PROJECTING THE FUTURE

A big conversation about the future of the project profession

#projectingthefuture

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ACKNOWLEDGEMENTS

FOREWORD

We are in the early days of the fourth industrial revolution, driven by artificial intelligence, big data and robots. Climate change and sustainability demand that we radically rethink how our economy works, while the revolution in human longevity is ripping up long-standing norms about how we live and work.

The project profession, meanwhile, is starting to outgrow its roots as a niche technical discipline to become – well, what exactly?

That is the central question posed by Projecting the Future, a big conversation about the future of the profession, led by the Association for Project Management (APM).

Becoming chartered in 2017 was a landmark moment, but we have to collectively keep growing. APM's recent report with PwC, *The Golden Thread*, showed that there are 2.13 million project professionals in the UK alone, delivering £156.5bn of annual Gross Value Added (GVA). Despite its evident importance, the profession's contribution is still often overlooked in strategic conversations about the future. In fact, we believe that project management has a real leadership role to play in today's economy – but its capacity for leading is too rarely recognised. We need to continually show our readiness to sit at the top table, with a grasp not only of our professional domain, but of the wider trends that are reshaping the operating environment. Projecting the Future is a conversation about the opportunities and challenges that we face – and, critically, about what they mean for how we build a profession fit for the future.

Projects are how change happens, so the project profession will be centre stage in shaping the future. But precisely what role will we play? In the context of a profoundly changed world, how do we truly thrive? If technology is ushering in the age of 'industry 4.0', how do we build 'project management 4.0'?

Answering those questions needs an outward-looking and far-reaching discussion. Projecting the Future aims to kick-start that process. It will be a big conversation, bringing together analysis and insight with online debate, conference sessions, events, and wide-ranging discussion across our networks.

We are immensely proud of the project profession's evolution to date – yet we believe we have the potential to be so much more. Over the coming months, we want to explore with you how to achieve that. We do not have all the answers, but hopefully we are at least asking the right questions.

We invite you to help shape the future of the project profession.

Tim Banfield
Chair, Projecting the Future Group

EXECUTIVE SUMMARY

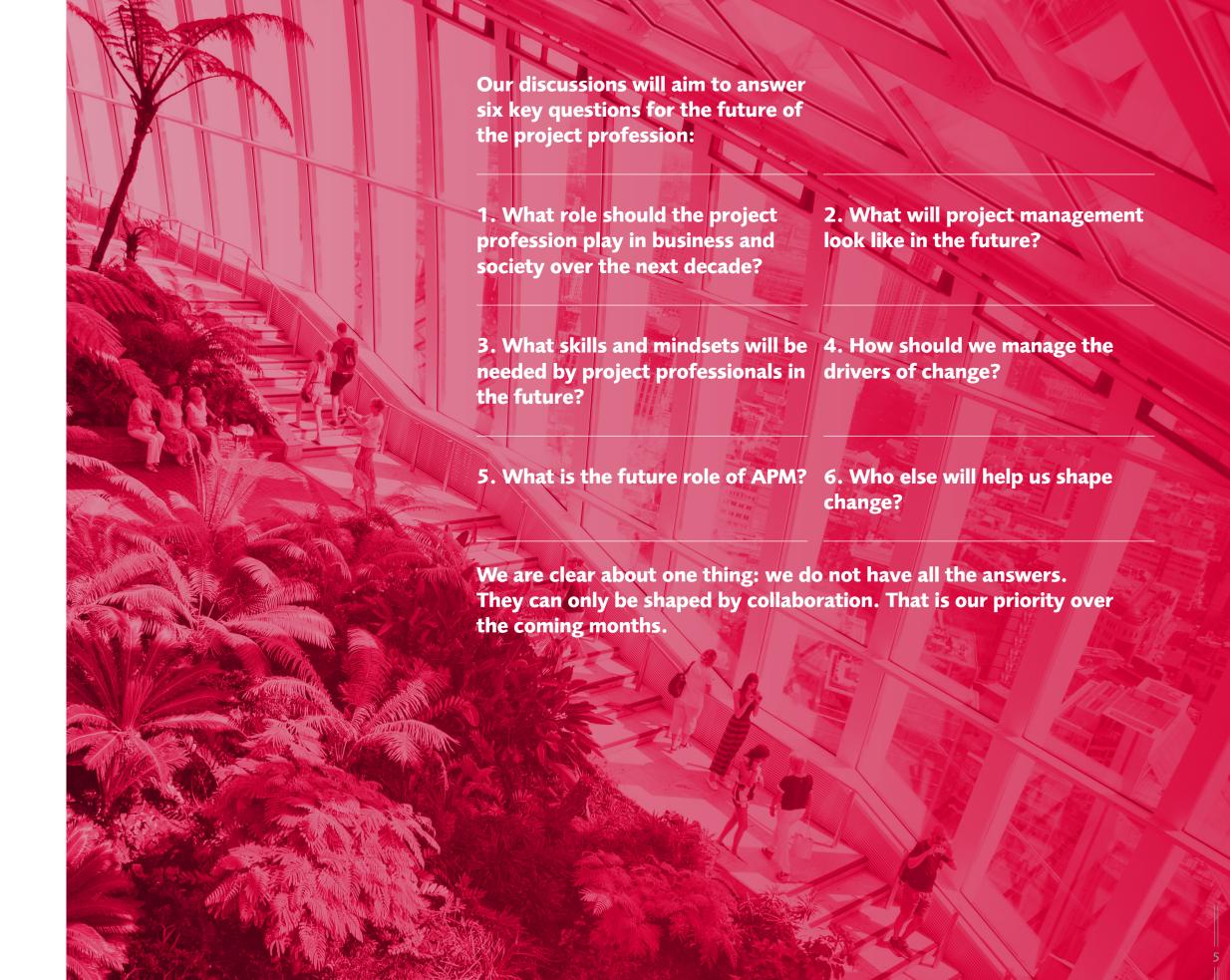### Where next for the project profession?

