1

What Is Collaborative Construction Procurement?

1.1 Overview

Collaborative construction procurement comprises a set of processes and relationships through which teams can develop, share and apply information in ways that improve the design, construction and operation of their projects. It supports team selection and team integration, and it offers a fresh approach to legal and cultural issues that can otherwise reduce efficiency and waste valuable resources.

This book explores the delivery of economic and social value through improvements in strategic thinking, team selection, contract integration and the use of digital technology, and it considers how the processes and relationships of collaborative construction procurement can be brought more into the mainstream. It uses analysis, guidance, and case studies to illustrate how collaborative approaches can be adopted successfully by any team in any part of the construction sector. With contributions from six other countries, this book also shows how the models that comprise collaborative construction procurement can operate in a range of common law and civil law jurisdictions.

Many procurement models provide little time or opportunity for consultants, contractors, subcontractors, manufacturers and operators to integrate their work. Instead, these models attempt to fix prices without joint cost analysis and to transfer risks without joint risk management, often encouraging misunderstandings and disputes that lead to cost overruns, delays and defects. This book examines collaborative approaches that can anticipate and avoid the problems created by incomplete data, by fragmented contracts and by the neglect of team integration.

We will review the collaborative bridges that connect and integrate the work of different team members and that translate their aspirations into actions, plus a range of factors that may encourage or obstruct progress. New procurement models will not gain widespread support unless they offer benefits for all parties, and we will examine the ways in which procurement processes, digital technology and collaborative contracts can accommodate the differing aspirations and requirements of all team members.

This chapter summarises recent research and commentaries that identify the need for procurement reform, and notes the links between collaborative procurement, digital technology and contracts. Chapter 2 considers the foundations for collaborative construction procurement and Chapter 3 describes the features of collaborative working through a project alliance. Chapters 4 and 5 consider the greater potential for improved commitments and improved outcomes where team members create strategic alliances through frameworks and other long-term contracts.

Collaborative Construction Procurement and Improved Value, First Edition. David Mosey.

Chapters 6–8 consider how collaborative team members are selected, whether collaboration needs a contract at all and, if so, whether a new type of contract is required to fulfil this role. They explore how team selection and contractual commitments can help to build a collaborative culture, and test whether team members can integrate their work by making non-binding declarations. The collaborative and alliance features of standard form project contracts are considered in Chapter 9, and the FAC-1 Framework Alliance Contract and the TAC-1 Term Alliance Contract are explained in Chapters 10 and 11.

Collaborative construction procurement needs to be sustained by personal relationships, and different ways to create and support a collaborative culture are explored in Chapter 12. The potential for digital technology to create new connections between team members, and also to integrate the capital and operational phases of a project, is examined in Chapters 13 and 14, together with the impact of Building Information Modelling ('BIM') on procurement and contracting practices.

The lessons learned from case studies show how economic and social value can be improved through collaborative construction procurement, and these are considered in Chapter 15. The different options available for costing, incentivising and programming a collaborative project or programme of work are considered in Chapters 16 and 17. Collaborative risk management systems are analysed in Chapter 18, and collaborative ways to avoid or resolve disputes are explored in Chapter 19.

Chapters 20–25 have been contributed by leading practitioners in Australia, Brazil, Bulgaria, Germany, Italy and the USA. They describe how new approaches to procurement, contracts, and BIM are adopted in each country, and explore the different challenges arising in common law and civil law jurisdictions.

1.2 What Is Collaborative Construction Procurement?

This book uses the terms 'collaborative construction procurement' and 'collaborative procurement' to describe how projects and programmes of work can be planned and delivered by integrated teams. It examines how collaborative procurement can be supported by early contractor involvement, by digital technology such as BIM and by new contractual structures and processes in order to improve the outputs from construction, engineering and asset management.

Construction projects should always be a team endeavour, yet despite extensive evidence as to the benefits of collaborative working, most procurement models and contracts do not support teamwork but instead focus on the transfer of risk down the supply chain. This traditional defensiveness reminds us that organisations are obliged to protect their own interests, and it is important to examine the extent to which collaborative alternatives provide equivalent or improved legal and commercial protections.

Collaboration among individuals engaged on a project or programme of work is only made possible by integrating the differing needs and commercial priorities of the organisations who employ them. Knowledge is power, and the legal and commercial tests of collaborative construction procurement should include:

- Firstly, whether team members build up shared knowledge at a time when it can be used to improve project outcomes
- Secondly, whether team members use that shared knowledge to improve project outcomes rather than for their individual benefit.

To pass the first test requires integrated and transparent systems, and to pass the second test requires motivation that aligns different commercial interests. The references to case law in this book illustrate how the courts treat a range of issues in the absence of contractual clarity, and why clear contracts are therefore essential to ensure that the features of collaborative procurement are commitments rather than optional extras.

