Clienting in Major Projects

Beyond Outputs, Towards Outcomes

Foreword by Emma-Jane Houghton

Jeni Giambona & Nicholas Dacre
University of Southampton Business School #USBS

October 2025

University of Southampton Business School

Foreword

Emma-Jane Houghton
Visiting Fellow at the University of Southampton

Client organisations commission major projects with the aim of transforming communities, driving economic growth and addressing societal challenges. However, they often struggle to ensure that these investments achieve the transformational outcomes for which they were intended, despite delivering buildings, systems and infrastructure. This persistent disconnect between intention and impact arises from a fundamental misalignment. Client organisations have in many respects mastered the procurement of outputs but remain inadequately equipped to orchestrate the outcomes that justify such substantial public and private investment.

Importantly, Clients do not arrive with all the answers. The complexity, interdependencies and uncertainties inherent in major projects mean that solutions must be co-created across delivery ecosystems. The client's role is therefore not to specify every detail or control every decision, but to orchestrate the collaborative processes through which answers emerge from suppliers, users, regulators and technical experts. This orchestrating role recognises that effective clienting is about convening capability, not commanding it.

Traditional client capabilities, including the 'Intelligent Client' approach, have focused on technical competency and procurement expertise. However, client organisations remain accountable for project success while often lacking the strategic and relational capabilities needed to shift from delivering outputs to stewarding outcomes. This leaves them responsible for results they lack the tools to influence. Reforms have tended to refine delivery mechanisms, strengthen governance and improve procurement, but these efforts address symptoms rather than causes. The real challenge is to move from buying completed assets to orchestrating collaborative delivery that creates lasting value. Therefore, we present the Major Projects Clienting Framework (MPCF), providing a scaffold for moving beyond incremental improvements and promotes a cultural shift where client organisations orchestrate the delivery ecosystem to achieve successful outcomes.

Research

Prof Jeni Giambona Is Professor of Systems Thinking and Associate Dean of Knowledge Exchange & Enterprise (KEE) at the University of Southampton. She leads the Business School's collaborations with external organisations and the wider public to maximise the impact of its teaching and research. Her work focuses on engagement strategies, building stakeholder relationships, and co-creating partnerships that support impact and dissemination.

A/Prof Nicholas Dacre is Director of the Advanced Project Management Research Centre (APROM) at the University of Southampton. A Fellow of the APM and Chair of the British Academy of Management's Project Management SIG, he has extensive experience across academia and industry. His research focuses on innovation, technology, and sustainability in complex projects, with a particular emphasis on artificial intelligence in project management.

Citation: Giambona, J., & Dacre, N. (2025). *Clienting in major projects: Beyond Outputs, Towards Outcomes* USBS.

Executive summary

This report presents the ***Major Projects Clienting Framework (MPCF)*** designed to help clients shift from purely purchasers of goods and services to orchestrators of delivery ecosystems. The framework is underpinned by a mixed-methods research study comprising a systematic literature review, practitioner surveys, senior professional interviews, and a workshop with industry leaders.

MPCF dimensions / key insights

1. **Purpose and outcomes:** Too many programmes default to activity metrics rather than benefits. Clearly articulated and continuously reviewed outcomes are vital to prevent value from '*fading*' under delivery pressures.
2. **Governance and decision rights:** Excessive governance layers cause decision latency and dilute accountability. High-performing programmes separate oversight from operational authority and design escalation routes that keep pace with delivery.
3. **Client organisation and capability:** Client functions are often underpowered, over-centralised, or dependent on individuals. Professionalised clienting requires thin but credible cores with analytical strength, role clarity, and visible market credibility.
4. **Procurement and contracting:** Lowest-cost tendering fuels adversarial behaviours and '*suicide bidding*'. Contracts that reward verified progress against outcomes rather than activity enable collaboration and long-term value creation.
5. **Relationships and ecosystem**: Major projects succeed as enterprises, albeit temporary, not dyads. Effective clients orchestrate collaboration across sponsors, regulators, delivery partners, and users, acting as trusted brokers rather than controllers.
6. **Methods, data and digital:** Fragmented reporting and disputed metrics undermine decision-making. Shared, trusted datasets and short learning loops enable evidence-based choices and adaptive responses.

Key recommendations

- **Define** outcomes at each stage, linking them to clear, measurable criteria that show whether the project meets agreed requirements, whilst maintaining visibility through governance and delivery.
- **Design** governance for decision-making, publishing who decides what, on what evidence, and within what timeframe, while tracking and reducing decision latency.
- **Professionalise** client functions, separating Intelligent Client and Intelligent Customer roles, and building analytical capacity such as should-cost/should-take modelling and reference-class forecasting.
- **Align** procurement to value, selecting partners based on capability and fit, involving suppliers early under IP protection, and linking payments to evidence of outcome delivery.
- **Orchestrate** ecosystems deliberately, convening diverse stakeholders in governed spaces that enable candour, challenge, and joint problem-solving.
- **Build** decisions on trusted data, establishing canonical datasets, reporting outcome confidence and real progress, and treating lessons learned as deliverables that are demonstrably re-applied.

1. Rationale and aim

1.1 Why clienting needs to transition to outcomes

Major projects have long been recognised as critical drivers of economic development and societal progress (Straub, 2008). The UK Government's Major Projects Portfolio describes these initiatives as large-scale, strategic endeavours differentiated by their extensive scope, increased managerial demands, and profound societal implications (Bourne et al., 2020; Vo et al., 2021; Winch & Cha, 2020). These projects play a pivotal role in addressing national infrastructure, public services and technological demands whilst delivering long-term value that extends beyond individual initiatives to support broader economic activity (Denicol & Davies, 2022).

However, the context for major project delivery has fundamentally shifted. Infrastructure now accounts for 37-40% of global CO2 emissions, making it a major driver of climate change, whilst its total mass now exceeds that of everything living on the planet (Jonca, 2022; Xu & MacAskill, 2024). This environmental imperative, combined with advancing technology, geopolitical tensions, and evolving societal expectations, means infrastructure must be delivered differently to tackle contemporary global challenges (Dacre, Baxter, et al., 2025; Terenzi et al., 2024). The assumption that asset procurement will naturally lead to transformational outcomes is becoming less tenable.

Despite their significance, major projects continue to face persistent delivery challenges. Recent studies suggest that only a fraction of major projects are delivered successfully (Denicol, 2020), with many failing to achieve their intended outcomes due to misaligned priorities and ineffective collaboration between stakeholders (Dacre et al., 2021; Eggleton et al., 2023; Ika & Pinto, 2022; Pinto et al., 2022). The Construction Leadership Council identified a 25% productivity gap in the industry in 2023, equivalent to £45 billion in unrealised value or 2% of UK GDP (Construction Leadership Council, 2023).

As these challenges persist, there is growing recognition that client organisations hold the key to transforming project performance (Radhakrishnan et al., 2022). The 'Intelligent Client' concept has advanced client capabilities around technical competency, governance, and procurement (Curd, 2022). However, approaches grounded mainly in technical and procedural competence are increasingly ill-suited to the complexity of today's projects. Sustainability requirements, rapid technological advances, and interdependent global systems demand broader strategic and relational capabilities.

When client organisations remain focused on outputs, intended benefits often erode. Decision-making slows under multiple layers of assurance, while commercial incentives continue to reward activity rather than value creation. Our findings reveal that decision latency and layered sign-offs are among the most cited blockers, whilst leaders seek client behaviour that is collaborative, accountable, decisive, trusting, and partnering.

> *Actually, every time something fails, people have more governance and more levels above it, which actually kills the whole thing. (Senior client-side leader)*

The challenge is that major projects involve multiple interdependent actors whose actions determine whether outcomes are achieved.

