

Recognising 'Black Swans': why preparing for rare events is good local government risk management

Before Australia was discovered, people thought that all swans were white in colour. But when white Europeans discovered Australia, people saw black swans, and they revised their beliefs. **TONY HARB**, Director of InConsult, Enterprise Risk Management advisor and Local Government Internal Auditor, looks at the properties of a 'Black Swan' event and its relevance to leaders in local government.

Nassim Nicholas Taleb's 2007 best-seller titled *'The Black Swan: The Impact of the Highly Improbable'* argues that we should never, ever ignore the possibility or importance of rare, high-impact, unpredictable events he calls 'Black Swans'.

The book, while considered as controversial by some, has many important messages.

In my view, the book encourages people to think about the unknown and the possible consequences of the unknown, particularly those events that are hard to imagine but can cost you dearly.

This notion is in line with good risk management practices where we aim to reduce uncertainty of high risk events by identifying, analysing and treating risks.

Taleb treats Black Swan events as extreme outliers, wild outcomes of fractal geometry (a branch of mathematics concerned with irregular patterns) in which anything can happen overnight.

Another important point made by Taleb is that whilst we all learn from our mistakes and life experiences, he highlights a potentially severe limitation to our learning capabilities if we just limit our thinking to just observations and experience.

Whilst I can see Taleb's point, I still believe learning from intuition and experience (including mistakes) is very effective for potentially identifying and dealing with Black Swans.

Taleb claims that Black Swan events have been increasing. They started accelerating during the industrial revolution, as the world started getting more complicated, while ordinary events, the ones we study and discuss and try to predict, have become increasingly inconsequential.

He cites the rise of the internet, the personal computer, laser technology, World War I, and the September 11, 2001, attacks as Black Swan events.

Therefore, a Black Swan can be a negative event like the current global financial crisis or it can also be positive – like inventing new



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technology or making new discoveries.

This article is not a lesson in statistics, fractal geometry or decision theory. I will not endeavour to predict all Black Swan events.

However, I will look at some the important principles behind the Black Swan and align it to some conventional risk management practices.

I want you to start thinking a little outside the box, the sort of thinking good enterprise risk management is all about.

Black Swan properties

According to Taleb, a Black Swan event has three properties:

1. It is unpredictable or hard to predict as the probability of an event based on past knowledge is low or rare. It lies outside the reality of ordinary expectations;
2. When the event happens, it has a massive impact or consequence; and
3. People don't see it coming before the fact. But after the fact, we think up an explanation to explain it as less random, i.e. we rationalise it.

Starting to look familiar? Councils who have embraced and effectively adopted Enterprise

Risk Management will recognise terms like rare, probability and consequences.

One thing needs to be stated very clearly. Black Swan thinking or risk management for that matter is not about identifying all the things that could possibly happen.

It is not about predicting the "unknown unknowns" – the things we do not know we don't know.

So put your crystal ball away – it's not necessary.

Risk management is one of many management tools and techniques used to help organisations deal with uncertainty, improve goal-setting and improve governance practices to help them achieve their objectives.

Historical Black Swans in local government

Before we look forward, let's look back.

Have there been Black Swan events in local government in recent years?

Take a minute or two to think about this before you read on.

The forced amalgamation of Victorian councils in 1994, the forced amalgamation of Queensland Councils in 2007, the impact of the failure of HIH on council activities, rising flood levels, and the significant loss of investment income from Collateralised Debt Obligations (CDOs) are a few examples of what could be considered as Black Swan events.

None of these events were "unknown unknowns".

All these events were foreseeable but perhaps considered rare.

All these events would have been considered as potentially significant in consequence.

Before looking to the future, let me also introduce another complication.

According to Taleb, people tend to have some psychological blindness to Black Swans.

Some people may find it hard to understand them, because genetically, we did not evolve in

an environment where there were a lot of Black Swans. It's not part of our intuition.

Whilst Taleb excels in changing people's perceptions about rare, high impact events, unfortunately he does not offer one simple all encompassing solution to deal with Black Swans.

In fact, Taleb is critical of some elements of risk management. In particular, he believes that "financial" stress testing is dangerous, as events not covered by the test will be ignored; and it is erroneous to look at a single probability of a single event, like asking "what is the probability of climate change?"

I see benefits in stress testing financial models, disaster recovery testing and audit testing. Whilst they are not perfect, regular testing and audit has significant benefits.

