

# Grand Challenges and Disruptive Technologies in Major Programmes

APM Fellows' Forum



# Foreword

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It can be easy to feel rather overwhelmed by the ever-lengthening 'to-do' list of grand societal and economic challenges, all of which are important – none insignificant. However, as a community of project professionals, this really is our time because, being blunt: If not us, then who? The danger is that, in our tendency to roll up our sleeves and get stuck in, we risk being swamped by the enormity of the task. It is at times like this that carving out time to step back to think, reflect, and plan really pays off.

The Saïd Business School has a long and meaningful connection with the project profession and has been a home of research, teaching, and engagement within the world of practice for at least the past 40 years. It was therefore particularly wonderful for APM Fellows and Oxford colleagues to embrace the opportunity to come together for the APM Fellows' Forum and share perspectives. Doing so is very much in keeping with the culture, traditions and daily life of the University of Oxford, which is set up to encourage interaction across disciplines as in these overlaps many a good idea is spawned. This mirrors, in many ways, what I experience across APM and its volunteer communities; the eternal generosity of people in sharing ideas and respect for the experience of others.

Together we are always stronger.



# Introduction

“The pace of change has never been this fast, yet it will never be this slow again.”

Justin Trudeau

We are witnessing advancements in disruptive technologies such as artificial intelligence (AI) on an almost daily basis. Climate change is forcing the race to net zero to accelerate. And the world’s most fundamental institutions — from retail to banking and public services — are in the midst of revolutionary reforms.

Change can be daunting, but the art of project, programme and portfolio management is in finding the opportunities within change.

As the chartered membership organisation for the project profession, Association for Project Management (APM) is committed to understanding the current and future landscape for the projects and programmes that will shape the world economically and socially.

The recent APM Fellows’ Forum brought together some of the project profession’s most distinguished and experienced practitioners at Saïd Business School, University of Oxford, to discuss the challenges facing the profession — specifically major projects and programmes. Crucially, the conversation also focused on solutions that will benefit the people delivering these projects, as well as the end-users. The main points of this discussion are summarised in this report. The Forum was based around two panel discussions, which focused on:

- major programmes and disruptive technologies
- major programmes and grand challenges.

## About APM

APM is a professional membership organisation that sets the standards for the project profession and raises its profile. APM is the only chartered organisation representing the project profession in the world. As a registered charity, APM delivers learning and networking opportunities, qualifications, research, resources, events, and best practice guidance for the project community, helping the profession deliver better.

## APM Fellowship

APM Fellowship recognises those who have made a significant contribution to the profession as a practitioner, teacher or researcher.

In addition to the annual Fellows’ Forums, benefits include preferential rates on APM qualifications, publications and conferences, and the use of post-nominals FAPM to signify status.

[Discover more about APM Fellowship](#)

## Saïd Business School Major Programmes Area

Saïd Business School is a home to global experts in major programme management. For four decades our world class faculty have been researching and teaching the leaders of our most complex grandest challenges that entail planning and delivering major programmes and projects. Our faculty produce cutting-edge research in the domains of major programme and project leadership, risk, systems thinking and complexity, cost evaluation, equity and benefits realisation, as well as change and collective action, to name only a few. Our research is translated into practice through two flagship programmes.

The Major Project Leadership Academy (MPLA), commissioned in 2012 by the UK’s Infrastructure and Projects Authority, was the first government major project leadership programme in the world. Described by the National Audit Office as ‘well-established and respected’ in its 2020 Report on Specialist Skills in the Civil Service, MPLA remains the flagship project leadership programme for the UK government. To date, over a thousand major project leaders from across the UK public sector have undertaken this prestigious programme, and we continue in close partnership with the government to support the project delivery profession in Whitehall and nationally.

Oxford’s MSc in Major Programme Management (MPPM), founded in 2009, is the world’s leading master’s degree and attracts the most elite and experienced major programme managers. To date, MPPM has over 550 graduates from a diverse range of backgrounds, industries, and countries who deliver many of our world’s leading major programmes amidst complex stakeholder, risk, and impact challenges.