The world is changing rapidly – and so is the project profession. We want to make sure that the profession is fit to lead change across every sector of the economy, building on the incredible economic value it already creates today.

That means actively shaping how we evolve and grow. We want to develop a shared view of the project profession's future, fit for the challenges ahead, so it can:

- Lead transformative change – from digitalisation and the fourth industrial revolution, to the delivery of major public infrastructure;

- Build a smarter, better-rounded picture of how projects benefit business and society;

- Develop new and more effective models to measure the value delivered through projects;

- Take the next step in the path from our roots as a technical function, to fulfil our potential as a true leadership delivery profession.

Projecting the Future: starting a big conversation

Projecting the Future is a 'big conversation' being led by APM. We want it to be wide ranging and inclusive, so we will be holding discussions with professionals across the project world and with senior decision makers in business, public services, government, academia and beyond. We want to hear your views.

Our discussions will aim to answer six key questions for the future of the project profession:

1. What role should the project profession play in business and society over the next decade?

2. What will project management look like in the future?

3. What skills and mindsets will be needed by project professionals in the future?

4. How should we manage the drivers of change?

5. What is the future role of APM?

6. Who else will help us shape change?

We are clear about one thing: we do not have all the answers. They can only be shaped by collaboration. That is our priority over the coming months.

THE CHALLENGES WE FACE

The world is changing. How we live and how we work are set to be transformed in the years ahead. We face profound and complex challenges – and incredible opportunities.

The project profession will play a critical role in shaping the future, so to frame the conversation about *our* future, Projecting the Future will provide project professionals with short papers on six 'challenges'. They are areas of deep and rapid change: the world is already changing in each of these fields, and will keep changing over the next 5–10 years. These six challenges are the starting point for our conversation about the evolution of the project profession and how we can shape the future.
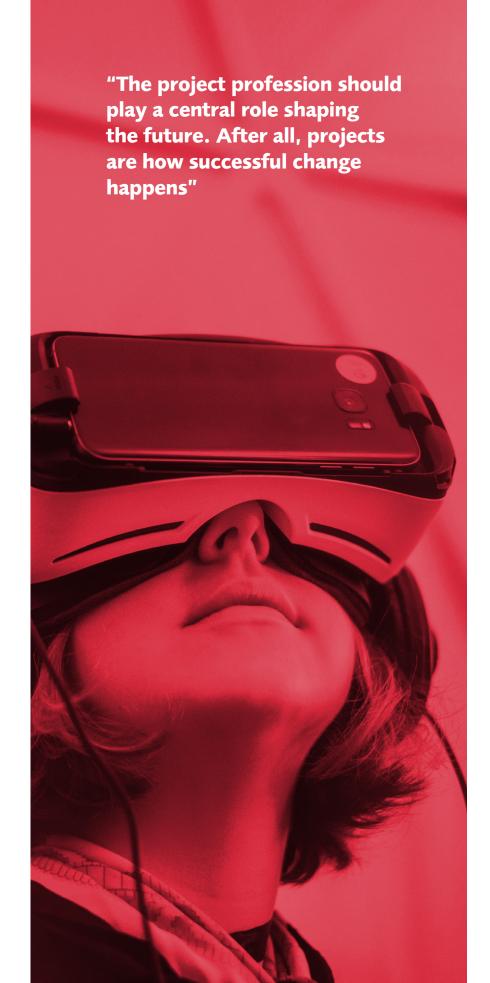
THE FOURTH INDUSTRIAL REVOLUTION: ROBOTICS, DATA AND ARTIFICIAL INTELLIGENCE

