Anticipating black swans

“Black swans" are monumental and highly surprising events. Yet, they are often rationalised on hindsight as possibly predictable. Can the “unknown unknowns” be predicted?

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What do the rise of the Internet, September 11 attacks and the Arab Spring have in common? Observers have called them “black swan” events – unprecedented and unexpected, just like how amazing it is to find a black swan in a flock of regular white ones.

Nassim Taleb who developed the theory of black swan events in his book, *The Black Swan: The Impact of the Highly Improbable*, characterises a black swan event as:

1. One that is a total surprise; an outlier that lies outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility.
2. One that has a major, or even, catastrophic impact.
3. When done and dusted, it is rationalised, on hindsight, as something that could have been expected.

While once extremely rare, black swan events now seem to be uncommonly common. Today’s upheaval of the market place by digital disruptors the likes of Uber and Airbnb have the hallmarks of a black swan.

A recent report, *Patterns of Disruption: Anticipating Disruptive Strategies in a World of Unicorns, Black Swans, and Exponentials* by Deloitte, noted that disruption tend to go undetected until it is too late; it is also a lot easier to identify them in retrospect, as in the case of a black swan event.
Basic Sources of Risk and Uncertainty

Known

Things we are aware of and understand

Unknown

Things we are aware of but don’t understand

Things we understand but are not aware of

Things we are neither aware of nor understand

Knowns

Unknowns

Top Five Risks to Businesses

Top Five Global Risks

By Impact

1. Failure of climate change mitigation and adaptation
2. Weapons of mass destruction
3. Water crises
4. Large scale involuntary migration
5. Severe energy price shock

Top Five Global Risks

By Likelihood

1. Large scale involuntary migration
2. Extreme weather events
3. Failure of climate change mitigation and adaptation
4. Interstate conflict with regional consequences
5. Major natural catastrophes

Top Five Risks for Singapore

1. Cyber attacks
2. Asset bubble
3. Energy price shock
4. Terrorist attacks
5. Spread of infectious diseases


Searching for the Black Swan

To respond effectively to the disruption requires the incumbent to first and foremost concede that the threat as it is, is happening. Such concession is hard to come by. This is usually due to cognitive biases that are made up of confirmation biases (favouring outcomes which more aligned to a particular view), herd mentality (following competitor or market actions, often based on imperfect information), and ambiguity bias (preference for outcomes with greater certainty).

If one could rise above these biases, there are patterns and trends preceding catastrophic events that may be extrapolated to predict black swans.

For example, the World Economic Forum has tabled the top risks to businesses (see box on “Top Five Risks to Businesses”). These risk factors are the “known unknowns” whereas black swan events are usually associated with the “unknown unknowns” (see box on the “Basic Sources of Risk and Uncertainty”).

Note: Former US Secretary of Defense Donald Rumsfeld was quoted as saying in 2002: “... as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don’t know we don’t know. And if one looks throughout the history of our country and other free countries, it is the latter category that tend to be the difficult ones.” His remark has led to much discussion and adaptation of approaches to risk management.
However, if a few of the “known unknowns” that have been trending as the top risks in the last few years were to converge, it is possible to see glimmers of black swans or disruptions to the Singapore economy as follows:

- Large scale involuntary migration + Profound social instability → Refugees at our borders?
- Major natural catastrophes + Extreme weather events → Destruction of key infrastructure?
- Severe energy price shock + Interstate conflict with regional consequences → Fiscal crises

On their own, the global risk factors are seemingly remote to Singapore. However, a confluence of two (or more) of these “known unknowns” could well turn into black swan events in Singapore. The confluence of the risk factors identified above has been limited to two for illustration purposes. In reality, this is closer to infinity, and comes in various permutations and weightage.

**Go Beyond Traditional Risk Management**

Traditional approaches for managing risk tend to focus on monitoring available financial, economic or event operational indicators as well as qualitative (and subjective) assessments. However, because these approaches are generally based on (limited) facts and experience and clouded by judgment and perception, the resulting mitigation strategies and hedges are not capable of detecting future catastrophic risks or predicting future performance.

This relegates a strategic risk management plan to a mere incident response plan. Instead, there should be thought given to, and preparation made for the eventuality of such critical risks.

To make up for limited knowledge and experience and to cope with the endless permutations of risk factors, we should look outside of traditional structures and methods, develop new ways of gathering data and insights, and appreciate other perspectives. The last, seeing things from other points of view, is particularly important as cognitive biases is reduced through introduction of diverse perspectives.

Lastly, in an era when risk can become reality in the blink of an eye, we should re-examine the very assumptions we hold dear and the decision-making process that has worked (thus far). As philosopher Bertrand Russell advised: “In all affairs, it’s a healthy thing now and then to hang a question mark on the things you have long taken for granted.”

It is only through constant challenge of our assumptions, no matter how fundamental, that we will be able to keep complacency at bay and react at the first sign of trouble.

If black swan events are truly unpredictable, the one who detects it faster than the others will have an overwhelming competitive advantage.