> *I could be the best client in the world, but if I get a rubbish sponsor, I'll still fail. So we all sit within a kind of ecosystem of delivery. So it's what needs to be true to deliver an outcome, including client and sponsor, because you can't live it alone. (Major programme lead)*

These dynamics indicate a shift for client organisations, from acting primarily as buyers of completed assets to engaging as orchestrators who can work across complex stakeholder ecosystems and foster societal value amid environmental and technological transformation (Dacre, Giambona, et al., 2025).

1.2 Key objectives

In order to address these challenges, this report aims to:

- Present the Major Projects Clienting Framework (MPCF) to help guide client organisations to transition from procuring outputs to stewarding outcomes through six core dimensions.
- Bridge theory and practice by drawing from a systematic literature review, surveys, interviews and workshops with senior practitioners across UK major projects
- Offer vignettes and recommendations that client organisations can adapt to their specific contexts and project phases

2. Research approach

We adopted a mixed-methods design to develop and review the Major Projects Clienting Framework (MPCF). The work began by analysing survey data to surface practitioner language and priorities, moved into depth interviews to expose mechanisms, and culminated in a workshop to assemble and challenge the framework through a systems lens.

Table 1: Methodological framework

Method	Sample	Purpose
Literature review	Academic and grey literature	Establish theoretical grounding and identify knowledge gaps
Surveys	n=214 practitioners across 3 surveys	Capture practitioner language, priorities and validate concepts
Semi-structured interviews	n=20 senior practitioners	Expose underlying mechanisms and contextual factors
Theoretical synthesis	Conference paper	Integrate findings with systems thinking theory
Validation workshop	n=19 industry leaders	Test practical applicability and refine implementation guidance

In order to establish the theoretical foundation and identify gaps in current understanding, we conducted a systematic literature review examining clienting, major projects, infrastructure delivery, and the intelligent client concept (Svejvig & Andersen, 2015). This review synthesised academic and grey literature to position our emerging findings within established knowledge whilst identifying areas where new insights were needed.

Three surveys gathered perspectives from 214 practitioners across varied contexts and scales. The first, at the Major Projects Association meeting in May 2024, examined perceptions of the '*Client*' role among 60 members through multiple-choice, single-choice, and free-text questions. A second survey in June 2024 engaged 48 practitioners to test emerging ideas on the Intelligent Client definition, using agreement polls, attribute ranking, and open-ended prompts. The final industry survey, distributed via LinkedIn and sector engagements, secured 106 responses by September 2024. This broader dataset combined structured items with extensive free-text responses, enabling validation of emerging themes.

We also analysed 20 semi-structured interviews conducted between June and September 2024. Sampling was purposive, targeting senior practitioners across UK major projects including client leaders, delivery partners and consultants spanning nuclear, central government and wider public sector programmes. Analysis followed a grounded theory approach informed by Gioia methodology (Gioia et al., 2013). The final phase involved analysis of a practitioner workshop in July 2025 with 19 senior industry leaders to collaboratively refine and validate the emerging framework.

3. Contemporary challenges in major project delivery

3.1 Persistent delivery failures

The delivery of major infrastructure projects often involves coordination among multiple contractors, regulators, and government agencies, compounded by legal, environmental, and community concerns (Flyvbjerg, 2003). Effective coordination across these actors is essential for maintaining alignment, however it largely remains a persistent challenge (Ashkanani & Franzoi, 2022; Baxter et al., 2023; Eggleton et al., 2021). For instance, issues such as fragmented supply chains and inconsistent project specifications have been linked to delays, cost overruns, and suboptimal outcomes (Stefano et al., 2023). Analysis of project performance data reveals that nine out of ten megaprojects experience cost overruns (Flyvbjerg, 2014). The scale of this wastage is substantial, with failing projects contributing to approximately £3 trillion in annual global economic inefficiency[1]. In addition, the increasing size and scope of projects often exacerbate these challenges, with larger initiatives facing governance failures (Al-Mhdawi et al., 2025; Brunet, 2021; Mišić & Radujković, 2015). Global supply chain disruptions, driven by geopolitical tensions, the COVID-19 pandemic, and fluctuating market conditions, have also intensified these operational challenges (Pinto, 2022). Delays, resource shortages, and escalating costs are increasingly prevalent, placing additional pressure on project delivery systems (Daood et al., 2024).

Table 2: Systemic challenges in megaproject delivery

Challenge	Description	Relevant Studies
Coordination	Issues with fragmented supply chains, inconsistent specifications, and alignment among multiple actors.	(Ashkanani & Franzoi, 2022; Flyvbjerg, 2003)
Cost overruns and delays	Nine out of ten megaprojects experience cost overruns, contributing to £3 trillion in global economic inefficiency annually.	(Flyvbjerg, 2014; Stefano et al., 2023)
Governance failures	Larger projects face increased risk of governance issues, exacerbated by global supply chain disruptions and market conditions.	(Brunet, 2021; Mišić & Radujković, 2015)
Financial pressures	Narrow profit margins (1-2%) limit investment in innovation and skilled labour, perpetuating poor project outcomes.	(Blanco et al., 2016; Vine, 2018)
Knowledge retention issues	Organisational amnesia, uniqueness bias and failure to embed lessons learned lead to repeated mistakes and knowledge loss after project completion.	(Bakker, 2011; Brookes et al., 2017; Dacre, Dong, et al., 2025)
Cultural misalignment	Cross-functional team dynamics and differences in working styles hinder collaboration and decision-making processes.	(Chipulu et al., 2014; Osobajo et al., 2023)
Productivity gaps	A 25% productivity gap reflects inefficiencies, equivalent to £45 billion in unrealised value or 2% of UK GDP.	(Construction Leadership Council, 2023)

[1] Major Projects Association: What makes an Intelligent Client? https://majorprojects.org/resource-documents/what-makes-an-intelligent-client-full-report

Historical attempts to address these challenges have shown limited success (Denicol et al., 2020). Despite government initiatives aimed at positioning Britain as a global leader in the construction sector, the industry continues to struggle with endemic issues including late delivery, cost overruns, skills shortages, and commercial tensions (Maqbool et al., 2024). The persistence of these problems is particularly evident in the financial structure of the sector, where major contractors typically achieve margins of only 1-2% (Vine, 2018). These narrow margins restrict investment in innovation and skilled labour, creating a cycle of underinvestment that compromises project outcomes and value delivery (Blanco et al., 2016).

This highlights a fundamental asymmetry, while clients ultimately bear responsibility for project outcomes, they often lack the experiential knowledge held by their supply chain partners. The consequences of this organisational amnesia are even more pronounced in long-term projects, where knowledge erosion is exacerbated not only by attrition but also by evolving regulatory landscapes and shifting project priorities over extended timelines (Caldas & Gupta, 2017; Dooley et al., 2005).

3.2 The role of the client in major projects

The concept of the 'Intelligent Client' has emerged as a critical framework for enhancing the strategic competence of client organisations involved in major projects (Radhakrishnan et al., 2022). This framework emphasises the integration of technical expertise, governance, and relational skills to optimise project delivery (Zani et al., 2024). It is broadly defined as an in-house capability within a client organisation that assumes responsibility for the ownership, management, and delivery of defined services or projects (Pinto & Winch, 2016). This includes the ability to articulate project requirements, manage delivery outcomes, and foster effective collaboration with external participants (Aritua et al., 2011). Central to this role is the capacity to translate strategic policy objectives into tangible outcomes, bridging the gap between high-level planning and operational execution (Dacre, Baxter, et al., 2025; Dacre, Giambona, et al., 2025; Winch, 2012).

However, the notion of the 'intelligent' client risks suggesting that clients should arrive with complete answers and specifications. In practice, the complexity and uncertainty inherent in major projects mean that clients must orchestrate the collaborative processes through which solutions emerge rather than defining them in advance. This requires different capabilities, convening diverse expertise, facilitating difficult trade-offs, maintaining strategic direction whilst empowering others to shape detailed solutions, and creating the conditions for collaborative problem-solving across the delivery ecosystem.