Up to 800 million jobs globally could be automated by 2030

CLIMATE CHANGE, CLEAN GROWTH AND SUSTAINABILITY

The UK aims to be a world leader in the green economy having adopted a target for net zero carbon emissions by 2050

FUTURE WORKPLACE, FUTURE SKILLS

Four out of five UK businesses need more high-level skills in the years ahead

DEMOGRAPHICS AND AGEING: THE 100-YEAR LIFE

10 million people alive in the UK today can expect to live to 100

THE FUTURE OF MOBILITY AND TRANSPORT

The UK market for autonomous and connected vehicles could be worth £52bn by 2035

URBANISATION, CONNECTIVITY AND BUILDING SMART CITIES

The world will have 43 megacities by 2030; global spending on smart cities could hit $135bn by 2021

"The project profession should play a central role shaping the future. After all, projects are how successful change happens"

IS THE PROJECT PROFESSION READY FOR THE FUTURE?

The project profession should play a critical role in shaping the future. How do we make sure we are ready?

We face unprecedentedly far-reaching and rapid change across society and the economy. From a fourth industrial revolution driven by big data, artificial intelligence and robotics, to the global challenge of climate change, to the probability that today's children will live beyond 100: the changes that lie ahead are transformative.

They will fundamentally reshape how we live and do business, with huge implications for commercial and public organisations alike.

The project profession should play a central role in shaping the future. After all, projects are how successful change happens: they are the way that businesses and governments deliver social, economic, business and environmental outcomes – so it will be in the form of projects, programmes and portfolios that change is delivered.

How do we prepare the project profession for this challenge?

This discussion paper is a starting point for a big conversation that will attempt to shape answers to that question.

It outlines some of the dimensions of change already affecting the profession – and looks at some of the ways the profession might need to change in order to thrive in the years ahead.

BUILDING THE PROJECT PROFESSION

The project profession has evolved substantially in recent years – and is well positioned to thrive in the decade ahead.

The start of 2017 marked a significant milestone in our shared history as the profession was recognised with the Royal Charter, acknowledging its critical economic contribution and unique role in business and society. That has laid the platform for new routes for individuals to achieve professional status, and in October 2018, 271 people made history as the first ever Chartered Project Professionals (ChPP). This vanguard included professionals from nearly 50 different sectors and world-leading organisations like Mott MacDonald, PA Consulting, Rolls Royce, Sellafield, BT, BAE Systems, Dyson, the Ministry of Defence, and NHS Digital.

Chartered status benefits project management as a whole. It helps raise the profession's profile and lays the groundwork for achieving parity of esteem with older, more established professions. Project management should not be a 'hidden' profession. Chartered status also helps establish the project profession with the leaders and sponsors of projects across the economy, among whom there is still too little understanding of the impact of good project management and the value it adds.
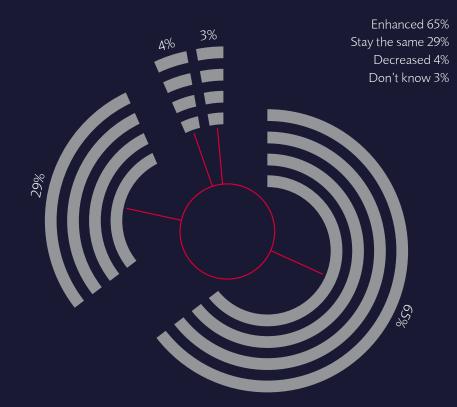
Individuals, employers and the public alike benefit from chartered. They can take confidence from the combination of technical knowledge, professional practice and ethical behaviour demonstrated by those successful in attaining ChPP status. It helps raise standards and employability, while addressing the growing demand for project professionals across the labour

market. That growth in demand reflects the importance of projects and their economic value. APM's 2019 report, *The Golden Thread*, presents analysis by PwC showing that – by conservative estimates – some 2.13 million people work in the project sector in the UK (full-time equivalent), generating around £156.5bn of annual Gross Value Added (GVA).

