

3 Risk and Management

In the opening chapter it was argued that the perspective this book takes on crowds is from the complexity theory. A crowd is complex as each individual is a free agent and, in a crowd, responds to the people near them. Instantaneously, their attitudes and behaviours affect that individual. Hence it is the relationships between the people that create crowd behaviour. This is beyond complicated, because the causes and effects are immersed in multiple behaviours and attitudes that are moving and developing. Managing risks in this environment requires models and processes that push traditional management processes to the boundary. Before moving onto the methodologies for managing risk it is worth noting some of the drivers.

The 21st Century multi-polar, hyper-connected, social media driven, fast paced world in which we live presents an environment in which we need to understand and master complexities and uncertainties on a scale never before encountered by the average person.

Business models from the most sophisticated in banking to the most rudimentary in transportation in the developed world and financial services in the underdeveloped, are being disrupted as never before. Survival today requires:

- ◆ Agility and flexibility, and
- ◆ Automation.

The Global Financial Crisis of 2008, the international failure to achieve strategic objectives in Afghanistan, Iraq and Syria, all powerfully demonstrated complex interdependencies which were not understood by even the most sophisticated organisations and countries.

This changing risk landscape, our understanding of the nature of risk, the art and science of choice, lies at the core of our modern economy. Every choice we make in the pursuit of objectives has its risks. As we seek

to optimize a range of possible outcomes, decisions are rarely binary, with a right and wrong answer. Organisations encounter challenges that impact reliability, relevancy, and trust. Stakeholders are more engaged today, seeking greater transparency and accountability for managing the impact of risk while also critically evaluating leadership's ability to crystalize opportunities. Even success can bring with it additional downside risk—the risk of not being able to fulfil unexpectedly high demand, or maintain expected business momentum, for example. Organisations need to be more adaptive to change. They need to think strategically about how to manage the increasing volatility, complexity, and ambiguity of the world, particularly at the senior levels in the organisation and in the boardroom where the stakes are highest.

Defining some terms associated with risk

In an episode of Star Trek Voyager dealing with trans temporal issues, the First Officer of the USS Relativity (a ship from Voyager's possible future guarding the timelines) says to the captain, demanding a risk free solution, "uncertainty is part of the equation". It makes the point that no decision is able to be made without consideration of the elements affecting the judgement and the potential outcome for your objectives and therefore potential consequences cannot be completely known. The more complex the system in which you operate, the more likely that you will have unknowns that will impact on your decisions and therefore on your objectives.

Donald Rumsfeld is often quoted for his statement, *"There are known knowns; there are things we know that we know. There are known unknowns; that is to say, there are things that we now know, we don't know. But there are also unknown unknowns; there are things we do not know we don't know"*.

This issue of "knowing" was considered well before his statement.

In epistemology and decision theory, the term 'unknown unknown' refers to circumstances or outcomes that were not conceived of by an observer at a given point in time. The meaning of the term becomes more clear when it is contrasted with the 'known unknown', which refers to circumstances or outcomes that are known to be possible, but it is unknown whether or not they will be realized. The term is used in project planning and decision analysis to explain that any model of the

future can only be informed by information that is currently available to the observer and, as such, faces substantial limitations and unknown risk.

This is as true in Quantum Physics as it is in a decision to cross the roads or buy a car. At best you can infer the outcome of your decision

Heisenberg, in his uncertainty principle paper, 1927, said in the sharp formulation of the law of causality: *"if we know the present exactly, we can calculate the future"*. It is not the conclusion that is wrong but the premise.

One should note that Heisenberg's uncertainty principle does not say *"everything is uncertain."* Rather, it tells us very exactly where the limits of uncertainty lie when we make measurements of sub-atomic events.

These so-called indeterminacy relations explicitly bear out the limitation of causal analysis, but it is important to recognize that no unambiguous interpretation of such a relation can be given in words suited to describe a situation in which physical attributes are objectified in a classical way. (Bohr, 1948)

Terminology used in risk management

In many cases – especially in emergencies when time is critical – efficient communication is crucial. Correct usage of terminology underpins the effective communication of risk to stakeholders and is vital to risk management. Language should be exacting, and terminology universal.

Terms must be common to managers and staff and should clearly and unambiguously describe problems to stakeholders, such as the emergency services agencies.

ISO 31000 provides a common language for risk management, and this nomenclature has been adopted by governments, emergency services and health services. See Chapter 4 for more on communication.

Uncertainty

A situation in which something is not known or not certain. This includes factors and influences, both internal and external, that make it uncertain as to whether, when and the extent to which they will achieve their objectives.