



**THE CHARTERED BODY FOR THE PROJECT PROFESSION**

# DYNAMIC CONDITIONS FOR PROJECT SUCCESS

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This research is part of our commissioned studies which seek to address emergent themes, knowledge gaps and to answer some of the big questions for the project profession. For more information, please visit [apm.org.uk/research](https://apm.org.uk/research)

APM and the Universities of Sussex and Southampton are grateful for the contribution of the steering group who provided valuable inputs and assisted greatly with the interpretation of the findings.

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This project was approved by the Social Sciences, Arts and Humanities Cross-School Research Ethics Committee at the University of Sussex (reference number: ER/DE51/2) and by the University of Southampton Faculty Ethics Committee (reference number: ERGO II 56634).

# EXECUTIVE SUMMARY

This report identifies organisational, professional, and socio-economic dynamic conditions that can enhance project outcomes and explores how project professionals and project-based organisations have already applied them. This report is separate from the *2015 Conditions for Project Success* on the basis that the study examined primarily non-project related factors that nonetheless can affect project success. This study occurred under unprecedented circumstances amidst the COVID-19 pandemic. All aspects of the study took place entirely virtually; this served to shape the responses from the project management community.

The research team gathered the data using a systematic literature review, interviews with a cross-section of 37 project professionals, and a survey that attracted a total of 1,015 responses. The analysis identified nine dynamic conditions drawn from the relevant academic literature and refined through the research process which are:

- **interpersonal skills;**
- **training and certifications;**
- **team ethos;**
- **technology and data;**
- **contracts;**
- **knowledge management;**
- **agility;**
- **sustainability;**
- **diversity.**

A number of these nine dynamic conditions correspond to some of the main trends seen within the wider project profession that we have helped to drive forward such as a greater emphasis on the use of technology and data<sup>1</sup>, the drive to net-zero and sustainability<sup>2</sup>, improving diversity and inclusion<sup>3</sup>, and developing an agile mindset to respond to ever-changing project environments<sup>4</sup>.

The study highlights opportunities for project management organisations and professionals to improve project success and project outcomes, including prioritising informal mentoring, improving data analysis and decision making with technology and AI, and establishing knowledge management roles for more effective learning from past projects. For project professionals, this work advises on specific mindsets and activities that can help to support and develop their teams. These activities can help to ensure that their projects create a legacy that can underpin long-term organisational success.

For organisations, this work advises on how to apply the report and more specifically the Key Success Indicators (KSIs) needed to implement each dynamic condition, which can guide and support the implementation of the report's findings. The report also draws on case illustrations from the interviews to show how different project professionals and project based organisations have already demonstrated good practice in applying these dynamic conditions.

At a theoretical level, this report addresses the evolving scope of project success away from focussing on success factors for individual projects towards dynamic conditions ensuring success for project-based organisations and their portfolios. The KSIs 'close the loop', providing an alternative end-point analysis compared to critical success factors that are more readily applied and assessed at project inception.

We look forward to working with key stakeholders and the project profession in applying the findings and recommendations from the research to enhance project success and improve project outcomes.

<sup>1</sup> APM, 'Fourth Industrial Revolution', 5 August 2019, APM, 'Risk and Data Analytics – Predicting the Future?', Risk and Data Analytics – Predicting the future?, 10 June 2021.

<sup>2</sup> APM, 'Climate Change, Clean Growth and Sustainability', Climate change, clean growth and sustainability, 5 August 2019.

<sup>3</sup> APM, 'Diversity and Inclusion', Diversity and Inclusion, 2021.

<sup>4</sup> Brian Wernham et al., *Directing Agile Change*, 2016; APM, 'Agile Project Management', Agile project management, 20 September 2017.



## RATIONALE AND AIM

In 2015, we published the *Conditions for Project Success*, which sought to identify the core factors which lead to project success. These conditions, subject to the situation and the judgement of the project professional, can be implemented with any project, programme or portfolio and help to best ensure project success. The report identified 12 conditions:

- **effective governance;**
- **goals and objectives;**
- **commitment to project success;**
- **capable sponsors;**
- **secure funding;**
- **project planning and review;**
- **supportive organisations;**
- **end users and operators;**
- **competent project teams;**
- **aligned supply chain;**
- **proven methods and tools;**
- **appropriate standards.**

However, we identified at the end of this previous research that dynamic conditions at the organisational, professional, and socio-economic levels existed that could help to shape successful project-based organisations. Such dynamic conditions could help organisations to setup projects for success before the outset.

The Science Policy Research Unit (SPRU) at the University of Sussex and the Advanced Project Management Research Centre (APROM) at the University of Southampton were successful in our commissioned tender to investigate these organisational, professional, and socio-economic dynamic conditions as a standalone study. These dynamic conditions are separate from the 2015 conditions for project success. While the 2015 conditions for project success are factors that can usually be readily applied at the start of any project by a project professional with support from the organisation and sponsors, these new factors are more useful at the organisational level and can be used to setup projects for success at the outset.

This research therefore used an exploratory approach and was guided by the following overarching question.

What organisational, professional, and socio-economic dynamic conditions can project professionals and project-based organisations leverage to enhance project outcomes?

The data collection for this research was shaped by the Covid-19 pandemic. Many project professionals played essential roles in supporting critical workers across supply chains, healthcare and pharmaceuticals, infrastructure, and education. Most project professionals also transitioned to remote working. These challenges were combined with the priorities of managing a complex home life created by the UK lockdowns. This account therefore provided some with the opportunity to reflect on the role of the profession within their organisation and more broadly.

# METHODOLOGY

The data gathered for this research report drew on three research methods.

Firstly an in-depth literature review focused on crucial emerging research on project management illustrated that these organisational, professional, and socio-economic dynamic conditions had become a topic of increasing interest over the past 20 years<sup>5</sup>. Figure 1 illustrates this trend over time. These dynamic conditions included sustainability, knowledge management, and technology and data; however, they became more refined during the research process. For example, diversity was not originally included as a dynamic condition as most of the literature focussing on the topic was theoretical and looking at which dimensions of diversity might be important rather than using empirical evidence. Equally, it was anticipated that technology and data would be two separate themes; but the topics were so closely entwined that the research team could not tease them apart during the literature review process.

<sup>5</sup> The research team searched for project management or project success in publication titles, abstracts and keywords by querying Web of Science, a commonly used academic literature database. The search identified a total of 3,492 publications between 1981 and 2020. We restricted the search to the title, abstract, and keyword field to limit results to publications including at least one of the dynamic conditions. Within this sample we selected those publications in management domains, thus reducing the sample to 1,098 records. We then read the titles and assessed the full text to identify additional documents from the list of cited references and to exclude irrelevant studies. This led to a core sample of 65 papers that contributed to the understanding on dynamic conditions for project success. There may be further research opportunities by expanding the scope to include the general management literature.

