

Types of Risk

Risk sits in an interesting space between known facts and the unknowable – for something to be a risk we need to know something about it. If something definitely will, or has actually happened it is a fact and potentially an issue that has to be managed. There is no uncertainty involved in the occurrence, it is a known known.

If something ‘may’ happen that will affect one of the project or program’s objectives, this is a risk. Risks are uncertainties that matter; the effect may be beneficial or detrimental and may affect one or several objectives. Risk Assessment is discussed in WP1015¹ and Risk Management in WP1047². The purpose of this paper is to discuss the types of risk.

Risks fall into three broad categories:

- **Known unknowns** – there is no question about the event occurring, just when or the severity of the occurrence. Inclement weather and software test failures tend to fall into this category. This type of risk is the most easily managed. Typically there is readily available data and assessments based on past experience can provide a reasonable guide to the appropriate levels of contingency needed to insure against the event occurring. The effectiveness of risk mitigation is also relatively easy to assess, the cost and inconvenience of the mitigation activities can be assessed against the reduction in the overall consequence of the risk occurring represented by contingencies.
- **Knowable unknowns** – these are the most dangerous type of unknown unknown. The risk is inherently knowable but through process failure or the lack of appropriate insight, a skills failure, they are not considered in the risk management process. These are the possibilities we could foresee if sufficient skill and care is applied to the situation ‘as-is’. The challenge of effective risk management is to turn as many of these knowable unknowns into known unknowns as is practical through creative risk identification, exploration and education. Once the risk is identified (known) we then have the tools for their management.
- **Unknowable unknowns** – also called ‘Black Swans’ after the book by N.N. Taleb. Black Swans are the unknowable risks – events or outcomes that you cannot possibly predict or foresee until after they occur³. The title of Taleb’s book is derived from the belief in 17th century Europe that ‘all swans were white’. It was only after ‘black swans’ were seen in Australia did Europeans have a reason for changing this perspective. Context is important in this regard, prior to the 18th century, Australian Aborigines would have had no concept of the possibility of ‘White Swans’..... It is not possible to ‘manage’ something you don’t know you don’t know; the only defence is to develop a resilient organisation that can respond effectively after the event occurs.

Black Swans

N.N. Taleb defines Black Swans as having three characteristics: they are unexpected and unpredictable outliers, they have extreme impacts, and they appear obvious after they have happened. The term ‘*As rare as*

¹ See WP1015 Risk Assessment: http://www.mosaicprojects.com.au/WhitePapers/WP1015_Risk_Assessment.pdf

² See WP1047 Risk Management: http://www.mosaicprojects.com.au/WhitePapers/WP1047_Risk_Management.pdf

³ Taleb asserts: We don’t understand the world as well as we think we do and tend to be fooled by false patterns, mistake luck for skills (the fooled by randomness effect), overestimate knowledge about rare events (Black Swans – see below), as well as human understanding, something that has been getting worse with the increase in complexity. Taleb is interested in a systematic program of how to live in that opaque world, be less fragile to a certain class of errors (*robustification program*). In other words, while most human thought (particularly since the enlightenment) has focused us on how to turn knowledge into decisions, I focus on how to turn lack of information, lack of understanding, and lack of “knowledge” into decisions. The Black Swan (2nd ed.) drew a map of what we don’t understand (an attempt to set a clear and systematic limit to what is both unknown and consequential); ongoing work *Antifragility* focuses on how to domesticate and exploit the unknown -with simple heuristics and rules of thumb, something ancient Mediterranean cultures --as conveyed by the ancient classical authors -- knew rather well. <http://www.fooledbyrandomness.com/>

a black swan’ originated in a Latin expression and was popularised in 16th Century England, the term was used to describe non-existent (the modern equivalent would be ‘*As rare as hen’s teeth*’). Prior to 1697 the Western world believed that all swans were white. This was a known fact and any similar bird of a different colour could not by definition be a swan! Then Dutch explorers travelled to Australia and discovered true swans that were black, and the known fact had to be modified in the light of new evidence.

Events or circumstances with extremely low probability and extremely high impact are just risks and they can and should be managed through the normal risk process. It is too easy to classify manageable ‘**knowable unknowns**’ as ‘Black Swans’, and then suggest they were unforeseeable, simply because insufficient work was done to understand the actual situation. Black Swans should not be used as an excuse for ineffective risk management.

The idea of Black Swans is a valuable concept that warns us to expect the unexpected even after we have implemented effective risk management! The only certainty is uncertainty, and we need to remember that we will continue to be surprised even if we have implemented the most effective risk management strategies.

If we mistakenly think that identified risks with very low probability and very high impact are Black Swans, then we are likely to remain blind to the existence of true Black Swans. That in turn will leave us unaware of how vulnerable we are to genuinely unknowable unknowns.

Because by definition ‘black swans’ are unforeseeable normal risk management cannot help. The defence is a resilient organisation with adequate capacity and well thought through contingency plans to deal with any emergency. This is the space where risk management and disaster recovery overlap. Whilst it is impossible to prepare for the specific ‘disaster’ – you don’t know you don’t know you need to plan for it – it is sensible and practical to have a well rehearsed generic disaster recovery process in place with clear roles and responsibilities in place to minimise the damage and re-start operations as soon as practical. Typically this type of recovery operation would/should involve the overall organisation, not just the project team.

Jim Collins’ new book, *Great by Choice* introduces the concept of *Productive Paranoia*. Productive paranoia is being aware that the worst can happen. We cannot predict the future, so be constantly alert to the big shift that comes out of leftfield. Leave some options open and don’t bet the business on the success of a single outcome.