

Advances in Project Management Series¹

Project Resilience: Moving beyond traditional risk management

By Neil Turner and Elmar Kutsch

The evolution of risk management – like many other planning mechanisms in project management - is characterised by the pursuit of quantified expectations of a past-informed future and the ability to automate one's actions to prepare for it. In the distant past, people were guided by fate and a faith in God's will. Indeed, the future was perceived to be at the mercy of the gods. These long-held fundamental beliefs started to be challenged during the Renaissance, a period of turmoil, in which the shackles of superstition were challenged and inquisitive people such as the Pascal and de Fermat embraced the concept of forecasting and building the foundations for the theory of probability.

However, the often 'blind' adherence to the traditional principles of risk management – probabilistic determinism - and the resulting illusion of certainty was shattered by two bloody World Wars, and in more recent times by major disasters such as the collapse of Lehman Brothers and the world recession, or the rise of world terrorism. Emerging criticism up to the present day has challenged the commonly adopted and advocated view that the past, if repeated often enough, can confidently inform the future (Bernstein 1998):

"Those who live by the numbers may find that the mathematically inspired techniques of modernism have sown the seeds of a destructive technology in which computers have become mere replacements for the snake dancers, the bloodlettings, the genuflections, and the visits to the oracles and witches that characterized risk management and decision making in days of yore." (Bernstein 1996, p. 51)

Hence, we need a revolution in project (risk) management. We need to think about how to

- *notice* beyond the risk horizon?
- *interpret* those entities that cannot be quantified or qualified with confidence?
- *prepare* better for the effects of what we do not know?
- *contain* the unknown in a more timely and appropriate manner?

The question is what practices we can define to reach a state of true, although never perfect, resilience? We need practices that allow us to deal with risk, uncertainty and complexity effectively.

¹The *Advances in Project Management series* includes articles by authors of program and project management books published by Gower in the UK. Information about the Gower series can be found at <http://www.gowerpublishing.com/advancesinprojectmanagement>. See the author's profile at the end of this article.

The art of noticing

Making people 'aware' in a project is a challenge and requires a leadership approach that generates honesty, transparency and openness about risks and uncertainties. We do not suggest a state of paranoia in which a project is constantly thinking and 'living' failure. Such a state may only lead to exhaustion and fatalism. However, a state of 'chronic unease' (Reason 2008) – a heightened and yet focussed awareness of failure - is one that we can strive for. The following actions may provide a start.

Moving the onus of proof

Our minds like a state of 'normality'. Long periods of success may only reinforce the perception that failure will not trouble us. Managing projects can turn into a routine exercise, and, indeed, this is what most managers strive for. Under these conditions, the expectation can become that of continuing success, and it may be hard to persuade project participants of the contrary. The longer this positive state of affairs continues, the more difficult it can become to raise doubts and concerns. Evidence may be ignored or suppressed, with those speaking up seen as doomsayers or troublemakers. Here, managers need to move the onus of proof. Assume that the project is risky, uncertain and complex until proven otherwise. If presented with audits and status reports that show a lot of 'green', show doubt and investigate, and challenge people in their perception. This does not have to be confrontational, but should go below the 'surface' figures to challenge assumptions and create greater awareness of how the project could still go off track.

Many audits in projects provide proof that everything is 'all right' (organisational incentives tend to encourage this). As a thought experiment, can you imagine an audit that provides evidence of risk, uncertainty and complexity, and yet also offers also some form of evidence that shows the project is in a state of heightened preparedness and readiness to deal with it? It is not the kind of audit often used in projects, yet offers a tantalising glimpse into an entirely different way of understanding project risk and uncertainty.

Making people imagine

We tend to focus on risks because they are tangible and measurable and thus provide us with the comfort of (relative) certainty. With the help of some tools, such as Scenario Planning, we can make people imagine uncertainty – ambiguous, and difficult to measure – from a range of different perspectives. This is unlikely to provide accurate predictions about how the future will unfold, but it makes people appreciate the richness of multiple possible futures. It also gives 'permission' to worry, express doubts and raise concerns that cannot necessarily be quantified for 'traditional' risk management. The inability to 'prove' a problem must not preclude it being aired, and management support for such a culture is powerful (not to mention uncommon). As a project leader, you can - and should - use tools that strive for accuracy and prediction. Know their limitations! Use additional techniques, not for the purpose of determining a single, most likely future, but to strive to explore the murky uncertainties that normally remain undiscussed.

What we cannot measure and articulate with confidence makes us uneasy. It is preferable to stay in our comfort zone, and not worry about, let alone raise, such concerns. As a manager it is important to allow these ideas to be surfaced and discussed. To reject someone's worries out of hand or perhaps to challenge them for data sends a clear signal not to try that again. It is a delicate exercise to build greater vigilance - hard to promote, yet easy to discourage. The key is to make the team 'at ease' with feeling uneasy about their project.

