UCL

Centre for Construction Project Organising

Innovation Network

Designing Project Dynamics: Ways of knowing in construction project organising

Scoping Workshop Report

Executive Summary

Over the last 40 years, the construction industry has seen many positive developments, such as the reduction of safety incidents, maturity of project management systems, adoption of digital technology and a notable shift towards more collaborative forms of organising and relational contracting.

We only have to look at the built environment around us to know that we are a capable industry.

However, when Hedley Smyth and myself edited our book Construction Project Organising[1], alongside many other well documented performance challenges, we were deeply struck by the notion of the industry as having a toxic culture and the fact that we have the highest in-work male suicide rate of any other UK industry.

This is unacceptable by any measure.

Alongside my own research into studying the lived experience of project life through the day to day dialogue that we engage in as practitioners[2], this inspired me to think critically and understand more about our methods of knowledge creation. I arrived at the proposition that we need to take an evolutionary step from a dominant focus on knowledge transfer or exchange, towards *pioneering novel methods of knowledge co-creation* for each individual project-based context.

To achieve this, in July 2023 I launched a new research centre titled the Centre for Construction Project Organising[3] and embarked on a journey to scope out and establish a new Innovation Network (IN) titled *Designing Project Dynamics*.

The aim of the IN is to identify, develop and implement *novel methods of knowledge co-creation*, bridging the gap between academia and practice for the betterment of the construction industry and the organisations and participants who engage in it.

This report sets out the background and rationale for the IN. It presents the aims and objectives of the Scoping Workshop held in February 2025, which resulted in the identification of five knowledge themes, namely: **Time and the Timing of Knowledge; Data Collection, Standardisation and Utilisation; Knowledge Sharing and Collaboration; Organisational Culture and Behaviour,** and **Interdisciplinary Approaches**.

The report concludes by setting out the aims, objectives and plan for establishing the Innovation Network.

- **Time and the Timing of Knowledge –** Emphasising the importance of when knowledge is gathered and applied across project lifecycles.
- **Data Collection, Standardisation and Utilisation –** Highlighting inconsistencies, underutilisation, and the need for purpose-driven data practices.
- **Knowledge Sharing and Collaboration –** Stressing the value of both formal and informal mechanisms for exchanging tacit and explicit knowledge.
- **Organisational Culture and Behaviour –** Identifying leadership, trust, and psychological safety as enablers of effective knowledge practices.
- **Interdisciplinary Approaches –** Calling for insights from diverse fields such as psychology, data science, and manufacturing to tackle complex challenges.

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01 Introduction and background

The purpose of this report is twofold. **Firstly,** it is to set out the rationale for the establishment of a new Innovation Network (IN) in the Centre for Construction Project Organising (CCPO), Bartlett School of Sustainable Construction (BSSC), in The Bartlett Faculty of the Built Environment at UCL. The Faculty is ranked No1 in the world for Architecture and Built Environment and is therefore well placed to establish an Innovation Network to tackle some of societies Grand Challenges, such as, for example, mental health and wellbeing in construction[4], from policy to boots on the ground[5].

The foundation behind the idea for the creation of the IN was the launch in July 2023 of CCPO, which was itself founded on the publication of the book Construction Project Organising by Simon Addyman and Hedley Smyth, published in January 2023[6]. During this launch participants were introduced to the editorial of the book and given a presentation from Dr David Hancock, Head of Construction at the Infrastructure and Projects Authority (IPA – now NISTA). Both these presentations set out a number of challenges faced by the industry – both from an academic and practitioner perspective.

During the workshop, on tables dedicated to organisation type, participants were asked to address the following questions:

- **What are the key problems you are dealing with?**
- **What would you expect the network to do for you and your organisation?**
- **Why is it useful to have one of these networks?**
- **What would be the ideal outcome?**

We analysed this data and found four core problem themes:

01 **Procurement, Governance and Value Creation**;

02 **Productivity, Innovation and Repeatability**;

03 **Integration, Fragmentation & Knowledge Management;**

04 **Workforce, HR and Wellbeing**.

It was suggested by participants that the IN could help by acting as a bridge across the different elements of the industry, generating a common language and providing advocacy through more rigorous scientific work. The IN could help to foster productive conversations by testing ideas around evidential data, learning from cases, working with discrete groups, aligning language and demonstrating evidential influence. Following this event, I applied for and was awarded funding from UCL Innovation and Enterprise under Grant No. KEI2024-01-91 HEIF INNET Addyman.

Secondly, this report presents the results of this scoping exercise, most notably the findings from an IN Scoping Workshop held on 25th February 2025. The purpose of the workshop was to help scope out the IN by identifying common industry methods associated with the transfer, exchange and creation of knowledge. Over 70 participants, from across the construction industry, gathered at The Building Centre in central London and engaged in an afternoon of brainstorming, dialogue and networking.

We recognise that the data set and the analysis that follows may not be a complete picture of all the methods and their associated issues.

As the workshop was an early stage scoping exercise, the objective of the analysis was to achieve sufficient critical synthesis of the data to generate common themes, with a number of propositions for each theme, which can then be taken forward into a strategic plan for the establishment of the IN over the coming years. This will be subject to the next stage of funding in the summer of 2025.

The report is structured as follows: Firstly, Section 2 sets out the rationale for establishing an IN. Section 3 then formulates a problem statement, provide a brief critique of research and practice and a problem of knowledge in construction project organising, before explaining Engaged Scholarship with a practical example of its application. Section 4 describes the aims, objectives and structure of the scoping workshop. Section 5 presents the five themes and their propositions that were identified from the analysis of the workshop data. Section 6 summarises this work and presents a plan for future activities to establish the IN. A description of the theoretical framework and method of analysis of the scoping workshop data can be found in Appendix A, with data tables in Appendix B.

The report is written predominantly in the first person in the acknowledgement that I take responsibility for developing the theoretical framework, the analysis of the data and the resulting findings. I acknowledge the support of UCL colleagues in Section 7.

02
Why an Innovation Network?

2.1 Rationale for an Innovation Network

The UK construction sector is a major employer in the UK, supporting circa 2.3 million workers and contributing 6% to the GVA[7]. It is an industrial sector that transcends almost every other industrial sector and plays a pivotal role in the security and growth of the UK economy. For example, in Labour's Clean Power 2030 Mission, which seeks a *rapid* transition to a greener energy supply, the power sector will be reliant on construction as its dominant supply chain partner[8].

This poses very serious questions for construction as an industrial sector as our recent history tells us that we are beset with long standings problems of productivity[9] and worker wellbeing[10]. This is before we deal with other inherent challenges, many of which were identified in the CCPO launch event of July 2023 and set out above in the introduction to this report. These are complex challenges for which there is no silver bullet and yet we often rush to make such claims about initiatives such as, digital technology, modern methods of construction or the well-trodden path of collaborative practices. We should perhaps refrain from making such claims until we have critically thought about the methods we use to create the knowledge necessary to effectively implement these initiatives.

I contend therefore that if we are to meet the societal challenges that lay ahead of us, then modern day project-based organising in construction needs to take an evolutionary step from what I see as a dominant focus on knowledge transfer or exchange, towards pioneering *novel methods of knowledge creation* for each individual project-based context. Collaboration between industry and universities has been shown to offer opportunities to meet some of our societal challenges head on[11]. To address this issue, CCPO is establishing a new IN titled *Designing Project Dynamics*.

The aim of the IN is to identify, develop and implement *novel methods of knowledge co-creation*, bridging the gap between academia and practice for the betterment of the construction industry and the organisations and participants who engage in it.

The objective of the IN is to apply the *method* of Engaged Scholarship[12] for conceptualising, designing, building and sustaining bridges between academia and practice, in and through novel methods of knowledge co-creation.

The following section looks at problems of knowledge, research and practice in construction and gives a brief explanation of Engaged Scholarship and an example of its application in practice.

03 Engaged scholarship – Bridging theory and practice for knowledge co-creation

3.1 Formulating a problem statement

In seeking to address industry problems and avoid rushing to solutions, which construction has been criticised as doing[13], we should seek to challenge underlying assumptions[14] and think critically about how to *formulate problem statements* as a first step in generating rigorous, relevant and impactful research and practice.

Taking a project management practice lens to this statement, we might suggest that when we get the 'front-end' of projects right, the beneficial outcomes speak for themselves.

Bridging theory and practice has for some time been, and remains, of concern for project management scholars[15,16]. However, with respect to productivity and suicide, we might ask ourselves why it is that academia and practice have not been able to make these metrics look more positive?

