



Collaborative Contracting – Does the theory align with construction reality?

Essay by Abbi Souchon

The New Zealand construction industry has traditionally relied on conventional contracting methods, where the client engages a contractor to deliver a project based on a lump sum price or schedule of prices to get a contract price, and a set of plans and specifications. However the industry is rapidly changing and projects are becoming more complex. Project stakeholders must react to what is happening on the ground and adjust to those changes. These adjustments can be made through contract. In recent years, collaborative contracting methods have emerged, which aim to foster relationships between contracting parties, reduce risks, disputes, and improve overall project quality.

This essay explores the status of collaborative contracting and how it is utilised in New Zealand and overseas. The Construction industry requires contractual structures that incentivise parties to achieve good programme outcomes and collaboration is way of achieving this. Ultimately this essay concludes that the industry needs a greater understanding of collaborative contracting and associated concepts to take advantage of this revolutionising approach to contracting.

1. Conventional contracting

Traditional contracting methods usually involve a party tendering for a fixed lump-sum or schedule of prices, based on a scope of work. Clients know the cost and value of the project from the beginning and contractors are then awarded a fixed price based on a timeframe and risk allocation.¹

In a traditional model the client's incentive is to maximise the work done while minimising the amount of expenditure. By contrast, the contractor's main incentives are to achieve the minimum required standard, in the least possible time, unless there is an opportunity to improve margin from either client or consultant directed changes.²

This type of contracting - although ingrained in the construction industry is not free of problems. Over the last decade certain factors such as a lack of flexibility and understanding of contractual obligations, unfair allocation of risk and macroeconomic factors have led the industry to consider more collaborative contracting methods.

In 2018 Russell McVeagh carried out a survey on construction disputes, focusing on solutions for the construction sector's perennial problems.³ The survey identified that one of the main perceived

¹ Nick Saxton, Russell McVeagh "Considerations for collaborative procurement and contracting" (20 October 2022) <<https://www.russellmcveagh.com/insights/october-2022/considerations-for-collaborative-procurement-and-contracting>>.

² Downer "Driving Value for money through collaborative contracting" (October 2022) at 5 <https://www.downergroup.co.nz/Content/cms/Collaboration_whitepaper_final_final.pdf>.

³ Russell McVeagh "Getting it right from the ground up – a survey on construction disputes: The causes and how to avoid them" (2018).

causes of disputes was a lack of understanding of contractual obligations. Five years later, it appears this is still a common issue, risks are often not well understood, margins are thin and parties are taking on unmanageable risk.⁴

The client often plans and scopes work without meaningful input from its supply chain which in turn limits the contractor's ability to respond to market challenges such as material shortages.⁵ There is no incentive for principals to minimise the cost impacts of changes to the project therefore contractors generally assume the majority of the risk.⁶ As a result parties often perform their own responsibilities well but are far less motivated to promote the performance of other parties on the project. It becomes very easy for parties to blame each other when something goes wrong as all risks are not necessarily known at tender/contracting stages.⁷ It can be unrealistic to assume the contractor should foresee and price in all risk at the beginning of a project.

There will always be a place for the conventional approach in the construction industry. However, as the industry continues to rapidly grow and as projects become larger and more complex, the need for collaboration is becoming more important, regardless of what form this takes. To put this rapid growth into context, in 2021 infrastructure represented one-fifth of total building and construction activity in New Zealand.⁸ The Ministry of Business, Innovation & Employment is forecasting infrastructure's share of total activity to increase to over one-quarter by the end of 2027.⁹ Looking ahead there will be no shortage of infrastructure work and an increased demand for collaboration on larger projects.

Another reason for a shift towards collaborative contracting methods is in reaction to recent market challenges and macroeconomic factors. Over the last five years the world has experienced a series of unprecedented and disrupting events such as earthquakes, Covid 19 pandemic, Brexit, Ukraine War and recently on a domestic scale, Cyclone Gabrielle. These events in one way or another have had an impact on the construction industry, including widespread disruptions, supply chain delays, labour shortages, project delays and increased costs. There will continue to be further uncertainty ahead, as inflation affects salaries, and risks regarding construction materials and employment will continue to rise.

As with any disruption it is important to understand that opportunities also present themselves and now more than ever is the time to utilise and expand upon the collaborative contracting tools available to the industry.

