THE COMPLEX PROJECT TOOLKIT

Using design thinking to transform the delivery of your hardest projects

KIERAN DUCK

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by Kieran Duck.

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In loving memory of Dad, the builder.

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INTRODUCTION

The first time it struck me that the standard project management toolkit was incomplete for complex projects was ten years ago. I was standing outside a restaurant in the northern suburbs of Sydney, engaged in one of those deep conversations that start late in the evening.

I had just finished dinner with the leadership team of a multi-billion-dollar infrastructure project. The project was running late, had missed a couple of major milestones and was only a few months away from the final design sign-off, which looked like it would be delayed as well. We were pushing to get it back on track, and this dinner was my first chance to bring the whole leadership team together in a social setting.

As the evening wound down and the team started to disperse, I found myself talking with Sean, the project administrator. Sean was a master of the project toolkit. On all the projects I'd worked on over the years, I'd never met anyone as capable with project analytics and tracking. He maintained all the project plans, the resource models and the risk registers, and also ran detailed earned value and stochastic modelling that provided insight and control over the project.

As the last of the team drifted away, Sean confided in me that he had a problem. Before this dinner, his analysis had put the probability of on-time achievement of the final design milestone

at less than 1%. Now he believed that the time we had just spent together as a team had lifted the probability of success closer to 10%, but he had no idea how to work that into his projections. He didn't know how to model it. He couldn't prove it, but he did believe it.

Two thoughts stood out for me that evening. The first was the realisation that rigorously applying the standard project management process, even though Sean was an extremely competent practitioner of the science, had not been enough to guarantee success. The second was a question: if calculating the probability of a project's success makes no allowance for the level of connection within the team, which clearly impacts performance, what else is missing from the standard toolkit?

After that dinner I continued to see experienced managers struggling with complex projects. They would put in long hours but never get ahead of the situation. They would be dragged into detailed discussions on convoluted topics and be surprised when decisions were changed. Their teams would complain that the plan was never going to be delivered and that no one wanted to hear that.

Most of these project managers had strong technical backgrounds, which had driven success in large, technically complicated projects. However, in complexity – where there is no clear path forward and lots of different opinions at play – they had reached the limit of their toolkit. Despite decades of experience, they were constantly frustrated and ineffective.

It wasn't that they were no good at project management. They had a lot to offer and brought great processes for normal operations, but they weren't seeing and addressing the heart of the problem when it came to complexity. They just didn't have the extra gears they needed for the situation – like taking your two-wheel-drive car off-road, where you might make progress but encounter lots of issues. These managers needed a low-range four-wheel-drive for some of the rugged terrain they were navigating.

From this realisation was born the idea of extending the project toolkit to better handle complexity.

The standard project management toolkit provides a straight-forward instruction manual for delivery success – or at least, that is how it appears. Unfortunately, when it comes to complexity, the well-known methods produce the exact opposite of what you would expect: detailed analysis creates confusion rather than clarity; plans designed to lay out the path forward constantly change; decisions intended to create certainty and move everyone forward get revisited. The promise of reliability and control breaks down in the face of complexity. Instead of improving the chance of success, the standard approach exacerbates the problems it is meant to counter.

At the heart of this dilemma is the fact that complex projects are fundamentally creative and emergent endeavours, and we fail when we approach them with the standard toolkit based on an analytical way of thinking. We need a different mental model to succeed in complexity. We may love the illusion of predictability and control that comes from detailed plans and coloured status reports, but when the project has lots of unknowns, these arte-facts provide false hope and draw attention to the wrong things, reducing the chance of success.

Traditional project management grew up in a different time. It has an industrial heritage, focused on coordinating a large number of resources to deliver an outcome with certainty, and underpinned significant advances over centuries. In the last few decades project management has expanded, with methods like Agile being used to cope with unclear or changing requirements. These methods work when the answer is known but the details haven't been worked out. Large-scale system implementations, which once had a low chance of success, now have a common method.

But more recently there has been a significant shift in the nature of our most valuable projects. Those that deliver real

advantage and transform the way we operate are characterised by a high level of emergence, unknowns and opinions.

To succeed in this complexity we need to revisit some of the basic principles, such as the need for certainty and predictability. How do you set a deadline when your major transformation program depends on support from a number of employee groups with their own agendas? And if you do set a deadline, what does it mean when your status report goes from green to yellow to red within weeks because of information you only became aware of along the way?