3.2 A critique of project management research and practice

In seeking to answer this question I offer a very brief and very broad critique of research practice and project management practice, as follows:

In research: Too often we are a camera, observing events from the outside, seeking generalisable models. We are less agents actively involved in day-to-day practicalities;

In practice: Too often we are dominated by standardised processes (i.e., Bodies of Knowledge), performing as trained technicians applying generalisable models in the belief they determine positive outcomes.

This critique can be expanded to incorporate a number of different perspectives and issues, some of which may not agree with this critique. I also recognise that there are a wide variety of practices that exist within and between both communities. Yet I believe there is the inherent shared desire to achieve a common goal of meeting the requirements of rigour, relevance and impact in our work[17].

From this critique, the following section presents a problem of knowledge in projects. Or to put it differently, this is a problem in *ways of knowing* – of how we come to understand and jointly decide how to move forward together in our current context.

3.3 A problem of knowledge in projects

I posit that the creation of new knowledge by scholars has varying degrees of success in being exchanged or transferred for use by practitioners and for it to become impactful on the performance of the industry and the organisations and participants in it.

Likewise, the creation of new knowledge by practitioners often takes extended periods of time before it is captured and theorised on by academics.

From this, I argue that in construction this problematic situation between research outputs and real-world challenges highlights a methodological issue:

> There is a missing step in knowledge co-creation – where scholars must be actively involved in day-to-day practice and practitioners must be actively involved in developing, owning, and embedding research insights.

This suggests that alternative methodologies are needed - ones that embrace contextual complexity and engage with practitioners more directly in their day-to-day problem solving. It calls for methods that facilitate the co-creation of knowledge between scholars and practitioners, for which there has been a growing interest from scholars and practitioners in recent times[18].

In establishing an IN, I turn to Engaged Scholarship (ES)[19,20] as an established framework for bridging theory and practice.

3.4 A brief explanation of Engaged Scholarship

Published in 2007, ES is a method used by organisation and management scholars for the co-creation (or sometimes termed, co-production) of knowledge. It has not only been applied to mainstream organisation and management studies but also in the study of project management[21,22,23].

ES works on the premiss of four key points[24]:

01 Project management research and project management practice involve two distinct logics of knowledge;

02 The knowledge required to comprehend and overcome a particular problematic situation is only ever partially held by either the researcher(s) or the practitioner(s);

03 Project researchers and project practitioners create a collaborative relationship concerned with the co-production of knowledge, enabling practitioners to capably move on and helping advance both theory and practice for the topic;

04 Effective engagement involves a dialogue of reflexive interpretation of their understanding of the evidence they draw from the data, based on their (emerging) choice of methodology appropriate for the problem at hand.

To identify and solve the problematic situation, researchers and practitioners engage together to through four main steps[25]:

- ***Problem formulation:*** Jointly comprehend and situate a real world problem (in practice and theory) to arrive at a research question.
- ***Theory building:*** Researchers identify a body of theory relevant to the problem. Then jointly find an appropriate fit from a selection of associated conceptual models and adjusting as they move through the study.
- ***Research design:*** Researcher puts forward appropriate research methods to then jointly collect, analyse and interpret data for the chosen research question against the chosen conceptual models.
- ***Problem solving:*** Jointly identify solutions and put these into practice. Then feedback on these in relation to the research question, chosen conceptual models and methods to see if any modifications are needed.

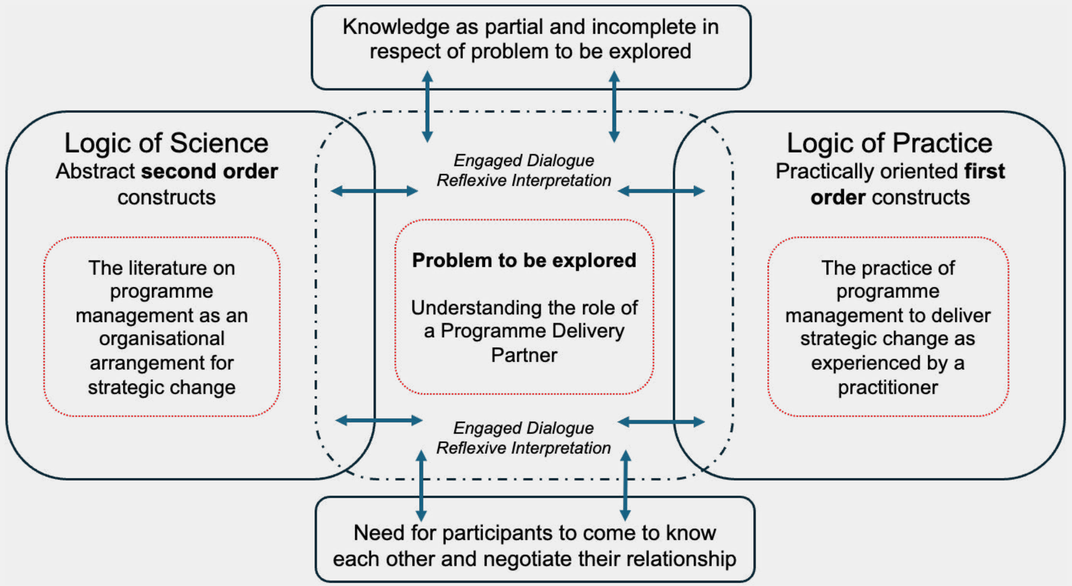
The following section, presents an example of where CCPO has applied the ES framework to explore a particular problem area in construction project organising.

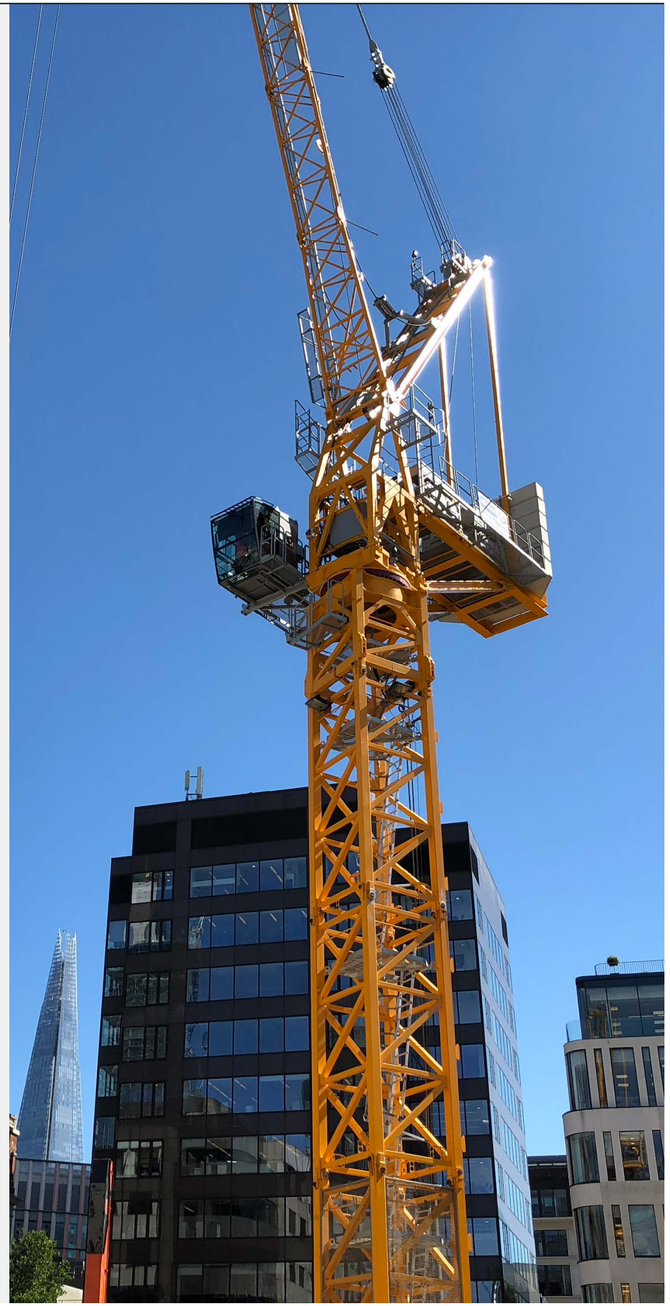
3.5 An example of applying ES in practice.

Figure 1 presents an example of our interpretation of how engaged scholarship guides us to develop *1) problem formulation* and, 2) an initial *theoretical framework*. It represents its application in practice from a collaborative study between UCL and Parsons, exploring the role of the Programme Delivery Partner in the management of complex infrastructure programmes.

The output of this research resulted in a joint publication, published in the Institute of Civil Engineers Proceedings, May 2025[26].

The following section sets out the aims, objectives and activities of the scoping workshop.





