

> EW WILL BE SURPRISED THAT Singapore places great emphasis on forward planning, vital preparation for any kind of crisis. The tiny city-state has built long-term planning into its national psyche since the 1960s, when it was suddenly independent with no natural resources or established industries to fall back on. Rigorous mapping of its economy has propelled the republic of 5 million – less than a third the population of Greater Los Angeles – into a prosperous, envied model of efficiency.

> In the late 1980s, however, Singapore's technocrats began to realize that planning needed to go further, employing more up-to-date tools that could simulate a variety of crisis scenarios over a longer term. Companies had pioneered this kind of formal scenario planning, with people like Peter Schwartz at Royal Dutch Shell leading the way. Schwartz went on to co-found the futurist consultancy, Global Business Network, in Berkeley, California in 1987. Singapore's leaders sensed early on that the city-state could learn from this kind of thinking – it was the first country to join this network of companies.

> An early spur for this futurist work was Singapore's concern about the complex, multi-billion dollar projects it was initiating. These huge undertakings – such as land reclamation – could take a decade to complete, so early scenario planning had obvious benefits.

> "That was when I started thinking about the kinds of tools that we could use to improve our way of thinking," says Peter Ho, who was at that time Singapore's Head of Civil Service. "One of the tools which emerged was scenario planning." Events such as the Asian financial crisis in 1997, the terrorist attacks of September 11 2001, and the SARS outbreak in 2003 were wholly unexpected and unplanned for by Singapore and

others. Such complex, high impact and seemingly unforeseeable crises – "Black Swan" events – called for an updated approach. Singapore convened a group of international experts to develop a suite of computer-based tools to help model possible "future shocks."

Ho, drawing on former US Secretary of Defense Donald Rumsfeld's famous phraseology, says, "Scenario planning is a linear tool and can only describe a future based on what you know of the present. It's about what you know you know, and it's of no use – or very little use – for what you don't know you don't know, or the unknown unknowns."

The result was the Risk Assessment and Horizon Scanning system, set up in 2004, which canvasses a range of sources for what futurologists call "weak signals" – clues to the type of scenarios that may arise in the future. "Many agencies came together to consider whether there were new ways of thinking more systematically about the future," says Ho. "A future that was much more complex, and a future in which we were going to be surprised time and again."

**IN 2009,** Ho founded the Centre for Strategic Futures (CSF), which is part of the Public Service Division in the Prime Minister's Office, with a mission to evangelize futurist thinking throughout the government. Housed in the nondescript Treasury Building near the business district of Singapore, the CSF is staffed eclectically, with a dozen or so people from various backgrounds, including a social worker and a chemist.

Describing itself as a "cryptic" think tank within the government, the CSF is known to few Singaporeans, let

"Scenario planning is a linear tool

alone to outsiders. Kwa Chin Lum, the current head of the CSF, has found himself struggling sometimes to explain its work. "My usual line – 'We think about the future and help the Singapore government avoid surprises' – oversimplifies," he confesses.

**SOME OF THE CSF'S** latest trend scenarios show the type of unconventional direction they can take. They include the "if mayors ruled the world" concept, considering the increasing power of cities and the strong ties between them, and whether these could become more important than traditional nation-state structures. This raises the possibility of the end of globalization as a concept, with increasing decentralization and a louder voice for local activists bringing the focus back to regional issues.

Another concept, "surveillance from below," runs counter to well-publicized concerns about state surveillance impinging on civil freedoms. Instead, it looks at the growth of surveillance in which the targets are elites, with smaller, cheaper and more discreet monitoring devices allowing the public to record the actions of authorities and other leading figures and broadcast them globally.

For governments and companies, this presents a new risk as outraged citizens or disgruntled employees with mobile devices can easily become whistleblowers or seek retribution. With the emergence of such "Wicked Problems" (in the parlance, those which are hard to prevent or solve because it is hard to identify their cause – see page 47), Singapore has found it even more necessary to pursue a "whole government" approach to preparation. Effective forward planning is →

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Peter Ho, founder and Senior Adviser, Centre for Strategic Futures

> something for which smaller, stable governments are best suited, Ho reckons. "If you look around at other governments, there are pockets of excellence. But the Singapore government is probably the only one I'm aware of that does this as comprehensively, or as systematically, as we do.

"Many governments are so caught up in the election cycle, they're not going to invest too much of their political capital and other financial resources in worrying about a future which may or may not happen under their watch."

Observers and academics say that the role of futurists may not be fully appreciated by a populace worried about day-to-day issues, such as high property prices, crowded trains, a declining native population and rising immigration – as is the case in Singapore.

The government is still dominated by a single party, but recent elections indicate growing dissatisfaction with the status quo. Citizens have become less tolerant of mistakes and are quicker to demand answers to crises, big and small. When Singapore's iconic shopping district, Orchard Road, was swamped by floodwaters in 2010, pictures of

## "Leadership is about what you have been doing pre-crisis. You can't build trust and confidence during a crisis"

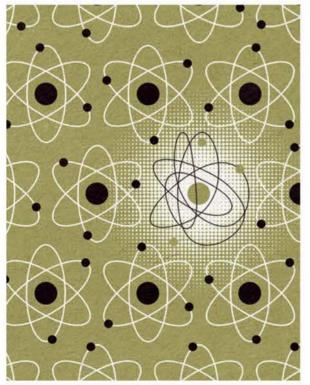
Eugene Tan, Singapore Management University's School of Law

luxury stores awash with muddy water and expensive cars floating in basement car parks were met with shock. The recurrence of haze from burning forests in Indonesia has also unleashed citizen outrage and cast doubt on Singapore's preparedness for what has become a nearly annual environmental crisis.