Optimistic and confident

Perhaps it is partly thanks to this recent trajectory that project professionals are overwhelmingly positive about the future of their profession.

A survey of 4,562 project professionals carried out by YouGov for APM's *Salary and Market Trends Survey 2019* found that 65 per cent of APM members expect project management's position to be enhanced over the next five years.

Of course, the project profession is deeply rooted in creating change. Perhaps for our profession more than any other, a changing world holds no fears. But one thing is without doubt: we cannot stand still. We must keep evolving to make sure the project profession is fit for the future – and able to deliver APM's vision of a world where all projects succeed.

VIEWS ON THE FUTURE OF THE PROFESSION

Enhanced 65%
Stay the same 29%
Decreased 4%
Don't know 3%

4%   3%

29%

65%

"Projects change the world. Projects make impossible dreams possible."

Antonio Nieto-Rodriguez, director of the programme management office at GlaxoSmithKline

THE PROJECTIFICATION OF WORK

Project management is increasingly in demand

For many organisations today, prospering in a world of continual change demands a shift away from simply managing 'business as usual', to the imperative of delivering change.

That change is delivered through projects, a trend that has been described as the 'projectification' of work. It touches professionals of all backgrounds, not only project specialists – but as the pace of change accelerates, we believe project professionals should be leading the way.

The impact of the project profession

APM's 2019 report *The Golden Thread* showed the economic value of the project sector. The contribution made by the project profession outweighs the estimated GVA of numerous other professions and sectors including marketing (£35.5bn), construction

(£113bn), and financial services (£115.3bn).[1]

In fact, the value of project-oriented economic activity around the world is set to grow: from US$12tn in 2013, to a forecast $20tn in 2027. The number of individuals working in project-based roles is set to increase from 66m in 2017 to 88m by 2027, according to research in 2017 – yet talent shortages could create risks of over $200bn over the decade.[2]

Projects for all

The projectification of work means that projects are no longer solely the domain of specialist technical experts: business professionals of all hues are spending more of their time on projects. In his 2019 book *The Project Revolution*, Antonio Nieto-Rodriguez, director of the programme management office at GlaxoSmithKline, predicts that senior business leaders will typically spend 60 per cent of their time on projects by 2025.[3]

Are projects under-performing?

While the project profession clearly adds significant value to the economy in the UK and around the world, there is also a significant body of evidence pointing to the ongoing need for greater professionalism to improve project performance. A McKinsey study of 5,000 business projects found that 56 per cent delivered less value than expected; 45 per cent were over budget; 17 per cent went so badly that they threatened the company's survival.[4] A PwC study of 11,000 projects undertaken by 2,000 companies found that only 2.5 per cent of companies successfully completed all their projects.[5] The Harvard Business Review published a study in 2011 suggesting that 27 per cent of IT projects overrun; more than a quarter had cost overruns of 200 per cent.[6] And IT consultancy 6point6 has calculated that UK business could be losing £37bn a year through failed IT projects.[7]
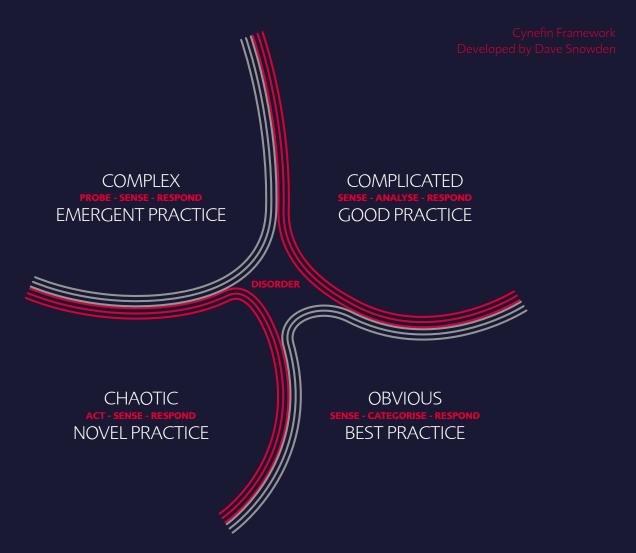
[1]APM (2019). *The Golden Thread: A study of the contribution of project management and projects to the UK's economy and society*
[2]PMI (2017). *Project Management Job Growth and Talent Gap Report 2017-2027*
[3]Nieto-Rodriguez, A (2019). *The Project Revolution*. LID Publishing

[4]Bloch, M, Blumberg, S & Laartz, J (2012). Delivering large-scale IT projects on time, on budget, and on value. *McKinsey Quarterly*, 27:2-7
[5]Nieto-Rodriguez, A & Evrard, D (2004). *Business Performance through Programme and Project Management*. PricewaterhouseCoopers

[6]Flyvberg, B & Budzier, A (2011). Why Your IT Project May Be Riskier Than You Think. *Harvard Business Review*, September 2011
[7]Porter, C (2017). *An Agile Agenda: How CIOs Can Navigate The Post-Agile Era*. 6point6.