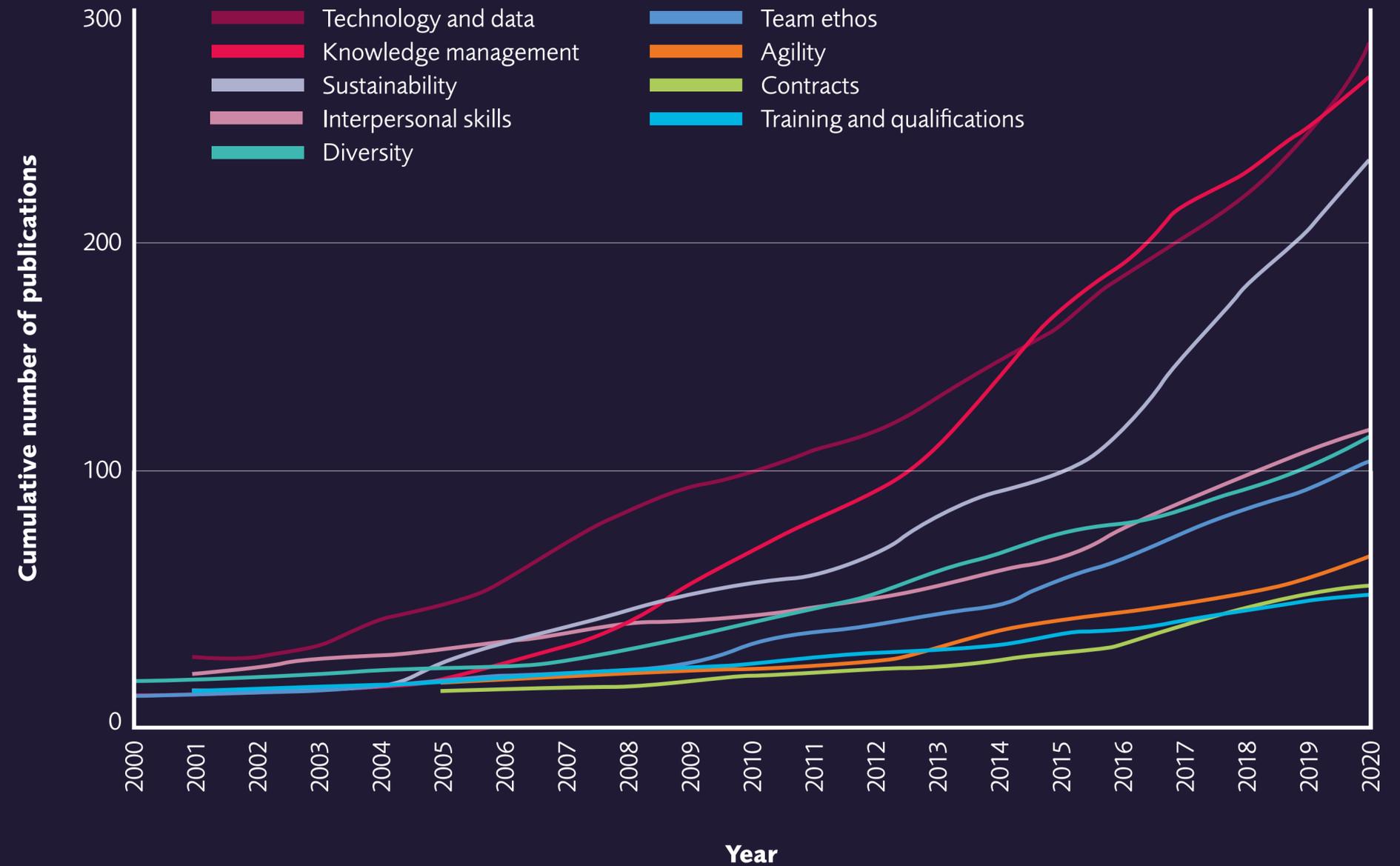


Figure 1: Data from Web of Science (WoS) search showing increasing interest in the dynamic conditions over the last 20 years

## METHODOLOGY

Secondly the research team conducted semi-structured interviews with 37 project professionals and academics. This research phase looked at how project professionals apply the dynamic conditions identified in the academic literature and understand whether new dynamic conditions existed<sup>6</sup>. As a result of statements from nearly all interviewees, diversity emerged as a dynamic condition.

Finally the team developed a large-scale survey attracting 1,015 responses with a cross-section of project professionals that verified the dynamic conditions' attributes. The interim findings arising from these three phases were tested and validated during a workshop at our Corporate Partner Forum in February 2021. The research was guided throughout by a steering group consisting of project professionals and academics.

<sup>6</sup> Interviews lasted between 45 minutes and two hours and were transcribed. These interview transcripts comprised 241,750 words in total.





# FINDINGS

# A SUMMARY OF THE DYNAMIC CONDITIONS

1

## Interpersonal skills

Interpersonal skills allow project professionals to engage with stakeholders, build and lead teams, and the generic skills and responsibilities of being a project professional. This includes leadership, emotional intelligence, and communication skills.

2

## Training and certifications

Training and certifications describe the requirement for any professional to continually develop their competence. This can take two forms: formal training courses underwritten by qualifications and accreditations by professional organisations or broader informal learning processes such as mentoring and exploring the latest research findings.

3

## Team ethos

Team ethos comprises the values shared amongst project team members including a commitment to respect, transparency, open and honest communication, working collaboratively, and building trust.

## A SUMMARY OF THE DYNAMIC CONDITIONS

4

### Technology and data

Technology and data in project management concerns identifying and using the correct digital tools to manage and complete projects. More complex concepts include project data analytics as an area of competitive advantage.

5

### Contracts

Contracts are agreements made between two or more parties that create legally binding obligations between them. The contract sets out those obligations and the actions that can be taken if they are not met.

6

### Knowledge management

Knowledge management can be defined as the organisational activities that facilitate the creation, storage, sharing, and application of knowledge collectively held within the organisation. It allows individuals, projects, and organisations to share tacit knowledge to disseminate best practice and prevent repeat mistakes.

## A SUMMARY OF THE DYNAMIC CONDITIONS

7

### Agility

Agility is a broad set of principles encompassing many development methodologies for iterative and incremental developments throughout the life cycle. This helps organisations respond to changing requirements and situations.

8

### Sustainability

Sustainability in the project management context balances the environmental, social, economic, and administrative aspects of project-based working to meet the current needs of stakeholders without compromising or overburdening future generations.

9

### Diversity

Projects are increasingly made up of individuals with different backgrounds, abilities, and ways of working. These differences create value, and diverse teams can bring about higher performance because of different experiences and perspectives. There can also be a strong sense of inclusion and community when people of different backgrounds and abilities come together for a common purpose.

# A SUMMARY OF THE DYNAMIC CONDITIONS

The dynamic conditions reflect the activity and changes in both the project management profession and the wider environment. Sustainability is now high on the UK government's policy agenda<sup>7</sup>, influencing how large organisations in the UK and abroad set and monitor sustainability standards for their projects<sup>8</sup>. Leadership skills and training to support the development of that training is becoming even more important<sup>9</sup> with a sharp focus on PDA<sup>10</sup> and leadership standards<sup>11</sup>. Similar arguments have been proposed for the rest of the conditions included in this report: contracts<sup>12</sup>, knowledge management<sup>13</sup>, agility<sup>14</sup>, technology & data<sup>15</sup>, team ethos<sup>16</sup>, and diversity<sup>17</sup>; arguing that project professionals might be missing a strategic opportunity not considering them while formulating their project plans, teams, and day-to-day operations.

The following sections are organised according to each dynamic condition. It outlines the potential long and short term benefits they can bring to project-based organisations. It also leverages the data to underline its importance and outline what methods can be used to apply the dynamic condition and describe how interviewees have implemented each dynamic condition in their organisation.

<sup>7</sup> European Environment Agency, 'United Kingdom country profile – SDGs and the environment', 2 December 2020; BBC, 'Climate change: UK to speed up target to cut carbon emissions', 20 April 2021.

<sup>8</sup> Silvius, G., Schipper, R., 2016. Exploring the relationship between sustainability and project success. *International Journal of Information Systems and Project Management* 4, 5–22.

<sup>9</sup> Zuo, J., Zhao, X., Nguyen, Q.B.M., Ma, T. and Gao, S., 2018. Soft skills of construction project management professionals and project success factors. *Engineering, Construction and Architectural Management*.

<sup>10</sup> SQA, 'PDA Project Management SCQF level 8'.

<sup>11</sup> IPA, 'Advanced Leadership and Delegation', 19 July 2021.

<sup>12</sup> Chan, D. W. M., Chan, A. P. C., Lam, P. T. I., & Wong, J. M. W. (2010). Identifying the critical success factors for target cost contracts in the construction industry. *Journal of Facilities Management*, 8(3), 179–201.

<sup>13</sup> Todorovic, M. L., Petrovic, D. T., Mihic, M. M., Obradovic, V. L., & Bushuyev, S. D. (2015). Project success analysis framework: A knowledge-based approach in project management. *International Journal of Project Management*, 33(4), 772–783.

<sup>14</sup> Serrador, P., & Pinto, J. K. (2015). Does Agile work? - A quantitative analysis of agile project success. *International Journal of Project Management*, 33(5), 1040–1051.

<sup>15</sup> Whyte, J., Lobo, S., 2010. Coordination and control in project-based work: Digital objects and infrastructures for delivery. *Construction Management and Economics* 28, 557–567.

<sup>16</sup> Gelbard, R., & Carmeli, A. (2009). The interactive effect of team dynamics and organizational support on ICT project success. *International Journal of Project Management*, 27(5), 464–470.