04 Scoping the Innovation Network

To support the scoping of the IN, CCPO received funding from UCL Innovation and Enterprise. This funding enabled a review of findings from the July 2023 CCPO launch event and the delivery a workshop to explore the different types of methods participants and organisations use to acquire knowledge for achieving their strategic objectives through project-based organising.

The workshop was held on 25th February 2025 at The Building Centre in central London. The workshop cohort was made up of over 70 participants from contractors, clients, government, professional bodies, consultancies and academics from BSSC. The workshop was also an opportunity for colleagues old and new to meet and network together over lunch and coffee.

4.1 Aims and objectives of the scoping workshop

The aim of the scoping workshop was to explore the question:

"How do scholars and practitioners engage in processes of bridging, both within and between their two domains, for the (co)creation of knowledge"?

The objectives of the workshop were to:

01 **Investigate the challenges associated with knowledge** (co)creation within and between academia and practice;

02 **The identification and mapping of *methods*** that organisations use to create, transfer or exchange knowledge;

03 **Garner *feedback* from academics and practitioners on establishing the IN –** what types of activities, partnerships and outputs would be helpful to industry and academia?

On the day, to explore the above questions, the workshop was split into 3 parts which are presented in the following sections.

4.2 Workshop Part 1

In the first part, Professor Jacqui Glass, Dean of the Bartlett Faculty of the Built Environment, welcomed guests and opened up the day by inviting us to consider the importance of engagement between academia and practice in developing our field for the greater good.

I then gave an introduction to the day. I set out the need for better collaboration between academia and practice, providing industry metrics on productivity and in-work male suicide as examples of the need for fundamental change. I presented the rationale for the IN, a brief and broad critique of research and practice in construction, proposed a problem in knowledge creation and concluded by proposing Engaged Scholarship as a method for bridging theory and practice, using a case study as an example. The details of this presentation are explained across Sections 2 and 3 of this report.

This was followed by Professor D'Maris Coffman who, in her role as Vice-Dean Innovation and Enterprise built on this message, explaining the importance of the timing of the workshop as the university orients from its focus on growing and sustaining its student base and educational record, towards growing and extending its partnerships with industry, government, professional bodies and the third sector.

From an academic perspective, Professor Coffman drew our attention to the four different methods of knowledge production that academia can help generate for industry, set out in Table 1.

Type	Purpose	Focus	Example
Reality-based (Descriptive)	To observe and explain reality as it is	Empirical data, factual reporting	Studying rainfall trends over 50 years in East Africa
Theoretical (Modelling)	To abstractly model or predict phenomena	Conceptual frameworks, simulations	Modelling disease spread using differential equations
Normative (Design)	To define ideals or desired future states	Ethics, values, future-oriented principles	Creating a framework for fair AI governance
Instrumental	To apply solutions and enact change	Practical tools, interventions	Launching a mobile app to improve medication adherence in rural areas

Table 1 - Types of knowledge work

All these methods of knowledge production involve varying degrees of academic-practitioner collaboration on a spectrum from detached observer to actively engaged participant, depending on the philosophical stance and subsequent chosen methodology to achieve the desired outcomes.

This was followed by a practitioner perspective from Andy Swift, Euston and Midlands Stations Area Director for HS2 and Honorary Associate Professor at UCL. Andy presented two examples of wellbeing management in construction. Firstly, the organisational structure for communication with the workforce at HS2 Euston that focused on integrating both a bottoms up and top down approach. Secondly, the use of digital technology on London Underground's Bank Station Capacity Upgrade Project to measure the fatigue of the tunnelling workforce. This led to positive changes in shift patterns to minimise the effects of fatigue for the workforce in a commercially viable manner.

4.3 Workshop Part 2

In the second part, we asked participants to introduce themselves to each other through an activity of explaining their favourite food through a picture. They were then asked to consider the following question:

> ***Question 1***: Based on examples/your professional experience, what are examples of methods (ways you gather information or knowledge) to understand a situation?

Participants undertook these activities on tables allocated per organisational role, namely: client, contractor, consultant, professional body, academic, government and then a mixed table of independents and flow over from other tables. Ideas were captured on post-it notes.

4.4 Workshop Part 3

In the third part, building on their brainstorming of examples of methods in part 2, we asked participants to consider the following questions:

> ***Question 1***: What are we seeing in this mapping?
>
> ***Question 2***: Where are the strengths? Where are the gaps? How are the methods working together?
>
> **Question 3**: What other disciplines should we bring into the discussion?

Participants were then asked to map these methods and their issue onto a master sheet of paper where they were categorised by organisational type. Participants were then asked to change to another random table and discuss the findings that they had considered so far and the challenges they perceived with academia and practice working together. Participants were asked to make notes from the discussions on flip charts. The data is presented in tables in Appendix B.

For both parts 1 and 2, table facilitators were allocated and post workshop they each provided a 2 page reflection on the discussions they heard, which contributed to the analysis.

The following Section 5 sets out the five method themes that were identified along with their corresponding propositions. The theoretical framework and method of analysis to arrive at these themes and propositions is set out in Appendix A.

05 Scoping Workshop Themes

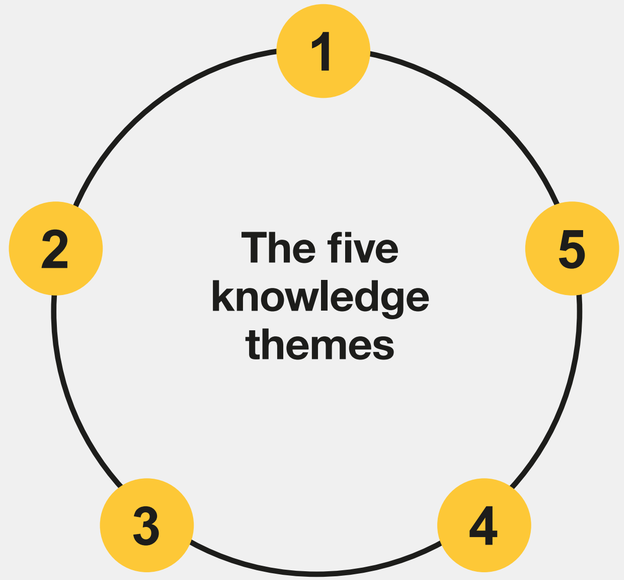
This section presents the five themes with corresponding sub-themes and propositions. The method of data collection is explained in Section 2. The theoretical framework, research approach and method of data analysis is explained in Appendix A.

The themes, and the data that supports them, are not independent of each other, much of the data collected at the workshop transcends more than one theme. The findings here are not presented in any order of importance.

1
Time and the Timing of Knowledge – Emphasising the importance of when knowledge is gathered and applied across project lifecycles

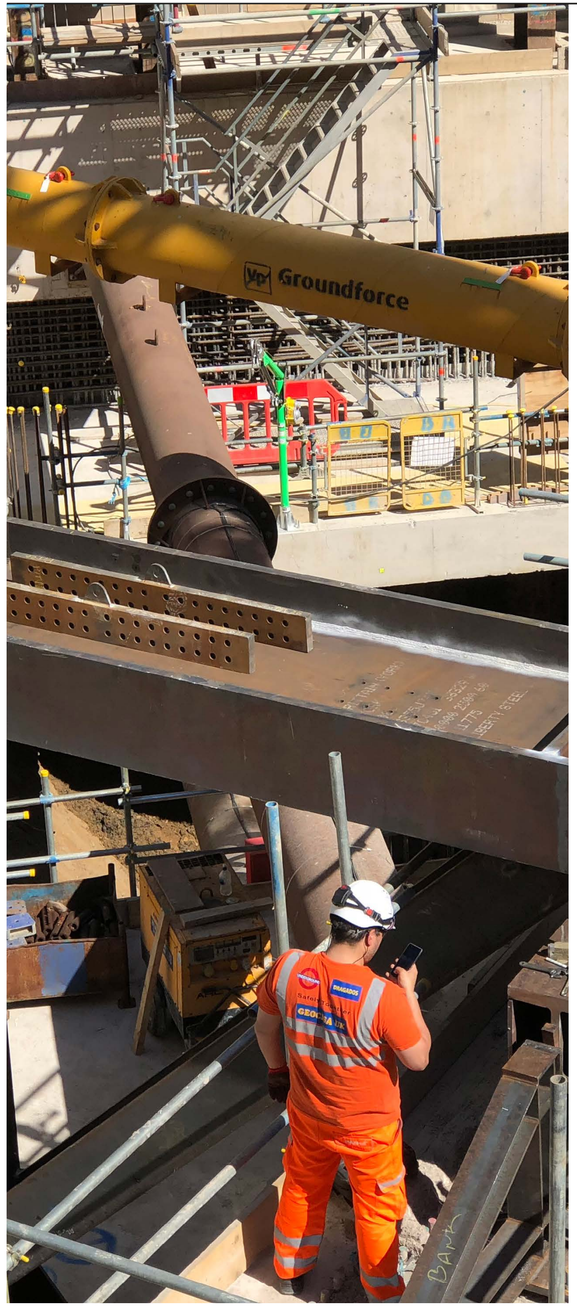
2
Data Collection, Standardisation and Utilisation – Highlighting inconsistencies, underutilisation, and the need for purpose-driven data practices.