Cynefin Framework
Developed by Dave Snowden

COMPLEX
PROBE - SENSE - RESPOND
EMERGENT PRACTICE

COMPLICATED
SENSE - ANALYSE - RESPOND
GOOD PRACTICE

DISORDER

CHAOTIC
ACT - SENSE - RESPOND
NOVEL PRACTICE

OBVIOUS
SENSE - CATEGORISE - RESPOND
BEST PRACTICE

UNCERTAIN ENVIRONMENTS

The landscape today is increasingly defined by two vitally important features. The first is widespread uncertainty, flux, and a sense that change is happening faster and faster.

That means the landscape for delivering projects is changing. In the business jargon, the world is VUCA: volatile, uncertain, complex and ambiguous. Anything else is the exception.

One tool that helps is with understanding this changed world is the Cynefin framework, developed by Dave

Snowden. It distinguishes between five contexts, or domains – Obvious, Complicated, Complex, Chaotic and Disorder – each of which is typically best handled with a different approach. Obvious situations, for instance, should be 'sensed' and categorised, before best practice solutions are implemented.

Of course, the scenarios that face project professionals are often not in the Obvious category. When we are working to deliver transformation, we are much more often working in Complex and even Chaotic situations. We may need to 'probe' deeper before we can respond.

Or we may be best advised to act first, sensing the impact of that action. As a profession, we need to be comfortable with using emergent and novel practice, not relying on established best practice: the future will demand that we develop creative, innovative solutions to new problems as they arise.

Our ways of working have to be geared towards success in challenging and dynamic environments, not simply towards executing a body of established best practice.

THE TRANSFORMATION AGENDA

The second critical change re-shaping the landscape is the increasingly common demand that projects deliver transformation.

A much-used term, transformation means different things in different organisations and sectors – from business change and the implementation of digital strategies, to public service reform and flagship infrastructure projects. Despite the differences, they are united by a sense of scale and ambition – and the inherent challenges that implies.

In general terms, business transformation is about improving the alignment of an organisation's resources with its strategy and vision. It may be internally focused, on operational processes, or focused on the provision of new products and services; it is also often commonly the result of mergers and acquisitions, creating new

organisations. Projects are to be found at the heart of all these transformations and they can be deeply varied, taking in organisational design, culture change, product and service innovation, and more. It would be rare, today, for digital technology not to be a significant component, if not the main focus.

Digital is also at the centre of what government means by transformation. The UK government's *Transformation Strategy 2017–2020* focuses on the power of digital technology to transform the relationship between citizen and state: the digitisation of HM Revenue and Customs is one of the most high-profile examples.

More widely, major infrastructure investment like HS2, Heathrow expansion, and 5G mobile roll out could also be considered as transformation projects. In the UK, the next ten years are forecast to see some £600bn of

public and private investment in UK infrastructure, with nearly 700 projects currently in the pipeline.[8]

Yet large and complex 'megaprojects' are fraught with risk. Bent Flyvbjerg of Oxford's Saïd Business School has said that nine out of ten megaprojects experience cost and time over runs: not only are they technically complex, but they are subject to intense political pressures which can influence decision-making at every stage of work.[9] Improving the success rate of megaprojects may be pivotal to future economic growth around the planet: McKinsey estimates that the world needs to spend around US$3.7trn a year on infrastructure to enable anticipated levels of GDP growth to 2035.[10]

Our ambition is growing. So too must the project profession's capacity to deliver.

