
Managing uncertainty



Why are we constantly surprised by the emergence of crises such as the current financial meltdown, and what are the lessons that we can apply when tackling these?

According to **Mike Pich**, Affiliate Professor of Operations Management and Entrepreneurship at INSEAD, it all boils down to risk and uncertainty – or at least a lack of understanding of the fundamental principles of risk.

MANAGING THE UNKNOWN



A Novel Approach to
Managing High Uncertainty
and Risk in Projects

“The idea that markets can price risk is a difficult one because risk means different things to different people. And risk basically implies prediction. Prediction of the possible future states of the world. I think it’s pretty clear if you go look at the literature on decision analysis and forecasting, prediction is a difficult thing to do,” says Pich, one of the authors of the book *'Managing the Unknown: A New Approach to Managing High Uncertainty and Risk in Projects'*.

And if risk is already inherent, diversifying or spreading that risk may not necessarily be the solution. Pich explains: “When they began to slice up these risks, whether they be mortgage risks in the US or any kind of risks, any kind of productisation of these risks, of course their attempt or their hope is by spreading these risks throughout the world, they are allowing people to diversify the risk ... and then diversification is always going to be a good thing because if I diversify, then no one catastrophic event can deal with this.”

However, unintentionally, interdependent risks were created instead, which actually attacked the underlying diversification and became subject to common failures. This in turn, can lead to ‘perfect storms’ arising.

Back to basics

To understand the true definition risk, one has to go back to the basics. According to Pich, it all begins with a single action. “You take some kind of action because you’ve made a decision. You take that action within a world that exists ... so the world is as it is ... Then you’ve got some future state of the world. That’s the reason you took the action – to create some future state of the world.

“Now the fact that the future is unknown means that we have to deal with risk. We have to deal with risk at the time that we make the decisions and go forward.”

Make no assumptions

The classical approach to risk management he says, comprises of three steps: prevention, mitigation and contingency planning. People are comfortable with this kind of systematic approach, because human beings

don't like uncertainty.

But therein lies the problem: when you carry out risk assessment, you have to make assumptions, either implicitly or explicitly.

The first assumption is related to the possibility of certain 'events' taking place. "One of the things we must recognise is that when we, say, identify 'events', we're actually not identifying events. We're creating events which are representations of possible future states of the world that we need to then respond to."

These future states are often incongruous with the present state, which can also pose a challenge, since we are not very good at predicting the future. The reason for that, Pich explains, is that we're also not very good at creating events which represent reality. This disconnect between the perceived models of the world and our needs is the second assumption; we assume that we can accurately predict the potential impact of these events on our outcomes and the impact of our contingency actions on those events.

A third assumption is the probability that these events will happen. But Pich explains that these are all subjective probabilities, which means that there is no real probability. It's just a measure of our understanding of the world and how likely it is that these events might happen.

Learn from mistakes

So what do we do in a world fraught with uncertainty and subsequently risk? Pich recommends two approaches. The first is learning adaptive behaviour, and the second, selectionism.

Learning suggests an improvement over the old way of doing things. This means periodically updating any models we have which deal with events that we create, models that we use to create cause or effect and our subjective probabilities. People, however, he says, would rather apply resources to implementing the actions - the delivery mode - than actually improving the models on which actions are based.

Then, there is the matter of feedback. "This feedback is telling us something. It's telling us that if it's an event we didn't predict, we'd better understand why we didn't predict it, why wasn't it in our events base, and what can we do to improve our models."

Selectionism can be a very important tool to fine-tune old models. Pich explains: “It’s creating multiple iterations or alternatives which can compete with each other. And the alternatives which don’t make it die out and those alternatives which do, live on. And we begin to see that this can actually very quickly create alternatives which we hadn’t anticipated at the beginning of the project.”

The key is not to be lulled into a false sense of security, and think that you’ve got it all mapped out. “Because the problem is that the contingency plan becomes the plan, it becomes the world within which you work and you ignore everything outside as if it were some kind of fire that needs to put out.”

‘Managing The Unknown: A New Approach to Managing High Uncertainty and Risk in Projects’ by Christoph Loch, Arnoud DeMeyer and Michael Pich is published by John Wiley & Sons.

Find article at

<https://knowledge.insead.edu/operations/managing-uncertainty>