3
Knowledge Sharing and Collaboration – Stressing the value of both formal and informal mechanisms for exchanging tacit and explicit knowledge.



4
Organisational Culture and Behaviour – Identifying leadership, trust, and psychological safety as enablers of effective knowledge practices.

5
Interdisciplinary Approaches – Calling for insights from diverse fields such as psychology, data science, and manufacturing to tackle complex challenges.



5.1 Time and the timing of knowledge

It is unsurprising that in a project-based industry such as construction, a central theme was the role of time and timing in how data is collected, interpreted and applied across a project lifecycle.

The evidence suggests that the value of data has a relationship with when it is gathered and how timely its insights are in informing decisions. From early-stage problem definition to real-time feedback during delivery and retrospective learning post-completion, the temporal dimension of data use was seen as critical.

The reflections revealed both missed opportunities where data was collected but not used in time and promising practices that align data collection with key project phases. The following points illustrate how time and timing were explicitly and implicitly referenced:

01 **Methods for gathering knowledge were described as time dependent**, varying by project phase (e.g., early-stage scoping vs. delivery).

02 **Benchmarking and feedback loops** are used differently depending on when in the project they were applied.

03 **Emphasis on crisis response methods being adapted for proactive use**, as opposed to being left until there is a crisis. A shift in timing from a reactive to an anticipatory approach to inevitable challenges.

04 **Reflective practices were noted as valuable** during and after project phases.

05 **Data is often used retrospectively rather than in real time**, limiting its impact on active project decisions.

06 **Poor problem definition at the start of projects**, can affect how data is used later.

07 **The need for leading indicators** (early signals) **vs. lagging indicators** (outcomes) reflects a concern with timing of measurement.

08 **Peer-to-peer sharing and interactive workshops** were considered most effective when timed to coincide with key decision points or transitions in a project.

09 **Site visits and case studies were valued for real-time learning**, while audits and benchmarking were more retrospective.

10 **Action research and iterative methods imply a cyclical, time-sensitive approach** to knowledge creation, aligned with project rhythms.

11 **Several groups noted that data is often collected but not used** in time to inform decisions. There's a call for real-time data interpretation and timely feedback loops.

12 **Some participants suggested that academia is circular** while practice is more linear.

In summary, I identified five sub-theme topics with propositions, as set out in Table 2.

Sub-theme topic	Proposition
Temporal Relevance of Data	Data is effective not only due to its quality or quantity but also due to the timing of its collection and its influence on timely decision-making.
Phase-Specific Practices	Methods for data collection and interpretation differ across project phases, reflecting specific needs in scoping, implementation, and evaluation stages
Proactive vs. Reactive Use	Adopting anticipatory data approaches underscores the importance of early problem definition and the use of predictive indicators.
Timing of Knowledge Sharing	Workshops and peer exchanges are most effective when they coincide with critical points in a project, such as major transitions or decisions.
Real-Time Learning Loops	The growing emphasis on real-time feedback, action research, and iterative approaches indicates a rising demand for promptly applying insights within project cycles

Table 2 – Propositions for time and timing of knowledge.

5.2 Data collection, standardisation and utilisation

Throughout the workshop, participants raised issues regarding the effectiveness, standardisation and consistency of data collection and its subsequent use in practice. While data is often gathered in large volumes across project environments, it was acknowledged that much of it remains underutilised, poorly interpreted, or disconnected from decision-making processes.

Several reflections pointed to fragmented practices, a lack of shared standards, and challenges in aligning data with project goals. Standardisation was also seen as important for enabling effective data use, AI integration, and cross-sector collaboration. Additionally, concerns were expressed about the quality, relevance, and accessibility of data, particularly when collected without clear intent or coordination.

These issues highlight the need for more strategic, standardised, and purposeful approaches to data management across the sector that can support learning, benchmarking, and innovation at scale.

The following points summarise the key challenges identified by participants:

- **Large volumes of data are collected but often not analysed** or applied effectively in decision-making.
- **Data collection methods vary widely** across organisations and projects, leading to fragmentation and lack of comparability.
- **Data is sometimes gathered without a clear understanding of what needs to be measured**, reducing its relevance and usefulness.
- **There is a need for consistent, sector-wide indicators** – especially leading (predictive) and lagging (outcome) metrics.
- **Even when data is available, teams often struggle to interpret it meaningfully** or translate it into actionable insights.
- **Data collection rarely includes or reflects the perspectives of end users**, especially early in the project lifecycle.
- **Data is not always accessible to those who need it**, and there is a lack of openness in sharing insights across teams or organisations.
- **AI tools are being used for data analysis and sensemaking**, but concerns remain about bias, accuracy, and the need for structured, high-quality inputs.
- **Data collection should be more purpose-driven** and aligned with project goals, rather than being a routine or compliance-based activity.
- **Government and institutional support is important** for driving sector-wide adoption of standardised practices

In summary, I identified five sub-theme topics with propositions, as set out in Table 3.

Sub-theme topic	Description
Data Use and Decision-Making	Although substantial amounts of data are collected, much of it remains under-analysed, misinterpreted, or insufficiently connected to timely decision-making.
Inconsistency and Fragmentation	Variability in data collection methods across organisations and projects results in fragmented practices and limits the development of standardised or comparable metrics.
Purpose and Relevance of Data	When data is collected without a clear purpose or alignment to project objectives, it often becomes less useful and fails to adequately capture end-user needs, particularly during the early phases.
Accessibility and Interpretation	Teams frequently struggle to access and interpret relevant data in actionable ways, and insights are rarely shared effectively across functional or organisational boundaries.
Institutional Role in Standardisation	Professional bodies and government institutions play a critical role in promoting and embedding standardisation through audits, benchmarking, and shared frameworks.
Quality and Integrity of Data	Concerns about the accuracy, bias, and input quality of AI analytical tools emphasise the importance of using structured, high-quality, and coordinated data.

Table 3 - Propositions for Data Collection and Utilisation

5.3 Knowledge sharing and collaboration

Notwithstanding the challenges of data collection, standardisation and utilisation, participants discussed the importance of knowledge sharing and collaboration. They highlighted the value of both formal mechanisms - such as workshops, interviews, and benchmarking - and informal exchanges, including peer-to-peer conversations and networking.

Effective collaboration was seen to depend not only on tools and processes, but also on organisational culture, leadership openness, and the timing of engagement across the project lifecycle, which is elaborated on further in section 5.4.

The following points illustrate the diverse methods and conditions that support meaningful knowledge sharing:

- **Workshops are widely used to facilitate knowledge exchange across stakeholders**, including clients, contractors, consultants, and end users.
- **Informal interactions (e.g. peer-to-peer conversations, coffee chats) are highly valued** for sharing tacit knowledge and building trust.
- **Cross-sector networking – both formal and informal** – is seen as essential for accessing diverse perspectives and expertise.
- **Communities of practice and working groups support ongoing collaboration** and shared learning within and across organisations.
- **Mentorship and intergenerational learning** (e.g. senior-to-junior knowledge transfer) are important but often underutilised.
- **End-user engagement** early in the project lifecycle enhances the relevance and usability of shared knowledge.
- **External viewpoints** (e.g. from clients, JV partners, supply chain) are critical for sense-checking assumptions and broadening understanding.
- **Open, blame-free cultures** foster more honest and productive knowledge exchange.
- **Digital tools** (e.g. mural boards, Slido polls, AI platforms) are increasingly used to support collaborative knowledge generation.
- **Thought leadership reports, case studies**, and site visits are used to disseminate insights and promote sector-wide learning.
- **Academic-practitioner collaboration** is seen as valuable but often hindered by differences in language, priorities, and accessibility of outputs.
- **Interactive methods** such as brainstorming, mind mapping, and facilitated sessions help surface tacit knowledge and align diverse viewpoints

In summary, I identified five sub-theme topics with propositions, as set out in Table 4.