[8]Infrastructure and Projects Authority (2018). *Analysis of the National Infrastructure and Construction Pipeline.*

[9]Flyvbjerg, B (2014). What You Should Know about Megaprojects and Why: An Overview. *Project Management Journal*, vol. 45, no. 2.
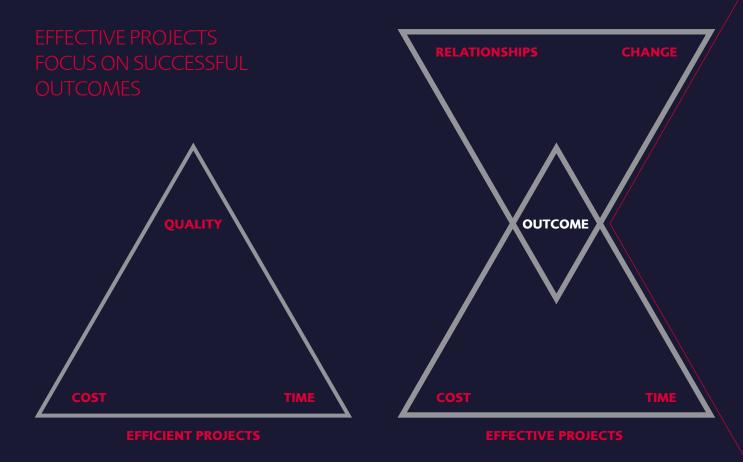
[10]Woetzel, J, Garemo, N, Mischke, J, Kamra, P, & Palter, R (2017). *Bridging Infrastructure Gaps: has the world made progress?* McKinsey Global Institute.
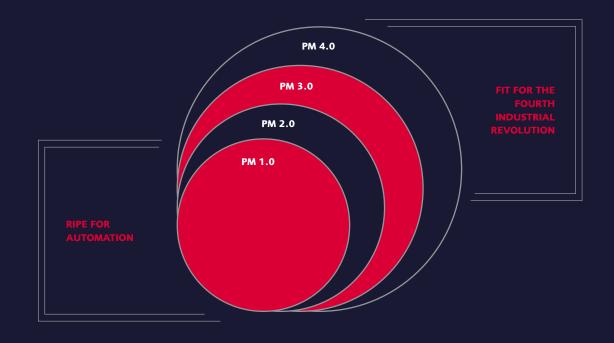
BEYOND THE TRIANGLE: EFFICIENCY AND EFFECTIVENESS

If project management is to be tasked with delivering transformation, then we have to think again about how we judge the success of projects and measure their benefits.

Doing that might mean rethinking one of the touchstones of project management: the project triangle.

The foundation of much of project management thinking, the triangle encapsulates the traditional idea that projects are primarily about the efficient delivery of defined outcomes. It is of course commonly known as the 'iron' triangle – a name that points to its robustness, but perhaps also to a certain inflexibility.

We have to ask, in today's world: is efficiency sufficient?

An alternative might be to shift our thinking to focus on effectiveness in delivering outcomes. That could mean better recognising the value of stakeholder relationships and how they can be improved by successful projects. The transformation agenda demands that we acknowledge the importance of change as well and reflect it in measuring the success of projects.

PM 4.0

PM 3.0

PM 2.0

PM 1.0

FIT FOR THE FOURTH INDUSTRIAL REVOLUTION

RIPE FOR AUTOMATION

EFFECTIVE PROJECTS FOCUS ON SUCCESSFUL OUTCOMES

QUALITY

COST   TIME

EFFICIENT PROJECTS

RELATIONSHIPS   CHANGE

OUTCOME

COST   TIME

EFFECTIVE PROJECTS

THE EVOLUTION OF THE PROFESSION

The project profession continues to grow and evolve. It has done so ever since its emergence – and will continue to do so in the years ahead.

Before project management, work was organised relatively haphazardly: without the benefits of established ways of managing projects, Isambard Kingdom Brunel's works of undoubted engineering genius tended to be delivered slowly and at enormous cost.

The advent of computers led to the emergence of standard methods for organising work, including PERT and Gantt charts, and the principles of scheduling and planning projects. This field became known as project management – what we have labelled PM 1.0.

PM 2.0 developed over time as additional models were created, like the iron triangle, along with methods that supplement project planning and development, including risk management. An appreciation of human aspects was added too, like Tuckman's model for team performance ('forming, norming, storming, performing'), or Belbin team roles. But the focus remained relatively narrow, 'in the box' in the sense of having a tight focus on defined projects and project teams.

More recently, what we might call PM 3.0 has been shaped by the realisation that the project profession needs to go outside that box to succeed: for example, integrating stakeholder management and engagement from the start in order to shape outcomes. We have seen a shift to the 'management

of projects' in terms of programme and portfolio management, and to benefits management, supported by 'soft' skills – building on, and going beyond, the technical abilities demanded by the earlier iterations of project management.

PM 4.0 – which also coincides with the fourth industrial revolution or 'industry 4.0' – represents the profession of the future. It is an evolution of what has come before, and it is already emerging in the changes we see in the profession today. Our aim in Projecting the Future is to develop a better understand of those emerging trends – and how, as a profession, we can take control of our future.