<sup>17</sup> Wu, G., Zhao, X., Zuo, J., Zillante, G., 2019. Effects of team diversity on project performance in construction projects. *Engineering, Construction and Architectural Management*, 26, 408–423.



# INTERPERSONAL SKILLS

The statements from interview respondents focused mostly on the project manager as the primary way to use this dynamic condition. More specifically the project manager's mindset and leadership skills such as empowering, influencing, and motivating team members are considered particularly impactful. But these skills are not just used for team motivation, the creation of an appropriate atmosphere between project management and stakeholders can enhance both team and project outcomes<sup>18,19</sup>. For organisations, the interviewees described benefits including improved team-building practices, enhanced problem-solving, greater levels of client satisfaction, and the ability to avoid conflicts before they became an issue. The following quotes show how important the interviewees regarded interpersonal skills and communication in particular.

*"Communication is of paramount importance for a successful project and that is because projects are a team effort, you cannot deliver a project on your own. In my industry having a good relationship between design and project managers is also important for a successful project."*

And

*"Communication and emotional intelligence are of great importance. Understanding how people need to be managed helps you use different approaches that will bring better results depending on who you are talking to. I think that soft skills are not always necessary to deliver to cost, quality and time but not having them might have detrimental effects on the team that you work with."*

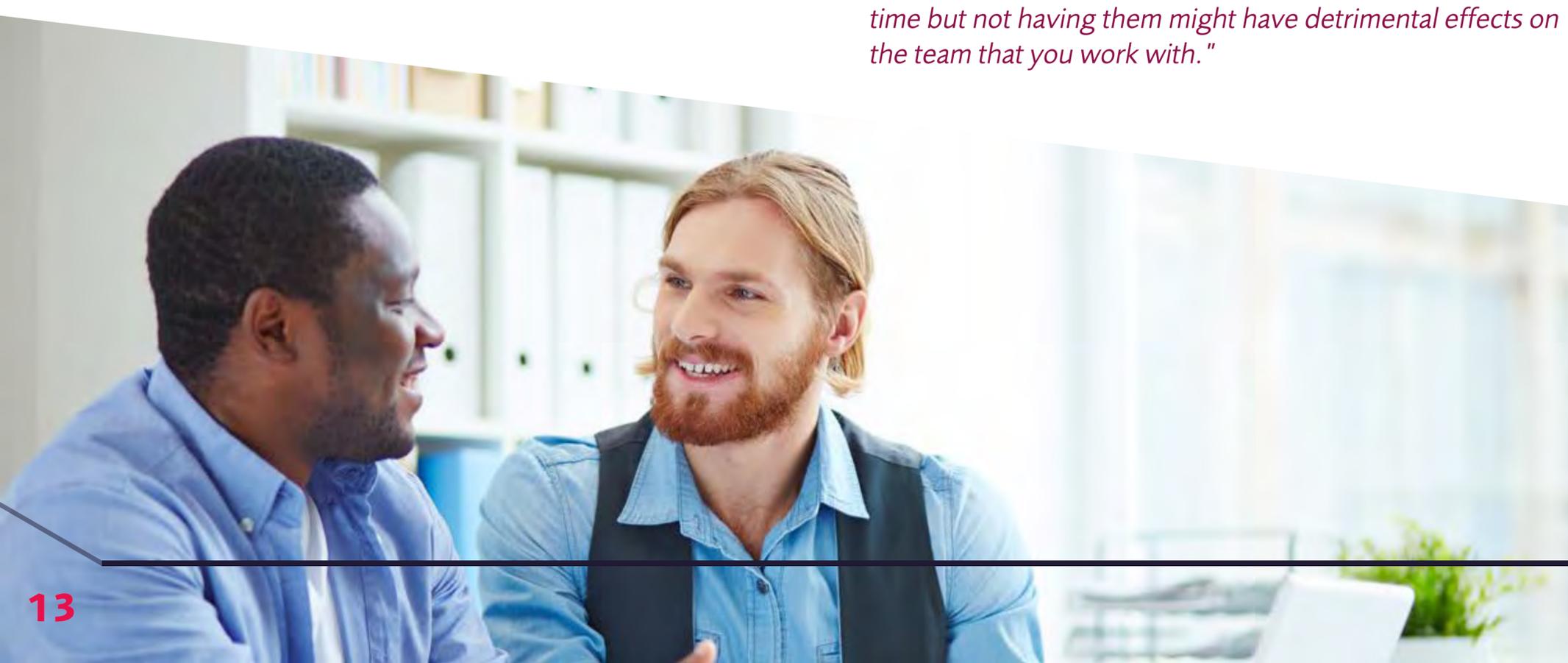
However, interpersonal skills require a long-term investment. While some individuals are naturally gifted with good interpersonal skills, there can be long lead times before development efforts become apparent.

The findings from the survey indicate that interpersonal skills are by far considered the most important dynamic condition explored in this study with over 97 per cent of survey respondents believing it to be either 'important' or 'very important' as shown below in Figure 2.



Figure 2: Importance level attached to interpersonal skills as a way of ensuring project success

<sup>18</sup> E. Vittal S. Anantamula and Parviz F. Rad, 'Role of Organizational Project Management Maturity Factors on Project Success', *Engineering Management Journal* 30, no. 3 (2018): 165–78.  
<sup>19</sup> Vittal Anantamula and Parviz Rad, 'Linkages among Project Management Maturity, PMO, and Project Success', in 2013 International Conference on Engineering, Technology and Innovation (ICE) & IEEE International Technology Management Conference (2013 IEEE International Technology Management Conference & 19th ICE Conference (ITMC), The Hague, Netherlands: IEEE, 2013), 1–12.



# INTERPERSONAL SKILLS

In alignment with the findings that the project manager was the primary focus for this dynamic condition, its implementation likewise focused on what the project professional can do to act as a focal point for inspiring and directing the project team. Survey respondents were asked to rank their perceived importance of human skill components which were drawn from both the academic literature and the interview data. These rankings are displayed below in Figure 3.



Figure 3: The ranked importance of key success indicators linked to interpersonal skills as identified by survey respondents

It is noteworthy that despite the quotes identify the importance of emotional intelligence, the survey findings somewhat contradict this with emotional intelligence being considered less important relative to other interpersonal skills. While it must be emphasised that the survey merely identified emotional intelligence as relatively less important compared to the other indicators rather than entirely unimportant, this may also be because emotional intelligence may have been regarded by respondents as one component of communication skills.



When asked about how to implement these human skill components, interviewees spoke about the importance of getting to know the personal and professional backgrounds of team members to both develop relations and reveal new skills that can be used in projects as the quote below shows.

*"In my opinion one of the most important soft skills for a project manager would be the ability to listen, observe and learn more about their staff. It has happened to me when I got to know a member of my staff that I found out they had graphic design skills so I was able to utilise those skills for our team."*

However, project professionals must strike a challenging balance in their leadership between empathy and keeping the project on track.

*"Leadership has to be collaborative and help the team be their best but at the same time you need to be able to send someone home if they are being disruptive or ineffective. A project manager should be supportive and emotionally intelligent but also with a backbone of steel to take difficult decisions."*

Practitioners believe that in the future, project professionals will need to demonstrate greater empathy and delegate decision making to the team. This will come with many challenges for the profession as while decision making may be delegated to the team, the responsibility and consequences of such a decision will still remain with the professional.



# TRAINING AND QUALIFICATIONS

The statements from interviewees focused on the role of three key groups for leveraging this dynamic condition: the project professionals, the project-based organisation<sup>20,21</sup>, and external bodies including training providers, higher education institutions, and professional bodies. As the quotes below demonstrate, the interviewees believed that these groups could come together to provide the optimal training synthesis of both practical experience and formal training and qualifications.

*"I put training and qualifications very high up on the agenda. It's obviously not a replacement for practical experience. But neither is practical experience a replacement for training and qualifications. I think the two complement each other very well."*

And

*"Because we don't learn how to do things just by reading a book. We learn things through experience. But the way that we do things actually can be informed by what we've read in the book. The other point about training and qualifications, and this was always very important to me when I was recruiting people it meant that they took what they were doing professionally seriously and also showed a mental acuity."*

In the case of mentoring, more senior members in the organisation support younger members to overcome the hurdles that might appear during projects. This support facilitated tacit knowledge sharing, which was deemed very effective for avoiding pitfalls. The following quote from an interviewee in transportation outlines the process and benefits.

