

Department of Treasury and Finance, Victoria

In Pursuit of Additional Value

A benchmarking study into alliancing in the
Australian Public Sector

A Research Study for the Inter-Jurisdictional Alliancing Steering
Committee into how value for money can be enhanced when using
the alliance delivery method for governments' major physical
infrastructure projects.

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The Research Team expresses their appreciation to the Inter-Jurisdictional Alliancing Steering Committee for their support and assistance during the Study.

Foreword

Governments seek to achieve a very broad range of social, environmental and economic objectives on behalf of the community. This has seen an equally broad diversity of capital and infrastructure projects. Today, governments can utilise a number of mature and emerging project delivery methodologies to address this project diversity on a 'fit-for-purpose' basis. One of these methodologies is alliancing.

The number and value of government projects delivered through alliancing is significant and is increasing. The output of this Study is an opportunity for jurisdictions to learn from each other and ensure that they can continuously improve both the decision criteria, when to use the alliance delivery method, and the decisions on the structuring of that alliance, so that optimal VfM for taxpayers is delivered.

The Study has confirmed that alliancing can provide real benefits in the delivery of public infrastructure and has a place in the suite of other established procurement methods that are available to governments. This is welcome where it can demonstrably deliver incremental public value over other alternatives and reduces the cost of industry engaging with governments. The Study also identified key drivers of success in alliancing, including the value of a collaborative relationship between the project Owner, designers and contractors.

The Study also identified that the adoption of alliancing by government raises some matters which must be carefully managed in the interest of delivering value to the taxpayer. Alliancing is a very sophisticated development in delivering major infrastructure and agencies must fully understand the opportunities and tradeoffs that may be required. The Study identifies areas where the public sector must increase their capacity and capability to ensure optimal management and transparency of the public interest in alliance projects.

Practitioners could also consider how the success factors of alliancing, design and construct, public private partnerships (PPPs), early contractor involvement (ECIs) etc, can be applied to cross-fertilise to continuously improve each procurement method.

This Study is an important step in developing a national public sector approach intended to help agencies better understand how to pursue additional public value when undertaking alliances.

The Inter-Jurisdictional Alliancing Steering Committee October 2009

Founding membership and initiators of the Study:

Department of Treasury and Finance, Victoria (Chair, Nick Tamburro)

Department of Treasury and Finance, Western Australia

Treasury, Queensland

Treasury, New South Wales

Department of Treasury and Finance, Victoria (Executive Officer, Natalie Opie)

Executive Summary

In 2009 Australian governments are expected to spend \$8 billion procuring infrastructure projects under the alliance delivery methodology. The number of alliances delivered has significantly grown over the past five years and now represents one third of the total value of public sector infrastructure projects delivered in Australia.

The Treasury departments of Victoria, Western Australia, New South Wales and Queensland determined that understanding the rationale for the increased use of alliancing, and whether value for money (VfM) could be enhanced, was of sufficient public interest to require a Study.

The principle of obtaining VfM underpins good government procurement practice. All state governments have complementary definitions of VfM, however, knowing if it can be enhanced, how it can be achieved and where it can be optimised in a project's lifecycle becomes more difficult.

Evans & Peck and The University of Melbourne were engaged to:

“undertake a detailed benchmarking study of alliancing across Australia to investigate whether alliancing delivers incremental value for money (VfM) to government against other procurement methods”.

The combined Research Team of Evans & Peck and The University of Melbourne designed a methodology with both quantitative and qualitative approaches, and used case studies so that the research could provide a context and narrative, and collect a range of different data types. The case studies provided a rich context with specific examples that abstracted quantitative data alone cannot. This methodology combines the rigour of quantitative data with the proven efficacy of situated context for improved analysis. The Study was undertaken under The University of Melbourne's Code of Conduct in the following stages:

1. Literature review to identify existing research to refine Study approach.
2. Research Phase 1: Scan of current alliance performance in Australia through a self evaluation survey of 46 alliances.
3. Research Phase 2: Detailed analysis of 14 alliances through a case study approach.
4. Analysis of research resulting in findings, conclusions and recommendations.