In order to support the implementation of this approach, the Institution of Civil Engineers has outlined the Intelligent Client Capability Framework (Madter & Bower, 2015). This include testing the business case, ensuring continuity of funding, translating requirements, maximising value, maintaining effective governance, managing interfaces, and designing organisational structures that align with project needs (Curd, 2022). These competencies highlight the strategic depth that underscore intelligent clients in engaging effectively with complex project environments. Thus, the Intelligent Client is tasked with selecting the right supply chain partners, establishing clear contractual arrangements, and maintaining balance in relationships to maximise value delivery (Aritua et al., 2009).

In this vein, effective governance structures are essential in ensuring projects remain aligned with their intended objectives, particularly in environments characterised by uncertainty and evolving stakeholder demands (Crawford et al., 2008; do Rosário Bernardo, 2014; Edkins et al., 2013; Mosavi,

2014). The Intelligent Client's role in defining requirements is particularly crucial in major projects. Despite its importance, research indicates that clients often struggle to articulate these requirements clearly, a challenge that stems partly from knowledge asymmetries and the dynamic nature of major projects. Requirements often cannot be fully specified in advance because they emerge through iterative engagement with technical constraints, user needs and evolving contexts (Latham, 1994). This misalignment frequently leads to inappropriate project specifications and subsequent delays or cost overruns. Recurrent changes in client requirements can further challenge project timelines, undermining trust and collaboration within the supply chain (Ajmal et al., 2022; Komal et al., 2020; Mirza et al., 2013).

Table 3: Client role in major projects

Dimension	Key Responsibilities	Challenges	Implications	References
Strategic competence	Translating strategic objectives into project-specific outcomes. Oversight of governance frameworks.	Misaligned project requirements. Persistent skills gap,	Poorly articulated objectives can lead to delays, cost overruns, and loss of stakeholder trust.	(Curd, 2022; Pinto & Winch, 2016; Radhakrishnan et al., 2022)
Relational dynamics	Building trust-based relationships with stakeholders. Aligning cultural values and expectations.	Distrust and misalignment between clients and partners. Power and knowledge asymmetries.	Fractured relationships compromise collaboration and hinder productivity.	(Boyd & Chinyio, 2008; Gajendran & Brewer, 2012; Schein, 2017)
Governance and sponsorship	Acting as an intermediary between executive leadership and project teams. Ensuring benefits realisation.	Lack of clarity in roles and responsibilities. Limited resources, especially in public sector contexts.	Ineffective governance can disrupt alignment between strategic goals and operational outcomes.	(Bakker et al., 2008; Crawford et al., 2008; Schibi & Lee, 2015)
Supply chain management	Partner selection and contract negotiation. Creating conditions for integrated delivery.	Over-reliance on lowest-cost procurement. Misaligned incentives that encourage opportunism.	Inefficient supply chain practices can inflate costs and reduce project value.	(Latham, 1994; Meng, 2012; Stefano et al., 2023)

When asked to allocate points across twelve client traits, practitioners consistently prioritised collaborative and relational capabilities over traditional command-and-control approaches. The top-ranked behaviours were Collaborative (18.3%), Accountable (16.2%), Decisive (13.9%), Trusting (13.2%), and Partnering (10.2%).

Collaborative (18.3%)
Accountable (16.2%)
Decisive (13.9%)
Trusting (13.2%)
Partnering (10.2%)

In contrast, the lowest-ranked traits were Authoritative (1.6%), Assertive (1.5%), and Commanding (1.0%). Furthermore, practitioners describe needing capabilities for what one infrastructure executive termed managing '*network relationships*' rather than '*transactional dyadic*' arrangements.

Our findings suggest this requires moving beyond formal authority toward what workshop participants described as '*trusted broker*' capabilities that can align diverse actors around shared outcomes.

4. Major Projects Clienting Framework (MPCF)

In order to address the systemic challenges of clienting in major projects we synthesised the literature and empirical data. Persistent challenges represent persistent delivery failures across coordination, cost and schedule performance, governance weaknesses, financial pressures, knowledge retention, cultural misalignment, and productivity gaps. Client responsibilities sets out the role of the client in major projects, describing responsibilities and limits across strategic competence, relational dynamics, governance and sponsorship, and supply chain management. We mapped these two lenses against each other to locate where the most material failure modes intersect with client remit and influence (Dacre, Giambona, et al., 2025).

Table 4: Mapping persistent failures and client roles to MPCF dimensions

Persistent challenges	Client responsibilities	Resulting MPCF dimension
Cost overruns, delays, productivity gaps	Strategic competence, translating objectives into outcomes	**Purpose and outcomes**
Governance failures, decision latency	Governance and sponsorship, oversight, alignment, benefits realisation	**Governance and decision rights**
Skills gaps, knowledge retention issues	Client competence, informed buyer capability, technical depth, professionalisation	**Client organisation and capability**
Financial pressures, adversarial procurement	Supply chain management, partner selection, contracting	**Procurement and contracting**
Coordination difficulties, cultural misalignment	Relational dynamics, trust, cultural alignment, stakeholder engagement	**Relationships and ecosystem**
Knowledge erosion, data disputes	Cross-cutting need for information and decision support	**Methods, data and digital**

This literature-to-practice map was then tested and refined against our empirical corpus. Survey data teased out practitioner priorities, interviews exposed underlying mechanisms, and the workshop stress-tested feasibility. Through this triangulation, the Major Projects Clienting Framework dimensions emerged, with each articulating a set of responsibilities and decision points where client choices shape outcomes.

Table 5: Major Projects Clienting Framework (MPCF)

Dimension	Focus area	Core question
Purpose and outcomes	Benefits realisation and strategic alignment	What outcomes are we trying to achieve and how will we know we've succeeded?
Governance and decision rights	Authority structures and decision-making	Who decides what, when, and on the basis of what information and escalation logic?
Client organisation and capability	Client function design and competence	Do we have the right people, skills, and structures to be an informed buyer?
Procurement and contracting	Procurement strategy and incentive alignment	How do we contract and partner for outcomes rather than outputs?
Relationships and ecosystem	Stakeholder alignment and collaboration	How do we orchestrate intent across the delivery ecosystem?
Methods, data and digital	Information and decision support	What data do we need to make informed decisions and track progress?

A core premise of the framework is that clients do not arrive with all the answers, nor should they. The complexity, interdependencies and uncertainties of major projects mean that full specifications

cannot be set at the outset, solutions must instead emerge through structured collaboration across the delivery ecosystem. Each dimension of the MPCF reflects this orchestration logic. Purpose and Outcomes establishes shared intent rather than fixed specifications. Governance and Decision Rights pushes authority to where knowledge resides. Client Organisation and Capability develops convening and brokering skills alongside technical expertise. Procurement and Contracting creates space for collaborative solution development. Relationships and Ecosystem deliberately orchestrates collective capability. Methods, Data and Digital enables shared decision-making through trusted information.

Figure 1: Major Projects Clienting Framework (MPCF)

Progress in one can amplify or constrain developments in others, making it essential for clients to account for interdependencies when implementing change. This systems thinking approach positions the framework as both a diagnostic tool for identifying where current client practice undermines value and a design tool offering principles that can be adapted to different sectors and project phases. The principle of simultaneous development challenges traditional sequential approaches to capability building. It stipulates that sustainable transformation requires coordinated progression across multiple dimensions to prevent system-level constraints from undermining individual improvements.

4.1 Purpose and outcomes

Purpose and outcomes is the organising centre of client practice. It requires the client to articulate a small set of benefits in use, define observable acceptance tests, assign ownership, and keep those commitments live as scope and solutions evolve. When this centre is weak, programmes default to activity proxies and document throughput, when it is strong, trade-offs are adjudicated against outcomes and benefits remain visible in sponsorship cadence (Association for Project Management, 2009; Brookes et al., 2017; Bryde, 2008; Eggleton et al., 2021).