*"So mentoring is a great part in signalling, where a senior has to mentor a junior. And once the junior gets properly mentored and has done a few designs, then he would get those licenses. And it's a big process. It doesn't happen in two months' or three months' time, it is maybe a year to two-year process."*



The findings from the survey indicate that project professionals agreed on the importance of training and qualifications with 57 per cent of respondents believing them to be 'important' or 'very important'. An additional 30 per cent of survey respondents believed that they were 'fairly important' as shown below in Figure 4.

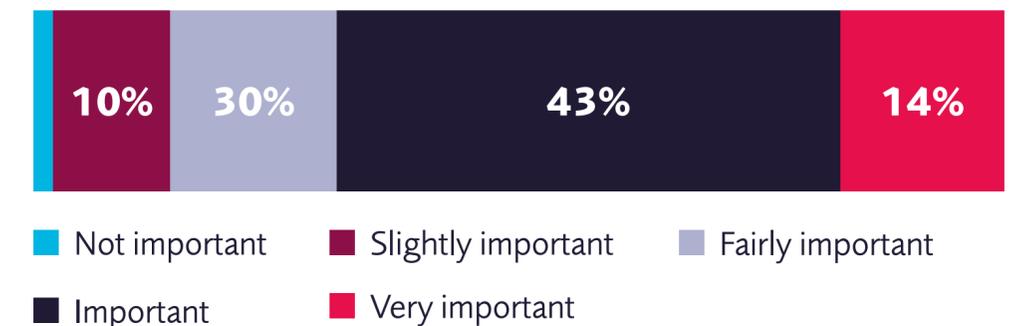


Figure 4: The perceived importance of training and qualifications as identified by survey respondents

<sup>20</sup> Andrew Davies and Michael Hobday, *The Business of Projects: Managing Innovation in Complex Products and Systems*, 1st ed. (Cambridge University Press, 2005).

<sup>21</sup> A project-based organisation is defined as one in which the project is the primary unit for completing tasks.



# TRAINING AND QUALIFICATIONS

Survey respondents were asked to rank the perceived effectiveness of different methods of training and qualifying their employees. These methods were drawn from the academic literature and interview data. It must be noted that these specific findings represent individuals' views and may not be representative of the experience of entire organisations. Nor should the results mean that any method should be used at the expense of others as they can be interdependent. These rankings are displayed below in Figure 5.



Figure 5: The ranked importance of key success indicators linked to training and qualifications as identified by survey respondents

In terms of how to apply the dynamic conditions there was significant agreement amongst the interviewees on how to implement them. The following interviewees, who work in the UK government, illustrate how the UK civil service trains its staff. It is noteworthy that informal mentoring is considered so effective that despite the preference for formal training, there are even budget lines reserved for informal mentoring.

*"Everyone in the team should have some basic understanding of some terms, what is a risk register for example. That could be achieved with some training everybody could go through when they join the organisation. In government we use the 70-20-10 approach to learning where 70 per cent you learn on the job, 20 per cent from mentoring and shadowing someone and 10 per cent from classroom-based learning... (But) to go up in the civil service you do need to have some certain qualifications."*

And

*"(We have a) Cross-government model for training, faststream and A-level incomers... Informally we follow the 70:20:10 model. (We have) Got a budget for informal training but formal models preferred."*

The research uncovered a future trend in training and certification undertaken by organisations: blended learning. This blended learning mixes online learning with real-world training and experience as the UK government interviewee outlined.

*"We also use a blended learning approach where after you do an online course you try and apply that knowledge to everyday situations."*

This new development pre-dated the COVID-19 pandemic but became a major source of interest during the UK lockdowns to train employees flexibly while adhering to social distancing.



# TEAM ETHOS

Team ethos, defined as having teams that work in concert regardless of location or hierarchal positioning within the organisation<sup>22,23</sup>, was a strong theme that emerged in both the academic literature and in the interviews. In some cases it was referred to by different names such as team spirit, team culture, or esprit de corps but referred to essentially identical themes. There was also a strong link between team ethos and interpersonal skills, with interviewees often linking them as different units of analysis for similar phenomena. The quote below illustrates this trend with the interviewee freely linking their own personal leadership to creating the right team ethos.

*"I am a big supporter of getting an ethos or culture in my teams and I think it is important to give them something to take to their next project, I care about legacy a lot... You have to be leading by example, share a vision and show respect to all team members."*

As expected, given these links and the significant importance attached to interpersonal skills by the survey respondents, they also considered team ethos a significant dynamic condition. 92 per cent of respondents regarded team ethos as either 'important' or 'very important' as shown in Figure 6.



■ Not important   ■ Slightly important   ■ Fairly important  
 ■ Important   ■ Very important

Figure 6: The perceived importance of team ethos as identified by survey respondents

Survey respondents were asked to rank the perceived importance of different sub-components for creating the right team ethos. These methods were drawn from the academic literature and interview data. These rankings are displayed below in Figure 7.

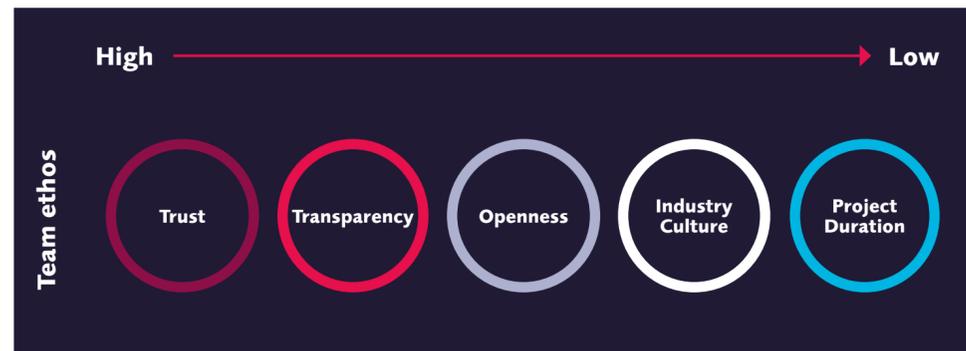


Figure 7: The ranked importance of key success indicators linked to team ethos as identified by survey respondents

In particular the interviewees underlined the importance of trust and that transparency and openness is linked to trust as a way of building it, as the quote below illustrates.

*"Team ethos stems from understanding what the goal is and how you contribute to that. Team alignment is important to achieve an alignment of values in the end where people feel empowered to contribute. Being very honest and transparent is also important to build trust."*



<sup>22</sup> A. Linda S. Henderson, Richard W. Stackman, and Rikke Lindekilde, 'Why Cultural Intelligence Matters on Global Project Teams', *International Journal of Project Management* 36, no. 7 (October 2018): 954–67.

<sup>23</sup> Derek H.T. Walker, Peter R. Davis, and Andrew Stevenson, 'Coping with Uncertainty and Ambiguity through Team Collaboration in Infrastructure Projects', *International Journal of Project Management* 35, no. 2 (February 2017): 180–90.



# TECHNOLOGY AND DATA

Technology and data are domains that the interviewees felt was at a crossroads. Many interviewees felt that it was a relatively mature field in some respects such as the use of standardised tools but there were major opportunities to reinvigorate the entire project management field including through the application of data science to the project domain. The quote below illustrates this feeling whereby.

*"Having the right technical support for the project is really important and our PM technology (referring to the use of planning tools) is quite mature at this point I would say but we always look for advances."*

In other areas standardised software packages are extremely useful but there is often a feeling that technology is something that is used as a substitute for training and qualifications when the quote below indicates a synergy between the two.

*"It's easier to think of examples where it got in the way. I think for example collaboration technology like this one works really well and it's great, that's helping. I think many of the traditional project management planning tools get in the way ... The person who can do the planning used to do a year's worth of training and experience in order to become expert enough to do this, to coordinate the work of a couple of thousand workers. Even Microsoft Project, I think very few people I have seen really understand how to use it. So, it quickly becomes out of date and isn't really updated because it's too complicated ...it becomes window dressing and not what the team really do."*

The findings from the survey indicate that project professionals agreed on the importance of technology and data with 73 per cent of respondents believing them to be 'important' or 'very important'. An additional 21 per cent of survey respondents believed that they were 'fairly important' as shown below in Figure 8.