The literature review stage uncovered gaps in the current body of research, which together with learnings from Phase 1, resulted in the Research Team expanding the Study question to: *How can VfM (value for money) be enhanced in the alliance delivery method?*

The results of this Study are presented in this report in the following structure:

- Background and context: including purpose and structure of Study, an overview of alliancing in Australia and of VfM in the alliancing context.
- Methodology and approach: research method and rationale.
- Findings: providing a summary of the key findings drawn from the research.
- Discussion and observations: enhancing the findings with industry expertise and context.
- Conclusion: the conclusions made from the Study.
- Recommendations: addressing how to enhance VfM in alliancing based on the conclusions.
- Further research: identifying areas requiring further investigation and consideration.
- Appendices: including research results and cross case analysis.

Findings

The findings are structured following the project lifecycle. They have been developed with consideration given to the associated VfM expectations at each stage of the lifecycle as articulated in state government guidelines.

The various state government guidelines are complementary and the differences are not considered material. For convenience, the Victorian Department of Treasury and Finance (DTF) Investment Lifecycle Guidelines were used as the starting point to tailor the following lifecycle stages appropriate for this research:

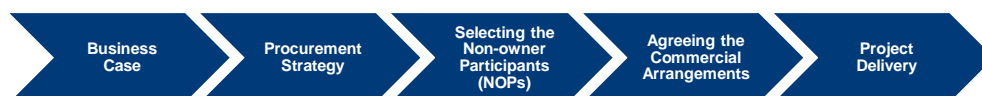


Figure E.1: Project Lifecycle model used for this study

The following points describe the Study's key findings from each stage of this lifecycle:

Key finding 1: Business case – Defining the project's VfM proposition

Business cases often did not clearly define the project VfM proposition to the rigour required for investment decision making.

Particular findings of note:

- The average increase from business case cost estimate to Actual Outturn Cost (AOC) was of the order of 45-55%.
- The business case assessment of an optimum delivery method often tended to 'default' to alliancing using a non-price selection approach for Non-Owner Participants (NOPs) and did not consider a range of other delivery options.
- In general a robust program and budget was not evident from the business case stage.

Key finding 2: Procurement strategy – Owner's rationale for selecting the alliance delivery method

Having considered project specific requirements, the primary reasons for selecting the alliance delivery method, in addition to those contained in the DTF Project Alliancing Practitioners' Guide were:

- To achieve early project commencement through early involvement of the NOPs.
- To progress the project development in parallel with the project approvals.

In general, Owner's specifically used alliancing and the non-price competitive selection approach to attract key resources and capabilities to a project in a buoyant construction market.

Key finding 3: Selecting the NOPs – Non-price and price competition**Non-price competition**

It was found that when non-price selection approaches were used to select NOPs:

- Owner representatives generally indicated moderate to high levels of satisfaction with the selection process.
- Owner representatives sometimes noted that the selected NOP team members were either not made available to the project or left prematurely.

Price competition

Noting that the number of price competition approaches examined in this Study was limited to two case studies (consistent with current industry practice), it was found that when price competition was used to select NOPs:

- Owner representatives reported a significant management demand on their organisation (compared with non-price selection approach).
- the total cost to establish a Target Outturn Cost (TOC) using price competition (two TOCs) was less (of the order of 2% of TOC) than when non-price selection (single TOC) was used.
- the TOC was found to be of the order of 5-10% (of TOC) less, relative to non-price competition on the basis that the following items were lower (in aggregate and individually) when using price competition:
 - On-site overhead costs.
 - Design costs.
 - TOC development costs.
 - NOP profit margins.

Owners on all alliances in the Study advised that good relationships had developed and that the participants worked well together as effective teams. No discernible difference was found between alliances that used price competition and non-price competition.

It was also found that generally NOPs have a strong preference for alliancing over other traditional delivery methods. Additionally, NOPs have a strong preference for non-price selection approach over price selection approach.

Key finding 4: Agreeing the commercial arrangements – Commencement of physical work

Often physical works commenced prior to finalising the commercial arrangements with the NOPs.