Sub-theme	Description
Formal and Informal Knowledge Exchange	Effective knowledge sharing depends on a combination of structured formats, such as workshops, and informal interactions, such as peer chats and networking
Cultural and Relational Enablers	A culture of trust, openness, and psychological safety—reinforced by mentorship and leadership—enables authentic and productive collaboration
Cross-Sector and End-User Engagement	Engaging a wide range of stakeholders—including end users, clients, and joint venture partners—enhances the relevance and scope of shared knowledge throughout a project's lifecycle
Tools and Interactive Methods	Digital tools and interactive methods such as AI platforms, brainstorming, and mind mapping facilitate the exchange of tacit knowledge and enhance collaborative learning..
Barriers to Academic-Practitioner Collaboration	Although collaboration between academia and industry is widely valued, it is frequently limited by differences in priorities, language, and the accessibility of research outputs.

Table 4 - Propositions for Knowledge Sharing and Collaboration

5.4 Organisational culture and behaviour

As highlighted in section 5.3 above, the data shows us that organisational culture and behavioural norms play a foundational role in shaping how knowledge is created, shared, and applied.

Participants emphasised that a culture of openness, trust, and psychological safety is essential for effective knowledge sharing. Leadership was identified as a key influence in setting the tone for blame-free environments, encouraging reflection, and supporting continuous learning.

Informal interactions and inclusive practices—such as mentoring, early stakeholder engagement, and cross-hierarchical dialogue—were also seen as vital cultural enablers.

The following points illustrate how organisational culture and behaviour were discussed across the workshop reflections.

- **Blame-free environments** are essential for open dialogue, learning, and innovation.
- **Leadership behaviour** strongly influences organisational culture, particularly in setting expectations for openness, trust, and reflection.
- **Psychological safety** enables individuals—especially junior or new team members—to contribute ideas and challenge assumptions.
- **Reflective practices,** both personal and organisational, are valued for continuous improvement and learning.
- **Crisis response behaviours** (e.g. rapid collaboration, open communication) can be proactively embedded into everyday practice.
- **Early stakeholder engagement,** including end users, fosters a more inclusive and collaborative culture.
- **Informal interactions** (e.g. casual conversations, peer exchanges) are powerful enablers of cultural cohesion and tacit knowledge sharing.
- **Trust-based relationships** are foundational to effective collaboration and knowledge exchange.
- **Cultural resistance to standardisation** or external input can hinder learning and innovation.
- **Learning cultures** are marked by curiosity, humility, and a willingness to challenge norms and assumptions

In summary, I identified five sub-theme topics with propositions, as set out in Table 5.

Sub-theme	Description
Leadership and Psychological Safety	Leadership shapes an environment of openness, trust, and reflection, while psychological safety enables individuals to contribute ideas and question assumptions without fear of reprisal
Blame-Free and Learning-Oriented Culture	Blame-free, reflective, and curiosity-driven cultures promote continuous learning, foster innovation, and support more transparent and honest collaboration
Informal and Inclusive Practices	Informal interactions, mentoring relationships, and early involvement of stakeholders foster stronger cultural cohesion, facilitate the exchange of tacit knowledge, and enhance inclusivity across organisational levels
Trust and Relationship Building	rust-based relationships are essential for fostering effective collaboration, enabling meaningful knowledge exchange, and embedding shared values within and across organisations
Openness vs. Resistance	Openness to external perspectives fosters organisational learning and adaptability, whereas resistance to standardisation or outside input can limit innovation

Table 5 - Propositions for Organisational Behaviour

5.5 Interdisciplinary approaches

A recurring insight was the recognition that complex project environments require interdisciplinary thinking. Participants emphasised the need to draw on multiple disciplines to address complex project challenges.

Participants from both academia and industry acknowledged that no single discipline holds all the answers to the challenges facing the construction sector. Instead, they advocated for drawing on a broad spectrum of expertise - from economics and data science to psychology, manufacturing, and even aerospace. These perspectives not only enrich the understanding of project dynamics but also introduce innovative methods and tools that can be adapted to construction.

More specifically, professional institutes recognised their role in promoting and coordinating thought leadership not just from within construction but in their capacity to reach into other industries foster transparency and influence sector-wide change.

The following points illustrate how interdisciplinary approaches were referenced across the workshop discussions, both explicitly and implicitly.

Suggested disciplines included:

- **Economics and investment –** for innovative funding and value models.
- **Politics and finance –** to understand the influence of policy and funding mechanisms.
- **Procurement –** as a strategic lever for enabling or blocking innovation.
- **Manufacturing –** for insights into productivity, modularity, and process efficiency.
- **Data science and IT** – to improve data capture, analysis, and digital transformation.
- **Psychology and people management** – to enhance leadership, communication, and team dynamics.
- **Learning and development –** to support workforce capability and retention
- **Participants referenced cross-sector learning** from industries such as: **Aerospace, architecture, robotics, and genetic modification** – as models for innovation and structured knowledge systems.

- **Academic literature reviews** and **action research** were seen as ways to integrate diverse disciplinary insights into practice.
- **Professional bodies were recognised for facilitating interdisciplinary dialogue through events**, publications, and benchmarking and the facilitation of thought leadership.
- **Interdisciplinary collaboration was seen as a way to challenge assumptions, generate new methods,** and **enhance innovation** in construction.

In summary, I identified five sub-theme topics with propositions, as set out in Table 7:

Sub-theme	Description
Strategic Role of Thought Leadership	Thought leadership is a tool for promoting innovation, building credibility, and driving sector-wide learning and transformation through shared expertise and dialogue.
Need for Interdisciplinary Expertise	Addressing complex sectoral challenges requires drawing on insights from multiple disciplines—such as economics, psychology, and manufacturing—since no single field can offer comprehensive solutions.
Cross-Sector Learning and Innovation	Adapting tools, innovation models, and approaches from industries such as aerospace and robotics can introduce valuable practices into the construction sector
Integrating Diverse Perspectives	Academic research, external stakeholder input, and professional forums help bridge disciplinary divides and broaden understanding across technical and social dimensions.
Role of Institutions and Forums	Professional bodies and academic networks are key enablers of interdisciplinary dialogue through events, publications, and collaborative initiatives.
Challenging Assumptions and Generating Innovation	Interdisciplinary approaches foster creative problem-solving, challenge entrenched norms, and enable the development of novel practices and tools.

Table 7 - Propositions for Interdisciplinary Approaches

5.6 Summary

In total, we collected over 200 data items on post it notes and flip charts, as set out in Appendix B. There has necessarily been some inferential interpretation of these abstract items into the context of construction project organising. Appendix A provides a more detailed narrative of the theoretical framework and method of data analysis used for this interpretation.

There remains much work to do in the further critique of the data and propositions that we have presented here and this will form a key part of the next stage in establishing the IN. However, what we see here, when mapped to an industry that has struggled to improve, for example, its productivity and workforce wellbeing, it is clear that there exists an open opportunity for academia and practice to come together to coherently integrate industry problems with methods, through the use of Engaged Scholarship.

The following section summarises this report and sets out the planned activities for establishing the IN.

06
Summary and future activities

The purpose of this report was to set out the rationale for the creation of an IN and to present the findings of the scoping workshop for the establishment of the IN. This section providse concluding remarks in the form of a personal reflection of the work done so far in launching and scoping the IN, followed by a more detailed plan for the establishment of the IN

6.1 Concluding remarks

I have been in construction for over 40 years, 30 years in practice and 10 years in academia. I have seen many positive developments in the industry, such as the reduction of safety incidents, maturity of project management systems, adoption of digital technology and a notable shift towards more collaborative forms of organising and relational contracting.

However, when we edited our book Construction Project Organising, Iwe were deeply struck by the notion of the industry as having a toxic culture and the highest in-work male suicide rate of any other UK industry.

This is unacceptable by any measure.

Alongside my own research into studying the day to day lived experience of working in projects, this inspired me to think deeply and critically about how we come together and organise our everyday practices, both as academics and practitioners.

What I have learnt is that we cannot, in advance, know how we will execute a project. Our ways of knowing how to capably move on together can only come to us through joint, situated action at any given point in time.

Our continuous adoption of generalised frameworks deemed successful on prior projects provide only part of the solution and hence, in my understanding, are constraining rather than enabling our ability to make the seismic shift needed to improve productivity and worker wellbeing.

Whether in academia or in practice, these ways of knowing how to move on together require well formulated problem statements, appropriate theoretical frameworks and corresponding methods that fit to our present situation.

For this, I believe that Engaged Scholarship can help us to come together and find the right solutions for the problems at hand on any given construction project.

6.2 Establishing the Innovation Network

Following the scoping workshop, an IN Management Team was established (made up of members of the CCPO) to discuss the findings and identify the objectives and activities for establishing the IN.