Practitioners in the workshop placed value and purpose first for this reason, urging that benefits be reviewed at stage gates alongside cost and schedule so they do not 'fade' under delivery pressure (do Rosário Bernardo, 2014; Eggleton et al., 2021). In the empirical interviews, senior leaders described the practical mechanism as an outcome-focused decision forum, a place where competing constraints are surfaced and resolved explicitly.

> *The programme has created an outcome-focused decision-making framework that articulates the competing inherent tensions… and supports informed trade-off decision making. (Programme director)*

Survey respondents consistently requested clear outcome definitions, a visible 'golden thread' linking outcomes to delivery artefacts, and assurance mechanisms that evaluate outcomes rather than relying solely on document readiness indicators (Vo et al., 2021). This convergence of evidence across multiple data sources underpins the impetus in maintaining outcome-focused governance structures throughout programme delivery.

Table 6: Purpose and outcomes synthesis

Reference	Findings	Application
Survey	71% agreement on outcome-focused client definitions; outcome terms (vision, direction, ownership, accountability) consistently in top 6. Emphasis on a '*golden thread*' from strategic intent to delivery; calls for benefits ownership and outcome-based assurance over document readiness.	Strong, convergent demand for outcome-centred client practice across practitioner communities.
Semi-structured interviews	Practitioner insight: senior leaders want an '*outcome-focused decision-making framework that articulates competing inherent tensions and supports informed trade-off decision making*'. Operational need: '*institutionalise an outcome-focused decision forum*' with '*clear acceptance tests before mobilisation*' to avoid activity proxies.	Outcome-focused decision forums identified as essential governance for managing competing constraints.
Workshop	Strategic stance: '*Value and purpose as the organising centre*' shaping all programme elements. Mechanism: '*Use benefits language early and explicitly in business cases*' to maintain visibility through stage gates. Risk: weak outcome centre leads to '*default to activity proxies and document throughput*'.	Value and purpose positioned as the foundational organising principle that prevents drift towards outputs.

Outcomes depend on more than the headline asset, they rely on enabling projects, regulatory interfaces, skills, operations and funding rhythms beyond the programme boundary. Participants cautioned that even exemplary client behaviour fails if sponsorship and interfaces are misaligned.

> *A major project sits as a system within other systems… how that major project interfaces with… UK PLC, different departments… the legal framework… contracts… SMEs, third sector, academia. It's just the clienting part is sat at the top of a system that's within other systems. (Programme leader)*

Designing the centre therefore includes mapping these dependencies, naming benefit owners across them, and planning adaptation points when assumptions change. Our workshop breakout groups proposed a short 'intent–objectives–value–assumptions' record maintained through the lifecycle to make those resets deliberate.

4.2 Governance and decision rights

Governance in major projects has traditionally focused on oversight and control mechanisms designed to ensure compliance and risk management (Crawford et al., 2008). However, governance literature increasingly recognises that effective project governance must balance accountability with decision-making efficiency. Studies of project governance failures consistently identify unclear decision rights, excessive layering, and slow decision-making as primary contributors to poor performance (Winch & Cha, 2020). Although, despite this recognition, many projects continue to add governance layers in response to problems rather than addressing underlying decision-making effectiveness (Brunet, 2021; Dacre, Giambona, et al., 2025).

Four critical insights emerge from comparing governance theory with our empirical data. First, effective governance requires clear separation between strategic oversight and operational decision-making (Crawford et al., 2008). Interview analysis identified confusion between '*governance authority*' and '*decision authority*' as a recurring source of delay and accountability gaps. High-performing programmes establish clear decision rights that push authority to where knowledge resides whilst maintaining appropriate strategic oversight. Second, decision latency emerges as a more significant performance factor than decision quality. Survey responses emphasised '*timely decision making*' and '*governance structures that are not too complex but right for the project environment*'. This suggests that speed of decision-making may be more critical to project success than perfectibility of individual decisions.

Third, accountability mechanisms must be designed for clarity rather than coverage. Workshop analysis revealed that multiple accountability layers often dilute rather than strengthen responsibility.

> *If you get 20 signatures above your signature, do you check it more or less if you're ultimately responsible? (Senior Responsible Owner)*

Fourth, psychological safety in governance systems enables better decision-making under uncertainty. Interview data revealed that governance environments that encourage escalation and challenge produce higher quality decisions than those focused on compliance and risk avoidance.

As such as part of our MPCF, governance is not a ritual of boards and papers, it is the deliberate design of who makes decisions, on what information, and at what pace. Where the design is deficient, programmes accrue layers of assurance, decision latency increases, and intent is diluted. Where the design is rigorous, authority sits with the information, escalation paths are clear, and decisions are made against outcomes rather than document volume.

4.3 Client organisation and capability

Client organisation and capability concerns how the client function is designed, staffed and empowered to act as an informed buyer and integrator. The Intelligent Client literature emphasises the importance of being an 'informed buyer' capable of specifying requirements, managing delivery outcomes, and maintaining effective relationships with external participants (Curd, 2022). Our data reveals that underperformance is repeatedly linked both to thin, procedural client teams and to over-centralised, person-dependent models.

Effective clienting lies between these extremes, a lean but credible core with authority aligned to where finances and risk reside, sufficient technical depth to challenge intelligently, and clearly defined boundaries between the Intelligent Client (commercial orchestration, integration, relationships) and the Intelligent Customer (safety and operational assurance).

> *Intelligent Customer is the safety envelope to ensure the systems and operations are safe during new work or maintenance… Intelligent Client is about managing relationships and Intelligent Customer is about maintaining the safety case. (Major projects commercial director)*

Drawing on our data, two practical deficiencies emerge. The first is that capability is too often assumed rather than developed. As interviewees observed, '*clients are not trained or educated in how to be clients… clienting needs to be professionalised*'. This requires role systems, competency standards and development pathways, rather than dependence on fearless individuals. The second deficiency is the weakness of the client core, which often lacks the economic and analytical determination needed for credibility.

Table 7: Client organisation and capability synthesis

Reference	Findings	Application
Survey	*'Adequate technically skilled staff who understand outcomes'* [Executive]; '*Right capability and experience'* [Senior leader]; Procurement: '*Awarding on price not quality, then disputes over compensation'* [Senior leader]; Skills gaps seen as fundamental barriers across all surveys.	Consistent capability gaps across practitioner communities, with skills shortages driving price-based procurement where analytical capacity to assess value is absent.
Semi-structured interviews	Professionalisation gap: '*Clients are not trained in how to be clients… clienting needs to be professionalised'* [Central government lead]; Analytical weakness: '*Without should-cost/should-take capability, we revert to value-for-money rules and competitive tendering'* [Senior client-side leader].	Two interconnected deficiencies: (1) lack of formal client development, creating dependence on individuals; (2) absence of should-cost/should-take capability, forcing lowest-price selection and eroding market credibility.
Workshop	Market credibility: '*Lowest bid does not always deliver lowest outturn'* [Senior Responsible Owner]; Capability requirements: should-cost/should-take capability and reference-class forecasting needed to resist lowest-price pitfalls; Operating knowledge: '*Intelligent client is understanding the operating environment and translating it to the delivery partner'* [Client organisation executive].	Analytical capability (should-cost/should-take, reference-class forecasting) underpins market credibility; without it, clients risk assurance creep and optimistic supplier propositions, while operating knowledge is vital to translate strategic intent into delivery.