2. What is collaborative procurement/contracting?

Broadly speaking, collaborative contracting is a process where two or more parties work together to achieve project goals. It involves a team approach to project management where the contracting parties work together from the planning stage through to completion of the project. This approach contrasts with the traditional model referred to above, where the owner, designer, and contractor frequently work independently of each other.

Procurement is the planning stage of a project. It is used to assess a range of delivery options and identify a recommended delivery/contract model and is where the first stages of collaboration take place.¹⁰ Collaborative contracting goes a step further and seeks to move away from a transactional relationship to more of a relationship model.¹¹ This wide concept is used in both the private and public sectors depending on the size and complexity of the project. Increasingly, larger and more complex construction and infrastructure projects demand that clients and contractors engage more collaboratively and include some form of collaboration in their contracts.

⁴ Gerhard Nel, Prakash Parbhoo, Koen Vermeltfoort, McKinsey & Company "Voices on Infrastructure" (September 2020) at 2.

⁵ Downer "Driving Value for money through collaborative contracting" (October 2022) above n 2.

⁶ Owen Hayford, pwc "Collaborative Contracting" (March 2018) at 3.

⁷ At 2.

⁸ Ministry of Business, Innovation & Employment *National Construction Pipeline Report 2022 – A Forecast of Building and Construction Activity*, 10th Edition (July 2022) at 4.

⁹ At 4.

¹⁰ Ministry of Business, Innovation & Employment *Developing your Construction Procurement Strategy Construction Procurement Guidelines* (October 2019) at 4.

¹¹ Nick Saxton, Russell McVeagh "Considerations for collaborative procurement and contracting" (20 October 2022) above n 1.

Collaborative approaches are flexible and incorporate features designed to overcome the problems associated with traditional contracting, it benefits all participants more so than traditional contracts as it better recognises that each party has different commercial objectives, while achieving mutual goals for the project which ultimately are to perform a) on time and b) within budget.¹² Common features of collaborative contracting include:¹³

- (a) A requirement for parties to cooperate, act in good faith and in the spirit of mutual trust and confidence;
- (b) Early warning and risk management mechanisms designed to give early warning to other parties of potential issues which may arise, so that solutions can be discussed and agreed before any issues escalate;
- (c) Payment arrangements which financially motivate each party to act in a way that is better for the overall project;
- (d) Agreement between parties to waive the respective right to commence litigation against each other for breach and negligence;
- (e) Governance arrangements that facilitate joint decision making; and
- (f) Proactive project management involving all project participants.

The umbrella term “collaborative contracting” encompasses several different models. These range from interactive tendering practices within existing procurement processes, through to specific collaborative procurement and delivery models.¹⁴ In New Zealand collaboration has been implemented through a broad spectrum of models, there is no limit on what approach parties may choose.¹⁵

A common form used in New Zealand is the alliance model. Under alliance, all parties involved in the project sign a multiparty agreement that establishes a single project team with shared objectives and a risk sharing arrangement. It is designed to promote collaboration and reduce adversarial relationships between the parties. Also called integrated project delivery (IPD), this model is generally used for highly complex or large infrastructure projects.¹⁶

Other forms of collaborative contracting used in New Zealand, include the early contractor involvement (ECI) model and the design-and build delivery model. ECI brings contractors on board at the start of a project to get input on the buildability of designs, to get a better understanding of requirements, risk management and value out of the process. In a design and build model, the main contractor takes on the responsibility for both the design and construction. The client develops the initial project requirements, and contractors tender and submit proposals for the design and construction.¹⁷ Similar to the alliance model, ECI and design-and-build models are intended to result in fewer disputes, fairer allocation of risk and time and cost savings.¹⁸

The model that best suits a particular project depends upon a range of factors such as the client’s objectives, the characteristics of the project, and the state of the construction market.¹⁹ There is no one size fits all.

¹² Nick Saxton, Russell McVeagh “Considerations for collaborative procurement and contracting” (20 October 2022) above n 1.

¹³ Premjit Singh (ed) Guide on Collaborative Contracting in the Construction Industry (Singapore Academy of Law) at 3.

¹⁴ Nick Saxton, Russell McVeagh “Considerations for collaborative procurement and contracting” (20 October 2022) above n 1.