The art of interpreting

Over-optimistic forecasts of likely project performance, based on under-estimating the complexity of projects and the reality of likely risks, coupled with an over-optimistic assessment of the project team's ability to deal with risk and uncertainty, is a major problem for project decision-making. Estimates have a tendency to become commitments that, in turn, become anchors for later decisions. Given this, projects can become brittle and fragile – the slightest risk might derail them if the original commitments were dangerously optimistic. On very narrow measures of success for the immediate outputs (time, cost, quality), risk occurrences may lead swiftly to failure – it is almost an inevitability. Worse still, people are cognitively hardwired to be optimistic, either for political reasons (getting the project funded or awarded in the first place) or (more often, perhaps) psychologically. We delude ourselves and we are all complicit with each other in that delusion.

The problem faced by project leaders is that they have to find ways of countering this tendency – of stepping back, looking at the project plan with more realistic, dispassionate eyes and injecting some reality (perhaps even pessimism) into the planning process. Project managers are often unable to do this as they are too involved in the 'process' and are as subject to the same cognitive biases as everyone else involved in the work. Instead, the project manager must take a leadership role, focusing on people rather than structure and process, taking a longer-term rather than shorter-term view, challenging the status quo and being innovative rather than administrative. Beyond the practical things that can be done to help balance out optimism bias and organisational amnesia, the project manager *as a leader* has a key role in shaping the forecasts and avoiding over-simplification of the risk and uncertainty involved in delivering the project.

Asking inconvenient questions

If the project leader is able to emotionally and structurally detach him- or herself from the project – a difficult enough task – he or she can (as required) slip into the role of a devil's advocate that all projects require to combat our tendency to oversimplify. They will be able to challenge the 'inside view' and access the 'outside view' that may be more realistic. They will be able to prompt memory, encouraging the experts to recall past projects and consider what may go wrong, why it may go wrong and how they could deal with any risk and uncertainty. The focus of questioning is to probe limitations in everybody's preparation and readiness, and not to question anyone's competence. As inconvenient as these questions

may be, they are essential to challenge oversimplification and to encourage new ways of thinking.

Distinguishing between noise and 'real' Risk and Uncertainty

In adopting a dialectic decision-making role, the project leader can encourage a focus on the important risks, where management attention needs to be focused. The issue is to distinguish between what 'matters' and what does not. Based on an active reporting culture, you may be bombarded with stakeholders' concerns and flooded with 'what might go wrong' in the project. It is the job of a project leader to filter out those important messages that are vital to respond to. In order not to discourage any report of impending failure, consider all messages as important, though. With the help of the messenger, raise some important questions such as:

- Has this happened before? Is an indication of systemic risk and uncertainty?
- May it influence a part/function of the project that is critical?
- How close have you been to this risk/uncertainty? Do we require more information?
- How quickly can this cascade into a bigger threat?

These kinds of questions can enable effective decisions to be made about risk; to filter out the less important risks and concentrate on those that will impact on value. Be sensitive, though, that the messenger as well as the wider team may be conditioned by optimism bias.

The art of preparing

Risk and uncertainty can emerge at any time, in any form, from any source. The project team needs to be prepared to deal with whatever might happen. They need to be vigilant in looking for the weak signals as they begin to emerge, alert to threats, and alive to opportunities. It is both difficult and counterproductive to seal the project off from its environment in the hope of 'keeping risk out', and equally problematic (and more than likely, ineffective) to tighten rules and procedures in the hope of eliminating project failure.

Preparation begins with standard risk procedures (routines) being put in place but it is dangerous to leave things there in the hope that this covers all eventualities. The risk register should be just a starting point – there are a number of risks which will have been missed or downgraded, together with a host of uncertainties. It is incumbent on the project leader to create a sense of readiness among the project team, so that they are not just ready for the expected but appreciate the threat of the unexpected. This means empowering the project team, providing the freedom and latitude to act, and creating a culture of communication by removing the barriers that might prevent this, thereby enhancing flexibility.

Maintaining goal flexibility

If project iterations are implemented, a key aspect is not simply to progress to the next iteration but to ensure that a short phase of reflection occurs. Seeking to learn from the previous output and considering how this may influence the overall goal is valuable. These short but intense reflection periods may include questioning how the experience of the completed iteration influences the project delivery process and what it means for the overarching project goal. It is a reflection of how value evolves. As a result, it is important to communicate and sensitise people to the idea that nothing is necessarily set in stone and that the learning from an iteration informs subsequent iterations.