The management team identified the primary objective of this establishment phase as being the design of a larger and longer term "Academia-Industry Research Project", supported by a "Research Roadmap", that seeks to address the issues of knowledge co-creation identified in this report.

We envision the Research Project to fit on a spectrum from, for example, a single research body funded large project dealing with a smaller number of industry wide issues (something akin to the recent Transforming Construction Network+), through to a joint research body / industry funded project that is modelled on, for example, the Building 2030 Consortium led by Aalto University, Finland

The design of this research project and supporting roadmap will then be used to apply for larger scale funding over a longer period of time that'll seek to achieve tangible impact to the productive performance of construction projects as the IN continues to operate over time.

To meet this primary objective, the sub-objectives of the establishment phase were identified as:

01 **Establish an Advisory Group of Senior Academic and Industry Professionals;**

02 **Undertake further analysis** of the scoping workshop findings;

03 **Publish a quarterly "Thought Piece";**

04 **Explore different types of Academia-Industry collaborations** that exist in the UK and other countries;

05 **Identify potential funding opportunities** for the larger research project;

06 **Hold 2 seminars t**hat openly discuss and debate the main themes identified in the scoping report;

07 **Run a series of mini 'sprint' workshops** to see how issues identified in the scoping report may be addressed through a larger Academia-Industry Research Project;

08 **Develop a Research Roadmap** as an output from the 'sprint' workshops, that blends together the methods identified in the scoping stage with practical industry problems that partners are seeking to gain further knowledge on;

09 **Prepare a PDF 'Flyer'** and supporting Promotional Video that introduce the IN and are used for garnering support for the larger Academia-Industry Research Project.

The schedule of activities over the one year period of the IN establishment project are as follows:

Phase One – Planning (September 2025 - December 2025):

- **Undertake additional analysis** from scoping report;
- **Establish the Advisory Group**
- **Design the 2 Seminars**
- **Design the mini 'sprint' workshops**
- **Publish first thought piece in December 2025**
- **Commence identification of different Academia-Industry Collaborations** and produce a short report of the different models.

Phase Two – Workshops (January 2026 to June 2026):

- **Undertake 2 seminars** on the topic of knowledge co-creation;
- **Undertake the mini 'sprint' workshops** (number to be decided in Phase One)
- **Develop Research Roadmap** as an output from the sprint workshops
- **Commence filming and PDF flyer** development
- **Publish two Thought Pieces** – end of March 2026 and end of June 2026

Phase Three – Write Up (July 2026 to September 2026):

- **Complete the PDF Flyer and Video**
- **Write and publish the proposed design** for a larger Academia-Industry Research Project
- **Publish one Thought Piece** in September 2026

The measured outputs from the Establishment funding will be:

- **Report** on the design of a larger Academia-Industry Research Project
- **Research Roadmap**
- **PDF Flyer and Video** to recruit funding partners
- **Four Thought Pieces**

The impact of these establishment activities for the IN will be to continue to build interest and credibility with industry partners, who we intend to become more formalised Partners to the larger research project.

07 Acknowledgements

While I have written this report predominantly in the first person and take full responsibility for the analysis and presentation of the findings, I wish to thank a number of people involved in the planning and execution of the workshop and the preparation of this report.

I am grateful for the support of Polly Van Alstyne and Ann Thorpe from UCL Innovation and Enterprise (I&E) who have provided invaluable guidance and support right from the early days of launching CCPO through to this scoping workshop and beyond. I am particularly grateful to Ann for facilitating the activities at the workshop.

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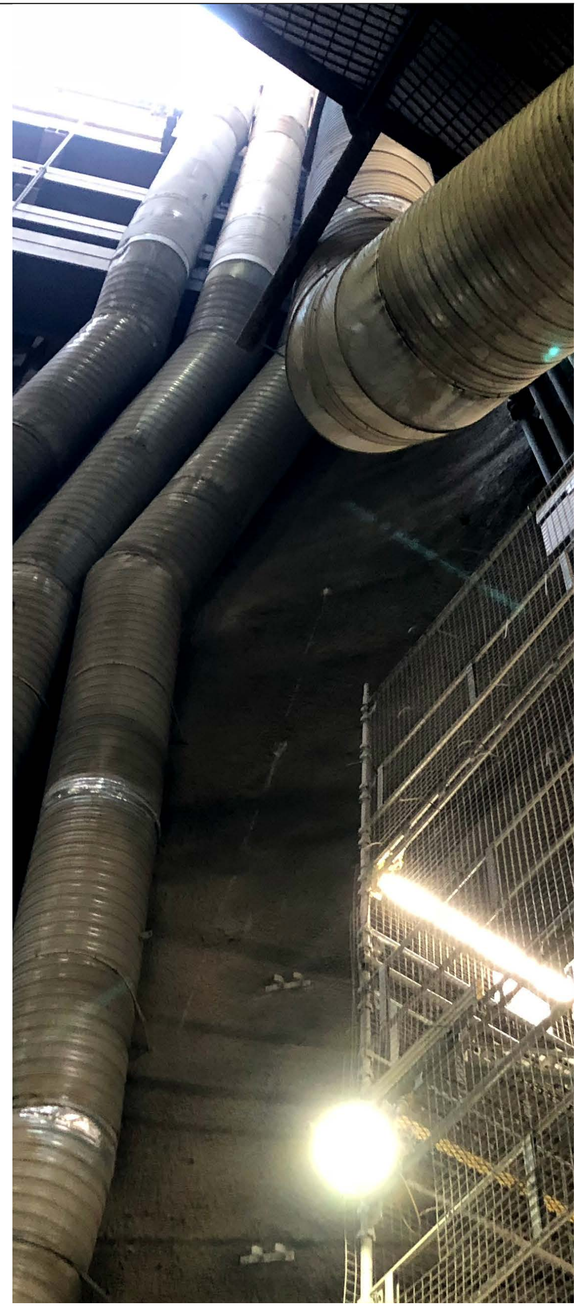
I would also like to thank my colleagues who participate in and contribute to CCPO, namely: Dr Jing Xu, Dr Selcuk Cidik, Dr Francesco Di Maddaloni, Dr Sina Moradi, Philip Heathcote and Andrea.



08 Appendix A – Theoretical Framework and Data Analysis

8.1 Introduction

Throughout the report thus far, I have set out, through footnotes, the literature I have used to support my arguments. In this section I expand this literature and present my broader theoretical framework, which also helped inform my analysis of the workshop data.

Firstly, I set out the nature of the construction industry from my perspective, drawing on my experience in practice, teaching post-graduate students and researching the field. As this is a scoping exercise, I have purposefully positioned this framework at quite a high level of explanation, to allow for conceptual development in future theorising once the network is established.

In the following part, I present a broad framework of literature for understanding the relationship between theory and practice in project studies. This leads me to engaged scholarship as a method for knowledge co-creation.

In the third part, I set out my research approach, building a framework from literature in organisation and management studies that is oriented towards a practice-cum-process lens and connects with the theoretical framework to the editorial chapter of Construction Project organising, cited in Section 7.2.

I then turn to describing the iterative process that I went through as my method of data analysis, followed by an explanation of the limitations of the findings and intended next steps for further analysis. I close this section by setting out the limitations of the framework and resulting findings.

8.2 The nature of the construction industry

During the 20th century, the nature and challenges of the construction industry have been well documented in a variety of reports[27]. Arguably much of this concern has centred on the nature of communication and information flow within and between the multiplicity of organisation that make up the industry, most specifically clients, designers, contractors and their supply chain[28,29].

In his recent book, *Making sense of construction improvement*, Stuart Green[30] identifies a turn from a government demand led industry to a private demand led industry. This turn fundamentally changed the nature of industry organising at the firm level, which in turn has an influence on the nature of project organising in the present day.

The Latham[31] and Egan[32] reports of the 1990's oriented the industry towards more collaborative forms of project organising and efforts to achieve beneficial collaborative practices have arguably dominated the landscape of the first quarter of the 21st century. This is evident in industry related guidance such as the Institute of Civil Engineers (ICE) Project 13 and Government mandated approaches, such as the Construction Playbook. This is all complemented with the recent publication of the Procurement Act 2025.

The primary lens of observation I used for the analysis is that of the construction project, recognising its embeddedness in a wider selection of both temporary and permanent forms of organising. I draw on my own work with Hedley Smyth[33] and the contents of our editorial chapter that set out a perspective on present day construction project organising from a broadly process-cum-practice perspective. We concluded that:

> The organisation and management of construction projects is not without its well documented problems in academic, government, and industry publications, some of which are presented in this volume.