¹⁵ Owen Hayford “Collaborative contracting” (28 June 2022)

<<https://www.lexology.com/library/detail.aspx?q=36d1af7e-a0f7-4fde-9c69-45827519b611>>.

¹⁶ Owen Hayford, DLA Piper “Collaborative contracting and procurement” (12 October 2020); Owen Hayford “Collaborative contracting” (28 June 2022).

¹⁷ Ministry of Business, Innovation & Employment Procurement Guidelines (October 2019).

¹⁸ Andrew Bevin “Collaboration key to meeting NZ’s infrastructure demands” (November 2022) <<https://www.newsroom.co.nz/collaboration-key-to-meeting-countrys-infrastructure-demands>>.

¹⁹ Anil Changaroth, Anand Juddoo, Sue Kim, Laina Chan “Collaborative (Mahi Ngatahi) Contracting are standard form contracts being crafted (Built) for change?” (paper presented at the 9th International Society of Construction Law Conference, New Zealand, November 2021).

3. How is collaborative contracting being utilised in New Zealand?

There has been an increase in the number of collaborative relationships in New Zealand over the years. A recent example is the State Highway 2 (SH2) Waihi to Omokoroa (W20) Project. The SH2 W20 Project covers the section of SH2 between Waihi and Omokoroa in the Bay of Plenty.²⁰

Waka Kotahi itself acknowledged that typically it would use the traditional delivery model for this type of project. However, this project faced significant uncertainties around relocation of utilities, impacts on properties, geotechnical conditions, existing maintenance contracts, and archaeological, cultural, and environmental risks.²¹ There were too many risks to produce a design before issuing the tender. In light of the complexities and anticipated cost Waka Kotahi chose to take a highly collaborative approach, which involved:²²

- (a) The project had a sufficient size and duration to allow the team to build relationships based on trust, capacity, and competency.
- (b) The client engaged early to collaborate with members of the project team, which included the client, designer, builder, and third parties like utility and network operators.
- (c) The project was broken down into separable portions to help the project team separate the project into manageable sections;
- (d) In the tendering phase the design for Contract 1 was largely complete, and the designs for the other two sections, needed further development. Contractors could not provide a realistic schedule of quantities without a completed design, so Waka Kotahi developed a reference design which required tenderers to price a representative set of works 5kms long. This reference design indicated the type of works to be delivered along the wider state highway.
- (e) Waka Kotahi used the schedule of quantities for the reference design to evaluate submissions in the tender phase and have informed pricing negotiations.

There were also commercial arrangements that promoted collaboration such as:²³

- (a) The design team and contractor developed the design to set an agreed target cost which would ideally be less than the cost estimate provided at tender stage. When the works were delivered the actual cost of delivery was compared to the target cost.
- (b) When the actual cost for the Separable Portion came in below the target cost, the client and contractor each received a 50% share of the savings.
- (c) When the construction costs exceed the target cost, the client and contractor split the cost of this equally, up to the point where the contractor's entire profit margin could diminish. The client was responsible for all additional costs, to ensure the contractor does not lose money on the job.

Another recent project delivered through collaborative contracting is the UCOL Te Pūkenga Manuwatū Healthcare Education Centre, also known as Te Whaioranga. Completed in February 2023, Te Whaioranga is a training space for health students and office space for staff.²⁴ This project was delivered using an ECI model. Due to supply chain constraints following the Covid Pandemic, the client and design team worked closely with consultants and subcontractors to reduce the risk of delays. Amongst other things the project team used locally available alternatives to fire curtains, building wrap and fire dampers to get around and avoid supply chain delays.²⁵

²⁰ Construction Sector Accord "Case Study: Relationship Based contracting for complex projects" (8 December 2022) <<https://www.constructionaccord.nz/good-practice/beacon-projects/case-study-relationship-based-contracting-for-complex-projects/>>.

²¹ Construction Sector Accord "Case Study: Relationship Based contracting for complex projects" above n 20.

²² Construction Sector Accord "Case Study: Relationship Based contracting for complex projects" above n 20.

²³ Construction Sector Accord "Case Study: Relationship Based contracting for complex projects" above n 20.

²⁴ Naylor Love "UCOL Healthcare Education Centre" <<https://www.naylorlove.co.nz/project/ucol-healthcare-education-centre/>>.