The standard project toolkit is not set up for this, and the result is that complex projects often fail. When we try to force control on an evolving situation, we create confusion and mistrust, leaving team members frustrated and demotivated. Our inability to deliver in complexity curtails our ambition, leading us to prefer safe options rather than game-changing advances.

We need an enhanced approach to managing complex projects – one that draws from those who operate in ambiguity and emergence every day. The best source of this is the minds of designers. Designers spend their time creating new concepts, ideas and products. They are experts at responding to the ambiguous world around them. This book takes lessons from the way designers think and describes an extended project toolkit that improves the delivery of complex projects. It is not about throwing out all we know about project management, but rather enhancing what exists.

First, we have to realise that complex projects are a different type of problem. They are connected, subjective, unknowable, unique and constrained – and these five characteristics set them apart from projects that are just technically complicated. Understanding this, the inherent difficulty in meeting project management's need for predictability and certainty becomes obvious. This explains why the 'best practice' responses to project issues don't work and why the standard approach can, at best, only

provide a dangerous illusion of control and progress in emergent situations.

The Complex Project Toolkit creates a new framing of complex project delivery based on these characteristics of complexity. It is a guide to how to deliver the best results within ambiguity. This toolkit takes a holistic approach, covering mindsets, practices and skills. The mindset change is about a fundamental shift in our relationship with certainty and different attitudes to experimentation and 'failure'. It is about embracing ambiguity, giving up knowing the answer and being open to the ideas of others. Six mindsets and their resulting behaviours are described that introduce new concepts to project management, such as 'Always curious' and 'Choose your own path'.

At the heart of the Complex Project Toolkit are new practices. These are not 'paint-by-number' prescriptive processes to be blindly applied. They represent an overall framework for how to approach the paradoxes inherent in complex projects: the need to move forward while maintaining the space to think through emerging issues, and the need to understand and incorporate opinions while finalising an answer and delivering a result. Holding all of this together is the belief by the team that the outcome is worthwhile.

Rounding out the toolkit is an enhanced skill set that supports the new practices and draws heavily from the capabilities of designers. More than whiteboards and Post-it notes, it is a specific set of skills that can be learned and applied. The skill-set includes conversation, sense-making and adaption.

I've seen first-hand how a purely scientific approach to complex projects reduces the probability of success and exhausts everyone involved. I have also seen the Complex Project Toolkit lift performance and drive teams to succeed. I have experienced projects in deep trouble being rescued when the conventional project managers opened their minds and developed new skills. I have worked with teams that have lifted both their performance and

satisfaction in the project. While many effective project managers practise some of these techniques already, in this book I lay out the whole toolkit so it can be understood, taught and replicated.

This book covers a lot of ground – from building trains, to special forces training, to impacting wilderness areas in the name of progress. It includes stories of significant project turnarounds and personal development that fundamentally shifted the enjoyment people took from their roles in very challenging situations. The stories have been recreated from memory and names have been changed to provide anonymity. Some situations have been combined to make a point in a more succinct way.

This book is for anyone who wants to make sense of project complexity and understand how to lead from a different place, shift the way teams operate, and raise the level of performance and ownership in complex projects.

Part I
THE PROBLEM WITH COMPLEXITY

Chapter I
THE EVOLUTION OF PROJECT MANAGEMENT

'Nothing is particularly hard
if you divide it into small jobs.'
—Henry Ford

The Empire State Building was not only the tallest building in the world when completed: it also represented the state of the art in coordinating vast numbers of people and massive amounts of materials.

Located at the corner of 34th St and 5th Ave in New York, it was specifically designed to be the tallest building in the world. It was backed by investment from General Motors, who wanted to eclipse the nearby Chrysler Building, which was also under construction. After six months of planning by architecture firm Shreve, Lamb & Harmon, groundworks started on St Patrick's Day, 1930.

Starrett Brothers and Eken won the contract to build the new structure. As one of the leading companies for constructing

skyscrapers, they were an obvious choice. They had the experience working with steel frames, but more importantly, they had expertise in programming the work and coordinating all the materials and the effort of the 3000 people who would be employed on the site.