Figure 8: The perceived importance of technology and data according to survey respondents

The primary question raised by interviewees was where these opportunities to re-invigorate the dynamic condition lay. Survey respondents were asked to rank the importance of different sub-components of technology and data. These methods were drawn from the academic and practitioner literature and interview data. These rankings are displayed in the following Figure 9.



Figure 9: The ranked importance of sub-components of technology and data as identified by survey respondents

The interviewees selected the extremely strong growth area of project data analytics as the most important areas in comparison with the others as a tool for supporting decision making. The quotes below vividly illustrate the opportunities that the profession sees for project data analytics.

*"Technology and data are incredibly important for a project manager as we need to track performance indicators and metrics. But I do have a feeling that PM software has not progressed very much in the past years, I feel I am using the same tools all the time and that might be because I work in a large organisation where things move slowly."*

And

*"We are looking at AI (Artificial Intelligence) as a potential tool that could analyse our data and assist with decision making."*

# CONTRACTS

The interviewees felt that contracts were particularly important as a way of setting expectations and obligations. If something is not present in the contract then it was difficult to deliver. But the contract merely formalised relationships between different organisations and individuals and the interviewees highlighted the importance of relationships as a prerequisite for good contracts as shown below.

*"Everything depends on the contract as all activities that take place during the project depend on what is written in the contract... Having a good relationship with the client is important as you can flag any potential changes to them early and that solves a lot of problems."*

And

*"Contracts are key for a project and we need to understand what are the deadlines and obligations stated in the contract so these are turned into actions and milestones. Good relationships with suppliers and contractors are imperative."*

Contracts were considered 'important' or 'very important' by 75 per cent of the survey respondents. There is also a significant minority of respondents considering this condition as not important as shown in Figure 10.

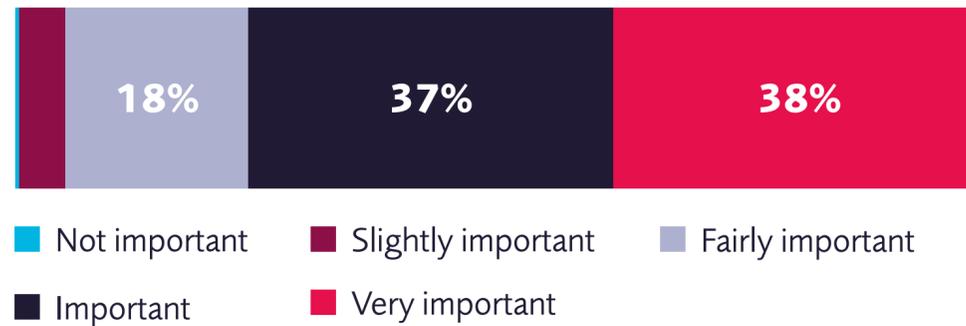


Figure 10: The perceived importance of contracts according to survey respondents



# CONTRACTS

Survey respondents were asked to rank the perceived importance of different sub-components of contracts which were drawn from the academic literature and interview data. These rankings are displayed below in Figure 11.



Figure 11: The ranked importance of contract components as identified by survey respondents

In alignment with the interviewees, the survey respondents identified different from chart above as the most important component of contracts followed by the contract type. In terms of creating the correct relationship with contractors, the interviewees highlighted the need for mutual respect as the way to establish a good relationship with contractors.

*"Relationships with suppliers are definitely important because we all try for the project to work well for everyone, being respectful to the other party and trying to avoid conflict that might arise."*

As a result of a good relationship, project professionals and contractors can both identify any potential issues early on and manage the issue before it becomes acute as shown below.

*"Having a good relationship with the client is important as you can flag any potential changes to them early and that solves a lot of problems."*

Turning to contract type the interviewees highlighted having the correct kind of contract that captured the relationship appropriately as shown below.

*"We prefer more flexible contracts because things can change and we want to be able to mitigate that."*

And

*"I think that contracts should be collaborative rather than adversarial so they help have aligned goals through the supply chain. What happens in adversarial contracts is that risk end up at the bottom of the chain. Also contracts can be very bureaucratic which tends to motivate negative behaviours such as choosing the same suppliers to get started quickly, even if they did not do the job right last time."*

These quotes serve to illustrate that while contracts are extremely important, they only serve to capture and formalise existing human relationships. This provides a link between contracts and interpersonal skills identified above by the interviewees and survey respondents as the most important dynamic conditions for improving outcomes for project-based organisations.



# KNOWLEDGE MANAGEMENT

Knowledge management is a relatively well-understood concept in project management. However, despite this it remains extremely important for ensuring a chain of successful projects as the quote below demonstrates.

*"Knowledge management is very important in our industry with people having ten, twenty years of experience. Our projects might be unique but there are common themes and issues you will encounter every time."*

Interviewees still agreed that there were major opportunities for further embedding knowledge management into project-based organisations as illustrated below.

*"I have never seen knowledge management done well. Organisations do not embed such processes to their formal processes so they are up to every team to do it themselves. You might have lessons learned processes but its not embedded in such a way that you cannot avoid it."*

Turning to the findings from the survey, the respondents agreed with the interviewees on the importance of knowledge management. When asked how important it was for project success, 89 per cent of respondents considered it either 'important' or 'very important' as shown in Figure 12.

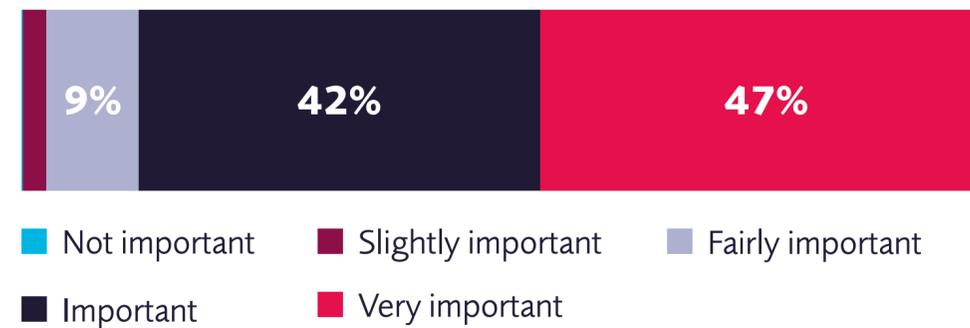


Figure 12: The perceived importance of knowledge management according to survey respondents



# KNOWLEDGE MANAGEMENT

Survey respondents were also asked to rank the perceived importance of different sub-components of knowledge management such as traditional codified methods and more modern tacit methods. These methods were drawn from the academic literature and interview data. These rankings are displayed below in Figure 13.



Figure 13: The ranked importance of key success indicators linked to knowledge management as identified by survey respondents

One suggestion from the interviewees was the creation of a specific role within the organisation that is specifically intended to perform knowledge management. Such a role within an organisation has been implemented within some UK government departments and can alleviate some of the challenges of traditional 'lessons learned reports'.

*"You might have lessons learned processes but its not embedded in such a way that you cannot avoid it. I think that appointing a role dealing with knowledge management can help the organisation a great deal."*

And

*"In government there are a handful of departments that do amazing things in the knowledge management space because they have the right skills and people to do that. I think it's a missed opportunity when you don't do enough."*

Ultimately, these efforts were primarily embedded within a framework whereby knowledge management was primarily best served by getting people to interact as the quote below illustrates.

*"I see that people struggle to learn lessons from situations they have not experienced. It is much more possible to listen to the lesson if you have a one to one relationship with the person that experienced it. I have a list of people I contact when I come across problems in my products instead of going to the documents."*



# AGILITY

Agility can be thought of as a broad concept encompassing a variety of different methodologies that operate on similar principles. Therefore, it can be argued that agility is more of a set of values than a hard tool; this specific mindset of creating a minimum viable product followed by iterative improvements to build in more features may be appropriate for some types of project and may not be appropriate for others. It can be drawn as a contrast from more traditional 'waterfall' methods whereby project professionals seek to plan for every eventuality before the implementation phase of the project<sup>24</sup>. The interviewees agreed with this notion and the below quote best illustrates their opinions.

*"I think that being agile and iterative is important as a value because there have been cases where changes were needed and people were reluctant to implement them."*

The survey revealed mixed views on agility as a condition for project success, with 51 per cent of respondents considering it 'important' or 'very important'. An additional 30 per cent of respondents believed agility to be 'fairly important'. These results in Figure 14 are likely to be as a result of agility not being universally appropriate for all kinds of projects.