Likewise, the release of a white paper (government report) forecasting that Singapore's population will grow to 6.9 million by 2030 caused a torrent of dismay and fear from Singaporeans, and raised questions about the government's understanding of grassroots concerns. "The government never briefed Members of Parliament" about the white paper's contents and potential impact, says Eugene Tan, Associate Professor at the Singapore Management University's School of Law."The government ended up backpedaling. There were gaps in policy thinking and an apparent lack of empathy, especially over the real concerns Singaporeans had over immigration, national identity, property prices, infrastructure and transport adequacy."

Quality of life issues have become paramount in a country that has enjoyed a world-class lifestyle and become a haven for well-heeled expats. Meticulous longterm planning may well be a valuable policy orientation, but governments also need to be nimble. If they don't explain how planning and being adaptive are kept in balance, the public will be quick to criticize them when the gaps appear.

"People ask, 'How is it that you didn't plan ahead?" says Dr Gillian Koh, Senior Research Fellow, Institute of Policy Studies, at the Lee Kuan Yew School of Public Policy. "There's a shortfall in housing units, health clinics are stuffed full of people, there's severe congestion on



## IT'S NOT ROCKET SCIENCE

The difference between complicated and complex is more complicated than it sounds

People tend to use the words complex and complicated interchangeably these days, but they are in fact distinct in science. A multi-stage space rocket or a brain surgery protocol are examples of complicated systems; the stock market or the immune system are complex.

Managing a complicated system requires detailed plans put together by experts, the delegation of tasks to specialists, and strong rational leadership. Experience helps to build certainty about outcomes, and learning can be applied to similar systems. By contrast, change, conflict, and unplanned deviation happen all the time in complex systems, such that cause and effect are almost impossible to predict. Complex systems typically have hundreds of moving parts, each of varying power and independence, and no overall command and control. Key characteristics

of a complex system are self-organization, systems is about relationship building, influencing, and looking out for emergent trends.

A military example of the difference is the contrast between the "shock and awe" campaign in Iraq in 2003 – which was most certainly complicated – and the efforts to build a democratic Iraq thereafter – which was without doubt complex.

So next time someone tells

interconnectedness, and evolution. In such a system expertise is certainly helpful, but it is neither necessary nor sufficient to guarantee success. Managing complex you that managing an issue such as a corporate crisis is "not rocket science" you can explain that they are right – it is a lot more complex than that.

the MRT [transit network]. These are the hard questions that people ask."

Communication is key. Singapore embarked on one of the largest feedback exercises ever conducted when it launched "Our Singapore Conversation," in which more than 47,000 Singaporeans were asked in August 2012 to say what they want in the future.

HAVING A PLATFORM to set aside immediate concerns and envision the future can be liberating. "It allows people to see their future and to ask questions about what they have to do differently," says Koh.

Leadership is also important. "You need leaders who can communicate well, who can lead from the front," says Tan. "Leadership is about what you have been doing pre-crisis. You can't build trust and confidence during a crisis."

Ho sees good leadership in a crisis as showing the confidence to admit you don't have all the answers. During the early days of the SARS epidemic, "Singapore didn't try to pretend that they knew everything about the problem." But authorities took firm action despite some loud objections, and closed down schools and introduced home quarantines.

The past can help shape the future, too, says Ho. "You go back and see those things which didn't work, and why they didn't work. You have to learn from experience. The trouble is that people often forget to learn from experience."

Futurists acknowledge that the public will often focus on immediate concerns. But they say that good governance also requires states to look beyond. "There's no point in saying I fight the fire in front of me," says Ho. "As a government, it's also important to think about the kinds of challenges we face down the road." ◆



## BLACK SWANS & WICKED PROBLEMS

The most difficult problems are often the result of cognitive dissonance

he phrase "Black Swan" was common in 16th century London as an expression of impossibility. So when black swans were eventually spotted in Australia by an explorer in 1697, the meaning

changed to be something thought to be impossible, but later observed.

Futurist John Peterson chose the term "wild cards" to describe low probability, high impact events in his book, *Out* of the Blue – How to Anticipate Big Future Surprises in 2000. The following year, Lebanese-American statistician Nassim Nicholas Taleb used the term Black Swan to characterize the disproportionate impact of rare, hardto-predict events on history, science, finance and technology in his book of the same name.

Taleb was fascinated by the psychological biases that make us individually and collectively unaware of the huge role of rare events in history, and drive us to rationalize such surprises after the event as having been predictable. His main point was that Black Swan events are by their nature observer-specific. "Weak signals," or clues, of an impending shock not visible to one group may be observed and acted on by others with a different viewpoint.

The equally vivid term "Wicked Problem" was formulated in 1973 by management scientists Horst Rittel and Melvin Webber to describe problems that are difficult or impossible to solve because of "incomplete, contradictory and changing requirements that are often difficult to recognize."

Because such problems are truly complex (see opposite page), efforts to solve one aspect of a Wicked Problem tend to reveal or create other problems. Any problem whose solution requires a large number of people to change their mindset or behavior is likely to be a Wicked Problem. Thus, rather than attempting to solve them, they are normally managed with a collaborative, networked approach.

Climate change is a commonly used example. In 2012, some academics proposed that it be upgraded to a "Super Wicked Problem," the additional defining characteristics being: time running out; no central authority; those seeking to solve the problem also causing it; and current policies discounting the future irrationally.

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