The construction proceeded at a fantastic pace. In one ten-day period the building added fourteen floors. This achievement was made possible by tightly coordinating deliveries of up to 200 trucks per day in the middle of the teeming city. With very little storage room on site, timing of deliveries and every activity in the supply chain was closely managed. There are stories of the logistics being so finely tuned that steel was turning up at the site still warm from the mill in Pittsburgh. Through tight control the entire building was finished in 410 days, two weeks ahead of schedule, at a rate that would be difficult to match today.
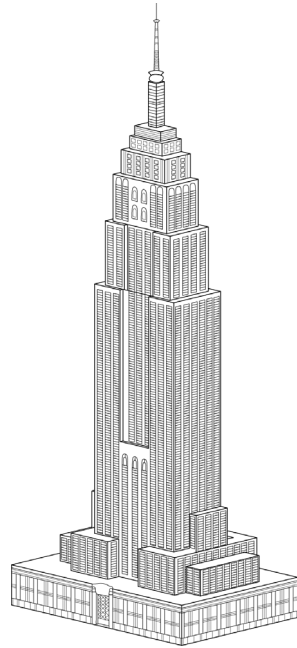
It was all about scale

This is what the standard project management model was made for: delivering industrial-scale outcomes with confidence and control. This model is about coordinating a vast array of resources and people to deliver reliable results on time and on budget through strong process control.

While evidence of project management can be found as far back as in ancient Egypt, the formalised practices took a big leap forward in the early 20th century to underpin the increase in

engineering projects such as railways, bridges, ships and buildings. The profound questions of the time centred on reliability: How do you get materials to turn up at the right time? How do you coordinate the efforts of hundreds of people? How do you predict whether the work will be completed on time? The focus was on creating massive objects at speed. Artisanal or bespoke techniques were never going to deliver results on the scale required.

The 1950s saw the expansion of project management techniques. Critical path analysis reduced project duration and resource usage, PERT charts managed dependencies and earned value analysis confirmed a project was progressing as planned. All of these techniques focused on analysis and forecasting to meet three goals: optimal resource usage, predictable timeframes and quality control. This scientific perspective underpins project management as we know it today.

The resulting toolkit

The standard project management approach is designed to create certainty in project delivery. There is a clear path to success. It starts with writing a scope document or project charter to define the objectives, deliverables and overall approach, drawing on the experience of the project manager to set the standard. This is followed by all the supporting infrastructure: a governance committee with clear roles and accountability to maintain tight control over the project; risk management sessions to identify and mitigate potential issues; and regular status reports to show which areas need attention. Stakeholders are identified and managed. Benefits are defined and tracked against the original promise.

The standard approach to project management is built on the tried and tested mindsets listed in Table 1.1 overleaf.

Using this paradigm, the best project managers are rigorous and analytical. They know all the details of the contract. They bring experience from other projects to bear on this situation.

They are good at managing stakeholders and always deliver status reports on time. Their role is that of a traffic controller, coordinating all the moving parts to ensure outputs are delivered on time and to specification. Certainty is preferred and kudos is given to those who can deliver exactly what was asked for.

This standard project approach has delivered many project successes. But then information technology projects came along, and things started to go wrong.

Table 1.1: Standard project management mindsets

Mindset	Description
Focus on **what** needs to be delivered.	Once the project is approved, deliver what was asked for. Focus on the objective and progress towards that result.
Find an **expert** to define the approach.	What worked before will work again. Find people who have done this before and draw on their expertise.
Documents and plans are critical.	A rigorous, agreed project plan is at the heart of performance. If in doubt, refer to the contract.
Control the process to remove uncertainty.	Manage risks to reduce uncertainty. Follow the process to ensure reliability.
More **detail** provides greater understanding.	If anything is unclear, break it down into its component pieces to provide clarity.
Minimise the level of change once underway.	Any change makes it hard to deliver on the original plan, so keep it to a minimum.

The world moved on

Technology got in the way

In the late 1980s the Australian bank Westpac embarked on a substantial project to replace its core banking system. The project was called CS90. By 1992 the project was closed and the company took a $150 million loss.[1] In 1993, FoxMeyer was one of the largest distributors of pharmaceuticals in the US and the first major pharmaceutical distribution company to undertake a large-scale enterprise resource planning (ERP) replacement. At the time, it had sales of US$5 billion, shipping around 500,000 items a day. Three years later, following the massive failure of the project, with costs blowing out to over $100 million, the company was bankrupt and sold to a competitor for US$80 million.[2]

Despite everything that was known about project management, large-scale technology projects were failing. The world had changed. More and more projects involved building invisible software rather than physical structures. This new kind of project was beyond the experience of most executives. They didn't know how to tell if progress was being made and were often surprised when their multi-year development was either a massive failure or superseded by a software package available in the market at a fraction of the cost. For project managers, this was a whole new game.