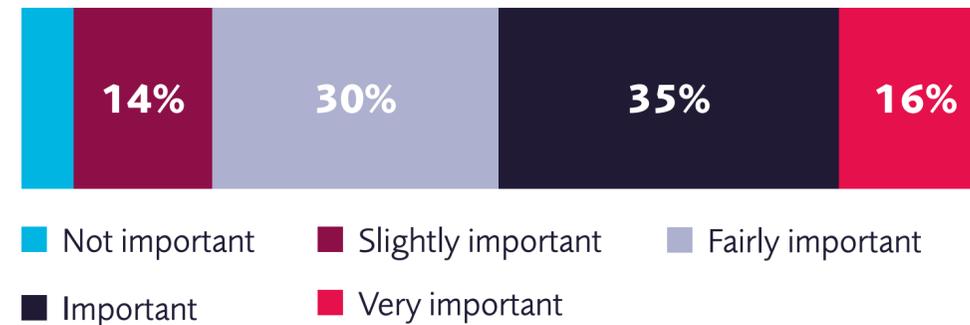


Figure 14: The perceived importance of agility according to survey respondents

Survey respondents were also asked to rank the perceived importance of the underlying principles of agility which were drawn from the academic literature and interview data. These rankings are displayed in Figure 15.

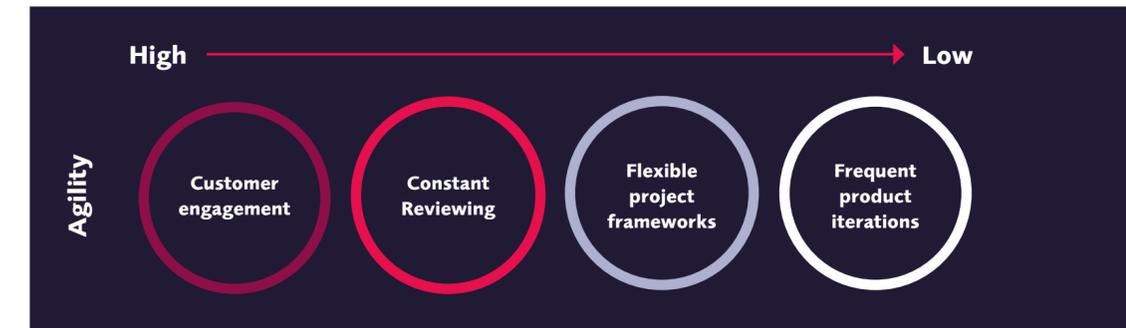


Figure 15: The ranked importance of principles linked to agility as identified by survey respondents

As can be seen, survey respondents identified the centrality of customer engagement to identify their wants and needs. This also includes the constant reviewing of products to account for any changes in customer needs and wants. This suggests that it is the principles of agility that are most important in the eyes of survey respondents rather than a strict adherence to any single agile methodology which may help to explain why many agile projects have challenges with delivery.

<sup>24</sup> Wernham et al., 'Directing Agile Change'.



# AGILITY

Moving onto the implementation of agility the interviewees cited the importance of closely working together which requires a fundamental mindset change. This can result in completely redesigning office spaces as the quote below illustrates.

*"The common practices of co-located teams, well project offices and teams have been around for decades, but I think what I like about agile, particularly with software development and with the developing apps is some of those practices are fantastic, so for example when we had to build a couple of websites recently, we adopted these agile practices of let's get the design team sitting with the product team and the marketing team all in one room or one area and let's every couple of weeks or even every week, show the customer an update., but have access to people and get that constant regular feedback, which I think is really good, so generally my experience of agile management has been very good."*

There was also a level of synergy between agility and new concepts examined in this report such as technology and data as the quote below indicates.

*"Changes of course need to be backed up by data and evidence and they shouldn't be constant."*

But perhaps the biggest challenge surrounding agility is in terms of expectations amongst senior colleagues within the organisation and external stakeholders. Such groups may be extremely comfortable with the types of incremental outputs produced by traditional waterfall methodologies and may become concerned that a project is out of control when provided with outputs from agile projects. The quote below best illustrates the realities of these challenges.

*"I will also say that one of the things and again, this was my meeting with the Cabinet Office the other day, there appears to be, in my experience, an issue with stakeholder expectations, who have worked with waterfall before, who are now working with people delivering in an agile way, they expect to see an output in development along its lifecycle, and then when you come to the end you've got a nice shiny output, whether it's an actual physical thing or a new process, etc., you've got something delivered. With agile, actually what you're getting is something that is good, but not always perfect, as you are delivering it along the way, and that's the whole point behind lean and agile is that you start developing iterations and you get something that's the minimal viable and then you move on. When actually, stakeholders are almost conditioned to expect perfect, so when good arrives, that causes them some issues."*



# SUSTAINABILITY

The interviewees aligned themselves with the academic and practitioner literature in that they identified three main strands of sustainability: financial, environmental, and social. These were all compatible with a successful business. The below quote succinctly describes how the interviewees saw the situation.

*"There are three strands to sustainability for me: the planet, the people and profit. Sustainability in terms of not harming the planet, helping people learn and have a positive impact on communities and lastly to make sure that the business can make some profit to keep alive."*

But it is a challenging concept for project-based organisations to internalise these principles especially when it comes to managing legacy products as shown below.

*"In our industry sustainability is very important and will become even more important in the coming years. We have to find ways for our ships to be more sustainable as well as when decommissioning ships to do it in a sustainable way. The biggest challenge in doing things more sustainably is the cost as doing things more sustainably does mean that the process will be more expensive."*

The survey shows a positive picture for sustainability, with 69 per cent of respondents considering it important or very important. There is only a minority that considers sustainability as not important at all.

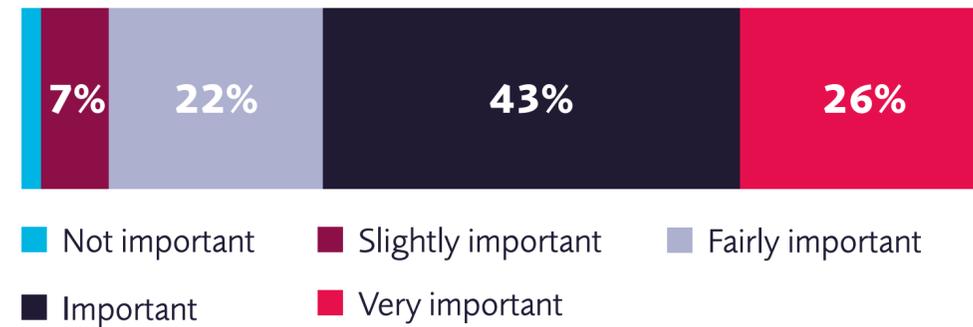
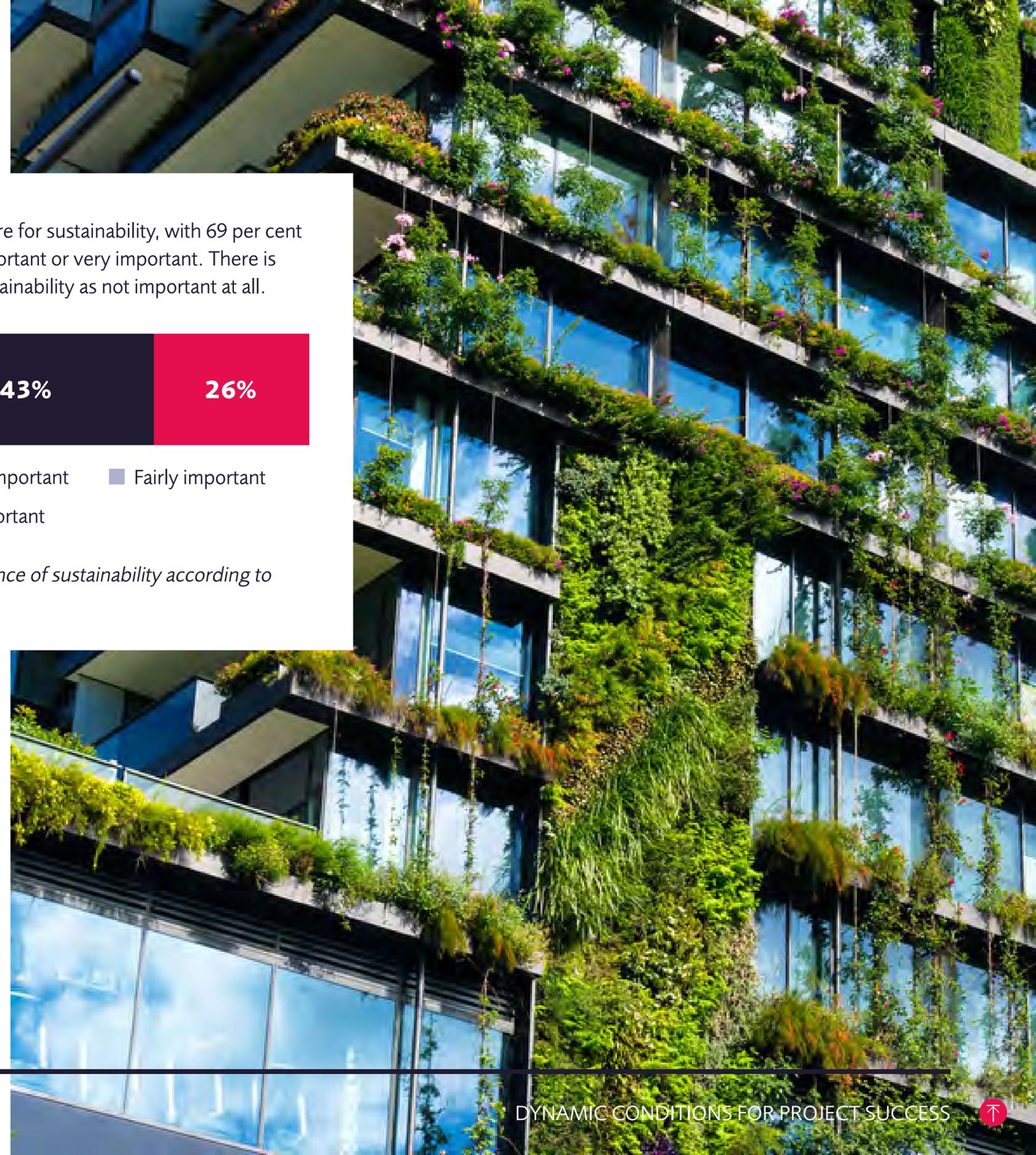