²⁵ Naylor Love "UCOL Healthcare Education Centre" above n 24.

4. Benefits of Collaborative Contracting

Collaborative contracting increases levels of trust between the parties through open communication, transparency, and mutual respect. Unlike traditional contracting, parties work together to identify risks and develop solutions to mitigate those risks, ideally to reduce the likelihood of disputes and costs arising from litigation. Collaborative contracting therefore promotes a more harmonious working relationship between the parties.

Another benefit is the increased level of efficiency in project delivery. By working together parties can identify ways to streamline the construction process, increase efficiency, work within the required timeframe and reduce costs. For example, in 2020 a survey by McKinsey & Company showed that collaborative contracts are showing a 15-20% improvement of costs.²⁶

Most importantly collaboration provides transparency. The transparency collaboration provides, may present advantages arising out of the disrupting events as mentioned above. For example, improved transparency on cost can help to determine the true impact of the events and create opportunities for parties to work together with key suppliers to address material shortages and delay, rather than putting the blame on each other.

To implement collaboration into a project, at a high level, the first step is for the client to select the right stakeholders with appropriate experience and expertise.²⁷ Following this, they need to ensure all parties including the client, contractor, architects, engineers, and subcontractors are aware and on board with the principles of collaborative contracting. The next step is to select the right contract model for the project and define what the project goals and objectives are. This includes establishing a shared vision for the project, defining project scope, and establishing key performance indicators (KPIs) to measure progress. The parties must establish governance and decision-making structures or processes to be followed. They must also develop a risk sharing framework that allocates risks based on each party's strengths and capabilities to minimise project risks and a dispute resolution mechanism to help resolve conflicts quickly and efficiently in the event that disputes do arise. Finally, monitoring and evaluating the contracting process is essential to ensure that project goals and importantly timeframes are being achieved.

Studies show that parties get the most out of collaborative contracting in projects that are difficult to price, have an unpredictable scope, or are ongoing so that the benefits of collaboration can be fully recognised.²⁸ Collaborative approaches are not intended to reinvent the wheel, rather it is about paying attention to what works within the industry and transforming this. The theory of collaboration has been present within the industry for decades now, however it is not being utilised as much as it could be.

5. How has collaborative contracting been adopted overseas?

In the UK and Australia, they are using similar models to New Zealand. Australia has created the "managing contractor" which shares characteristics with design and construct contracts and construction management models. The client engages an experienced contractor early in the project who is responsible for the design and construction throughout all stages of the project. The client generally enters a contract with the managing contractor, which then subcontracts all its design and construction obligations.²⁹ This differs from a traditional model for two reasons. First its key role is project management the managing contractor is usually obliged to subcontract all its design and construction obligations. The managing contractor must undertake subcontracting in close consultation with the client, and the managing contractor is engaged in the early stages of the project. Second the managing contractor assumes less risk than in a traditional design and build contract.³⁰ This model is commonly used by private and public sector owners.

²⁶ McKinsey & Company "Collaborative Contracting: Moving from Pilot to Scale-up" 17 January 2020 <<https://www.mckinsey.com/capabilities/operations/our-insights/collaborative-contracting-moving-from-pilot-to-scale-up>>.

²⁷ McKinsey & Company "Collaborative Contracting: Moving from Pilot to Scale-up" above n 26.

²⁸ Downer "Driving Value for money through collaborative contracting" (October 2022) above n 2.

²⁹ Owen Hayford "Collaborative contracting" (28 June 2022) <<https://www.lexology.com/library/detail.aspx?q=36d1af7e-a0f7-4fde-9c69-45827519b611>>.

³⁰ Owen Hayford "Collaborative contracting" (28 June 2022) above n 29.

A model used in the UK and more recently in Australia is the delivery partner procurement model. This combines aspects of the managing contractor, alliancing, engineering, procurement and construction management (EPCM) models by engaging delivery partners to assist with project management including programming, design and construction. The delivery partners do not perform the design and construction work and instead focus on the procurement strategy. By having a clear framework promotes efficient project delivery and cost savings.³¹

In North America, collaborative contracting is divided into two key categories, two-stage contracting and relationship contracting.³² Two stage contracting models involve contractors being appointed under a services arrangement during the preconstruction phase, to work collaboratively with the client to develop the design and to mitigate risks in advance of transitioning into a design build or construction contract. These models are CMAR, construction manager/general contractor (CM/GC), P-DB, and PDA. This is similar to the New Zealand ECI model.