For the construction industry and its clients to get the best out of collaborative working, and for them to avoid creating new barriers in place of the old ones, they should build the bridges through which:

- The agreed objectives of team members are connected to the contracts that support their shared approach to agreed commitments
- The people and organisations who contribute to a project are connected to emerging technology
- The vision of design consultants is connected to the expertise of the contractors, subcontractors and manufacturers who bring those designs to life
- The design and construction of projects are connected to their ongoing operation, repair and maintenance
- The experience of the different sectors and different jurisdictions can provide examples of good practice.

In order to create and maintain commercial and legal bridges, construction clients and the teams with whom they work need to develop integrated relationships, transparent data and a clear view of the issues arising. This book considers the new lenses, as illustrated in Diagram 1, through which collaborative construction procurement can improve data transparency and can develop a clear vision of how team members can work together more efficiently.

We will examine the ways in which collaborative options for team selection, project planning and project delivery can:

- Help a client to decide whether a construction project should be approached as a team endeavour rather than a cascade of risk transfer
- Create new opportunities to ask and answer practical questions as to risk and value
- Avoid making risk and value assumptions before team members are selected
- Establish what involvement, roles and responsibilities it is reasonable and valuable for all team members to accept.

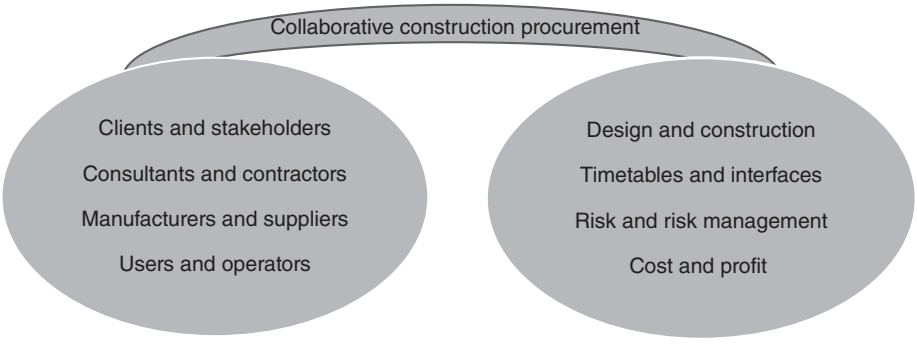

Diagram 1 Team members, data and issues viewed through collaborative construction procurement.

1.3 Why Is Collaborative Procurement Important?

The success of collaborative construction procurement depends on team members making clear what it is they will do together that they would not do alone, going beyond a general sense of joint purpose to agree in detail how they will integrate their roles and responsibilities in a way that can be compatible with their different commercial drivers. Collaborative models have already proven their value, for example in the UK, the USA and Australia, but they need to be presented and explained more clearly and consistently in order to attract wider support.

It should be possible for changes to be made incrementally rather than by demanding that team members leap across a chasm to unfamiliar territory. In addition to exploring the intellectual and legal challenges generated by no blame clauses and shared pain/gain incentives, we will also examine other collaborative procurement systems such as early contractor involvement, Supply Chain Collaboration, joint project governance, shared digital data, long-term strategic appointments and whole life asset management.

The success of collaborative procurement models depends on the people who put them into practice and on the ways that they act, react, communicate and seek consensus. These are the features that comprise a collaborative culture, and it is important to examine the ways that they can be developed and sustained. However, we also need to look critically at assertions that a collaborative culture needs only a general declaration of good faith or that it requires the exclusion or limitation of reasonable legal rights and obligations.

Declarations of collaborative principles can create shared values among team members but do not get us very far if they are not translated into collaborative actions. General declarations are of limited value in helping a team to deal with typical risks and challenges in a new way, and failure to honour a collaborative declaration only increases cynicism. Meanwhile, if collaboration is seen as no more than a set of reluctant compromises through which the parties edge away from opposing positions, it is unlikely to create the foundations for a shared commitment to improved value but instead may create a sense of residual dissatisfaction and mutual suspicion.

The global financial crisis in 2008 placed pressure on emerging collaborative procurement models and tempted clients instead to exploit lowest price bids in a cutthroat marketplace.[1] However, by 2010 the newly-elected UK Coalition Government was concerned that artificially low prices would lead to:

- Poor quality work by cutting corners
- Delayed payment of subcontractors and suppliers
- Claims and disputes to make up for lost profit
- Increased defaults and insolvencies where unsustainable prices and payment delays become intolerable.[2]

As a result, when drafting the 2011 Government Construction Strategy,[3] UK Government Chief Construction Adviser Paul Morrell proposed instead the development of reliable data through early contractor involvement combined with collaborative working

1 UK clients were drawn back to single-stage lowest price tendering because it appeared to apply 'commercial pressure to secure cost reductions', Rawlinson, S. (2008), 68.