Figure 16: The perceived importance of sustainability according to survey respondents



# SUSTAINABILITY

Survey respondents were also asked to rank the perceived importance of the three components of sustainability drawn from the academic literature and interview data. These rankings are shown below in Figure 17.



Figure 17: The ranked importance of sustainability components as identified by survey respondents

Regarding how to implement sustainability within project-based organisations, several interviewees noted that the most effective way was as a result of external stakeholders mandating such approaches. For other interviewees, it was more about a mindset change and ensuring there is no unnecessary expenditures and creating products to last. The following quotes illustrate this mindset shift.

*"Sustainability for me doesn't have to do with the environment necessarily but with running the project as efficiently as possible. I don't need a PA as a resource for example. Future proofing things is also a big one for me. What can I do to ensure that we don't need to keep redoing the same things over and over again every time I start a new project? That's sustainability for me."*

And

*"Sustainability for me means to use more sustainable materials, have a sustainable logistics and supply chain and running the project in a way that harms the planet as little as possible. There is a shift in how important sustainability has become with waste management reports becoming more important but there are also challenges where people are not very committed to sustainability yet."*

And

*"We are looking at community sustainability where people engage with the community, shop locally and they reduce the amount of journeys they take with their cars. Cost is the bigger challenge for sustainability in the construction industry."*

These quotes suggest that the pursuit of sustainability is highly compatible with the profit motive. By ensuring that projects minimise wastage and costs, while maximising the quality and durability of goods and services, project-based organisations can embrace the principles and sustainability and actually enhance their shareholder value.



# DIVERSITY

Diversity was a dynamic condition identified during this research process which emerged organically during the interview phase of the research. Virtually every interviewee identified diversity as a dynamic condition that could improve outcomes for project-based organisations. The quotes below exemplify the attitude of the interviewees and showcase why the research team felt obliged to include it as a dynamic condition.

*"Diversity is extremely important and it's one of the things that we try to change in the organisation. In terms of projects, it is vital to have the full spectrum of ideas, to allow you to innovate, so the broader spectrum of individuals that you've got, the better, because obviously you can become a bit stale. If you have a team that is diverse you have access to more ideas that can support innovation."*

And

*"I think it's very important because that (diversity) brings different views, and then from different views you can get the best possible outcome."*

And

*"When you don't have diversity you stifle innovation and creativity as all ideas are the same and there is an agreement about everything. When you have people from different background they bring different knowledge and skills and experiences to the project and the team learns from that."*

Turning to the survey results, despite the near-universal support from the interviewees, survey respondents had mixed views on diversity as a way of improving outcomes for project-based organisations. A small but significant proportion outright believed it to be 'not important' or 'slightly important'. However, most respondents still considered it either 'important' or 'very important' as shown below in Figure 18.

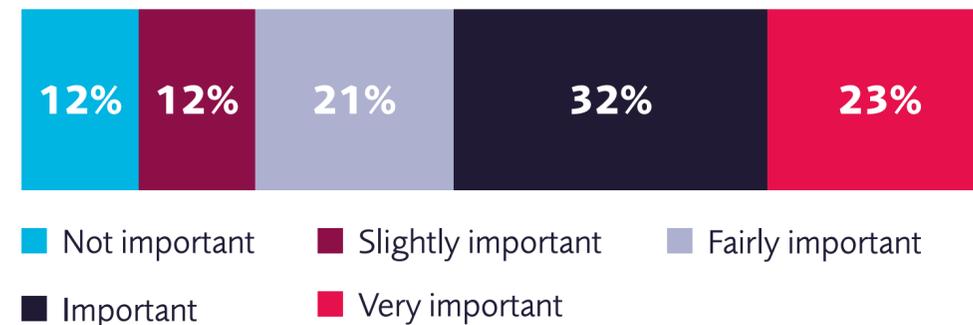


Figure 18: The perceived importance of diversity according to survey respondents



# DIVERSITY

Survey respondents were also asked to rank the perceived importance of different types of diversity identified by the interviewees. As diversity did not arise from the literature review but was identified clearly by the interviewees as a way of improving outcomes in project-based organisations, the research team deferred to the interviewees' judgement in terms of the diversity dimensions that were important when devising the survey. The ranking of these dimensions by the survey respondents are shown below in Figure 19<sup>25</sup>.



Figure 19: The ranked importance of key success indicators linked to diversity as identified by survey respondents

In terms of the internalisation of the principles of diversity into project-based organisations, the interviewees did not provide any comments on that topic. They more often focussed on the potential for conflict that such a diversity of perspectives could create and how to manage and direct that towards productive activity. The quote below illustrates how project professionals can use their interpersonal skills to play a key role in shaping diverse teams.

*"You need a leader and a manager that knows how to manage that variety in a positive way to bring the best out of the team. The variety could bring more disputes, conflicts and the leaders, managers, should be like the conductors of the orchestra."*

As a result of such efforts the below quote shows the potential benefits that can result.

*"(very similar teams)... all share certain viewpoints in terms of how things should be done or what's important, what's less important and by introducing that greater diversity into the team it provides more opportunity for challenge, providing an additional layer of assurance in terms of are we doing the right thing?"*

<sup>25</sup> It must be noted that the wording of the questions asked respondents to rank in order of importance. Therefore the answers do not reflect that respondents believe that gender, race and religion are not important but merely relatively less important for enhancing project outcomes compared to the other dimensions.



## CONCLUSION AND RECOMMENDATIONS

This study aimed to identify and explore the use of organisational, professional, and socio-economic dynamic conditions for enhancing project outcomes. It used the relevant academic and practitioner project management literature to initially identify these dynamic conditions. Interviews with 37 project professionals and a survey with 1,015 responses explored and validated these findings.

We sought to build on its previous *Conditions for Project Success* research to understand whether dynamic conditions at the organisational, professional, and socio-economic levels existed that could help to shape successful project-based organisations.