Key finding 5: Agreeing the commercial arrangements – Business case cost compared to initial TOC

In general the agreed (initial) TOC was higher than the business case cost estimate. The average increase was of the order of 35-45%.

Key finding 6: Agreeing the commercial arrangements – Project Alliance Agreement (PAA)

A variety of commercial terms and conditions were found in the PAAs. In particular:

- NOP corporate overhead and profit: Generally fixed upon agreement of the TOC, often variable as a percentage of actual costs.
- No blame clause: Generally unconditional; little indication of modified clauses.
- Dispute resolution: Generally silent; little indication of express provisions for resolution beyond the Alliance Leadership Team (ALT) (outside the alliance).
- Incentive/penalty arrangements on time: Generally included; often not.
- Owner reserved powers: Often reserved powers stated; sometimes not.
- Performance security by NOPS: Little indication that security was required; generally not.

Key finding 7: Agreeing the commercial arrangements – Outstanding outcomes

Generally it is a requirement expressed in the PAA that the parties commit to achieving outstanding (game breaking) outcomes.

The commercial arrangements generally provide financial incentives for NOPS (incentivised Key Result Area (KRAs)) to achieve outstanding (game breaking) outcomes.

It was also noted that estimated costs associated with pursuing outstanding (game breaking) outcomes are often included in the TOC.

Key finding 8: Project delivery – Non-price objectives

In general, Owner representatives (regardless of approach to selecting NOPS) rated their alliance's performance in all areas of non-price objectives as above expectations or game breaking. The areas of non-price criteria assessed were:

- quality of work
- functionality
- safety
- environment
- community
- other stakeholders
- team dynamics
- KRA achievement
- flexibility of approach.

Key finding 9: Project delivery – Owner resources

The number of Owner resources provided to the alliances varied.

There was no clear correlation between the number of Owner resources and enhanced VfM.

It was noted that active senior level participation by the Owner provided clear direction and support to the alliance.

Key finding 10: Project delivery – Early commencement of physical work and project completion

The project's physical works were able to be commenced many months in advance of what would have been possible using traditional delivery methods (as noted elsewhere) leading to a commensurate earlier completion date.

The majority of projects met the Owners' target completion dates as set out in the business case.

Key finding 11: Project delivery – No disputes

There were no indications of any disputes between the Owner and the NOPs that needed to be resolved outside the alliance.

Key finding 12: Project delivery – Outstanding outcomes (game breaking)

There was little indication that outstanding outcomes (game breaking / breakthrough) were being achieved within the definitions in use in this Study ('paradigm shift', 'not been done before').

This finding significantly differs with the self-evaluation of both NOPs and Owner representatives within the alliances who considered that their own alliances achieved outstanding outcomes.

Key finding 13: Project delivery – Adjustments to agreed TOC

In general there was an increase from agreed (initial) TOC to adjusted (final) TOC. The average increase was of the order of 5-10%.

Key finding 14: Project delivery – Adjusted TOC and AOC

In general, the AOC was less than the adjusted (final) TOC. The average saving was of the order of 0.5%.

Conclusion

Based on the Findings, Discussion and Observations of the Study, it can be concluded that VfM can be enhanced in the alliance delivery method.

As a collaborative delivery method, alliancing has demonstrated its ability to avoid disputes, improve non-cost outcomes and commence projects earlier than by traditional methods.

To extract the optimum VfM from alliancing, changes must be made at both the alliance and whole of government levels. There are a number of discrete conclusions that support this overall conclusion and these are discussed below.

Enhancing whole of government VfM

In this section, the conclusions relevant to enhancing VfM at the whole of government level are discussed. These are generally areas where there would only be a benefit if a whole of government approach were taken, rather than an alliance only approach.



VfM definitions and the value proposition in the business case are the responsibility of the Owner, not of the alliance which has been engaged to deliver the capital asset component of the business case at the lowest price. The role of the Owner needs to be distinguished from the Owner's representative on the alliance, who only has responsibility for delivery and has no authority to change the business case as these are normally approved by Government.

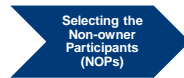
It would appear that PPPs provide the greatest cost certainty at business case stage (an increase of 5-10% to AOC), followed by traditional ($\approx 20\%$) and then alliances ($\approx 50\%$).