2 The same concerns, arising after an earlier recession, emerged in Latham, M. (1994).

3 Government Construction Strategy (2011).

and BIM as the cornerstones of more efficient procurement and delivery of construction, engineering and asset management. The 2011 Government Construction Strategy recommended that these approaches should be features of three new procurement models and proposed that they should be tested through a programme of 'Trial Projects'.[4] Early supply chain engagement and collaborative working were also features of BS8534, the British Standard for construction procurement published in 2011.[5]

Recent years have seen a series of reports underlining the need for improved procurement and contracting practices, for example:

- The 2016 Farmer report 'Modernise or Die'[6]
- The 2017 McKinsey report 'Reinventing Construction Through a Productivity Revolution'[7]
- 'Building a Safer Future', the 2018 Hackitt Review of Building Regulations and Fire Safety[8]
- The 2018 Housing Forum report 'Stopping Building Failures, How a Collaborative Approach can Improve Quality and Workmanship'[9]
- The 2018 Construction Leadership Council report 'Procuring for Value'.[10]

McKinsey recommended that poor productivity in the construction sector means that we need to 'rewire the contractual framework'.[11] In the aftermath of the 2017 Grenfell Tower disaster in London, the Hackitt Report suggested that procurement systems need a complete overhaul because 'the primary motivation is to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe for people to live in'.[12] She highlighted a cultural issue in construction procurement which she described as a 'race to the bottom', and emphasised that the reform of current practices should 'lead to a significant increase in productivity'.[13]

The UK best practice body Constructing Excellence has championed collaborative procurement for many years, and in 2011 published guidance that included the following three overriding principles:

- 'Common vision and leadership: an absolute focus on the end purpose based on a clear understanding by all participants of what represents value for the client and end users. Leadership needs to establish this common vision and then constantly relate progress by the project to this vision to reinforce the team's goal'
- 'Collaborative culture and behaviours: collaborative behaviours include teamwork and joint problem solving. Participants demonstrate values such as trust, fairness, openness, no-blame, honesty and transparency'
- 'Collaborative processes and tools: adopting processes and tools which support the development of the collaborative culture and deliver the benefits, such as information

4 Government Construction Trial Projects (2012).
5 BS8534:2011.
6 Farmer, M. (2016).
7 McKinsey Global Institute (2017).
8 Building a Safer Future (2018).
9 Housing Forum (2018).
10 Procuring for Value (2018), researched by Ann Bentley, CLC Member and Global Board Director of Rider Levett Bucknall.
11 McKinsey Global Institute (2017), 8.
12 Building a Safer Future (2018), 5. This is considered further in Section 15.8.
13 Building a Safer Future (2018), 5, 8. See also Housing Forum (2018).

collaboration platforms, open book costing, lean and waste elimination, and project bank accounts'.[14]

The interlocking collaborative themes that recur throughout this book include shared vision and leadership, a common understanding of value, a culture of teamwork and joint problem-solving and a range of supporting commercial processes and tools.

1.4 What Research Has Examined Collaborative Construction Procurement?

This book draws on research undertaken by Governments, by construction industry practitioners, and by academics and other commentators, combined with three related research initiatives led by King's College London Centre of Construction Law. The King's research examines:

- The means by which improved value has been delivered using early contractor involvement, collaborative contracts and BIM on Trial Projects, with outputs captured in published case studies[15] and related guidance[16]
- The relationship between procurement, contracts and BIM and their influence on private sector and public sector projects, with outputs captured in a published report[17]
- The potential for proposed new forms of contract to facilitate early contractor involvement, collaborative working and BIM, leading to publication of the standard form 'FAC-1 Framework Alliance Contract'[18] and the 'TAC-1 Term Alliance Contract'.[19]

The research timelines for each of these King's initiatives are set out in Appendix A. The King's research tested the findings of a range of Government and industry reports, including for example:

- The 1962 Emmerson 'Survey of Problems Before the Construction Industries', observing that 'in no other important industry is the responsibility for the design so far removed from the responsibility for production'[20]
- The 1994 Latham Report 'Constructing the Team' and his interim report 'Trust and Money', observing that 'the traditional separation of design and construction has long been a source of controversy'[21]
- The UK Government Construction Strategies 2011 and 2016–2020, both recommending a combination of early contractor involvement, collaborative working and BIM[22]

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14 CE (2011).
15 The Trial Project case studies are published online by Cabinet Office and Constructing Excellence, and are listed in Appendix C.
16 For example, Two Stage Open Book and Supply Chain Collaboration Guidance (2014).
17 KCL Centre of Construction Law (2016).
18 FAC-1 Framework Alliance Contract (2016).
19 TAC-1 Term Alliance Contract (2016).
20 Emmerson, H. (1962), 9. Banwell picked up this theme and stated that 'those who continue to regard design and construction as separate fields of endeavour are mistaken', Banwell Report (1964), 4, Section 2.6.
21 Latham, M. (1993, 1994).
22 Government Construction Strategy (2011, 2016–2020).