### Fellows’ Forum panel members and moderators

**Daniel Erian Armanios**  
BT Professor and Chair of Major Programme Management, Saïd Business School, University of Oxford

**Nick Smallwood**,  
Chief Executive of the Infrastructure and Projects Authority (IPA)

**Agni Orfanoudaki**,  
Associate Professor of Operations Management at Saïd Business School, University of Oxford

**Tim Banfield**,  
Director of Banfield Advisory Limited

**Adam Boddison OBE**,  
Chief Executive of Association for Project Management (APM)

**Jaspal Kaur-Griffin**,  
Head of Programmes for the Bar Standards Board

**Akshay Mangla**,  
Associate Professor of International Business at Saïd Business School, University of Oxford

**Harvey Maylor**,  
Senior Fellow in Management Practice and Associate Professor at Saïd Business School, University of Oxford

# Major programmes and disruptive technologies

## The impacts of AI on the project profession <sup>1</sup>

APM has conducted a poll of project professionals in the UK to ask about the impact of artificial intelligence (AI) on their roles. The survey found the following:

- 35% of project professionals in the UK say their organisation is already using AI within projects. A further 47% say their organisation is planning to introduce AI into projects.
- 85% of project professionals who already use AI say it has led to a change in their role. The most common changes are:
  - the introduction of ai has required recruiting people with specialist skills into a team/organisation
  - it has given survey respondents more free time to concentrate on other priorities
  - it has necessitated training/upskilling for respondents
  - it has enabled respondents to produce more consistent and/or timely reports
- 74% of all respondents believe AI will have a positive impact on their sector.

The theme of AI and its impacts was one of the topics discussed at the APM Fellows' Forum. During the discussion, it was stated that only 35% of major projects are successful (where 'successful' is defined as less than 25% over budget and/or over deadline). The panel discussed how emerging technologies can – and are – enabling more effective approaches to project management.

Furthermore, it was acknowledged that certain aspects of common practice need to evolve, including the profession's ability to focus on long-term goals, and the way it defines success.

Elaborating on this figure, Tim Banfield commented: "Of that 35%, how many achieved the outcome they wanted to?"

"The tools we have at our disposal now are enabling us to focus on outcomes. The limitation up until now has been that our minds can't keep all the information together and compute it all. We now have tools that are doing that for us. That can really change the world for the better."

Agni Orfanoudaki added: "I do think the primary area where we will see change happen is in AI and optimisation.

"The human mind is quite myopic. We tend to focus only on the immediate next milestone. But if you look at projects that fail, it's often only a small miss that can have a major impact later down the line.

"AI will help project and programme professionals deduce not only what will happen in the next step [of a project] but two, three, four or five steps ahead.

"If we realise what changes we need to make today, we will be able to focus much more on long-term goals, rather than short-term objectives."

<sup>1</sup>Source: APM survey of 900 UK-based project and programme professionals, conducted by research company Censuswide, June 2023. All figures rounded to the nearest 1%.





## Questions and challenges from the audience

While the panel expressed positivity for the potential of AI to drive positive change, it was also questioned on how established professionals can adapt to and incorporate new technologies.

Comments and questions from the audience on this point included:

- “When I was a student, none of this existed. A lot of things have changed, and I don’t understand all of it. We have a lot of senior people who are babies when it comes to this new technology. How do we upskill those people?”
- “As long as sponsors and leaders are still working on PowerPoint, nothing much will change.”
- “Having captured data, it’s a real challenge to get people to decide what the definitive source of truth is and, hence, who owns it.”

Responding to these points, the panel highlighted that project data analytics – the use of past and current project data to enable effective decisions on project delivery – must become a more fundamental part of a project professional’s skillset.

Nick Smallwood commented: “I don’t disagree with any of those comments and there is definitely more that the senior leadership in our profession could do to understand data. The number of universities teaching AI is growing, which is great, but we do have challenges around data. We therefore have a long way to go to get to a world where we can exploit the technology and the data we have.”

Tim Banfield added: “We’ve got a completely new capability here which we need to grow. The emphasis on the benchmarking and on everyone having access to that will be very important.

“On the sponsor and leadership point, sponsors are not incentivised at the moment to behave in the right ways when it comes to technology and data. We absolutely need to upskill, but it won’t work unless we change the environment. It therefore really is quite radical change that we’re talking about.”

## Final takeaways

- Project teams should establish ‘horizon scanning’ as a function, whereby teams actively look at emerging technologies and how they can realistically be applied to individual projects, within the PMO, or at an organisational level.
- The use of data is becoming increasingly vital to the art, science, theory and practice of project management. P3M professionals must improve their ability to understand and use data. While they don’t need to become data analysts, they do need to be data literate.
- Data management is applicable not only within an organisation but also across the entire supply chain. Project professionals must consider how they manage relationships with suppliers as well as sponsors.

# Major programmes and grand challenges

## Social benefits of projects

The power of projects is in their ability to drive change that improves people's lives. But the profession itself must face challenges and seize opportunities to meet society's needs.

The conversation opened with a point about global expenditure, which underpins the importance of effective delivery that drives positive change. The most recent data from the International Monetary Fund shows that government expenditure accounts for an average of 31.5% of GDP among all nations<sup>2</sup>.

Harvey Maylor elaborated: "Grand challenges is about how the world could change if it decides to do so. If you're going to achieve change, you have to actually be able to deliver."

