordinate and execute foresight-related projects.

These competencies allow the futurist in CSF to perform the range of tasks that are assigned to him or her. A noteworthy point is that in designing this competency framework, we have placed emphasis not only on Foresight per se, but also on Foresight to Strategy. This stresses the importance of translating and integrating foresight insights and products into downstream strategies and policies, as foresight ultimately seeks to be relevant – and this is what matters to our stakeholders.

For each competency, there exists various levels of proficiency – Foundation, Proficient, Advanced and Expert – each of which are defined by specific behavioural indicators (a concrete example being that futurists considered “Advanced” in Knowledge of Futures Competencies should be able to adapt, and not just force-fit, existing tools across differing contexts). As individual futurists gain more experience in the field, we expect them to exhibit higher-level behavioural indicators corresponding to each competency.

- ▶ **Role Profile:** This feature is a matching table that explains the expected proficiency level for each staff position in CSF and for each of the 12 competencies. For example, a futurist holding the title of “Principal Strategist” (currently the most senior specialist position in the CSF), is naturally expected to be “Expert” in Knowledge of Futures Methodologies.
- ▶ **Learning Resource:** To assist staff in levelling-up to their expected proficiency levels, this feature provides various training resources and options. There are three main categories, that of (a) OJT (On-the-Job Training) Activities, such as shadowing a more experienced futurist in consulting for agencies, (b) Self-Reading Materials, for example Peter Schwartz’s “Art of the Long View” for staff who are new to foresight, and (c) Formal Courses and Conferences, which can be overseas, by external providers in Singapore, or within the Singapore Government itself.

Training within the Government

On such courses within the Government, the CSF spends substantial effort to run a comprehensive suite of courses dubbed as “FutureCraft” - so named to reflect our belief that foresight is a craft that can be honed - which both new CSF staff and futurists from other agencies can attend. This is because the Government takes a serious stand about training our futurists well, so that they are properly equipped to do their jobs.

FutureCraft aims to introduce key skills and tools relevant to government foresight work. In 2013, the following FutureCraft courses were run:

<p>FutureCraft 101: Introduction to Foresight:</p>	<p>This introductory course provided a “taster” of the different aspects of foresight work in Government, and exposed budding futurists to a range of basic tools.</p>
<p>FutureCraft 102: SP+ Tools and Facilitation</p>	<p>This focused on various tools from our SP+ suite. Participants discussed possible trajectories of a given public policy issue with the help of these tools, and also learned how to facilitate conversations using the tools. (As part of our own review of the FutureCraft curriculum in 2012, FutureCraft 103 on facilitating foresight was merged into FutureCraft 102.)</p>
<p>FutureCraft 104: Communicating Foresight:</p>	<p>This focused on discussing the various ways that facilitators could curate foresight platforms and products, through the use of different communication and presentation methods.</p>

<p>FutureCraft 200: A Hitch-Hiker's Guide to Foresight: :</p>	<p>Targeted at officers with at least one year of working experience in foresight, this course was a practitioner-led sharing about challenges and the best practices to tackle them. Topics discussed included overcoming obstacles to foresight and generating impactful research. Over two workshops in 2012 and 2013, we asked experienced futurists in the Singapore Government to share with us the obstacles they often faced in their work, the best practices they adopted to overcome these obstacles, and what success would look like to them.</p>
<p>FutureCraft 104: Communicating Foresight:</p>	<p>This was centred on the scenario planning methodology, from defining the focal concern and driving force analysis to constructing scenario frameworks, scenario-writing and translating scenarios to strategies.</p>

Community of Practice

Besides the competencies framework and FutureCraft courses, we have also developed a community of practice that allows the sharing of best practices by practitioners. This is realised through various futures platforms, through which members of the community convene and share their projects, learning points and best practices. Such interaction contributes significantly towards building up skills and experiences of our futurists, as it constantly builds up our collective knowledge about the practice of foresight in the context of the Singapore Public Service.