- The 2012 Effectiveness of Frameworks Report, part of the UK Government Procurement/Lean Client Task Group Report,[23] examining the features that influence the success of public sector frameworks
- The 2012 report by the UK Parliamentary All-Party Group for Excellence in the Built Environment, recommending more time for project brief and planning, creation of integrated teams, evaluation using 'balanced scorecards', assessment of capital and operating costs and the adoption of BIM[24]
- The Infrastructure Client Group reports on Alliancing Best Practice in Infrastructure Delivery 2014[25] and Alliancing Code of Practice 2015,[26] recommending how alliances can improve the delivery of infrastructure projects
- Digital Built Britain (2015), setting out a vision for the development of BIM[27]
- The 2016 Infrastructure and Projects Authority Project Initiation Routemap, recommending improved public sector procurement practices.[28]

The King's research was enabled in part by our appointment as lead mentor for the UK Cabinet Office and its Trial Projects Delivery Group, testing the potential of collaborative working, early contractor involvement and BIM through the procurement and delivery model known as 'Two Stage Open Book'.[29] In addition to Two Stage Open Book, the Trial Projects Delivery Group initiated and reviewed Trial Projects examining two other procurement and delivery models known as 'Cost Led Procurement'[30] and 'Integrated Project Insurance'.[31] A summary of the Trial Projects research process is set out in Appendix B, and 10 Trial Project case studies are summarised and reviewed in later chapters.

1.5 What Case Studies Support Collaborative Procurement?

I worked as a trainee solicitor for Anthony Trower,[32] who had on his mantelpiece the Benjamin Disraeli motto 'Never explain, never complain'. This seemed strange advice in a profession whose job includes explaining the solutions that resolve a client's complaints, and it took me a while to understand that it meant we should focus on actions rather than words. There are many justified complaints about the state of construction procurement, and many reports explaining how it should be improved, but we can learn more from those clients and teams who have taken action to find a better approach.

The reports and research initiatives referred to in Sections 1.3 and 1.4 encourage more collaborative procurement but they do not always support their recommendations with

23 Procurement/Lean Client Task Group (2012).
24 All-Party Group for Excellence in the Built Environment (2012).
25 Infrastructure Client Group (2014).
26 Infrastructure Client Group (2015).
27 Digital Built Britain (2015).
28 IPA (2014).
29 Two Stage Open Book and Supply Chain Collaboration Guidance (2014).
30 For which the lead mentor was Vaughan Bernand, former Chief Executive of Shepherd Construction and former Chair of Constructing Excellence.
31 For which the lead mentor was Martin Davis, former director of Emcor.
32 Anthony Gosselin ('Cocky') Trower (1921–2006) was a founder member of the Special Air Service. In 1944 he was parachuted into occupied France to work with the French Resistance, so he knew something about the challenges of teambuilding in a difficult environment.

examples of what has been achieved in practice. Empirical evidence can demonstrate why it is worth investing time and effort in new approaches and can provide persuasive examples of how collaborative techniques have been put into practice. Several best practice groups working in the field of collaborative procurement have created valuable case studies, and these include:

- Constructing Excellence[33]
- The Housing Forum[34]
- The Alliance Steering Group[35]
- The Institute for Collaborative Working[36]
- The Infrastructure Client Group.[37]

Drawing in part on the work of these best practice groups, a total of over 50 case studies have been researched for this book, and these are listed in Appendix C. They comprise:

- Trial Project case studies of early contractor involvement and collaborative working (and in some cases BIM), coordinated by Constructing Excellence in collaboration with the relevant project teams
- Case studies of project alliances, framework alliances and term alliances researched by the author for the Alliance Steering Group in collaboration with the relevant project teams
- Alliance case studies researched by the King's College London Centre of Construction Law, in collaboration with the relevant project teams.

These case studies examine collaborative practices that relate to:

- A range of sectors that include education, environment, health, highways, housing, leisure, offices, public buildings, rail and utilities
- The procurement and delivery of individual projects, of frameworks comprising multiple projects and of term call-off contracts, in both the public and private sectors
- A range of construction and engineering projects, delivered through different collaborative procurement models and involving different allocations of roles and responsibilities under a range of standard contract forms.

These case studies illustrate each aspect of collaborative procurement and the agreed actions that can be undertaken in order to deliver improved value. Summaries of the following case studies appear in the following sections:

- Project alliances for housing and engineering projects – Section 3.10
- Framework alliances for housing, offices, custodial facilities and water services – Section 4.10
- Term alliances for housing and highways – Section 5.10

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33 http://constructingexcellence.org.uk, currently led by Chief Executive Don Ward.
34 www.housingforum.org.uk, currently led by Chief Executive Shelagh Grant.
35 www.allianceforms.co.uk, currently chaired by Shane Hughes of Savills and managed successively by Fiona Griffiths, Alison Low and Shona Broughton.
36 http://www.instituteforcollaborativeworking.com, currently led by Chief Operating Officer David Hawkins.
37 www.ice.org.uk/about-ice/what-we-do/infrastructure-client-group, currently chaired by Dale Evans of Anglian Water.

- Collaborative selection processes for offices and underground rail projects – Section 6.10
- Collaborative construction management for hotel and health projects – Section 7.10
- Joint venture and consortium procurement for local government facilities, housing and schools – Section 8.10
- Use of FAC-1 for programmes of housing, sports, schools, regeneration and public buildings – Section 10.10
- Use of TAC-1 for housing and highways programmes – Section 11.10
- Creation of a collaborative culture on health and highways work programmes – Section 12.10
- Use of BIM on alliance projects for custodial facilities – Section 14.10
- Collaborative costing and incentivisation of housing and schools projects – Section 16.10
- Collaborative time and change management on rail, hospital and harbour projects – Section 17.10
- Collaborative risk management on school and hospital projects – Section 18.10
- Collaborative dispute resolution on housing and office projects – Section 19.10.