Without *should-cost* and *should-take* analysis, reference-class baselining, and the ability to test supplier propositions, decision rights become vulnerable to assurance creep or lowest-price traps. The workshop emphasised that building *should-cost/should-take* capability and adopting reference-class forecasting are essential prerequisites for resisting these risks (Flyvbjerg, 2003, 2014, 2017). Client organisation and capability are also market-facing choices. Several contributors emphasised that '*Client of Choice*' conditions, including clear interfaces, predictable decision-making and visible signals of reliability, serve as critical drivers of performance, attracting stronger partners and enabling earlier, more candid challenge (Dacre, Giambona, et al., 2025).

4.4 Procurement and contracting

Procurement and contracting are where intent meets incentives. Our research found that when contracts reward activity, paperwork or lowest first cost, they consistently pull the system away from outcomes. When, instead, incentives are tied to verified progress towards benefits, and suppliers are able to challenge early within IP-protected spaces, commercial energy shifts in a positive direction. Appropriate procurement and contracting practices represent a critical first step in establishing the conditions necessary for outcome-focused project delivery.

> *There are little to no contracts in the UK that are geared towards incentive-based payment mechanisms… you need agreement on the data that underpins the contract, and it has to work for both parties. (Central government commercial lead)*

This misalignment produces predictable behaviours. Suppliers concentrate on maximising billable activity, while clients focus on minimising costs through detailed specification and rigid oversight. The result is adversarial relationships where both sides protect contractual positions rather than optimising collective outcomes.

> *Clients cannot see a contract as a get-out-of-jail card for transferring risk… Clients have to participate in solving the problems (Procurement lead)*

Survey data reinforces this picture: 82% of industry professionals recognise the practice of '*suicide bidding*', where unrealistically low bids are submitted to win work, while 77% believe clients lack the procurement knowledge needed for informed decisions. Major contractors often operate on 1–2% margins, restricting investment in innovation and skilled labour and fuelling adversarial behaviour throughout delivery (Blanco et al., 2016; Vine, 2018).

Our findings also stressed the need to think long term. Value-based procurement must remain adaptable over a 12–14-year horizon, with scheduled commercial reset points tied to outcomes rather than calendar anniversaries, and space for suppliers to check and challenge terms as the context evolves (Dacre, Giambona, et al., 2025). High-performing programmes have developed systematic approaches that align commercial incentives with project outcomes. The data reveals three interconnected solution strategies that address both procurement dysfunction and incentive misalignment.

Table 8: Procurement and contracting strategy

Strategy	Description	Key Features
Value-based procurement	Moves beyond lowest-cost selection to frameworks that consider capability, innovation potential, and whole-life value.	Clients should define value clearly, select on capability and fit, engage sub-suppliers early, and design contracts that reward outcomes rather than volume of change.
Early supplier involvement	Tackles information asymmetries that drive unrealistic bidding by involving suppliers earlier in solution development.	Stage-gated involvement and conditional appointments let suppliers contribute early, while protected ideation and IP safeguards protect their interests.
Outcome-based incentive mechanisms	Aligns supplier success with project outcomes rather than input activity.	Incentive payments are tied to evidenced progress, rewarding genuine effect, with reset points enabling contracts to adapt while keeping focus on outcomes.

4.5 Relationships and ecosystem

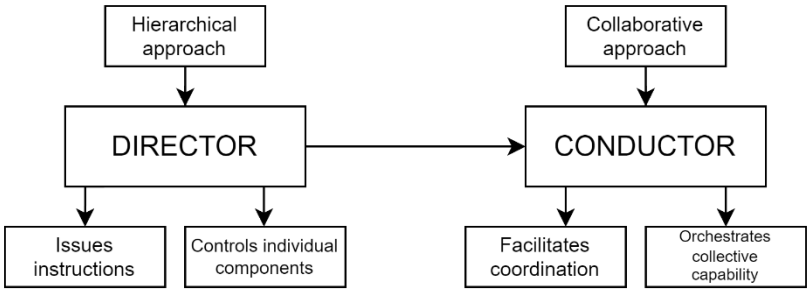
Major projects cannot be misaligned as operating within a simple client–contractor dyad. They are delivered through an enterprise that encompasses sponsors, regulators, delivery partners, advisors and users, with roles and influence shifting across different phases of the project (Denicol et al., 2021). Effective clients recognise this interdependence and position orchestration as a core capability, convening diverse actors, facilitating collective problem-solving and maintaining alignment across boundaries, rather than attempting to control from a single point. Several interviewees emphasised that framing this as a bilateral relationship is itself a source of failure.

The concept of relational contracting recognises that formal contracts cannot specify every eventuality, requiring informal mechanisms and shared norms to bridge gaps (Williamson, 2007). Nonetheless, adversarial relationships and cultural misalignment remain persistent challenges in major project delivery (Gil, 2009). The implication for the client is therefore to act less as a controller and more as a trusted broker, clarifying interfaces, aligning intent and establishing governed spaces for collaborative problem solving, while at the same time maintaining essential commercial boundaries. Workshop contributors were direct on this point.

> *Client and supply chain relationship is always viewed as a transactional dyadic, when in fact it is a network relationship. It also needs to acknowledge that these relationships shift over the life of a project. (Infrastructure owner-operator executive)*

A vignette drawn from multiple cases illustrates how this orientation can be enacted. Mobilisation often begins with a short alignment sprint in which the client convenes Tier-1 partners, the sponsor and the principal regulator to surface outcome assumptions and identify potential fault lines. Instead of generic statements about collaboration, the group produces three artefacts: a one-page behaviours charter, an interface map with named decision routes and service level agreements, and an incentives table that links payments to contributions to outcomes rather than to activity volume. Suppliers are invited into early ideation under intellectual property protection to challenge scope and propose alternatives, with commitments staged to make such challenge safe. When disputes arise, they are addressed first in a joint forum with clear escalation logic rather than being taken immediately to senior boards. This structured convening enables clients to orchestrate expertise without requiring comprehensive technical mastery across all domains.

Although formal contractual authority gives clients the ability to issue instructions and requirements, our interview evidence consistently revealed that attempts to exercise hierarchical control often generated compliance rather than collaboration. High-performing clients instead practised what we term ecosystem orchestration, relying on influence, facilitation and shared problem solving rather than command-and-control (Galvin et al., 2021). This interdependence shifts the client role from director to conductor, orchestrating collective capability rather than controlling individual components.



These practices treat relationships as a designed system, balancing trust and alignment for speed and learning with boundaries for accountability. Our findings show this mix of brokered interfaces, credible signals and governed collaboration is most often linked to progress toward outcomes.

4.6 Methods, data and digital

This dimension functions as the programme's nervous system, comprising the routines and information flows that enable clients to identify priorities, take timely decisions, and adapt at sufficient pace. Evidence from our empirical data highlights leaders' calls for '*numbers we trust*' at the point of decision, transparent measures of schedule confidence, and short learning loops that demonstrably influence practice. Without these features, governance risks becoming bureaucratic report generation whilst unchecked optimism persists.

A significant emerging practice is the development of '*canonical decision datasets*', minimal, jointly owned information that all parties trust as the foundation for collaborative decision-making.

> *We need the right data that everybody trusts so that we can have an honest conversation. (Cross-sector strategist)*

This approach replaces *'whose spreadsheet?'* debates with a single source of truth, reducing latency whilst maintaining scrutiny. Participants stressed the importance of presenting schedule confidence and live performance signals directly to decision-making bodies. Breakout discussions highlighted how traditional dashboards can be manipulated, particularly as final project stages often conceal disproportionate effort. The proposed remedy displays pace, buffers, and constraint burn-down where decisions are actually taken.

A recurring frustration emerged around '*lessons recorded, not learned*'. The recommended approach tracks re-embedding of lessons explicitly. When recurring issues surface, teams should determine whether they warrant standard updates, system-level adjustments, or targeted coaching, then document closure. Lessons should be treated as formal deliverables and reviewed within the same governance forums as other commitments (McClory et al., 2017). Teams using simple early models (capacity, interfaces, regulatory gates) to bound scope took fewer false paths and required less assurance rework later. Light-weight modelling is therefore regarded as part of method, not a singular analysis task (Gong et al., 2022).