The lack of accuracy in the business case cost estimate must be considerably improved to better inform the capital investment decision. Alternatively, the business case should include explicit advice to investment decision makers regarding the risk of potential increases. Fast track processes need to be developed for the minority of projects where time of commencement is of the essence and decision makers need to be alerted to the significant price premium that may be associated with fast tracking.



There is a plethora of selection guidelines on the use of the alliance delivery method that are inconsistent, confusing, do not reflect current practice and are not focussed on optimising VfM. Given a robust construction market it is possible that the primary competition is occurring on the buyer (Owner) side as they seek to attract NOPs to their own project using the alliance delivery method and non-price criteria, both of which are highly favoured by NOPs over traditional delivery methods.

A consistent approach across jurisdictions would improve the procurement selection strategy and buying power, and ensure consistency in government engagement with industry.



Current guidelines recommend selecting NOPs using predominately non-price criteria. This does not always reflect good government procurement practice which requires price to be included as a significant criterion. Whilst price competition is not appropriate in all circumstances, it should be required as a default position.



The range of the PAAs in use in Australia is neither efficient nor effective for government or industry. An alliance is a complex commercial transaction. Now that alliancing is a mature delivery method, there is a need for government to establish a standard form of contract that is robust, tested and clearly understood by all parties. This would improve legal certainty and transaction efficiency for government and NOPs.

Government would benefit by taking a portfolio management approach to procuring and delivering projects. This would enable the whole of government risk (and associated insurances) to be managed more effectively. This approach would also enable government to achieve synergies across multiple projects through leveraging buying power, smoothing resource demands, and possible consolidation of some activities to achieve economies of scale.



Governance arrangements above the alliance vary significantly from project to project and little guidance exists. A standard governance arrangement would result in improved understanding of roles and authorities and more effective and efficient project delivery.

An increase in the TOC of approximately 5-10% during project delivery raises doubts on the widespread perception of certainty of the initial TOC compared to traditional methods. Savings on the TOC are negligible.

Enhancing alliance VfM

In this section, the conclusions relevant to enhancing VfM at the alliance level are discussed. These topics are those that could add benefit to each project independently.



Alliance projects are often associated with uncertainty and complexity. This requires greater, not less, rigour in the business case to ensure that adequate anchoring, benchmarking and guidance is provided to the alliance team as the project progresses.

As a minimum the business case should include the value proposition which incorporates the project objectives, agreed funding of 'externalities' (for example environmental works, stakeholder relations) and a robust cost plan. It should (barring sections subject to confidentiality) be made available to the alliance team.



Procurement Strategy

Procurement strategy should be selected on the basis of the project characteristics. The selection of the alliance delivery method to attract scarce resources or to start the project earlier may not be appropriate if the associated price premium is considered. This premium may be acceptable if the risk profile of the project is high, however, for lower risk projects the premium may be excessive.



Selecting the Non-owner Participants (NOPs)

The selection criteria used for selecting the NOPs should encourage innovation and efficiency. Although not always appropriate, price competition can achieve this by providing productive competitive tension. The selection process should not be overly prescriptive that it stifles NOP's ability to provide technically and commercially innovative offers.



Agreeing the Commercial Arrangements

Although the philosophy of alliancing is non-adversarial, the alliance is a commercial transaction and the alliance legal agreements (PAAs) must be appropriate to that commercial transaction.

The complex nature of alliances can result in Owners being exposed to serious asymmetry of information, commercial capability and capacity in their engagement with the NOPs. Owners should ensure that any asymmetry is identified and addressed to enhance VfM outcomes. The exposure of Owners can be increased when there is no price competition as there has not been the 'traditional' competitive tension which can alleviate such asymmetry.



Project Delivery

Effective alliance governance is critical to project success. The alliance delivery method is mature and an optimum governance structure needs to be researched, defined and applied. In particular it is important in an alliance that decision rights are clearly articulated, particularly the role of the government vis a vis the Owner and the Owner's representative.