Harvey added that only 0.5% of projects achieve their desired change.

"That means one of two things," he explained:

- "As a profession, we're not actually very good at delivering.
- "Or, if you look at the other side of this, there is an argument that the measures aren't correct and the iron triangle condemns us to fail because we do see great delivery with some projects.

"As project leaders, we need to look at what we're working on and ask ourselves, 'what good could it do?' It's not enough to ask, 'is it in the business case?'"

The issue of projects as drivers of social benefits is explored in APM's Future Lives and Landscapes campaign, which looks at the opportunities and challenges for our profession when it comes to delivering the projects, programmes and portfolios that will improve people's lives. A challenge was issued to attendees at the Fellows' Forum to do more to incorporate social benefit into projects they're involved with.

Jaspal Kaur-Griffin shared her views, stating: "Does that triangle have to be made of iron? Can we use a more malleable material?"

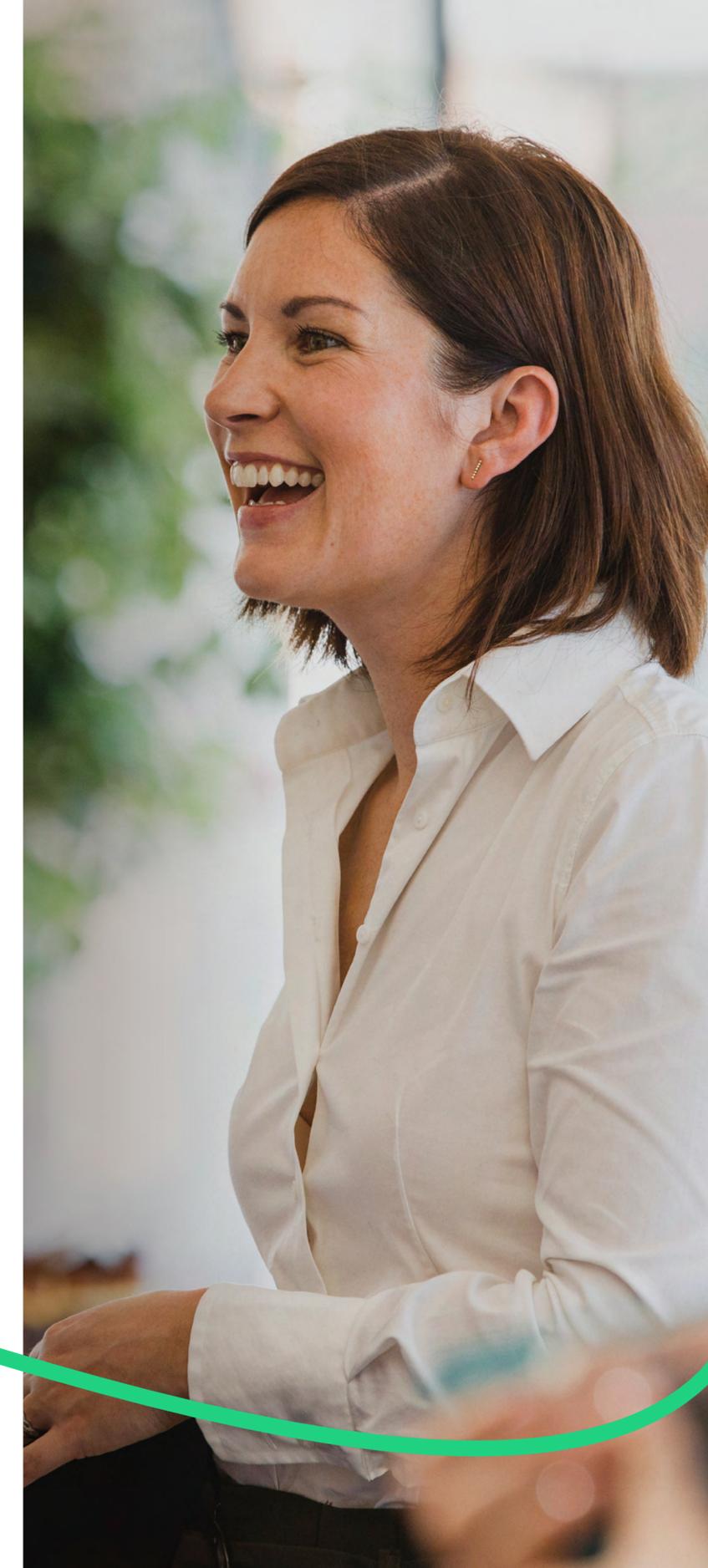
"Is it worth sacrificing quality just to be able to deliver on time? And why must we define all the benefits we want to achieve right at the start?"