Table 9: Methods, data and digital synthesis

Reference	Findings	Application
Survey	*'Numbers create a single source of truth'* [Public sector governance]. *'We need trusted data for honest conversation'* [Cross-sector strategist].	Base accountability on trusted data, enable evidence-led forums, and build shared foundations for joint decisions.
Semi-structured interviews	Canonical datasets end data disputes. Live signals guide decisions. Early modelling defines scope. Lessons transfer across phases.	Use trusted data, show performance at decision points, learn fast to cut rework, and apply early modelling for proportionate assurance.
Workshop	*'Last 1% of rails laid was like 30% of the effort'* [Senior advisor]. Traditional metrics can be gamed, particularly in final stages	Fix dashboards and incentives, track tempo and schedule, measure real progress, and prevent metric gaming.

The digital dimension emerges not as technology implementation but as capability enhancement enabling new forms of collaboration and performance management (Yang et al., 2020). Our findings point to an emerging paradigm where projects function as intelligent systems, systematically applying integrated data, methods and digital capability to enable better decisions, faster adaptation and more effective responses to changing circumstances (Dacre, Baxter, et al., 2025; Dacre & Kockum, 2022).

5. MPCF vignettes

These vignettes illustrate how the MPCF applies across sectors and projects. They are composite examples combining common patterns, challenges and solutions from research, with insights from practitioners, interview mechanisms and workshop-validated strategies.

5.1 Inter-regional rail connectivity programme

An inter-regional rail programme was launched to cut journey times and raise capacity between major Northern cities, framed as boosting regional productivity. Sponsorship was shared by central government, devolved and local authorities, the infrastructure manager and early delivery partners.

After 18 months of mobilisation, the new SRO found a gap between political ambition and a viable business case. The programme promised transformation but lacked clear success measures or links from rail outputs to socio-economic outcomes. Governance was fragmented, weekly meetings with 60+ attendees yielded few decisions, and early supplier appointments stalled due to vague scope and criteria. A finance review confirmed funds were being committed '*on hope not outcomes*', blocking approval without clearer definitions of success and evidence.

Table 10: MPCF vignette interventions

Dimension	Interventions
Purpose and outcomes	Structured purpose workshops create an outcomes hierarchy linking intent, objectives and acceptance tests. The aim is to cut journey times, raise capacity and boost productivity. Objectives set city-pair targets, define capacity growth and encourage modal shift. Acceptance tests check timetables, reliability, usage shifts and economic outcomes in set zones. The method also maps dependencies like planning policy, skills and local schemes, with named owners beyond rail.
Governance and decision rights	The intervention swaps committee governance for a few decision forums with single-point ownership. A quarterly Strategic Board covers policy and outcomes, a monthly Operational Board manages packages and interfaces, and a Stakeholder Forum consults regions without decision rights. Authority follows information: package directors hold scoped powers, commercial leads manage variation thresholds, and regional coordinators address local issues. Decision latency is monitored throughout.
Client organisation and capability	The approach strengthens the client role as an intelligent client, using should-cost/should-take analysis and reference-class forecasting. It separates technical assurance (standards, integration, safety) from commercial orchestration (market, contracts, relationships), creating credible challenge and clearer market signals.
Procurement and contracting	The commercial strategy mixes early supplier involvement with competitive tension. Frameworks test capability and fit as well as price, while call-offs develop solutions collaboratively under IP protection before pricing. Incentives tie payments to outcomes like reliability, journey times and predictability.
Relationships and ecosystem	Implementation uses enterprise governance recognising interdependence beyond contracts. Monthly forums address cross-boundary issues, while interface agreements set roles, decisions and service levels as clarity tools, not contracts. The stance is '*trust with hard edges*': candour and early warning under clear accountability.
Methods, data and digital	Reporting moves from spend and milestone RAGs to outcome confidence, interface resolution and early economic indicators. A shared dataset supports all boards, shown with confidence ranges, trends and assumptions. Lessons are deliverables with owners and review dates to ensure implementation.

5.2 Cross-Government Digital Services Programme

A central government programme was launched to modernise citizen-facing digital services across several departments. The portfolio combined service redesign, shared platforms and common data standards, with sponsorship at the centre and delivery spread across departments.

Progress was slow, costs were rising, and cost-plus contracts rewarded activity over results. Consultancy use was high but service improvements were limited, with no measurable criteria for the '*world-class digital government*' vision. Governance was fragmented, simple tech decisions dragged on, and suppliers billed while waiting for approvals. Scrutiny confirmed large sums were spent without evidence of transformation.

Table 10: MPCF vignette interventions

Dimension	Interventions
Purpose and outcomes	Success is judged by outcomes like satisfaction, completion rates, cycle times and efficiency, while dependencies in policy, process and skills are mapped with named owners.
Governance and decision rights	Governance is rebuilt around digital delivery, replacing many committees with three forums: a monthly Digital Outcomes Board, a weekly Technical Coordination Forum, and a Commercial Board for supplier performance and contract changes. Routine technical decisions stay with departmental leads, while only cross-government or strategic matters need central approval.
Client organisation and capability	The intervention builds digital intelligence with a central team of senior technologists for independent challenge and embedded specialists to translate policy into requirements. Technical assurance is separated from commercial orchestration, enabling stronger scrutiny of supplier propositions.
Procurement and contracting	Implementation shifts from cost-plus to outcome-linked payments based on satisfaction, completion and efficiency. Early supplier involvement continues under IP-safe collaboration, with selections weighing capability and track record as well as cost, supported by a small in-house team.
Relationships and ecosystem	The approach takes a digital federal stance, balancing departmental autonomy with shared standards. Monthly forums align platforms and patterns, interface agreements define roles for shared components, and '*trust with hard edges*' ensures openness with accountability. Departments begin sharing solutions and expertise instead of competing.
Methods, data and digital	Reporting moves from spend and milestones to outcome confidence, performance trends, interoperability and savings. A shared dataset supports all forums, with dashboards showing trends and confidence ranges. Lessons are deliverables with owners and cross-department re-use, while user feedback drives iterative design.

6. Conclusion

This report set out a practical way for client organisations to transition from procuring outputs to stewarding outcomes in major programmes. Drawing on literature, three practitioner surveys, twenty senior interviews and a validation workshop, we developed the Major Projects Clienting Framework. Three critical insights emerge from this framework. First, effective clienting requires simultaneous development across all six dimensions rather than sequential capability building. The framework functions as an integrated system where improvements in one dimension can amplify or constrain developments in others.

Second, the client role must evolve from purely purchasing to strategic orchestrator capable of aligning diverse actors around shared outcomes whilst managing interfaces beyond direct contractual control. This requires capabilities that extend beyond technical competence to encompass ecosystem coordination and outcome stewardship.

Third, sustainable transformation imposes cultural as well as procedural change. Moving from outputs to outcomes requires organisations to reconsider how they define success, structure decision-making, and reward performance across the entire delivery ecosystem.

Taken together, these findings position the MPCF as both a diagnostic and a design tool. Diagnostic in identifying where current client practice undermines value, and design-oriented in offering principles that can be adapted to different sectors and project phases.

Ultimately, this framework challenges the notion that clients should be 'intelligent' in the sense of possessing comprehensive technical answers or complete specifications at project outset, in isolation. The complexity and uncertainty inherent in major projects make such omniscience impossible and undesirable. Solutions cannot be fully defined in advance; they must emerge through structured collaboration across delivery ecosystems.

This requires fundamentally different leadership qualities: convening capability over technical mastery, facilitation and influencing skills over directive authority, and the confidence to admit uncertainty whilst maintaining strategic direction. Effective clients orchestrate intent, align incentives and broker interfaces, recognising that the delivery system as a whole generates solutions that no single party could specify in isolation.