> They generally centre on problems of commercial transactions and problems of human relations.
>
> Yet, in producing this book, what is evident in practice is that the industry says things and does things that: (i) sees these problems as independent of each other and treats them separately; and (ii) seeks panaceas and 'quick fixes' as perceived means of removing these problems. In achieving such objectives, people come to believe they are, and justify their action as being, on the path to transformational change
>
> despite past evidence showing time and again this is not the case.
>
> What we have learnt in producing this book is that the industry needs to make a shift from redesigning models where these independent problems are perceived to have been removed, towards embedding practices and routines at the project–firm interface that enable these problems to be effectively managed to accomplish the desired outcomes for all stakeholders.
>
> We believe this involves a rhetorical, conceptual, and practical shift for academics and practitioners."

It is against this backdrop that I turn to Engaged Scholarship. But before doing so, in the following section I firstly take a brief look at project scholarship and its relationship with and relevance to practice.

8.3 The relationship between theory and practice in project studies

In organisation and management theory, the gap between theory and practice has been widely discussed as a problem of bridging two distinct knowledge domains[34,35,36].

As project scholars reflect on the last 40 years, the relationship between theory and practice remains central to our field of study[37]. While there is improved relevance of the work to theory, there remain concerns for its relevance to, and impact on, practice[38], as it does in management and organisation studies[39].

Project scholars have long been concerned with the relevance of our work to practice and practitioners[40] and with understanding the corresponding methodological issues for knowledge (co)creation[41].

A theoretical response to this concern has been to adopt a process-cum-practice perspective for studying the actuality of projects[42,43.] This in turn has influenced the development of methodologies, such as Engaged Scholarship[44] and action research[45].

In project studies, scholars have recognised forms of Engaged Scholarship as an opportunity for designing new *architectures* for bridging theory and practice[46] born out of the need for more research on project practice. Within these new architectures, project researchers and practitioners engage in reflective practices for theorising and practicing projects and their management[47]. Despite its argued benefits for bridging theory and practice in project scholarship, concerns remain over a number of shortcomings[48].

Yet, for all our action (doing and saying) in project studies when *bridging* theory and practice, we most often cross this bridge from one direction, that of scholarship[49]. When we act in Engaged Scholarship, we predominantly direct and account for our action *from* scholarship *to* practice. We rarely cross the bridge *form* practice *to* scholarship, acting and accounting for our acts through forms of engagement such as autoethnography[50,51].

It was against this backdrop that I developed the questions for the scoping workshop with colleagues. The participants at the workshop were predominantly from industry and thus the data collected is predominantly that of practice. My understanding of Engaged Scholarship has been set out in Section 3. In the following section I set out my onto-epistemological, theoretical and methodological approach to the analysis of the workshop data.

8.4 Approach to data analysis

For my onto-epistemological approach, I adopt a *practical rationality*[52] (Sandberg and Tsoukas, 2011). As an industry, I see academics and practitioners as being socially entwinned in a shared industrial practice. I see the lack of a clearly structured and stable bridge between the practice of scholarship and the practice of construction project organising as a *breakdown* in our shared practices for creating new knowledge[53]. Through identifying the fragments of these practices, that being the methods we use for knowledge co-creation, we can start to reconstruct the bridge between us.

For my theoretical approach I adopted a *practice theory*[54] lens, as understood through its application to the study of Routine Dynamics[55] and project management[56]. Practice theory fits with a practical rationality and the orientation to routine dynamics helps me to orient towards the internal dynamics of methods of knowledge co-creation.

For my methodological approach I adopted a reflexive methodology using an abductive mode of inquiry [57,58]. This is an approach that I adopt in seeking to take both an outsider and insider perspective from the position I hold as an academic of ten years teaching and researching construction project organising and with a prior thirty years of practicing it in the industry[59].

8.5 Method of data analysis

At the end of the workshop, all post-it notes and flip chart sheets were photographed, as well as the being retained physically and returned to the office for retention for a period of time. Organisational types were colour coded through the post-it notes in addition to notes on the map.

All the table facilitators were asked to write up a one to two page reflection on the discussions they had heard on their table.

These pictures where then put into ChatGPT which read and recorded the notes. From this an Excel spreadsheet list of issues was created, showing organisational type, issue and theme as part represented in the mapping and part represented by colour and retrospective checking. Note that it was not our intention to analyse the different organisational types. Participants were sat in organisational types so as to have focused discussions in the time available, as we considered that should the groups be mixed, conversations may take longer to reach consensus on a list.

I then proceeded to go through an iterative processes of putting the data into Chat GPT and Copilot and reading through the reflections and data list myself, making hard copy notes on key points that stood out to myself or the table facilitators.

Through this process I asked Chat GPT and Copilot to identify a series of themes. I then iterated backwards and forwards through my own notes and the AI themes to arrive at a set of themes that I felt comfortable with. This took a number of iterations. I pasted the themes into a report and started to write supporting narratives. At this stage I engaged in a discussion with Andrea Gonzales-Lazo and explained what I had done. We discussed the structure of the report and the sequence of the themes and moved some items around until we felt we had a coherent picture.

We found the issue of time and timing to be a central feature and went back to AI to ask it to tidy up the theme, provide an introductory narrative and a summary table. I then reviewed and edited this output against my own handwritten notes and the data files from the workshop outputs (both the photos and spreadsheet). I found that I needed to edit the text provided by AI. The outcome sat comfortably with me and made sense against the theoretical framework above. I then proceeded to complete this activity for each theme, going backwards and forwards between the raw data files and my handwritten notes.

I then started to compile the report and undertook a number of drafts to arrive at the current structure and content. As this developed, I realised that the summary tables were presenting themselves as propositions and then went back to AI to ask it to review and consider the quality of these statements as propositions. I then proceeded to go through each theme again and tidy up the text, along with further validation of the text as written against the raw data files from the workshop.

Once I felt I had reached saturation point, I then sent out the draft report to the table facilitators and CCPO colleagues for comment. This included a process of data validation as an independent task by Andrea who had undertaking some of the early data analysis. The findings were put through NVivo and checked for validity. This led to a reduction from seven themes to five as some areas where repetition or minimal data were observed.

In parallel with this, I held the first two management team meetings where we considered the findings and brainstormed the establishment project. I then prepared and submitted the establishment application funding, including a detailed feedback form on the scoping stage activities.

Once all this had been completed, I returned to the report, completed the concluding remarks, future activities (direct from the funding application) and prepared the executive summary.

8.6 Limitations

The theoretical framework and method of data analysis developed and used in this report is designed to fit the purpose of scoping out a new research Innovation Network, based on its rationale, set out in Sections 2 and 3.

The use of AI for analysing the raw data and proposing themes and propositions, alongside my manual analysis and iterative checking with raw data, is open to critique as it could be argued that there is a large amount of subjective interpretation beyond the raw data. At this stage I argue that the process used has sufficient rigour, when combined with the theoretical framework, to fit with the purposes set out in the Introduction.

In this sense, I argue that the results achieve sufficient critical synthesis, which can then be reviewed and discussed with a wider group of stakeholders in the first stage of establishing the IN.

All the raw data files and AI scripts are available for review.

09 Appendix B – Workshop Data Tables

The following tables were generated from the post-it notes and flip charts generated at the workshop.

9.1 Table 1 - Academics

Academics

Theme	Ideas
Alterative Knowledge Creation	Action Research
	Practice Academia
	Reading of audit general report (lit. report)
	Interviews, Workshops (interactive?), Observation, Action
	Literature, Interviews
Combined Knowledge of General Context + Specific Context	Industry Standards, Body of Knowledge, Blogs, Chats.
	Review/synthesis of literature/existing research
	Stakeholder/expert interviews
	Community focus groups
	Google/ChatGPT
	Literature review
	Talk to people (mentor/corporate systems)
	Interviews
	Focus group discussion
	Reading from others that have experienced similar (blogs/literature)
Verification of Practical Knowledge	Generalisability?
	From generalisation to context specific
	Interviews
	Observation, intervention - action
	Interviews
	Formal audits
	Steering group
	Surveys
	Specialist contractor engagement pre-construction
	CDM
	How well it is adopted and applied

9.2 Table 2 – Professional bodies

Professional bodies

Theme	Ideas
Scholarship- General	Literature review for method of tender Research events/conferences MPA / ICE / APM - Report to bridge the rigourous academic methods & contextual industry & practice Academic research (qual/quant) Interview to verify the framework that made based on literature review
Scholarship Specific	Literature reviews Thought leadership Reports Innovative Practitioners, thought leaders
Scholarship / Practice (Central)	Professional bodies' event to bridge academics & practitioners (networks) Benchmarking
Practice General	Site visits Case studies (Storytelling) Audit (Assurance), anomaly detection Practice – phone a friend / Coach / mentor
Practice Specific	Industry Trends Audit (Evidence-based numerical) Surveys Market Research Data samples Ted talks (analogous ideas)

9.3 Table 3 – Consultants

Consultants

Theme	Ideas
Process methods	Checklist definition Top 10 things to do... Easier than Process mapping 360 Feedback Process mapping Value map Collaborative planning Stop / Start / Continue Analysis Network analytics Action learning drumbeat State proposition + challenge (peer review) Case studies Professional bodies documents Cross seeding workshops Senior forums Risk Mgt.