The platforms that we use are diverse in terms of both seniority and structure. Our most senior platform is the Strategic Futures Network (SFN), which is chaired by our Head of Civil Service and attended by Deputy Secretaries of all Ministries and CEOs of several Statutory Boards. SFN meets once every two months, to discuss emerging issues of national impact.

Once every two to three months, the Senior Advisor to CSF convenes Futures Conversations, attended by senior and middle managers from across the Government who work in futures. This forum is relatively unstructured, and allows for spontaneous discussion about current headline issues as well as their resultant long-term implications. This is with a view of developing an anticipatory instinct amongst these officers, to make sense of events that are taking place around us and consider what they mean for public policy in the future.

In the months where the SFN does not meet, working-level futurists across the Government also convene their own Sandbox meetings, which serve as an informal gathering of staff to share initial ideas and projects in-progress, and to invite comments and guidance from their peers. Futurists from various agencies also use this platform to share learning points from overseas study trips, prototype facilitation processes, and discuss practical challenges and solutions around their foresight experiences.

A community of practice that is realised through various futures platforms, through which members of the community convene and share their projects, learning points and best practices.

From time to time, when the futures community invites distinguished futurists or domain experts to Singapore, or when such individuals visit on their own accord, FutureChats are held. These take on the format of a cosy fire-side chat (although Singapore doesn't have firesides!), to which all futurists at all levels within Government are invited, and where discussions are moderated by a senior futurist. Discussions revolve around the guest's area of expertise and the relevant future implications to Singapore.

As our concluding point: we are always keen to learn more about how other foresight agencies hire and develop their futurists, and would love to exchange notes with anyone else on this topic!

Meet the Team

We welcome your opinions, thoughts and insights on this publication. Please feel free to contact anyone on the team for further discussion.

Adrian KUAH

Lead Strategist

adrian_kuah@psd.gov.sg

It goes without saying that Adrian is very interested in the future. With three young sons, he has good reason to be. Adrian revels in ambiguity, embraces uncertainty, celebrates diversity, (and is naturally messy), which makes him the ideal person to investigate how complexity science informs futures work, and public policy in general. And his favourite quote comes from the sage that is Winnie-the-Pooh: “Don’t underestimate the value of Doing Nothing.”

Chew Lin KAY

Strategist

kay_chew_lin@psd.gov.sg

Chew Lin enjoys meeting interesting people, and believes that every person has a story to share. She also believes that good conversations and the cross-pollination of ideas can lead to new collaborations. Sometimes, she even succeeds in matchmaking ideas! She is also interested in how facilitation can help to uncover insights. To support her interests, Chew Lin shows a frankly unhealthy interest in tea.

Gunathilakan DARMALINGAM

Senior Assistant Planning Executive

gunathilakan_darmalingam@psd.gov.sg

Gunathilakan, or Guna as he’s affectionately known, is the office’s resident swami. After spending each workday bailing his colleagues out of trouble, Guna goes home to his three kids, two nephews, an amazing cook-of-a-wife and their veritable assortment of adorable pets. He loves airplane models and has a collection to rival the best of them.

April CHIN

Senior Assistant Director

april_chin@psd.gov.sg

April is fascinated by people and culture, and enjoys conversations in small, intimate doses. A social worker by training, she is passionate about drawing connections between everyday experiences and trends on the horizon. She enjoys seeing the world through the eyes of her little boy, and rediscovering the necessity of play.

Chin Lum KWA

Head, CSF / Deputy Director

kwa_chin_lum@psd.gov.sg

Chin Lum’s interest in futures work lies in the opportunity to put seemingly unrelated threads together into something coherent and meaningful. He finds joy in connecting people to ideas and other people, and gets excited by how this shifts their thinking or mindsets. His year-old toddler constantly reminds him why the future is worth thinking about.