In addition to the above summaries, the evidence provided by these and other case studies is quoted and referred to throughout later chapters, and these references are listed against each case study in Appendix C.

1.6 How Is Collaborative Procurement Connected to Digital Technology?

Digital technology enables the rapid creation and sharing of construction project data. Each project needs to connect established production processes with innovations and prototypes on a unique site, and each project relies on the coordination of a diverse network of people, products, services and works. Where digital technology can improve and integrate these activities and the underlying data used by team members, it offers great benefits to the construction industry.

However, digital technology does not offer viable new solutions unless these solutions can be applied by team members who understand their impact and their limitations.

The programming of software for BIM, and for other technologies such as smart contracts, shines a harsh light on vague contract provisions and disjointed procurement practices. It demands increased precision in contractual exchanges and it offers improved ways of capturing the data that supports a more holistic approach to the full project lifecycle. The connections between digital technology and the success of collaborative construction procurement appear in UK Government policy documents such as Digital Built Britain,[38] and the digital disruption of previous norms has fuelled arguments that digital technology creates new barriers to contracts, that it gives rise to completely new contracts and that it does away with the need for conventional contracts altogether.

A King's research initiative analysed emerging BIM practices and related legal issues by reference to 12 case studies and 40 confidential interviews, in order to explore

38 Digital Built Britain (2015).

whether the contributions of digital technology to improved value are dependent on new procurement models and new contract terms. With the benefit of grant funding from the Society of Construction Law and the Association of Consultant Architects, the KCL Centre of Construction Law assembled a research group of specialist lawyers and other practitioners to examine over a 24-month period the relationship between procurement, contracts and BIM in the context of common law, statutory and contractual obligations. Details of the research group members, the projects analysed and the specialists interviewed are set out in Appendix D.

Research interviewees described the ways in which BIM enables collaborative working, for example through the use of BIM models to assist joint working by design consultants and through the improved ability to explain design proposals to a client. The interview results were written up and agreed by the research group, a draft research report was shared with delegates at a public conference, and input and comments from delegates were reflected in a final report which was published online in July 2016. The report 'Enabling BIM Through Procurement and Contracts'[39] revealed significant links between procurement, collaborative contracts and the adoption of BIM, and some of the responses from interviewees are summarised in Section 13.10. The research leading to this report also influenced work on the third King's research initiative, namely the development of new alliance forms governing a strategic approach to collaborative contracting.

1.7 How Is Collaborative Procurement Connected to Contracts?

The Trial Projects and other case studies illustrate the role of contracts in supporting collaborative construction procurement. Against this backdrop we will consider in Chapter 7 whether collaborative procurement needs a contract at all, and in Chapter 8 whether the iterative planning and other joint working governed by an alliance contract mean that it should be seen as a new type of contract distinct from typical construction contracts. We will consider the features of classical, neo-classical and relational contracts, and will argue that an alliance contract should be recognised as a new hybrid category and known as an 'enterprise contract'.[40]

Individual projects can be procured under a wide range of standard form contracts, and we will explore in Chapter 9 the extent to which the various standard forms support collaborative construction procurement. For example, publication in 2018 of the NEC4 Alliance Contract[41] invites valuable comparisons with two other multi-party project alliance forms, namely the PPC2000 Project Partnering Contract[42] and the US standard form ConsensusDocs300.[43]

As regards the contracts that reach beyond individual projects and support long-term collaborative relationships, a cross-industry working group collected evidence from UK Government departments and the wider public sector and examined the features of

39 KCL Centre of Construction Law (2016).
40 This term was first used in Mosey, D. (2017).
41 NEC4 Alliance Contract (2018).
42 PPC2000 (2013).
43 ConsensusDocs 300 (2016).

frameworks, publishing their 'Effectiveness of Frameworks' report in 2012.[44] Further research and analysis were undertaken by the UK Local Government Association and National Association of Construction Frameworks in 2016, and both reports concluded that the benefits of effective frameworks are vital to the public sector and the construction industry.[45] These reports provided examples of bespoke collaborative contracts created by a range of public sector clients. Other UK clients who have developed their own long-term collaborative contracts include those who led Trial Project teams and also the utilities, rail and highways clients who formed the UK Infrastructure Client Group.

Four of the Trial Projects were supported by a bespoke, multi-party framework alliance, namely Project Horizon, Cookham Wood, North Wales Prison and SCMG, and nearly all other Trial Projects were supported by bespoke, two-party collaborative frameworks. King's analysis of the Trial Projects, and of other examples of successful collaborative procurement, revealed that frequently the success of a project team resulted in part from preparatory work undertaken pursuant to an overarching collaborative framework.