Through project delivery, the Owner may be exposed to continued commercial asymmetry. It is important that the Owner establishes capability to represent its interests in the alliance at a level commensurate with the commercial capability of the NOPs.

Outstanding outcomes ('paradigm shift', 'not been done before') are often sought by Owners when selecting the alliance delivery method and they are generally a requirement in the PAA. However, there was little evidence that outstanding outcomes are being achieved despite significant investment in 'high performance teams'. There is little point in pursuing outstanding outcomes if they are not required to satisfy business case objectives.

Realising improved VfM

There is opportunity to enhance VfM outcomes achieved in the alliance delivery method and a number of recommendations have been made. These recommendations seek to optimise VfM at both whole of government and alliance level. They will improve the quality of the investment decision, optimise the appropriate use of alliancing, increase government's buying power, increase transaction efficiency, increase technical and commercial innovation and allow for best practice to be captured and disseminated.

Recommendations

The following six recommendations address how VfM can be enhanced in the alliance delivery method. An incremental increase in VfM will be realised if they are implemented in their entirety.

If all of the recommendations below are adopted the actual outturn cost of alliance projects could, in the judgement of the Research Team, be improved by 5-15% without diminishing the many benefits that the alliance delivery method is capable of providing.

Policy Recommendation No. 1

The alliance delivery method be retained and developed further as one of the mature procurement strategies for the delivery of government's infrastructure projects that are complex with significant risks that cannot be dimensioned in the business case or soon thereafter.

Policy Recommendation No. 2

The State Treasuries collaborate to develop a comprehensive Procurement Selection Guide and training materials for use by government agencies on when to use the alliance delivery method.

Policy Recommendation No. 3

The State Treasuries (and relevant line agencies) collaborate to develop common policy principles, guidelines and training for the selection of the NOPs and implementation of the alliance delivery method that reflect the outcomes of this Study.

Policy Recommendation No. 4

Governments take a greater role in ensuring that alliance best practice is captured and disseminated; and also take a greater oversight role on individual alliance projects to ensure that VfM is optimised at whole of government level.

Policy Recommendation No. 5

An adequate business case, which includes the case for the procurement decision, to be prepared and approved as required by relevant state government guidelines before the alliance selection process commences. (This will recognise the development of fast track processes for times of genuine urgency such that the alliance is provided, as a minimum, with appropriate delivery objectives and a robust cost plan.)

Furthermore, business cases that recommend an alliance delivery method must:

- Considerably increase the accuracy of their capital cost estimates and scope statement.
- Address how the state will manage possible asymmetry of commercial capability and capacity in engaging with alliance NOPs throughout the project lifecycle.

Policy Recommendation No. 6

A competitive process should be used as the default approach to selecting NOPs having price (including outturn costs/TOCs) as a key selection criterion. This will be consistent with established government procurement policies that support a competitive process with one of the key selection criteria being price unless compelling reasons (which are outlined in the same government procurement policies) for non-price competition can be made and approved.

“ This Study documents the results from researching Value for Money (VfM) in the alliance delivery method. ”

Introduction

1.1 Purpose of Study

This Study documents the results from researching Value for Money (VfM) in the alliance delivery method.

Three factors provided the impetus for this Study:

1. The growth in Australia of alliancing as a delivery method.
2. The varied and mixed views of current alliancing practices.
3. Inconsistencies in how governments approach their procurement strategy.

1.2 The Study brief

A group of State Treasuries comprising Victoria, New South Wales, Queensland and Western Australia formed an Inter-Jurisdictional Steering Committee to initiate research into the rationale for the increased use of the alliance delivery method in Australia and whether VfM could be enhanced at any stage through the project lifecycle. Evans & Peck and The University of Melbourne were engaged to undertake a research Study to inform the committee.

In addition to the Treasuries, the Alliancing Association of Australasia supported the Study by commenting on the Study brief and providing access to projects carried out by its members.

Initially the more detailed Study brief was “undertake a detailed benchmarking study of alliancing across Australia to investigate whether alliancing delivers incremental value for money (VfM) to government against other procurement methods”.