IMPLICATIONS FOR HOW WE WORK

The implications of these major changes are profound. They will touch every part of the project life cycle – and could mean that project professionals will need different skills, different mindsets, and new ways of working. What might the future look like?

Many of the elements are already starting to become visible. It is likely that set-up phases will increasingly resist the traditional demand for detailed solutions: those will emerge through experimentation, testing and iterative learning. Instead, the focus at set-up will be on developing a clear and shared vision of outcomes and benefits.

The type of leadership needed would shift away from mobilising a defined network or workforce, to focus on building the contributions made by looser networks that are joined by

shared aspirations for the project. Likewise, the task of managing stakeholders would shift from one of building engagement around a fully developed plan, to become a continual process that starts at the very beginning of the project, helping develop the 'what and why' of the project itself.

In this new model, budgets and plans would have to allow for more experimentation and iteration. Commercial strategy would shift away from big-bang procurement to a more incremental and perhaps collaborative approach. Risk management would expand from the traditional focus on detailed and structured risk registers and mitigation plans, to include a focus on the big issues that will endure across a project's lifespan.

These requirements would doubtless change the role of project professionals and make their work more demanding.

Technical skills and programme management capability would – while still important – be increasingly superseded by broad skillsets that include transformational leadership, organisation design, digital leadership, communications, tailored governance and review skills. Rapid advances in digital technology of course are also likely to see the automation of some of the basics of project management. And, as the projectification of work continues, there will be a huge need for project professionals to collaborate with – and provide leadership to – colleagues from diverse professional backgrounds.

The implications of change for the profession – for the work we do, and for how we develop the skills and mindset to thrive – will be at the heart of the conversation throughout Projecting the Future.

LEADING CHANGE

The changes that are underway all around us, and those that lie ahead, may seem daunting – yet there are good reasons to be optimistic and confident about the project profession's future.

This should be a moment when the value of great project management is seen more clearly than ever. Planning for
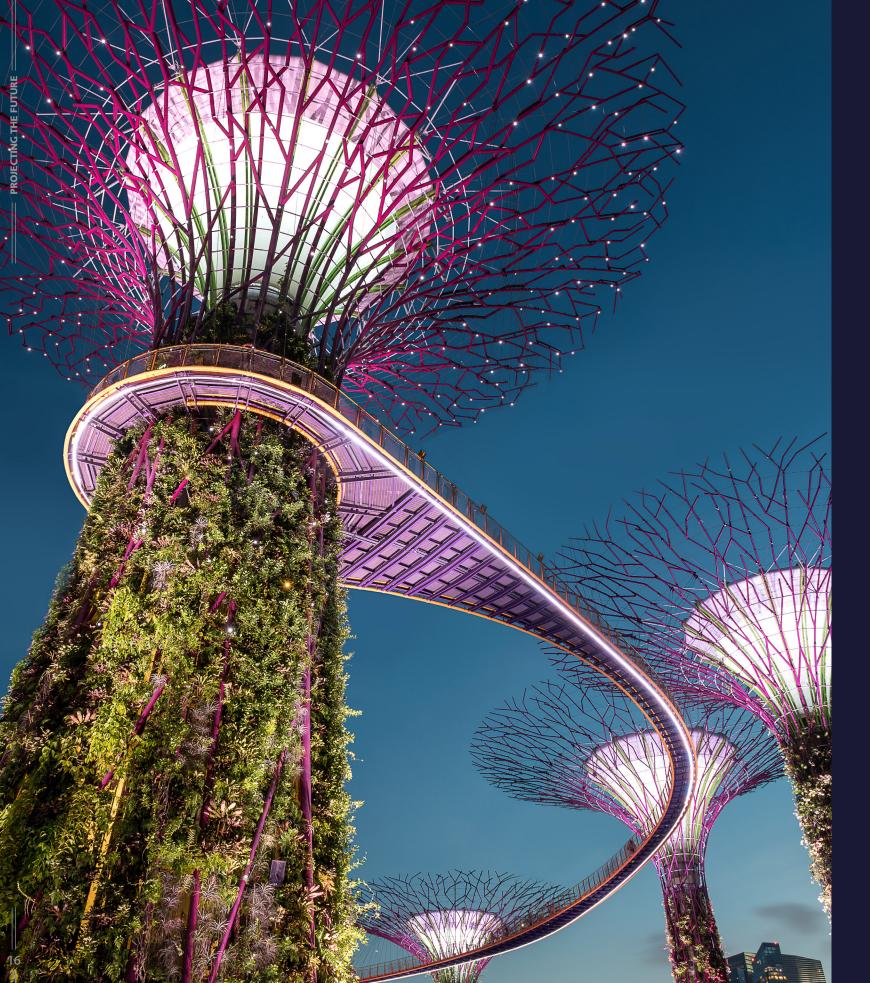
the long term; adapting to complex and changing environments; delivering great results in challenging circumstances: these traits are at the heart of the project profession. They will be in huge demand from organisations of all types in the years ahead.