However, the reports and case studies also revealed how each collaborative framework contract was drafted from scratch, creating an additional cost and time burden for its members and restricting the scope to establish new norms of collaborative working. None of these bespoke strategic contracts have been made publicly available for wider use. This led King's to conclude that further research was justified into the potential for new standard form strategic collaborative contracts that could capture the features of successful bespoke frameworks and alliances.

The King's research established that new standard form alliance contracts are needed in order to overcome serious obstacles to the progress of collaborative working. For example:

- Without clear contractual systems the construction industry can lose patience with ideas before they are embedded in working practices, shifting their energy to investigate new fads[46] in preference to the development of innovations that have been proven to work
- If the provisions of alliance contracts are not accessible in a way that enables them to be well understood, enthusiasts may rely instead on alluring headlines and symbolic declarations, in the hope that these offer shortcuts that replace more rigorous contractual understanding[47]
- Without standard form alliance contracts, there is the risk that only those clients with sufficient resources and commercial influence to create bespoke alliance forms are able to adopt collaborative practices, which impedes the sharing of knowledge and the recognition of more widely applicable rules.

These concerns led the King's research team to consider how collaborative contracts could be made more widely accessible by creating new standard forms that avoid the costs and inconsistencies of successive bespoke contracts. King's research included

44 Effectiveness of Frameworks (2012).
45 LGA/NACF (2016).
46 Uff, J. (2018), 177, on the risk of 'another failed fad'.
47 For example, the comments on collaborative working and contracts in Section 7.1 and examples of reliance on non-binding agreements in Section 7.2.

a year of industry consultation with 120 organisations in 14 jurisdictions. Responses revealed a demand for new standard form alliance contracts and strong support for the new draft forms that King's circulated for comment. The full list of consultees is set out in Appendix E. Feedback from the consultation process and consequent amendments to the draft contracts are illustrated in Appendix F.

The final contract forms were published by the Association of Consultant Architects as the FAC-1 Framework Alliance Contract and the TAC-1 Term Alliance Contract in 2016 and these forms have since been adopted on a wide variety of procurements.[48] The features of the new forms are explored in Chapters 4, 5, 10 and 11 and are illustrated in other chapters, and guidance on completing FAC-1 is set out in Appendix G.

1.8 Who Was Sir Michael Latham?

The work of my friend and mentor Sir Michael Latham[49] has provided lasting benefits to the construction industry and its clients. His 1994 Government/industry review reflected meticulous research and a commitment to fair business practices.[50] It remains relevant and influential.

Sir Michael's work led directly to statutory adjudication and payment rights that were enacted and implied in construction contracts within two years following publication of his report. However, Sir Michael also made other important recommendations arising from the research he conducted in 143 meetings with leading client and industry bodies, including far-sighted proposals that relate to procurement, design management and contract drafting. While we might assume that these recommendations have become standard business practice, in fact the progress made has been variable.

To improve the quality of bid submissions, Latham recommended 'a two stage tender process for more complex and substantial projects',[51] arguably paving the way for the endorsement of early contractor involvement in the UK 2011 and 2016 Government Construction Strategies. Other ways to improve the procedures and criteria governing team selection are considered in Chapter 6. Latham also sought to save money for bidders through, for example, pooling the costs of ground investigations undertaken where one consultant is retained by all bidders, and through reimbursement of certain tender costs on large and expensive schemes.[52] Efforts to avoid wasted money on bid costs remain rare, for example the commitment by Transport for London to repay certain costs incurred by unsuccessful bidders in creating proposals for the Bank Station Capacity Upgrade.[53]

Latham foresaw BIM in the form of 'advanced computer aided design' or 'virtual reality' by which 'all aspects of the design, manufacture, assembly and use of the product can…be presented in one entity'.[54] His reference to 'use' emphasises the need to adopt a

48 Case studies appear in Sections 10.10 and 11.10. Regular updates as to the adoption of FAC-1 and TAC-1 are posted under 'News and Users' on www.allianceforms.co.uk.

49 Sir Michael Latham (1942–2017) was author of the seminal 1994 report 'Constructing the Team', which followed his interim 1993 report 'Trust and Money'.

50 Latham, M. (1994).

51 Latham, M. (1994), Section 6.32.3.b.

52 Latham, M. (1994), Section 6.32.3.c and d.

53 As considered in Section 6.10 and as regards tender costs Section 15.3.

54 Latham, M. (1994), Section 4.8.

whole life approach yet it remains doubtful whether BIM in practice has advanced much beyond the use of digital data in the capital phase of a project. We still need to integrate operation, maintenance and repair into our procurement models in a way that harvests the full potential of BIM, and examples of how this can be approached are considered in Sections 5.7, 13.6 and 14.8.