The toolkit was adjusted

Project management had a new set of questions to answer. How do I manage progress when progress isn't visible to everyone? How do I know what I want until I see what I can get? If the outcome can be changed in a few hours with a few keystrokes, how do I stop people changing their mind about the design? How do I ensure the new system will be used by people who have no experience with computers?

New project management techniques were introduced to deal with the flexibility and configuration options offered by new

technologies. More iterative models such as Spiral and Agile were developed. These methods allowed the project's requirements to be refined as prototypes were created, or segments of functionality were delivered, and understanding improved. Change management techniques arose to deal with the disconnect between those who built the product and those who had to use it. The project manager's role expanded from just organising resources to also ensuring that stakeholders were managed and understood what was being delivered.

Throughout these adjustments to the project management approach, the underlying mindsets remained relatively unchanged. Changes to specific design elements were allowed within the tightly defined scope of the project.

The focus of these new methods remained on systematic control to increase the certainty of delivering what was promised. A fundamental assumption of these methods is that the outcome of the project is clear and agreed upon. But what happens when you can't agree on the project objective?

The rise of complexity

The Snowy River, located in south-east Australia, has its source in the country's highest mountains. Fed by melting snow and rainfall along its course, the river flows through rugged bushland and coastal plains to the Tasman Sea in the south. In the 1940s, plans were developed to utilise the water of the Snowy by turning the river inland to support the burgeoning agricultural areas of the Murray and Murrumbidgee Valleys. As the plans developed, the idea of also generating hydroelectric power to meet the needs of a growing population was added. In 1949 work started on the Snowy Mountains Scheme. The construction of 16 dams, 3 reservoirs, 7 power stations and 145 kilometres of pipes redirected most of the water flow to irrigate arid inland areas and produce electricity on the way.[3] Roads and railways were cut through pristine

wilderness areas of the Kosciuszko National Park to support the massive endeavour.

This was the largest engineering project in Australia's history, and a country of only seven million people was going to need some help to build it. Expertise in heavy engineering and operating in alpine regions was brought in from overseas to drive the project. Two-thirds of the workforce were immigrants from more than 30 countries, many escaping war-torn Europe. To accommodate the workers over the life of the operations, more than 100 temporary camps and seven towns were constructed, two of which – Cabramurra and Khancoban – remain to this day.

But other towns had to be moved. Jindabyne had been established in 1840 on the banks of the Snowy River and served as a major river crossing.[4] The construction of the Jindabyne dam would result in the entire town being submerged in one of the new reservoirs. So, in the 1960s the town was moved a couple of kilometres to its present site, on the shore of Lake Jindabyne. It was a similar story for Adaminaby and Talbingo. Some residents were keen to move into new houses with modern facilities and comforts; others were sad to see their old township disappear but understood they couldn't stand in the way of progress.

Completed on time in 1974, the entire program was delivered within budget. When fully commissioned, the seven power stations had a capacity of 4100 megawatts and increased the output of the largest agricultural area in the country.

It was heralded as a resounding success both in infrastructure project delivery and in building the capability of a nation. It is regarded as a 'world-class civil engineering project' by the American Society of Civil Engineers and is listed as a National Engineering Landmark by Engineers Australia as part of its Engineering Heritage Recognition Program.[5, 6]

Clearly the Snowy Mountains Scheme was a huge success by all standard measures of project management. However, over the years a problem became apparent.

The redirection of water inland meant that flows in the Snowy River downstream from the dams had drastically reduced, and the river was dying. The change was so dramatic that often the river ran dry, which had a devastating effect on the habitats of platypuses and Australian bass. The original scheme had been based on the nation's power needs and the dream of building an agricultural region through irrigation, with little regard for the ecological impacts.

An extensive public campaign in the 1990s voiced concern over this. State elections in nearby districts were fought and won over the issue of water flows in the Snowy River. In 2000 the state governments of New South Wales and Victoria agreed to increase flows by a target of 28%, and to pay compensation to the inland farms that would have reduced flows. In 2002 the target was adjusted to 21%. It was first hit in 2017, meaning it took almost as long to reach agreement and restore the flows as it took to build the entire scheme.[7]

Projects have changed

This example demonstrates how projects are different now. The objective is no longer just to get something built – you also need to take into account a wide range of perspectives and potential impacts. If you were to take on the original Snowy Mountains Scheme today, the complexity would be much higher than when it first started. The biggest issue to deal with in the 1950s was how to get enough workers into the country and where to house them during construction. These days the concerns would revolve around the political and economic implications of importing a foreign labour force, the impact of relocating townships and the environmental impact on the habitat of the platypus. Seventy years ago the problem was one of scale; now much of the project complexity comes from all the different perspectives that need to be considered.