Empowering project members

Exhorting project managers/leaders to empower workers and staff to act on their own initiative can be difficult. There are two general problems: that the leader is reluctant to lose what they perceive as control; and that workers are reluctant to take responsibility. From the leader's point of view, a transformational model is far more effective than a transactional model. Transactional leaders focus on role supervision, organisation and compliance, paying attention to work performed in order to spot faults and deviations. Transformational leaders focus on being a role model, inspiring and keeping workers interested, challenging project workers to take greater ownership for their work, and understanding their strengths and weaknesses:

- Empowered project workers need to have some control over how they direct their work. This means having the freedom to express flexibility and creativity. It also means that project workers will act on their own initiative, but this flexibility needs to be within limits ('freedom with fences'), which needs to be explained to project staff.
- Giving up control and empowering a project team might feel like a terrifying experience for many project leaders used to a transactional model of control and compliance. The temptation is to watch the workers' every move, but by monitoring someone closely, their ability to grow, learn and build confidence to take action is impeded. The project workers need to be given space and need to be trusted.

The art of containing

People experiencing risk and uncertainty need to take appropriate action. Where time is sufficient to prevent a crisis from happening, leadership is required to support the containment of risk and uncertainty. It is tempting to 'pre-load' responses and make people do what has been defined in advance. Uncertainty makes such a 'process' approach in itself risky, as novelty and ambiguity require reflection and deliberation, not necessarily the 'blind', 'unthinking', adherence to what has been defined as a response to a past problem.

Increasing readiness

Preparation is just part of the story, though. The preparation of the project team and key stakeholders means that they have the organisational system and understanding in place to scan for and communicate risk and uncertainty and that they are not complacent about their preparedness. However, readiness implies that the team is set to put their preparation into action, to be willing to execute what they have prepared for.

Such commitment to act immediately – when adversity strikes - requires a number of other factors. Key among these is transparency. People must be encouraged not to conceal or hide problems and the outcomes of projects should be measured using an agreed methodology. Apart from anything else, public reporting of outcomes can act as a powerful driver for improvement.

Facilitating improvisation

Improvisation can take on a purposeful, considered dimension. A commitment to resilience in projects requires an expectation that project teams will improvise around unexpected problems. In this context, improvisation is not a complete absence of structure to decision-making, implying chaos, randomness and disorder. It is not simply ‘making it up as you go along’. Using Jazz as a metaphor, the performers (project staff) improvise around a structure and plan. Like Jazz musicians, improvising managers continuously invent novel responses without a predetermined script and with little certainty as to the exact outcome of their actions. The consequences of their decisions unfold as the activities themselves are enacted.

On the Roads to Resilience

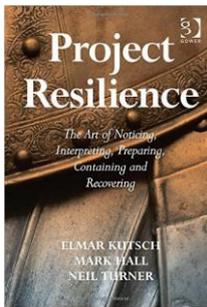
There are undoubtedly many roads to a state of resilience. The traditional way of predicting the future – based on past-informed risks – has had its heyday. It is indeed beneficial to ‘automate’ the management of risk, to reduce human variability as a source of error. And yet, in order to be truly resilient, in order to prepare one’s project for the unknown, there is nothing more flexible than the human mind. This paper provided a first glimpse into what we are capable of in order to prevent a project crisis in the first place.

References

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Reason, J. (2008). The human contribution: Unsafe acts, accidents and heroic recoveries. Farnham, Ashgate Publishing.



If this made you interested in risk management as an art form, please have a look at Kutsch, E., M. Hall and E. Turner (2015). *Project Resilience: The art of noticing, interpreting, preparing, containing and recovering*. Farnham, Gower.

For more about the book, go to:

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Neil Turner is the Course Director of the MSc in Programme and Project Management at Cranfield University. His current research interests are around organisational learning in the context of complex projects and programmes (the subject of his PhD), with a focus on how organisations (don't) learn to improve their project performance. He was previously an Engineering Manager in a large multinational telecommunications firm, and is a Fellow of the Institute of Engineering and Technology.



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“To be uncertain is uncomfortable, but to be certain is ridiculous.” (Chinese Proverb)

Being uncomfortable is both a challenge and an opportunity for Elmar. As a passionate Skydiver his interests, both privately and professionally, revolve around management of the unexpected. Elmar's first real exposure to the rather paradox world of uncertainty began in 1998, when he held a variety of commercial and senior management positions within the Information Technology (IT) industry. Working for one of the biggest IT service providers in Germany he was responsible for the successful delivery of a number of large projects, including major roll-out and outsourcing strategies. Clients included the Commerzbank, the Deutsche Börse (German Stock Exchange) and the Polizei Rheinland Pfalz (State Police Rheinland Pfalz). His passion for the management of risk and uncertainty in projects then led him to pursue a career in academia. He served as a Lecturer in Operations Management at the University of Surrey and has been at Cranfield since 2007.