Latham stated that 'Best practice is about partnering, collaborative working and stripping out of the equation at the earliest possible stage those costs which add no value', and he recommended that this should extend not only to 'first tier contractors' but also to 'specialist contractors'.[55] The engagement of specialist subcontractors and manufacturers during the preconstruction phase, using the Supply Chain Collaboration systems considered in Sections 2.9, 2.10, 3.6, 4.6 and 5.6, provides new ways to achieve 'integration of the work of designers and specialists'[56] and to eliminate the 'fuzzy edges' that Latham described as giving rise to many claims and disputes. Interestingly, Latham also recommended that 'Subcontractors should undertake that, in the spirit of teamwork, they will coordinate their activities effectively with each other',[57] foreseeing supply chain alliances of the type trialled by Kier Highways Services and considered in Section 11.10.[58]

Latham supported alliances and partnering but assessed them objectively through a commercial lens. He recognised the benefits of a 'formal partnering agreement' founded on 'a relationship of trust, to achieve specific primary objectives by maximising the effectiveness of each participant's resources and expertise' and 'not limited to a particular project'.[59] However, he also emphasised that partners must be sought 'through a competitive tendering process' and that partnering arrangements 'should include mutually agreed and measurable targets for productivity improvements'.[60]

In assessing the features of a 'modern contract', Latham underlined the benefits of:

- Commitment to teamwork and fair dealing with all parties, including subcontractors, specialists and suppliers
- The power of shared financial motivation
- The need to spell out work stages through milestones and activity schedules.[61]

The Latham recommendations have stood the test of time, and they inform the ways in which clients and their teams can establish robust commercial foundations for collaborative construction procurement.

1.9 How Can Collaborative Procurement Reflect ISO 44001?

A successful team needs the benefit of ideas from many contributors, and a collaborative approach by one organisation does not have much effect unless robust links are

55 NAO (2005), 1.
56 Latham, M. (1994), Section 4.3.
57 Latham, M. (1994), Section 6.41.6.
58 http://constructingexcellence.org.uk/wp-content/uploads/2015/12/Trial-Projects-Horizon-Case-Study-Second-Year-Update_Final.pdf.
59 Latham, M. (1994), Section 6.43.
60 Latham, M. (1994), Section 6.47.
61 Latham, M. (1994), Sections 5.17 and 5.18.

built up with other organisations who are willing to adopt the same approach. In 2017 publication of 'ISO 44001' created an international standard for collaborative business relationship management[62] designed to help businesses manage their collaborative relationships on several different levels:

- 'A single application (including operating unit, operating division, single project or programme, mergers and acquisitions)
- An individual relationship (including one-to-one relationships, alliance, partnership, business customers, joint venture)
- Multiple identified relationships (including multiple partner alliances, consortia, joint ventures, networks, extended enterprise arrangements and end-to-end supply chains)
- Full application organisation-wide for all identified relationship types'.[63]

ISO 44001 is not restricted to the construction sector and is designed for use as a business tool in any part of both the public and private sectors. It is reported that multinational organisations have already recognised its benefits in terms of a 20% reduction in operating costs and 15% savings through supply chain aggregation.[64] ISO 44001 recommends that 'the partners shall establish and agree a formal foundation for joint working, including contractual frameworks or agreements, roles, responsibilities and ethical principles'.[65] However, it does not offer specific recommendations as to where the parties can find the procurement models, technological support and contracts through which collaborative inter-organisational options can be brought to life. These are the missing links that this book will attempt to provide.

ISO 44001 links collaborative working to contractual systems, and proposes that:

- 'Contract terms shall be reviewed to determine clarity of purpose, encourage appropriate behaviour and identify the potential impacts on or conflict with the aims of collaborative working
- All performance requirements and measurement methods should be mutually agreed to ensure clarity
- Risk and reward models, issue management, exit strategy, knowledge transfer and sustainability should be considered when developing an agreement'.[66]

In seeking improved value, ISO 44001 proposes that a collaborative team needs to:

- 'Define what "value" means to the collaborative partners
- Provide a mechanism for the capture of innovation and ideas for improvement
- Provide a method for performing analysis and evaluation of ideas and innovations against relevant criteria…
- Establish a method for reviewing the success or failure of value creation initiatives and record lessons learned for future use'.[67]

In later chapters we will explore the ways in which collaborative construction procurement models and contracts can enable adoption of the ISO 44001 recommendations.[68]

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62 ISO 44001: 2017.
63 ISO 44001 Section 1.
64 Hawkins, D. (2017), (xiv) as part of a detailed commentary on ISO44001.
65 ISO 44001 Section 8.6.2.1.
66 ISO 44001 Section 8.6.10.
67 ISO 44001 Section 8.7.2.
68 For example, the Connect Plus Sustainable Business Culture Model 'is now accredited in accordance with BS1000 Collaborative business relationships', Connect Plus Trial Project case study, 3.

We will consider why the adoption of collaborative working in the UK construction sector has often appeared less methodical than ISO 44001 suggests, sometimes appearing to offer an idealistic parallel universe of non-contractual engagement. We will explore whether more teams would adopt the collaborative approaches described in ISO 44001 if they could be shown how to develop collaborative systems with greater certainty and without the sense that they are required to give up reasonable legal and contractual rights.