This change is happening all over the world. In the late 1990s Vietnam developed plans to build dams and hydroelectric power stations on the Dong Nai River to supply power to meet the country's growing energy needs. Despite significant opposition and the displacement of thousands of people, construction started on the Dai Ninh dam in 2001 and it was commissioned in 2008. This dam was part of a large series of dams for the river. Only five years later, however, in 2013, two further dams (6 and 6a) were cancelled due to environmental concerns and international pressure. Many of the arguments against the dams were the same as those for previous constructions that had proceeded, including 'changing hydrological dynamics, loss of riparian ecosystems, blocking of fish migration routes, loss of aquatic species and habitat, displacement of locals...', but this time the opposition was successful.[8, 9]

The next chapter defines the characteristics of a complex project, but for the moment just think of them as those projects that involve a lot of opinions and a lot of unknowns, and often unintended consequences – they can be business transformations, innovation programs or even large infrastructure projects with many connected parts. The boundary of what is in and out of scope can be unclear at the beginning, and even the definition of what deliverables are required can depend on how the project evolves.

Complex projects can face situations with distributed power that play havoc with your plan. For example, imagine a large bank has decided that to remain competitive they have to shift their business dramatically towards a greater use of online technology and fewer frontline bankers. The plan is to exit 2000 operational staff and hire 1000 IT people. Managers put their plan together and step into the process of making the change. Then all the staff react, deciding they won't support the change and announcing they will challenge it in court. What has your timeline become? Your nine-month plan to deliver all these changes just became

eighteen months or longer of drawn-out consultation. The timing now depends on how long it takes to reach an agreement.

The complexity of a project is driven by the context in which it operates, not the technical nature of the project. Having said that, technical projects can be complex. Constructing a bridge is an industrial undertaking, but the argument about how the increased traffic flow will affect the local community is one of the elements that can make it complex. Building submarines is technically complicated, using materials that are difficult to work with – systems and sensors that operate at the limit of our understanding of the physics of seawater – but the complexity is created by the fact that it is being built by a consortium of companies with different cultures and motivations. Working beyond the boundary of a single organisation adds complexity because it requires all participants to contribute as agreed and to operate in a way that is best for the entire project rather than just in their self-interest.

The reality is that the most valuable projects are dripping with complexity, either driven by unknowns or the increasing number of voices involved. How do you set a reliable budget for a genuine innovation that no one has attempted before? How do you create certainty when there are so many opinions involved? What do you do when a social media campaign stops your development project? How do you put together a reliable project plan with so many unknowns? You can make an educated guess, but the outcomes will always depend on what happens day to day.

Complex projects have dilemmas and difficult trade-offs at their cores. Is it better to exit 2000 staff and change the business, or keep those roles and potentially risk the livelihoods of the 10,000 that would remain? Is it better to flood a wilderness and a few villages to provide consistent, carbon-neutral hydroelectricity, or to build new coal-fired power plants in the face of climate change? These are the types of dilemmas that occur in complexity.

Ineffective responses

There is also a paradox that arises when you apply the standard project management toolkit to solve issues in complex projects – the situation doesn't respond to interventions the way you expect it to. The responses designed to bring everything back on track create the opposite results to what was intended:

- Demands for 'quick wins' lock in choices that have unpredictable impacts later in the project and reduce the value delivered.
- Focusing on getting one thing done well creates surprises elsewhere because everything is so interconnected.
- Diving into detail doesn't create clarity; instead it sows confusion and distrust as it highlights more and more unknowns.
- Being decisive slows down the project and wastes effort because choices are revisited as new information comes to light.

All of these reactions might be considered best practice, but they come at the situation with an ineffective mindset and don't address the heart of the complexity. Chapter 4 explains how the way of thinking that underpins the standard approach is fundamentally misaligned with the nature of complexity. This explains why complexity can leave experienced project managers feeling overwhelmed and out of their depth – not that they will tell anyone this. Complex projects are difficult, with tight deadlines and many unknowns, and you don't need to make them worse by turning up with the wrong mental model.