Effective clienting defines clear outcomes whilst orchestrating the collaborative processes through which delivery solutions emerge

This shift from control to orchestration represents not a weakening of the client role but a more sophisticated understanding of how complex projects actually succeed. While this framework does not claim to eliminate the inherent challenges of major projects, it offers clients a structured approach to strengthen collaboration through orchestration and sustain focus on long-term benefits by moving decisively from outputs to outcomes.

Acknowledgements

We gratefully acknowledge **Emma-Jane Houghton FICE**, Visiting Fellow at the University of Southampton, whose original idea provided the spark for this study. Her contribution in shaping the initial concept, guiding the early direction of the research, and supporting the various stages of data collection was invaluable in laying the foundations for this work. Her thinking on clients as orchestrators rather than controllers, and on the collaborative nature of solution development in complex delivery ecosystems, runs throughout this framework. Without her support this report would not have been possible.

With many thanks to:

We extend our heartfelt thanks to **Richard Da Gama**, **Sam Platten**, and **Jim Abbatt** at ResoLex for sponsoring the workshop and for their ongoing support throughout the process. Their valuable insights, facilitation expertise, and role as a trusted point of reference have been instrumental.

We are equally grateful to the practitioners and experts who generously contributed their time, experiences and perspectives during the research process. Their openness, engagement and

feedback have been central to shaping the focus and recommendations set out in this report. Their candid insights into the challenges of major project delivery, their willingness to share both successes and setbacks, and their commitment to advancing practice have been invaluable. The framework presented here reflects their collective wisdom and experience.

In particular, we would like to acknowledge **Gavin Askew**, Senior Responsible Owner and Head of Special Nuclear Materials and Analytical Programmes at Sellafield Ltd. **Malcolm Lewis**, Cost and Commercial Director at National Grid. **Nicky Ward** at WSP. **Phil Ross**, Director at Collinson Grant. **Richard Holm**, Collaboration Lead at AtkinsRéalis. **Sarah Coleman**, Director at Business Evolution Ltd. **Tim Chapman**, Partner and Director of Transport, Cities and Infrastructure at Boston Consulting Group. We also thank **Vasilis Gkogkidis** for his contributions.

Finally, we acknowledge the broader community of project management professionals, academics and industry leaders whose ongoing dialogue and debate continue to advance our understanding of how major projects can deliver lasting value for society.

Cover photo: Buddy AN, Unsplash

References

Ajmal, M. M., Khan, M., Gunasekaran, A., & Helo, P. T. (2022). Managing project scope creep in construction industry. *Engineering, Construction and Architectural Management*, *29*(7), 2786-2809.

Al-Mhdawi, M. K. S., O'connor, A., Qazi, A., Rahimian, F., & Dacre, N. (2025). Review of studies on risk factors in critical infrastructure projects from 2011 to 2023. *Smart and Sustainable Built Environment*, 35. https://doi.org/10.1108/SASBE-09-2023-0285

Aritua, B., Male, S., & Bower, D. (2009). Defining the intelligent public sector construction client. *Proceedings of the Institution of Civil Engineers-Management, Procurement and Law*, *162*(2), 75-82.

Aritua, B., Male, S., Bower, D., & Madter, N. (2011). Competencies for the intelligent public sector construction client. *Proceedings of the Institution of Civil Engineers-Management, Procurement and Law*, *164*(4), 193-201.

Ashkanani, S., & Franzoi, R. (2022). An overview on megaproject management systems. *Management Matters*, *19*(2), 129-148.

Association for Project Management. (2009). *Sponsoring Change: A Guide to the Governance Aspects of Project Sponsorship*.

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current directions in psychological science*, *20*(4), 265-269.

Bakker, E., Walker, H., Schotanus, F., & Harland, C. (2008). Choosing an organisational form: the case of collaborative procurement initiatives. *International journal of procurement management*, *1*(3), 297-317.

Baxter, D., Dacre, N., Dong, H., & Ceylan, S. (2023). Institutional challenges in agile adoption: Evidence from a public sector IT project. *Government Information Quarterly*, *40*(4), 15. https://doi.org/10.1016/j.giq.2023.101858

Blanco, J. L., Janauskas, M., & Ribeirinho, M. J. (2016). Beating the low-productivity trap: How to transform construction operations. *McKinsey & Company*.

Bourne, M., Anker, D., Chambers, G., & Torjai, L. (2020). How to measure and manage the UK Government's major project portfolio. *Measuring business excellence*, *24*(4), 461-474.

Boyd, D., & Chinyio, E. (2008). *Understanding the construction client*. John Wiley & Sons.

Brookes, N., Sage, D., Dainty, A., Locatelli, G., & Whyte, J. (2017). An island of constancy in a sea of change: Rethinking project temporalities with long-term megaprojects. *International journal of project management*, *35*(7), 1213-1224.

Brunet, M. (2021). Making sense of a governance framework for megaprojects: The challenge of finding equilibrium. *International journal of project management*, *39*(4), 406-416.

Bryde, D. (2008). Perceptions of the impact of project sponsorship practices on project success. *International journal of project management*, *26*(8), 800-809.

Caldas, C., & Gupta, A. (2017). Critical factors impacting the performance of mega-projects. *Engineering, Construction and Architectural Management*, *24*(6), 920-934.

Chipulu, M., Ojiako, U., Gardiner, P., Williams, T., Mota, C., Maguire, S., Shou, Y., Stamati, T., & Marshall, A. (2014). Exploring the impact of cultural values on project performance: The effects of cultural values, age and gender on the perceived importance of project success/failure factors. *International Journal of Operations & Production Management*, *34*(3), 364-389.

Construction Leadership Council. (2023). *Creating a Productive environment for UK Construction*. https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2023/09/Creating-a-productive-environment-for-UK-Construction.pdf

Crawford, L., Cooke-Davies, T., Hobbs, B., Labuschagne, L., Remington, K., & Chen, P. (2008). Governance and support in the sponsoring of projects and programs. *Project management journal*, *39*(S1), S43-S55.

Curd, R. (2022). *Intelligent Client Capability Framework*. Institution of Civil Engineers. https://www.ice.org.uk/media/uqabqy1w/intelligent-client-capability-framework.pdf

Dacre, N., Baxter, D., Dong, H., Al-Mhdawi, M. K. S., Abeysooriya, R., & Shen, Y. (2025). *Digital transformation and the AI imperative in public and private sector projects: Methods and skills for project management*. Association for Project Management. https://doi.org/10.61175/A7F2K9BZ

Dacre, N., Dong, H., Al-Mhdawi, M. K. S., & Dong, J. (2025). Risk Assessment in Social Infrastructure: Consilient Digital Transformation, Knowledge Transfer, and Project Success Frameworks in Elderly Care PPP Projects *Health Care Delivery & Financing*, 23. https://doi.org/10.2139/ssrn.5084645

Dacre, N., Eggleton, D., Cantone, B., & Gkogkidis, V. (2021). Why People Skills Lead to Project Success: Towards Dynamic Conditions for People Skills and Leadership in Project Management *Project*, *307*, 14. https://doi.org/10.2139/ssrn.4998962

Dacre, N., Giambona, J., & Houghton, E.-J. (2025). Towards a Systems-Based Clienting Framework in Major Projects: From Control to Orchestration. *Project and Program Management*, 13. https://doi.org/10.2139/ssrn.5312149

Dacre, N., & Kockum, F. (2022). *Artificial Intelligence in Project Management: A review of AI's usefulness and future considerations for the project profession*. Association for Project Management. https://doi.org/10.61175/DOGX9829

Daood, A., Floricel, S., Mascia, D., & Giustiniano, L. (2024). Understanding multiple crises unfolding within megaprojects: Crises' interdependencies, responses, and outcomes. *International journal of project management*, *42*(1), 102545.