The second category is relationship contracting models such as IPDs, alliances or DPS. Again similar to New Zealand, this is where risks are shared between the client and contractor(s), sharing risk, avoiding disputes, promoting collaboration etc.

Globally the construction industry is facing challenges from macroeconomic factors. Over the past decade many countries around the world have seen an increase in struggles and failures in the construction industry. Due to market pressures, competition for tenders has increased which has led contractors to under-price and take on significant risk to obtain and complete projects. This means contractors can only regain profitability during delivery of the contract through claims and variations. This has led to an increase of delayed completion, cost overruns, wasted resources, and ultimately an increase in disputes.³³ For example in North America, public sector project owners are experiencing cost overruns, schedule delays and an increase contract disputes. Economic prosperity, and the related growth of urban and suburban populations has increased demand on public infrastructure which has made expansion more challenging.³⁴

6. Limitations – Collaborative Contracting

Many participants in the industry are reluctant to transition from what they know, and collaborative contracting is not without its own challenges. At the forefront, the existence of a common goal for contracting parties is often debated, particularly where the balance between costs and quality seems to be valued differently depending on your involvement in the project.

From a contractor's perspective, collaborative contracting involves a long pre-construction planning period, often with no certainty that their preconstruction efforts will convert into a successful tender/contract. From a client's perspective, there are concerns that collaborative contracting may reduce the competitiveness of pricing.³⁵

A well drafted contract is also vital, which takes time and resource to properly reflect the collaborative nature of the project. Contracts should clearly outline the roles and responsibilities of each party, as well as the dispute resolution process. As with any contract drafting, the time and resource put into getting it right should be overcome by successful project outcomes.

While the collaborative approach is praised by academics, it is important to keep in mind how these concepts fit in with the realities of a project and work in a practical sense. Parties can be rightly sceptical about the industry's capacity to adopt and accelerate these changes, moving from a model where they are used to running from project to project and tendering on the lowest price.

³¹ Owen Hayford "Collaborative contracting" (28 June 2022) above n 29.

³² Ernest & Young "Collaborative contracting in North American infrastructure – The big questions that leaders are asking" (2021).

³³ Katrina Van Houtte, Ariana Stuart "The future looks bright for collaboration – contracting for 100 per cent renewable electricity generation" (6 April 2022) <<https://www.ibanet.org/contracting-100-per-cent-renewable-electricity>>.

³⁴ Ernest & Young "Collaborative contracting in North American infrastructure – The big questions that leaders are asking" (2021).

³⁵ Ernst & Young "How collaborative contracting can improve infrastructure projects" (15 June 2021) <https://www.ey.com/en_us/strategy-transactions/collaborative-contracting-can-help-infrastructure-projects>.

It is also important to keep in mind that some public sector owners are legally required to award their contracts to the lowest qualified bidder, while some projects that rely on financing require fixed-price agreements to increase outcome certainty. Larger companies also have governance boards that make business and financial decisions. A shift towards a different model of contracting will require these boards to change their strategic thinking and be open to trialling collaborative methods. Ultimately collaboration still relies on a top-down approach therefore success relies on clients taking the lead.

7. How can technology improve collaboration?

Technology has significantly improved and transformed the way that collaborative contracting works in the construction industry. Communication is vital to collaboration and over time technology has made communication easier and more efficient. With email, video conferencing and project management tools such as Procore³⁶ and Aconex³⁷ all project participants can communicate with each other in real time, share digital files and track project progress. Something as simple as having all the designs held in an accessible shared location can increase project efficiency.

When parties can record data from the field instantly it helps optimise tasks as it empowers parties to make informed decisions about how to adapt to or deal with necessary changes on a project. This kind of data can also more accurately manage costs and forecasts. Ultimately centralised project management software enables a project to run more smoothly.³⁸

Cloud based programmes have also revolutionised how stakeholders can collaborate, with the ability for parties to access and work on the same documents and drawings. These technologies have significantly transformed how the construction industry can connect therefore facilitating collaboration from pre-construction to the end of a project.³⁹ Technology has also enabled the creation of 3D models and virtual reality simulations allows stakeholders to collaborate on designs, identify issues early and make informed decisions.