Harvey Maylor shared his views, commenting: "We have to do better. But how do we build better into major projects? First of all, your performance shouldn't be measured on how close you are to your plan. It's only recently that we're seeing people talk about benefits realisation. And almost no one is talking about legacy."

"If you look at our host city, Oxford, it's a wonderful place to contemplate legacy. Most people who founded the city's colleges didn't see them completed. That needs to be our thinking. What will be our legacy?"

"Secondly, we must accept there is no such thing as the perfect, no-harm programme. If we do anything, we will have challenges. We must therefore determine to whom are we going to do bad, as well as to whom we're going to do good. Someone's new road is someone else's divided community. Someone's new railway is someone else's destroyed nature reserve."

<sup>2</sup> <https://www.imf.org/external/datamapper/exp@FPP/USA/FRA/JPN/GBR/SWE/ESP/ITA/ZAF/IND>



## Questions and challenges from the audience

During the discussion, an audience member posed this question:

- “For major programmes that may span decades, there can be tension between the iron triangle and long-term benefits; especially when there’s organisational pressure to quantify what those long-term benefits will look like. Are long-term benefits realistic?”

Responding to these points, Jaspal Kaur-Griffin said: “We must start thinking about social benefits. What are the equality, diversity and inclusion benefits of a project, for example? Trying to work that into a business case is a challenge. But ultimately, if we can do that, it will get us to a place where all stakeholders know what we’re trying to achieve and there is shared consensus.”

Akshay Mangla added: “With business cases, there’s a tendency to focus on measures that will be meaningful to leaders but less meaningful to the people who are actually tasked with delivering the project and enabling the proposed benefits. I don’t want to disparage business cases because there is value in having them. But one has to be careful about how actors are incentivised.”

## Climate change and net zero

The climate crisis raises important considerations for the project profession. Whereas projects historically aimed to build better, thought must now be given to how to build ‘greener’.

In light of the large carbon footprints often produced by major projects and programmes, the panel discussed renewable energy, carbon caps and other proposed means of reducing climate impact.

On climate caps, Harvey Maylor said: “They can become counterproductive. Wherever you have complex systems, when you put in place a barrier, someone will work around it in a way that’s to the detriment of the intended goal.”

“I would like to see a much bigger system of cooperation and coordination between countries. We need a far more systemic view of how the work we’re doing fits into the bigger system of global benefit. There’s no point in just having random acts of legislation.”

On renewables, the panel discussed the need to clarify the direct impact of climate change on people delivering projects to catalyse a change in mindset across teams that will ultimately drive a greater appetite for the use of renewables.

Jaspal Kaur-Griffin said: “Glaciers are melting and coral reefs are dying, but there’s a sense that it doesn’t affect many of us on a project delivery basis. “Until the world runs out of coal, we’re not going to start talking seriously about renewables. “It’s important to stop working in silos. As project professionals, we’re in a perfect position to bring together the technology team, finance team and others to drive the conversations that need to be had.”





## Equality, diversity and inclusion

APM research has identified diversity as a fundamental condition for project success. Equality, diversity and inclusion (EDI) creates an empowered workforce that is able to take advantage of different ways of thinking.

The discussion also gave rise to the point that EDI is worthwhile for its own sake, as Akshay Mangla explained: “Diversity is a good thing in and of itself, so we need to avoid falling into that trap of having to justify EDI from a business perspective.”

“Senior leaders need to absolutely commit to inclusion. Change can’t happen without senior leadership, but in terms of day-to-day processes, that requires support at different levels. Establishing trust is really important.”

Expanding on the role of leadership on EDI issues, Jaspal Kaur-Griffin said: “Senior leaders at the top need to be the drivers of change. Leaders have realised that they need to have diverse ways of thinking around them, as well as all the other types of diversity.”

“EDI can be quite scary as a topic. We need to have a safe space where we can talk about it openly and not worry about being judged. It isn’t just about creating safe spaces, but that is a starting point.”

## Final takeaways

- Consider how a project’s success will be measured. In particular, try to incorporate benefits realisation as a measure of success. This should include short-term benefits if applicable, but also a long-term legacy.
- Incorporate social benefits (impact on well-being, social equality or living standards) into the business case for a project or programme.
  - For benefits that are difficult to quantify, include indicators or means of demonstrating that the processes are in place that will deliver and recognise these benefits over time.
- Project teams have a strategically important position within organisations when it comes to driving change. This can be leveraged by bringing other teams together to define problems and mutual goals jointly.
- Any processes that support change must be driven from the top, with commitment from senior leaders. But everyone involved must understand their role in the process. Leaders must ‘walk the talk’ by demonstrating the change they’re calling for. This will build trust throughout the organisation.



**We are the only chartered membership  
organisation for the project profession**

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