

## Radical Uncertainty

### Project controls for an unknowable future



One thing we have learned from 2020 is *'it is very difficult to predict — especially the future'*<sup>1</sup>! But, the whole purpose of an effective project controls function is to produce information that helps project managers make decisions about the future.

In many respects project plans (schedules, budgets, etc.) are similar to economic forecasts. Both disciplines have been working for decades to make their predictions more

academically rigorous by using mathematical techniques. The problem is these models seem to be better suited to the physical world where everything that happens is governed by the unchanging laws of physics, or to games of chance, where the probability of something happening can be calculated accurately, than to the confusion of a dynamic project, or economy.

Two leading British economists, Professor John Kay of Oxford University and Professor Mervyn King, a former governor of the Bank of England, have recently launched a scathing critique of the unrealistic assumptions used in conventional economics in their book, *Radical Uncertainty: Decision-making for an unknowable future*<sup>2</sup>.

Their thesis is that the process of making predictive models more tractable mathematically does not improve the accuracy of the predictions. The models rely on the decision-maker and other 'actors' being able to consider every possibility and behave logically. But we all know the people being modelled do not behave rationally and rarely, if ever, actually work to the plan.

Kay and King call this type of modelling 'small world', where the right and wrong answers are clearly identified, whereas the *large worlds* occupied by consumers, businesses and project actors are characterised by radical uncertainty. People make decisions with little of the information needed about both the present and the future, and can never know whether they made the best decision, even after the event (you cannot re-wind time to try alternatives).

Fortunately, like Alice in Wonderland facing the appearing and disappearing Cheshire Cat, people are very good at coping with uncertain situations. And, it is amazing how often we get it right. Kay and King have

<sup>1</sup> Attributed to Danish physicist Niels Bohr.

<sup>2</sup> <https://onlinelibrary.wiley.com/doi/abs/10.1111/ecaf.12409>

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concluded “*Our knowledge of context and our ability to interpret it has been acquired over thousands of years. These capabilities are encoded in our genes, taught to us by our parents and teachers, enshrined in the social norms of our culture*”. Human intelligence is effective at understanding complex problems within an imperfectly defined context, and at finding courses of action which are adequate to get us through the remains of the day and the rest of our lives. Not necessarily the best solutions, but ones that are ‘good enough’.

A closer match to the reality of human experience is the field of behavioural economics, using the findings of psychology to help explain the way people actually behave when they make decisions. The consensus is people are ‘predictably irrational’ and biased<sup>3</sup>. However, most (though not all) the identified biases are not the result of errors in beliefs or logic; rather the product of a reality in which decisions must be made in the absence of a precise and complete description of the world in which people live.

So where does that leave project controls? We have tools such as Earned Value, Critical Path and the like, built on the basis of predictable calculations. But experience shows these calculations are rather bad at accurately predicting future outcomes. Are they worth the effort?

My assumption is the existing tools are adequate if used wisely. To paraphrase Group Captain Sir Douglas Bader (WW2) ‘**[Controls information is] for the guidance of wise men and the obedience of fools**’. The challenge is changing the project management paradigm (and particularly contract law) to embrace an uncertain future, accept the inevitability of complexity in all relationships<sup>4</sup>, and focus on optimising outcomes. The concepts underpinning Agile goes some way towards this, but a broader approach is needed on major projects combining the discipline needed for major engineering works with the flexibility to deal with an uncertain future – getting the balance right could be very profitable.

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First Published 4<sup>th</sup> November 2021



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<sup>3</sup> For more on **bias** see: [https://www.mosaicprojects.com.au/WhitePapers/WP1069\\_Bias.pdf](https://www.mosaicprojects.com.au/WhitePapers/WP1069_Bias.pdf)

<sup>4</sup> **Complexity and CRPR** are similar concepts, see: <https://mosaicprojects.com.au/PMKI-ORG-040.php#Overview>