Denicol, J. (2020). Managing megaproject supply chains: Life after Heathrow Terminal 5. *Successful construction supply chain management: Concepts and case studies*, 211-235.

Denicol, J., & Davies, A. (2022). The megaproject-based firm: Building programme management capability to deliver megaprojects. *International journal of project management*, *40*(5), 505-516.

Denicol, J., Davies, A., & Krystallis, I. (2020). What are the causes and cures of poor megaproject performance? A systematic literature review and research agenda. *Project management journal*, *51*(3), 328-345.

Denicol, J., Davies, A., & Pryke, S. (2021). The organisational architecture of megaprojects. *International journal of project management*, *39*(4), 339-350.

do Rosário Bernardo, M. (2014). Performance indicators for enhancing governance of projects. *Procedia-Social and Behavioral Sciences*, *119*, 55-64.

Dooley, L., Lupton, G., & O'Sullivan, D. (2005). Multiple project management: a modern competitive necessity. *Journal of Manufacturing Technology Management*, *16*(5), 466-482.

Edkins, A., Geraldi, J., Morris, P., & Smith, A. (2013). Exploring the front-end of project management. *Engineering project organization journal*, *3*(2), 71-85.
Eggleton, D., Dacre, N., Cantone, B., & Gkogkidis, V. (2021). *Dynamic conditions for project success*. Association for Project Management. https://doi.org/10.61175/FXCU4654
Eggleton, D., Dacre, N., Cantone, B., & Gkogkidis, V. (2023). From hypothesis to evidence: testing the Ika and Pinto four dimensional model of project success. *British Academy of Management*, 23. https://doi.org/10.2139/ssrn.5003846
Flyvbjerg, B. (2003). *Megaprojects and risk: An anatomy of ambition*. Cambridge University Press.
Flyvbjerg, B. (2014). What you should know about megaprojects and why: An overview. *Project management journal*, *45*(2), 6-19.
Flyvbjerg, B. (2017). *The Oxford handbook of megaproject management*. Oxford University Press.
Gajendran, T., & Brewer, G. (2012). Collaboration in public sector projects: unearthing the contextual challenges posed in project environments. *Engineering project organization journal*, *2*(3), 112-126.
Galvin, P., Tywoniak, S., & Sutherland, J. (2021). Collaboration and opportunism in megaproject alliance contracts: The interplay between governance, trust and culture. *International journal of project management*, *39*(4), 394-405.
Gil, N. (2009). Developing cooperative project client-supplier relationships: How much to expect from relational contracts? *California management review*, *51*(2), 144-169.
Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational research methods*, *16*(1), 15-31.
Gong, Z., Dacre, N., & Dong, H. (2022). Fostering digital transformation through project integration management. *Project and Program Management*, 19. https://doi.org/10.2139/ssrn.5003601
Ika, L. A., & Pinto, J. K. (2022). The "re-meaning" of project success: Updating and recalibrating for a modern project management. *International journal of project management*, *40*(7), 835-848.
Jonca, A. (2022). *The Whole Life Carbon Roadmap – Answering your data FAQs received to date* UK Green Building Council. https://ukgbc.org/news/the-whole-life-carbon-roadmap-answering-your-data-faqs-received-to-date/
Komal, B., Janjua, U. I., Anwar, F., Madni, T. M., Cheema, M. F., Malik, M. N., & Shahid, A. R. (2020). The impact of scope creep on project success: An empirical investigation. *IEEE Access*, *8*, 125755-125775.
Latham, S. M. (1994). Constructing the team.
Madter, N., & Bower, D. (2015). Briefing: The Institution of Civil Engineers' intelligent client capability framework. *Proceedings of the Institution of Civil Engineers-Management, Procurement and Law*, *168*(1), 6-7.
Maqbool, R., Rashid, Y., Altuwaim, A., Shafiq, M. T., & Oldfield, L. (2024). Coping with skill shortage within the UK construction industry: scaling up training and development systems. *Ain Shams Engineering Journal*, *15*(2), 102396.
McClory, S., Read, M., & Labib, A. (2017). Conceptualising the lessons-learned process in project management: Towards a triple-loop learning framework. *International journal of project management*, *35*(7), 1322-1335.
Meng, X. (2012). The effect of relationship management on project performance in construction. *International journal of project management*, *30*(2), 188-198.
Mirza, M. N., Pourzolfaghar, Z., & Shahnazari, M. (2013). Significance of scope in project success. *Procedia Technology*, *9*, 722-729.
Mišić, S., & Radujković, M. (2015). Critical drivers of megaprojects success and failure. *Procedia Engineering*, *122*, 71-80.
Mosavi, A. (2014). Exploring the roles of portfolio steering committees in project portfolio governance. *International journal of project management*, *32*(3), 388-399.
Osobajo, O. A., Oke, A., Ajimmy, M., Otitoju, A., & Adeyanju, G. C. (2023). The role of culture in stakeholder engagement: Its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(2), 100058.
Pinto, J. K. (2022). Reassessing project practices, research, and theory in a post-Covid reality. *International Journal of Information Systems and Project Management*, *10*(4), 5-27.

Pinto, J. K., Davis, K., Ika, L. A., Jugdev, K., & Zwikael, O. (2022). Coming to terms with project success: Current perspectives and future challenges. *International journal of project management*, *40*(7), 831-834.

Pinto, J. K., & Winch, G. (2016). The unsettling of "settled science:" The past and future of the management of projects. *International journal of project management*, *34*(2), 237-245.

Radhakrishnan, A., Zaveri, J., David, D., & Davis, J. S. (2022). The impact of project team characteristics and client collaboration on project agility and project success: An empirical study. *European Management Journal*, *40*(5), 758-777.

Schein, E. H. (2017). *Organisational culture and leadership* Wiley.

Schibi, O., & Lee, C. (2015). Project sponsorship: senior management's role in the successful outcome of projects.

Stefano, G., Denicol, J., Broyd, T., & Davies, A. (2023). What are the strategies to manage megaproject supply chains? A systematic literature review and research agenda. *International journal of project management*, *41*(3), 102457.

Straub, S. (2008). *Infrastructure and growth in developing countries* (Vol. 4460). World Bank Publications.

Svejvig, P., & Andersen, P. (2015). Rethinking project management: A structured literature review with a critical look at the brave new world. *International journal of project management*, *33*(2), 278-290.

Terenzi, M., Locatelli, G., & Winch, G. M. (2024). Projects as vectors of change: A transition toward net-zero sociotechnical systems. *Project management journal*, 87569728241270578.

Vine, R. (2018). *The Intelligent Client: Learning to govern through numbers at Heathrow* University of Sussex].

Vo, H., Kirkham, R. J., Williams, T. M., Howells, A., Forster, R., & Cooke-Davies, T. (2021). An empirical study of assurance in the UK government major projects portfolio: from data to recommendations, to action or inaction. *International journal of managing projects in Business*, *14*(4), 865-897.

Williamson, O. E. (2007). *The economic institutions of capitalism. Firms, markets, relational contracting*. Springer.

Winch, G. M. (2012). *Managing construction projects*. John Wiley & Sons.

Winch, G. M., & Cha, J. (2020). Owner challenges on major projects: The case of UK government. *International journal of project management*, *38*(3), 177-187.

Xu, J., & MacAskill, K. (2024). Carbon data and its requirements in infrastructure-related GHG standards. *Environmental Science & Policy*, *162*, 103935.

Yang, Y., Brosch, G., Yang, B., & Cadden, T. (2020). Dissemination and communication of lessons learned for a project-based business with the application of information technology: a case study with Siemens. *Production Planning & Control*, *31*(4), 273-286.

Zani, C. M., Denicol, J., & Broyd, T. (2024). The four coordination roles of clients when designing megaproject organizations. *Project management journal*, *55*(5), 558-579.