Huifen BAI

Senior Strategist

bai_huifen@psd.gov.sg

Huifen loves breakfast and thinks that foresight work is as important as the first cuppa of the day. Coming from an engineering and med-tech background, she wonders what Nature and Science hold for the future and enjoys experimenting foresight methodologies with her two children.

Jill Wong

Director, Strategic Policy Office

jill_wong@psd.gov.sg

Jill enjoys exploring. At the SPO, she enjoys exploring the connections between ideas and their potential impact on policy and daily life. On weekends, Jill can usually be found exploring various parts of Singapore on foot or by bike, learning new things about the small city-state that she's called home for most of her life.

Lewis LIU

Senior Strategist

lewis_liu@psd.gov.sg

Lewis is the guy with the occasional yellow-framed glasses. His interest lies in how technology shapes society and human nature. He is constantly on his Twitter feed to keep himself updated with the latest developments happening around the world.

Nicholas TAN

Senior Strategist

nicholas_tan@psd.gov.sg

Nicholas is an English major who used to teach language, literature and drama at a high school. These days, while dabbling in the arts has become more of a luxury, he enjoys meeting new people and new ideas, and feels most alive when facilitating and participating in workshops. Nicholas is also the self-professed “feeder” for the office, as catering is his other passion.

Jonathan NG

Senior Assistant Director

jonathan_ng@psd.gov.sg

Jonathan maintains that two years in world of foreign policy, where the future (and, to be fair, the present) is inherently uncertain, make him eminently qualified for his current role in futures work. When not pottering about with a furrowed brow, laptop in hand, Jonathan can be found vehemently defending his (rather suspect) choice of favourite football team. He is the resident entertainer of the team, though his two left feet on both the dancefloor and the football field leave him with no delusions of leaving his day job.

Li Sheng TAN

Senior Assistant Director

tan_li_sheng@psd.gov.sg

Li Sheng is excited to be joining the futures community after his previous work in a policy role on issues relating to the pre-school sector in Singapore. He is especially interested in how foresight can open up space for diverse stakeholders to participate in co-creating desired futures that are able to include each other. A historian and philosopher by training, his dream is to someday write a new history of Singapore.

Shashikalah KRISHNAN

Strategist

shashikalah_krishnan@psd.gov.sg

A political scientist by training, Shashikalah gets excited about issues related to international relations and defence. Her current projects include the Future of Citizenship and The Impact of Technological Trends on Singaporean workers. She also enjoys debating about social issues and thinking about how Singapore should move forward in the coming years.

Terence POON

Senior Strategist

terence_poon@psd.gov.sg

Terence spent seven years in Beijing where he reported on the Chinese economy, arranged training for Chinese government officials to learn about trade and economic regulation from the European Union during the worst of the Euro crisis, and breathed the polluted Beijing air in preparation for the yearly haze in Singapore. Terence is enjoying the adjustment from writing in journalese to writing in bureaucratese, as he tries to think beyond the confines of his messy desk, a symbol of the complicated and sometimes complex world in which we live.

Tiana DESKER-TORVINEN

Deputy Head, CSF / Assistant Director

tiana_desker@psd.gov.sg

Tiana has an interest in both methodologies for the study of history, or historiography, and futures methodologies. She spent seven years in the defence sector, in a policy and strategy role, and enjoys the challenge of translating insights from futures research into actionable policy recommendations. Tiana teaches scenario planning at the Civil Service College.

Wei Jian LEONG

Lead Strategist

leong_wei_jian@psd.gov.sg

Reactants → Products. A chemist by training, Wei Jian has always been fascinated by reactions. Since joining the CSF, he spends a good part of his time thinking about how to balance the equation of governance, as reactions on the ground are more volatile than before. Wei Jian is also the office's human-jukebox.

The views expressed in this publication do not necessarily reflect the official policy or position of any agency of the Government of Singapore.

CSF

CENTRE FOR STRATEGIC FUTURES
SINGAPORE