Agree or disagree with Taleb's views, he is pushing our thinking and this is good.

Identifying Black Swans

Looking forward, we can be almost certain there will be more Black Swan events to come in local government.

But what are they? How can we identify them? Who are the best people to help identify them? How will they impact stakeholders? Can they be influenced? Can they be controlled?

Unfortunately, I do not have all the answers. But I will share a few tips and techniques.

So how do you identify the Black Swans? Remember that a Black Swan event is rare in probability, but high in impact.

Chances are, some (but not all) are probably in front of you today. As a starting point:

- Look at the low likelihood, high consequence risks in your risk register;
- Look at the very frequent incidents within your council;
- Look at incidents and current issues outside your council that could impact the council; and
- Look internationally in older established communities.
- In addition, you can use a number of techniques to identify new risks or Black Swan events that are more challenging to identify.

Brainstorming is a risk identification method that involves stimulating and encouraging free-flowing conversation amongst a group of knowledgeable people to identify potential opportunities, failure modes, associated hazards, risks, criteria for decisions and/or options for treatment.

Brainstorming requires a heavy emphasis on imagination.

Great in theory, how do you apply it? A good starting point is to ask a number of questions:

- What events are we exposed to that have a high level of uncertainty?
- Where are the stakes or consequences very high in our council?
- What events could make "front page" news?
- Which events have a high inherent risk level?
- Which events retain a higher than desirable residual risk?
- Which events could impede critical operational or strategic objectives?
- Could non-action or a "missed opportunity" be consequential?
- Which events have a critical time priority and a sense of urgency?
- Which events are still emerging and information is limited?
- Which events could unexpectedly occur together?

Like brainstorming, Structured What-if (SWIFT) is also a process for encouraging a team to identify risks often used within a facilitated workshop.

Alternatively, structured interviews can be used whereby individual interviewees are asked a set of prepared questions from a prompting sheet which encourages the interviewee to view a situation from a different perspective, and therefore identify risks from that perspective.

Another good but underutilised technique is Incident Analysis and particularly Root Cause Analysis (RCA), as it attempts to identify the root or original causes instead of dealing only with the immediately obvious symptoms.

These root causes could be early warning indicators to a potentially larger problem or Black Swan.

Once the Black Swan events have been identified and an appropriate risk rating criterion developed, the Delphi Technique can be used to rate the level of risk.

This collaborative technique is used to build consensus by involving independent analysis and voting by experts and or risk owners.

It is a means of combining expert opinions to help rate the likelihood and consequence of risks.

Identifying potential and specific Black Swan events is not easy – in fact it is impossible. Rather than try to predict them all, Taleb suggests we try to adjust to their existence.

Likely Black Swan events

Black Swan event(s) could affect either an individual council or many councils and the consequence of the event(s) will vary from state to state and council to council.

What are the likely future Black Swans in local government?

I see a number of possible Black Swan areas, in no particular order:

- Inability to adapt to impacts of climate change.
- Major political decisions (or indecision).
- Major structural reforms and regulatory changes, e.g. Federal Government role in development assessments.
- Forced amalgamations of NSW and WA councils.
- Impact of carbon trading.
- Impact of supply and distribution changes to utilities and natural resources.
- Councils required to achieve real efficiency savings in return for increased developer contributions and cessation of rate pegging.
- Impact of changing future community and ratepayer needs on a council's services and infrastructure.
- Infrastructure maintenance and rehabilitation backlog fully funding issues.
- Failure of a major insurer/insurance layer in an insurance program.
- Abolition of state governments/formation of regional councils.
- Impact of population migration.
- Councils forced on to one technology platform.
- Privatisation of traditional council functions.

Final thoughts

As I stated earlier, this article does not attempt to identify all the potential Black Swans in local government nor imply that it is possible or feasible to identify all the Black Swans or unknown unknowns!

But, I hope I have provided some insight into the sometimes "tricky" world of risk management.

Ultimately, the winners will be those who are prepared to face Black Swans, to be exposed to them, to recognise them when they show up, to deal with them and to rigorously exploit them.

One colleague in local government called these opportunities 'Golden Swans'.

And finally, just because I've read the *Black Swan*, have a good understanding of local government, statistics and enterprise risk management, does not mean I have all the answers... I'm still trailing well behind in our footy tipping competition.