Theme	Ideas
People theme	Understand interview programme into root cause analysis
	Behaviour Assessment
	Understanding Motivations/Purpose
	Workshop (Director/exec)
	Speak to an Academic
	Ask a Consultant
	Group interviews, 1 too many
	Interview (1:1)
	Workshop (all staff)
	Reflect on personal experience
	Reach out to SME(s)/professional network,
	Perception review (feelings)
	Promote method (Put myself in others' shoes)
	Review case studies
Data theme	Benchmark
	Cross project lesson learned
	Surveys
	Data analysis from digital systems
	360 feedback
	Brainstorming session with experts
	Case studies
	Process mapping
	Anonymous data capture
	AI for sensemaking
	GOOGLE IT! CHAT GPT!
	Research published data
	Workshops
	Governance documents
	Structured subject specific diagnostics
	Information flow analysis

9.4 Table 4 - Contractors

Contractors

Theme	Ideas
Leadership Engagement	Futurologist?
	Academics on boards
	Client driven engagement
	Pulse / survey
	"Strategic Review"
Lesson learned	target lessons learned (loved/lacked/learned)
	Lesson learned trackers
	Peer reviews
	Build it in a day
Supply chain engagement	Supplier days, event/conference
	Business school to supply chain
	Specialist input – early contractor input
	Where to look for information? Internal Supply chain Academia/other
	Supply chain innovation sharing
	Contractors monthly -> brin forward innovation they're doing
	round table
	forums

Theme	Ideas
Digital Tools	Bid Libraries
	Centralised knowledge library
	Social Media LinkedIn
	Document Libraries/standards
	Learning management systems
	Push based digital tools
	Tech (data) + AI
Mentoring	360 mentoring
	feedback / mentoring
	learning journey
	70/20/10 model
Workshops / Working Groups	CoPs (Communities of Practice)
	Communities of practice
	Collaboration on joint projects
	Tactical working groups: - Problem X - Solution Y
	A3 Rapid improvement events
Communication	Communication with front-line teams
	Feedback Fridays
	“I prefer visual/visually presented information to text”
	“Go and visit projects to see things & talk to people”
	Not “shouting” about good stuff (except HS?) need a compromise
	Rather solve problems “ourselves” than ask others (“we’re engineers”)

9.5 Table 5 – Mixed table

Mixed table

Theme	Ideas
Testing! / Prototyping! / Pilots	Action Research
	Embed researchers in organisation
	research team in… concepts
	understand organisations
	Collect data + adapt theory + concepts
	Collecting data
	Interviews
	Observations
	Documents
	Questionnaires
	Generate ideas
	Create something offline then bring online
	Problem solving jointly
	Piloting
	Process shadowing (Reviewing current process with no intervention)
	Implementing a change in system in a controlled trial and asking for feedback to find new baseline for change.
Practitioner-focused action learning (active)	Action learning sets
	PI3 - Alliances - ECI
	Infrastructure
	Project IB I3? Network
Publish research / frameworks / standards	Construction playbook
	IPA assurance
	NAO/PAC reports insight reports
	Professional bodies
	Previous procurement exercises
	Lessons Learnt

Theme	Ideas
Interactive explorations	Facilitated workshop
	Knowledge sharing groups based out of necessity
	Peer to peer
	voice of the customer (lean)
	Online surveys
	Questionaries (internal external)
	Quantitative & Qualitative interviews from managers and general staff.
	Comparison driven
	Synergy
	Slido polls / wordclouds as part of workshops/events
	Semi-structured interviews
	Lightening Talks from different practitioners/experts on a theme
	Online mural boards - co-produced
	Semantic differentials
	Market engagement
	Networking
	Formal - informal
	Informal coffees with key stakeholders
	collaborative function workshops
	Business to business open and frank discussions
	Breaking Bread “symbiotics”

9.6 Table 6 – Government and others

Government and Others

Theme	Ideas
tools	Open sessions
	mind mapping
	Brainstorming
Knowledge sources	Decisions are rarely taken in ignorance that haven’t been taken beforehand.
	Need to map (real) decision-making process
	Understand evolution & ‘current state’ – someone has already tried before it.
	Read available info from library (or similar e.g., Google)
	Knowledge hubs / Bulletin Boards
	Case…: Academic v. practical - practical knowledge
	Innovate - Go back to base principles + derive
	Research previous solutions
	Lesson to be learnt & outcomes
Culture and Behaviour	User needs
	identify who really know what is going in a design team
	Who’s going to use the building /space - speak with them
	JV collaboration partners
	ideas sharing
	Supply chain
	Relate stakeholder to customer needs
	Discuss situation characteristic with stakeholders
	Working with consultants.

Theme	Ideas
Culture and Behaviour	Client gut feel can be very powerful and accurate.
	Encouraging Challenge
	Helpful Disagreement
	No Blame.
	Top pay?? Serve checking colleague
	Discussion
	New blood
	Human Interaction
	Role of Leadership
	Crisis Response
	Who, What, Where, When, Why?
	Where are we now? Where do we want to be? How do we get there?
	Take a shower - Pause & Reflection

9.7 Table 7 – Owners / clients

Owners / Clients

Theme	Ideas
Data management	Automatic data pipelines
	Define the problem
	requirement management
	Input / leading metrics vs Output/ outcome metrics
	Standardised approaches
	Shared learning: Mentorship Senior to Junior
	Shared learning Central Ready for LFE Generated
	Shared learning to benefit information
Streamline metrics	Leading indicators
	Measure the right thing at the right time
	Trends
Knowledge sharing	Workshop w/ end users and stakeholders
	Ask everyone
	Knowledge data bases

A critique of project management research and practice

In research:
Too often we are a camera, observing events from the outside, seeking generalisable models. We are less agents actively involved in day-to-day practicalities;

In practice:
Too often we are dominated by standardised processes (i.e., Bodies of Knowledge), performing as trained technicians applying generalisable models in the belief they determine positive outcomes.

A problem of knowledge in projects

There is a missing step in knowledge co-creation – where scholars must be actively involved in day-to-day practice and practitioners must be actively involved in developing, owning, and embedding research insights.

The five knowledge themes

1 Time and the Timing of Knowledge
– Emphasising the importance of when knowledge is gathered and applied across project lifecycles

2 Data Collection, Standardisation and Utilisation
– Highlighting inconsistencies, underutilisation, and the need for purpose-driven data practices.

3 Knowledge Sharing and Collaboration
– Stressing the value of both formal and informal mechanisms for exchanging tacit and explicit knowledge.

4 Organisational Culture and Behaviour
– Identifying leadership, trust, and psychological safety as enablers of effective knowledge practices.

5 Interdisciplinary Approaches
– Calling for insights from diverse fields such as psychology, data science, and manufacturing to tackle complex challenges.

Types of knowledge work

Reality-based (Descriptive)

Purpose: To observe and explain reality as it is
Focus: Empirical data, factual reporting

Theoretical (Modelling)

Purpose: To abstractly model or predict phenomena
Focus: Conceptual frameworks, simulations

Normative (Design)

Purpose: To define ideals or desired future states
Focus: Ethics, values, future-oriented principles

Instrumental (Implementation)

Purpose: To apply solutions and enact change
Focus: Launching a mobile app to improve medication adherence in rural areas

The Method of Engaged Scholarship

Problem formulation:
Jointly comprehend and situate a real world problem (in practice and theory) to arrive at a research question.

Theory building:
Researchers identify a body of theory relevant to the problem. Then jointly find an appropriate fit from a selection of associated conceptual models and adjusting as they move through the study.

Research design:
Researcher puts forward appropriate research methods to then jointly collect, analyse and interpret data for the chosen research question against the chosen conceptual models.

Problem solving:
Jointly identify solutions and put these into practice. Then feedback on these in relation to the research question, chosen conceptual models and methods to see if any modifications are needed.

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Endnotes

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Author:

Dr Simon Addyman MSc PhD FAPM
Associate Professor of Project Management
Director - Centre for Construction Project Organising (CCPO)

The Bartlett School of Sustainable Construction
The Bartlett Faculty
University College London

www.ucl.ac.uk/bartlett/construction/people/dr-simon-addyman

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