All of this leads to the question: if the normal project toolkit has such significant downsides, why are these actions repeated day after day? Because the normal approach works for projects that aren't complex. However, when you approach complexity in the standard way and try to create certainty where it doesn't exist, you exhaust the team and kill off any chance of a successful result.

It is worth improving

The ability to deliver complex projects is a valuable advantage. Low-growth environments and new business models are driving organisations to take on more complex projects, such as high-risk innovations or business transformations.

Generally, performance in complex projects is poor. Research by the Helmsman Institute has shown there is 'an exponential reduction in performance above a complexity threshold'.[10] So as project complexity increases, the chance of success falls.

But the problem is much broader than project failures. Sometimes the failures are large and obvious, making headline news and putting the viability of companies at risk, but the vast majority of breakdowns are not so sensational. It is common for projects to fall short of expectations (in a study by Brightline of companies with annual revenues of $1 billion or more, '90% of companies failed to meet strategic objectives because they don't implement well'[11]). It is also common for projects to take longer than hoped and ignore obvious problems – and then require heroic efforts by a few individuals to recover them. These valiant recoveries are common, hard to detect and rarely discussed. The impact on business results is more obvious and easier to measure than the impact on people.

Olivia, a very experienced program manager, was leading a workstream in a large business transformation. She was responsible for reporting to the program office and was required to submit updated project plans every month. The integrated nature of the transformation meant that her workstream was waiting for resolution of an industrial relations issue before moving to implementation. As long as this issue remained unresolved, her workstream was on hold, delaying any future delivery. Despite the recognition of this uncertainty, the program office required an updated plan every month based on current assumptions. She was expending effort redoing the project plan every few weeks,

knowing it was a waste of time because the dates weren't real and would need to be revised when broader issue was resolved.

Not only did this mean Olivia felt like she was wasting her time, she was left frustrated with the way the whole program operated and questioning why she was spending months running around in circles. The situation demoralised and demotivated her, and she wanted to get out.

It is not uncommon for complex projects to frustrate staff when the standard approach to projects is used. John was a long-time employee of an insurance firm involved in a transformation. He was passionate about making sure the change worked for the organisation he knew so well. However, when he highlighted issues with an approach or flaw in the design, he was dismissed as a naysayer and regarded as a roadblock. He found that in the push to stick to deadlines, his concerns were ignored, and he felt discarded. Instead of sitting back and waiting for his predictions to come true, taking satisfaction in being right, he demeaned and complained about the project to anyone who would listen. This negative energy made it worse for everyone involved.

Not listening to the voice of experience and pushing ahead with an approach that doesn't fit the situation are some of the symptoms of blindly applying the standard toolkit in a complex situation. This leaves teams exhausted and wounded, and leaders wondering what more they could've done.

Unfortunately, many people can recount stories of a horror project – the time they put in long hours and huge amounts of energy only to be left burnt out and frustrated by the stress and demands of the situation. It's not just workload that makes these projects difficult. Some of the best projects I've worked on involved long hours, late nights and tight deadlines, but they were creative and built something special. Most people don't mind working hard on a problem when they are clear on the purpose of their endeavours and their effort is respected.

A way forward

In his book *A Whole New Mind*, Daniel H. Pink describes the movement from the Agricultural Age (farmers) to the Industrial Age (factory workers), through the Information Age (knowledge workers) to the Conceptual Age (creators and empathisers). Project management grew up in the Industrial Age, has adjusted to meet the requirements of the Information Age and now faces the challenge of moving into the Conceptual Age, which 'involves the ability to empathise, to understand the subtleties of human interaction'.[12] This is where the standard toolkit comes up short. An extended project management approach that genuinely addresses complexity has to put this concept of 'human interaction' at its core.

A shift in performance is not going to come from simply adding a few extra steps to the plan or an additional workshop to 'get everyone on the same page'. The Complex Project Toolkit, presented in Part 2 of this book, brings forward a whole new system of mindsets, practices and skills for delivering in complexity which has been successful in complex projects. By using these techniques, teams have been able to completely redesign their project approach, build stronger connections, focus on the things that really matter and deliver the difficult outcomes. One project accelerated a major milestone by six months, along with the payment worth tens of millions of dollars, providing a significant cash injection to the business earlier than forecasted.

Over the years, project management has evolved to meet the different challenges that projects encounter. The issue we face now is that while the nature of projects is changing, the project management toolkit hasn't kept pace with this change. To find a way through, first we need to understand the nature of complexity. The next chapter lays out the five characteristics that define complexity, which will provide an insight into why a new toolkit is required.