But there is no room for complacency. The world is changing quickly and the

project profession has to move equally fast to actively shape its future.

Despite the value it creates, the project profession is still too often seen as 'just' a technical profession. Now is the time to start shaking off that perception and to take the next step towards being recognised as a true leadership delivery profession.

SIX KEY QUESTIONS FOR THE FUTURE OF THE PROFESSION

Throughout Projecting the Future, we want to explore the questions that matter about the future of the project profession.

We want to hear your views – from your thoughts on project management's place in a changing world, to your ideas about how APM can best support the profession's evolution. And if we have missed a critical question that you think needs to be answered, we want to hear that too.

1. What role should the project profession play in business and society over the next decade?

- How does the project profession step up from being a technical management profession to a 'leadership and delivery' profession?
- How does it change perceptions to earn a 'seat at the top table' to shape strategy?
- How will we know if we've succeeded? Should we aspire for growing numbers of project professionals to be seen in C-suite executive roles?
- Do project professionals need to learn a wider set of business skills?

2. What will project management look like in the future?

- What will project management in the fourth industrial revolution – 'PM 4.0' – look like?
- How will project professionals be required to work over the next five to ten years?
- What outcomes will they be tasked with delivering?
- How will this differ from requirements today?
- How can the profession proactively shape its future?

3. What skills and mindsets will be needed by project professionals in the future?

- What skills will project professionals need to succeed in the world of PM 4.0?
- How can we develop these skills to a) create a pipeline of new talent and b) support lifelong learning?
- How can we grow a culture of professionalism and increase uptake of chartered status? Is chartered a metric for growth of the profession itself?
- What are the responsibilities of employers, professional bodies and government?

4. How should we manage the drivers of change?

- What are the factors driving change in the profession and leading it towards PM 4.0?
- Are they the challenges identified in Projecting the Future, or are there other important drivers of change?
- How are sponsor, customer or client expectations of the project profession changing?
- How can project professionals best develop their understanding of the drivers of change?

5. What is the future role of APM?

- How can APM support individual professionals to learn and develop throughout their careers?
- How can APM support the wider professional community including employers in the transforming world ahead?
- How can APM best encourage the growth of chartered and a wider culture of professionalism?
- How can we make sure that professional standards and knowledge remain relevant and meet changing requirements and expectations?

6. Who else will help us shape change?

- Who will be involved in shaping the profession of the future?
- As a profession, who should we be engaging with?
- What opportunities and risks does the project profession need to consider in connection to the future influence of each group?

A BIG CONVERSATION: HOW WILL PROJECTING THE FUTURE WORK?

Over the course of Projecting the Future, APM will publish short papers on the six challenges we have outlined.

Each one will be the starting point for a conversation about the implications for the profession. At every stage, we want to hear your views and evidence about how the world is changing and how the profession should evolve.

In the second phase of Projecting the Future from autumn 2019, we will be homing in on the big questions for the project profession. We will start with first principles – what should be the fundamental role of the profession in business and society over the next decade? – and move through to more detailed discussion about issues like how we can best develop the professionals of the future.

Throughout the campaign, we will be looking for case studies that showcase the innovative examples of change already emerging across the project profession. If you can share examples from your work, do get in touch – we will select the best ones to share across the profession.

What will be the outcomes of Projecting the Future?

Projecting the Future will shape how APM thinks about the project profession's development in the years ahead. What that means in practice will only emerge through the discussions that lie ahead. The outcomes will be co-created, the results of the work done by everyone who contributes to Projecting the Future.

We look forward to shaping the future with you.

JOIN THE CONVERSATION

Visit the APM website to find all the latest content and to share your views on the topics raised throughout Projecting the Future.

apm.org.uk/projectingthefuture

Watch out for details of events, webinars and conferences featuring Projecting the Future in the months ahead.

Follow APM social media channels and join the discussion online with fellow professionals.

in y **#projectingthefuture**

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