An example of the use of high calibre construction technology is the 'Museum of the Future' a 77-floor structure, 78-metre-high building launched in Dubai in February 2022. The building is a ring like shape, which looks as though it has been lowered from space slightly floating above the ground however it is firmly grounded.⁴⁰ The design was created using a 3D energy model, a simulation-based engineering tool for designing green buildings that harness renewable energy. The engineering and design teams collaboratively used building information modelling at every stage of design and construction of the building. This work was only achievable through using innovative construction technology.⁴¹

In an industry that delivers projects through a range of stakeholders, technology is an efficient and effective way to bring together collaboration.

8. Review of NZS 3910:2013

NZS 3910:2013 is the most widely used contract in New Zealand.⁴² It was written specifically to reflect New Zealand's construction industry, however the current version NZS 3910:2013 is no longer fit for purpose as the needs of the industry have evolved. This is currently under revision, with the latest NZS 3910 Standards Committee Chair report released in December 2022.

Participants in the industry have identified the need for the revised standards to favour a more collaborative approach with principal involvement. At one of the early Committee Chair meetings one of the principles agreed upon to guide the revisions was fostering collaboration.⁴³ Within this principle

³⁶ <<https://www.procore.com/en-au>>.

³⁷ <<https://help.aconex.com/en/Home>>.

³⁸ McKinsey & Company "Collaborative Contracting: Moving from Pilot to Scale-up" above n 26

³⁹ <https://www.procore.com/en-au>>.

⁴⁰ Photos of the Museum can be found on the following website: <<https://www.pmi.org/most-influential-projects-2021/50-most-influential-projects-2021/museum-of-the-future>>.

⁴¹ At 32.

⁴² NZS 3910:2013 Conditions of contract for building and civil engineering construction.

⁴³ Standards New Zealand NZS 3910 revision update (March 2022) <<chrome-extension://efaidnbnmnibpcjpcglclefindmkaj/https://www.standards.govt.nz/assets/documents/work-programme/nzs3910-revision-update-march-2022.pdf>>.

it was agreed that fostering collaboration should include working together to solve problems, encouraging communication (respecting the role of the Engineer to the Contract), balance (e.g. equity in time frames), escalation processes, and alternative methods for dispute avoidance (e.g. contract facilitation).⁴⁴ It is therefore anticipated that the new standard will promote a more collaborative approach than the existing standard.

Ideally the review of NZS 3910 will also provide greater collaboration opportunities for smaller projects where an alliance or other sophisticated model are not fit for purpose. Challenges such as supply chain disruption, price escalation and labour shortages apply to the entire sector, not just companies working on large complex projects. If the new standard promotes collaboration and creates mutual benefits to proper risk allocation, it will enable participants across the sector to have greater access to these tools.

This year, the FIDIC Contracts Committee is also working on a collaborative form of contracts to add to the Fidic suite.⁴⁵

9. Conclusion

Is the New Zealand construction industry effectively utilising collaborative contract methods? The answer is both yes, and no. While there are examples of successful collaborative projects in New Zealand, particularly in large scale infrastructure, there are still many projects where traditional contracting methods are used and a significant volume of disputes arising out of this.

While collaborative contracting will never eliminate all risks that face construction projects, it does create an environment needed to move past the blame and promote parties to prioritise findings solutions to disputes.⁴⁶ It also promotes a contractual structure that incentivises positive project outcomes, which at the end of the day is the main goal on a construction project. As the industry continues to evolve, it is likely that collaborative methods will become more common particularly with the integration of modern technology and possibly following the publication of the revised NZS 3910 standards.

⁴⁴ Standards New Zealand NZS 3910 revision update (December 2022) <<chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.standards.govt.nz/assets/documents/work-programme/Update-on-the-revision-of-NZS-3910-December-2022.pdf>>.

⁴⁵ FIDIC "Collaborative Contracting – Survey" <<https://fidic.org/node/34921>>.

⁴⁶ Antony Smith, Sheena Sood, Will Buckby, Kevin Henderson "Let's Do This Together -Collaborative Contracting" (March 2023) Beale & Co <<https://beale-law.com/article/lets-do-this-together-collaborative-contracting/>>.