## KEY FINDINGS

This research has identified and explored the application of organisational, professional, and socio-economic dynamic conditions that can enhance project outcomes. For clarity these dynamic conditions are:

- **interpersonal skills;**
- **training and certifications;**
- **team ethos;**
- **technology and data;**
- **knowledge management;**
- **agility;**
- **sustainability;**
- **diversity;**
- **contracts.**

The research found that the application of these dynamic conditions is best achieved at the organisational level. However, individual project professionals still have an important role in championing these developments and in shaping the application of dynamic conditions in their own projects and teams. As such, this is reflected within the recommendations. Many of the dynamic conditions identified are already aligned with our pre-existing initiatives looking at the future of the project profession. In particular the '*Projecting the Future*' series examined the potential effect of sustainability<sup>26</sup>, data and artificial intelligence<sup>27</sup>, and the role of people and skills<sup>28</sup>. There are often synergies between these socio-economic dynamic conditions that represent future opportunity for us to act as a focal point for mobilising the project profession to leverage dynamic conditions. In some cases, this has already been attempted such as with recent webinars and has proven widely popular<sup>29</sup>.

<sup>26</sup> APM, 'Climate Change, Clean Growth and Sustainability'.

<sup>27</sup> APM, 'Fourth Industrial Revolution'.

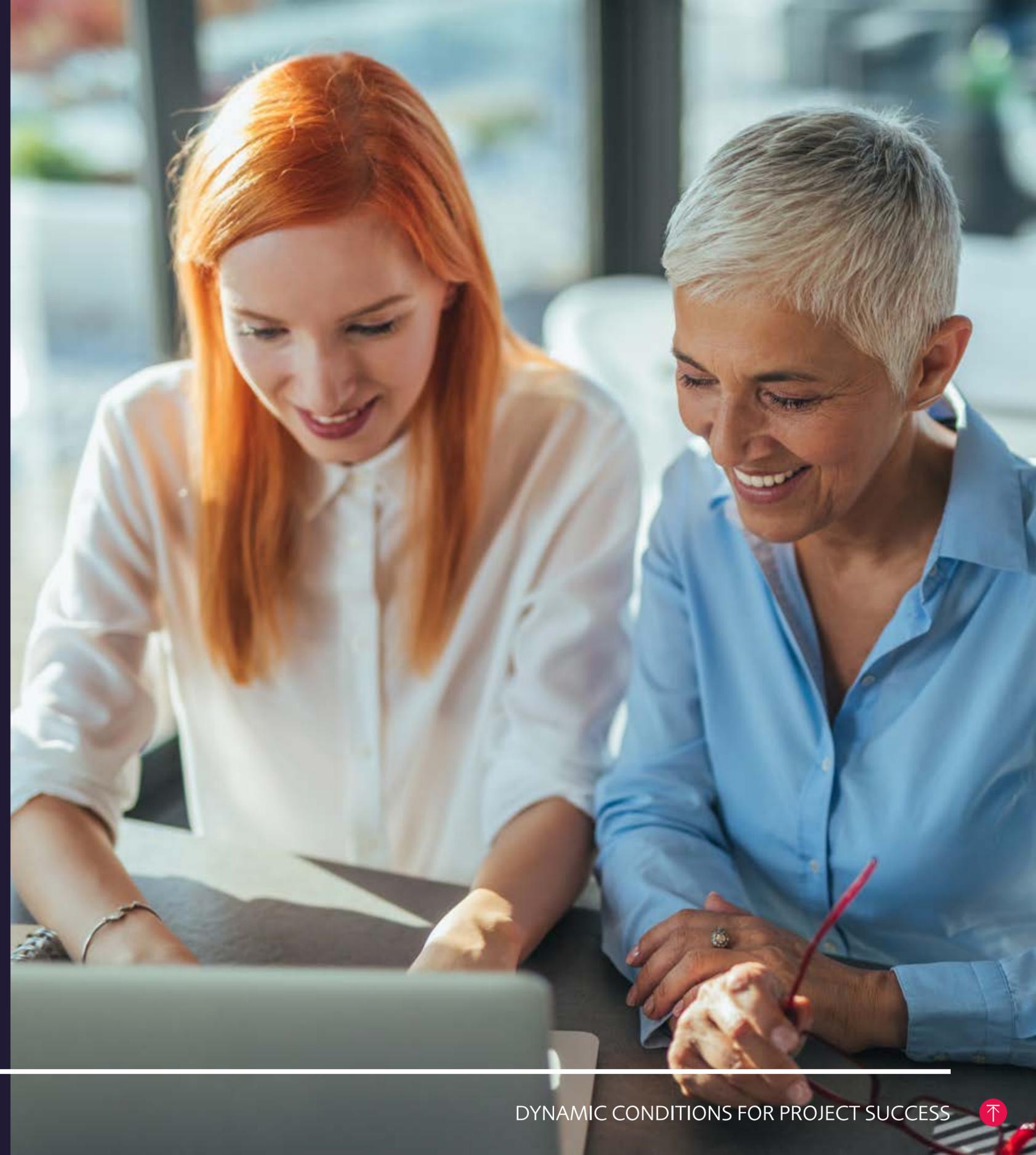
<sup>28</sup> APM, 'The Future of Work and Skills'.

<sup>29</sup> APM, 'Risk and Data Analytics – Predicting the Future?'



## RECOMMENDATIONS

The recommendations from this report reflect issues that have been highlighted by the research process and are important considerations for ensuring success for project-based organisations and portfolios. The primary challenge with this research will be applying it as there will inevitably be barriers, often unintentional, towards its application.



## PROJECT PROFESSIONALS

Project professionals should seek to encourage their project-based organisations to support the findings of this report. Many of the findings can be readily applied within projects and project teams without any additional expenditure.

Firstly, while project professionals are understandably focussed on delivering their current project within requirements, they should dedicate time and effort to informal mentoring of future talent as this will create a legacy effect to a project and support long-term success for the project portfolio. Perhaps most importantly, this does not require any immediate funds. However, project professionals should be aware that greater value can be added to their mentoring through financial support from the organisation as with the UK government's financial support for informal training in the civil service.

Secondly, project professionals should encourage a diversity of opinion, perspectives, and backgrounds within their projects. This will ensure that the best ideas are present at key decision points within projects to support innovation and better project outcomes.

Thirdly, project professionals can immediately implement financial sustainability as a mindset change. This requires project professionals to adopt a lean mindset and run projects as efficiently as possible and future proof so that each project does not duplicate processes where they can be run a single time.



## PROJECT-BASED ORGANISATIONS

Project-based organisations stand to benefit most from the findings of this report. Firstly, with reference to the recommendation for project professionals to focus on mentoring within their team, organisations should seek to allocate funds for informal mentoring for future talent. In particular, organisations may wish to emulate the UK government's 70-20-10 approach to training with 70 per cent of training 'on the job', 20 per cent from mentoring, and 10 per cent from classroom-based learning.

Secondly, organisations should internalise the KSIs examined in each findings' sub-section. This study both identified and assessed the relative importance of these KSIs as a means for more readily applying each of the dynamic conditions.

Thirdly, organisations should take advantage of the specific findings in the knowledge management section of this report by creating a specific role for knowledge management within project frameworks. The scope of such a role would be for an individual to move between ongoing projects to facilitate cross-pollination of new knowledge. This should be combined with a firmer embedding of standardised knowledge management processes so that teams must do it in a uniform fashion.



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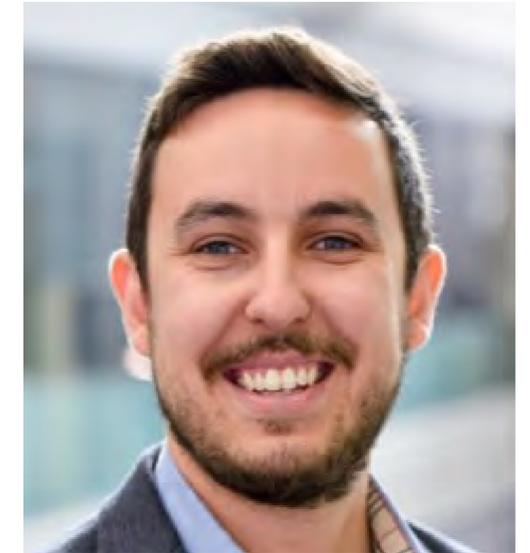
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