

COPING WITH COMPLEXITY

Crises are erupting around the globe with increasing frequency. Governments must learn to cope—increased risk and complexity are here to stay.

PETER HO is a senior adviser for the Centre for Strategic Futures in Singapore. Previously, he was head of the civil service there and held numerous other government appointments. Ho earned both a BA and an MA from the University of Cambridge.

The great acceleration

Governments aim to produce good outcomes for the nation and for individuals. But the best intentions can be derailed by black swans, unknown unknowns, and wild cards—like the eurozone crisis, the 2011 Japanese tsunami and ensuing nuclear meltdowns, the financial and economic turbulence of 2008–09, SARS in 2003, and September 11.

Unfortunately, such shocks seem to be occurring with increasing frequency. What has been described as the “Great Acceleration” provides an important explanation for this situation. Since the middle of the 20th century, change has accelerated at an unprecedented global scale. Population growth has surged. Combined with rapid urbanization, that growth has generated enormous consumer demand. The effort to meet this demand through industrialization and mass produc-

tion has had a huge but unpredictable impact on the earth’s ecosystem. Globalization resulting from and combined with technological innovation has accelerated change on all fronts—political, economic, and social.

As a result, our operating environment is growing in complexity. Events and trends in various spheres interact with one another in complex and sometimes mystifying ways. We will be surprised time and again because complexity creates interdependencies that are inexplicable, emergent, and difficult to predict. Shocks occur because we do not have enough tools to identify emerging threats, challenges, and even opportunities in such a complex environment.

We cannot avoid surprise altogether. There will always be black swans and sudden disruptions to current situations. But reducing the frequency and the amplitude of such

shocks is possible and should form a central imperative of government in the future.

The first step is for governments to acknowledge the complexity in their operating environment. There is a real danger of national failure—if not collapse—when governments ignore complexity and operate as if all problems are amenable to simple policy prescriptions.

Unfortunately, the evidence of the last half-century suggests that many governments will opt to take this path, whether out of political expediency, because of cognitive failures, or simply because they lack the tools to deal with complexity. Avoiding this path requires fundamental changes to the mind-set, capabilities, and organization of government.

The whole-of-government mind-set

Complexity generates “wicked problems”—large and intractable challenges with many dimensions and multiple stakeholders that do not necessarily share convergent goals. The most vexing wicked problems today—such as climate change, energy security, global pandemics, sustainable development, and cyberthreats—have causes and influencing factors that are not easily determined *ex ante*. In our increasingly interconnected and globalized world, such wicked problems do not manifest in isolation. Their impact can be felt in multiple dimensions and geographies.

Developing policies and plans to deal with such wicked problems requires the integration of diverse insights, experience, and expertise. People from different organizations, both from within and outside government, have to come together to pool their knowledge in order to discover potential solutions. Mechanisms need to be set up to enable the sharing of information and to strengthen collective action. This is the whole-of-government approach, which injects diversity into the policy process, recognizing that insight



and good ideas are not the monopoly of single agencies or of government acting alone.

While the whole-of-government approach is an imperative, it is not easily achieved without a basic change of mind-set. Governments, like all large, hierarchical organizations, tend to optimize at the departmental level rather than at the organization level. This is because information flows most efficiently within vertical departmental silos rather than horizontally across departments. Departments tend to reward people for their contributions to the agency, rather than for their contributions to the larger whole-of-government.

In Singapore, the whole-of-government approach has been most evident in the economic arena. Over some 25 years, a succession of four comprehensive economic reviews has seen the public and private sectors coming together to produce far-reaching policy recommendations for Singapore’s long-term economic competitiveness.

But whole-of-government remains a work in progress. It requires emphasis, support, and constant attention from the top. Successive heads of civil service in Singapore have therefore made it their core business to promote the whole-of-government mind-set.

Capabilities for managing complexity

In a complex operating environment, governments should be adaptive, emergent, and able to navigate situations characterized by

ANOTHER BLACK SWAN

Catastrophes like the 2011 Japanese tsunami are tail events that have far-reaching effects in a globalized world, adding greater complexity to the job of governing.

multicausality and ambiguity. Governments will often have to make big decisions and develop plans and policies under conditions of incomplete information and uncertain outcomes. It is not possible to prepare exhaustively for every contingency. Instead, a “search and discover” approach should be adopted. The military calls this approach observe, orientate, decide, act, or OODA, a recurring cycle of decision making that acknowledges and exploits the uncertainty and complexity of the battlefield.

In this regard, nonlinear methods like scenario planning, policy gaming (the civilian analogue of war-gaming), and horizon scanning (the process of detecting emerging trends, threats, and opportunities) should be part of the government toolbox.

Governments must also deal with the risk that naturally results from operating in complexity. There will always be threats to national outcomes, policies, and plans. But there is little by way of best practices to systematically address or ameliorate these threats. So the government of Singapore is developing from scratch its unique Whole-of-Government Integrated Risk Management (WOG-IRM) framework—a governance chain that begins with risk identification and assessment at the strategic level, progresses to monitoring of risk indicators, and finally arrives at resource mobilization and behavioral changes to prepare for each anticipated risk.

Organizing in the face of complexity

Resilience is the ability to cope with strategic shock by adapting to, or even transforming with, rapid and turbulent change. It is going about our daily business while operating in an environment of flux. Resilience is a key characteristic of governments that operate effectively in a complex environment.

Resilient governments must go beyond an emphasis on efficiency. Lean systems that focus exclusively on efficiency are unlikely to have sufficient resources to deal with unexpected shocks and volatility, while having the capacity to make plans for an uncertain future filled with wicked problems.

This is not an argument for establishing bloated and sluggish bureaucracies. Rather, one important idea is for resilient governments to have a small but dedicated group of people to think about the future. The skill sets needed are different from those required to deal with short-term volatility and crisis. Both are important, but those charged with thinking about the future systematically should be allocated the bandwidth to focus on the long term without getting bogged down in day-to-day routine. They will become repositories of patterns that can be used to facilitate decision making, to prepare for unknown unknowns, and perhaps to conduct policy experiments through policy gaming or other simulations.

To this end, the government of Singapore set up the Centre for Strategic Futures (CSF) in 2009. The CSF promotes a whole-of-government approach to strategic planning and decision making; works on leading-edge concepts, like WOG-IRM and resilience; promotes fresh approaches for dealing with complexity, like policy gaming; and encourages experiments with new computer-based tools and sense-making methods to improve horizon scanning. Although a small outfit, the CSF is a catalyst for strategic change in the government and its agencies.

A flexible, adaptive, whole-of-government approach is the way of the future. Governments must gear up to operate in an environment marked by complexity, where they will have to experiment, manage risk, fail, learn, and then pick themselves up to start over—and, hopefully, do better. ■