1.10 What Should Collaborative Procurement Provide?

Collaborative construction procurement should provide the timely build-up and exchange of accurate data between team members in order to integrate their work, align their objectives and create improved project outcomes. Despite 60 years of persuasive reports, recommendations and examples, collaborative construction procurement practices are still not widely accepted or well understood. Implementation is often only skin deep because 'beneath the surface you find many so-called partners still seek to avoid or exploit risk to maximise their own profits, rather than find ways to share risk and collaborate genuinely so that all can profit'.[69]

The advice given by Professor Phillip Capper[70] to new students on the King's College London MSc in Construction Law, even though these students are experienced architects, engineers, lawyers and surveyors, is that the course will change the way they think. In order for collaborative construction procurement to reach the mainstream, there are ways in which the industry and its clients can change the way they think about what procurement, contracts and management processes have to offer.

The current performance of the construction industry is far from ideal, and it has been suggested that 'if construction labour productivity were to catch up with the progress made by other sectors over the past 20 years… this could increase the construction industry's value added by $1.6 trillion a year'.[71] The construction industry and its clients also need new ways to reduce the enormous amounts of time and money spent on acrimonious claims and disputes,[72] and continuing to adopt the same deeply ingrained, traditional approaches to procurement is unlikely to provide the answers we need.[73] Changes to procurement models and contracts can provide direction and support for collaborative working, can reconcile the different interests, assumptions and commercial objectives of the parties, and can improve the productivity of all team members.

In considering the means by which productivity can be improved, by which risks can be reduced and by which disputes can be avoided, there are a host of complex technical, financial, behavioural and logistical issues that construction teams encounter. We

69 Never Waste a Good Crisis (2009), 8.

70 Head of International Arbitration at White & Case who is described as 'the doyen of construction law'. (Chambers UK 2013).

71 McKinsey Global Institute (2017) (Executive Summary).

72 'A third of those who responded to our survey experienced at least one dispute in the preceding 12 months. The prognosis for the industry is not great, with nearly two in five telling us that the number of disputes is increasing', NBS (2018), 3.

73 'When you think you're through changing, you're through'. Latham M. in Association of Consultant Architects (2010), 1.

will consider in later chapters some of the ways in which these issues can be dealt with differently. Rather than assuming that collaborative construction procurement is the answer to every problem, we will look at how it affects specific situations arising on live projects.

This book sets out to engage with the cynics as well as with the enthusiasts. However, while a healthy amount of cynicism can help to avoid wasted time or wishful thinking, an excessive dose can be toxic. The construction industry and its clients should not undermine proposals for collaborative procurement by assuming that they are not actually new, or are naïve, or are too risky, or disguise someone's hidden agenda. While a 2018 survey concluded that disputes are currently 'a part of doing business in the UK construction sector', it proposed that solutions lay in the wider adoption of 'legally explicit' collaborative working, combined with a better understanding of BIM and other technologies.[74]

In order to build up a clear understanding of what collaborative construction procurement can offer, both to the enthusiasts and to the cynics, we should see it as a range of proactive and pragmatic approaches that improve on traditional options. Collaborative procurement should give us clear ways to ensure that more accurate information is exchanged among a wider range of contributors to design, manufacture, construction and operation, working together earlier in the planning and development of the project when there is time and opportunity for optimum, cost-effective solutions to be agreed. It should set out the steps and techniques by which early contractor involvement, BIM, collaborative working and long-term relationships can have a demonstrable effect on better value, reduced risks and avoidance of disputes.

The demands of a global marketplace challenge the assumption that different legal systems demand different approaches to collaborative construction procurement. We live in an era when new procurement and contracting practices should be accessible to users regardless of geographical boundaries, and in a world where digital technologies such as BIM have been adopted by construction clients, consultants and contractors in many countries. Alliances and a range of comparable collaborative models have been developed and adopted in Australia[75] and the USA,[76] and in Chapters 20–25 leading international academics and practitioners explain the factors that influence the approach to collaborative construction procurement in three European jurisdictions (Bulgaria, Germany and Italy) and three other jurisdictions (Australia, Brazil and the USA).

Although language barriers, differing laws and differing economic circumstances may appear to obstruct collaborative working as a basis for shared transnational procurement models and contract forms, the King's research has shown through wide consultation on FAC-1, and through its early acceptance in civil law and common law jurisdictions, how transnational challenges can be overcome.[77] King's has worked closely with lawyers and academics in Brazil, Bulgaria, Germany and Italy in their

74 NBS (2018), 3 and 24.

75 $32 billion total value of alliance projects were delivered in New South Wales, Victoria, Queensland, and Western Australia between 2004 and 2009 – Department of Treasury and Finance, Victoria (2009) 158.

76 The US model known as 'Integrated Project Delivery' has many alliance characteristics.

77 As illustrated in the schedules of required amendments which appear in Sections 21.5 (Brazil), 22.5 (Bulgaria), and 24.5 (Italy).

adaptations of FAC-1 (and in Germany of PPC2000) for translation and use in their respective jurisdictions.[78] Clarifying the systems of collaborative procurement through new standard form contracts underlines how these systems can transcend national boundaries and can help to create new opportunities in a global marketplace.

78 As described in Chapters 21–24.