Specifically, the deliverables under the brief were as follows:

- Establish a detailed understanding of how procurement methodologies have generally evolved, and specifically the style of current alliance projects.
- Define VfM in capital and infrastructure projects from a government perspective.
- Establish a methodology for assessing the evidenced VfM proposition provided to government by alliancing (including Program alliancing) compared to other procurement methods (i.e. “incremental VfM”) and also compared to perceived or reported project success.
- Quantify the incremental VfM outcomes that have been obtained from complete project alliances (i.e. benchmark a small number of projects).
- Identify lessons learnt from recent Australian project alliance outcomes and recommend policy positions and guidelines to optimise VfM.

The literature review stage uncovered gaps in the current body of research, which together with learnings from Phase 1, resulted in the Research Team expanding the Study question to: “How can VfM (value for money) be enhanced in the alliance delivery method?”

1.3 Structure of the Study

The Study is structured as follows:

• A stand alone summary of the Study	Executive Summary
• Purpose of the Study and the Study brief	Chapter 1 Introduction
• The ascent of alliancing , mixed views about alliancing and how the alliance delivery method is selected	Chapter 2 Alliancing in Australia
• VfM definition used in this Study, VfM from Whole of Government perspective, within an alliance context and the accountability and responsibility for the VfM proposition	Chapter 3 Value for Money in an Alliance Context
• Literature review, gap analysis, description of Study methodology adopted and why it was chosen over other methodologies	Chapter 4 Study Methodology and Previous Research
• Findings from the Study presented over the project lifecycle	Chapter 5 Findings
• An exploration of the key findings in the context of industry knowledge, historical information and context, and observations	Chapter 6 Discussion and Observations
• The Study conclusions	Chapter 7 Conclusion
• The six policy recommendations to enhance VfM in the alliance delivery method	Chapter 8 Recommendations
• Suggested areas for further research	Chapter 9 Further Research

“ The total value of alliance projects in the road, rail and water sectors in New South Wales, Victoria, Queensland and Western Australia, over the period 2004 to 2009 was \$32 billion. ”

Alliancing in Australia

2.1 The ascent of alliancing

Historically government procurement of infrastructure has been based on the concept of competitive and open bidding, and as a result, the majority of infrastructure projects were delivered using traditional competitive bidding processes. As the Australian construction industry evolved and matured so too did the delivery arrangements. From the early 'traditional' methods such as design and construct, lump sum, and construct only to more recent methods of public private partnerships and alliancing.

The more traditional contractual arrangements involved competition between constructors, documented with technical drawings and specifications, commercial conditions of contract and structured payment systems based on fixed pricing or schedule of rates arrangements. These traditional delivery methods generally saw risks associated with project delivery being transferred to the constructor to varying degrees. The formal contractual arrangements sometimes created an unproductive positional relationship between the 'buyer' and the 'seller', leading to adversarial relationships and litigious outcomes.

In the early 1980s the US Army Corps of Engineers started looking at ways of resolving litigation and disputes. An alternative disputes resolution method, the mini-trial, was established to save time and money, to provide flexibility, and to protect the relationship between the 'buyer' and 'seller'.^{100, 101} As a progression of its alternative dispute resolution program, in 1998 the US Army Corps of Engineers, with the assistance of the private sector which had pioneered the model, implemented its first Partnering model. Partnering was promoted as disputes-prevention (as opposed to disputes-resolution) and aimed to improve communication, increase quality and efficiency, achieve on-time performance, improve long-term relationships and a fair profit and prompt payment for the contractor. It was not a contractual agreement, nor legally enforceable.⁹⁹

As an extension to Partnering, alliancing was first used in the oil and gas fields of the North Sea, by British Petroleum (BP) in the early 1990s. When Australia embarked on its first alliance project in 1994, The Wandoo Alliance, the Owner decided to use project alliancing to:

- Reduce development costs.
- Share time and cost risks.
- Minimise use of its management team.⁴⁶

Australia's first alliance was delivered using a non-price competition process for selecting the NOPs and under the principles of good faith and trust. In particular, the Project Alliance Agreement noted:

- Value for money in completing the Works.
- Operate fairly and reasonably without detriment to the interest of any one participant.
- Use best endeavours to agree on action that may be necessary to remove any unfairness or unreasonableness.
- Individuals employed by one participant could be transferred to another participant (including the responsibility for their workmanship and work).
- Open book.
- Wherever possible, innovation was to be applied to all activities particularly where it could reduce cost and time for completion and improve quality.
- Use best endeavours to ensure that additional work remained within the general scope of works.
- Share of savings and cost overruns to be apportioned (win:win).
- Avoid claims, disputes and litigation, arbitration and any other dispute resolution process.⁴⁶

From 1995 to 1998, the alliance delivery method was becoming more sophisticated. The spirit of trust was still prevalent, with the notion of 'what is best for the alliance is best for my organisation' making its debut. New principles were emerging including:

- tendering on factors other than price.
- the best people for each task.
- no blame.
- clear understanding of individual and group responsibilities and accountabilities.
- emphasis on business outcomes.

With the significant growth of the infrastructure market (discussed in more detail below), alliancing has also enjoyed significant growth, and has emerged as a mainstream project delivery method. Collaboration and trust remain strong themes. New principles emerging by 2006, which remain today, include:

- best for project focus.
- equal say in decisions (unanimous decision making).
- best in class resources.
- participants are committed to developing a culture that promotes and drives outstanding outcomes.
- communication is open, straight and honest.⁵¹

Broadly speaking, alliances may be categorised as a project, program or strategic alliance:

- A project alliance is generally formed for a single project, after which the team is usually disbanded.
- A program alliance incorporates multiple projects under an alliance framework, where the specific number, scope and duration of projects may be unknown and the same alliance participants are potentially delivering all projects. These are usually longer term arrangements, in the order of 5-10 years.
- Strategic alliances relate to longer term incomplete commercial contracts between organisations (generally private)⁷² that generally do not include the project and program alliance principles referred to above. They are not the subject of this Study.

With \$65 billion of alliance projects delivered in Australia in the last 12 years, it appears that the alliance delivery method has been embraced and, as demonstrated further below, the jurisdictional appetite for this delivery method has increased markedly since its inception.

2.2 Growth in alliancing

Public and private sector expenditure on infrastructure projects in the Australian road, rail and water sectors has grown significantly from 2003 to 2009, increasing from \$12 billion per annum in the 2003 to 2004 financial year to \$32 billion per annum in the 2008 to 2009 financial year as shown in Figure 2.1.

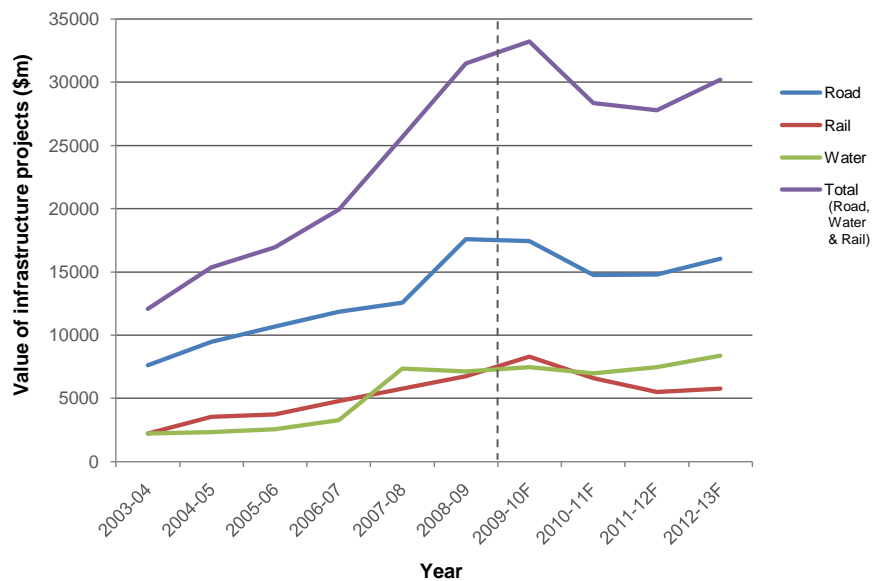


Figure 2.1: Historic and forecast infrastructure spend by sector ³⁶

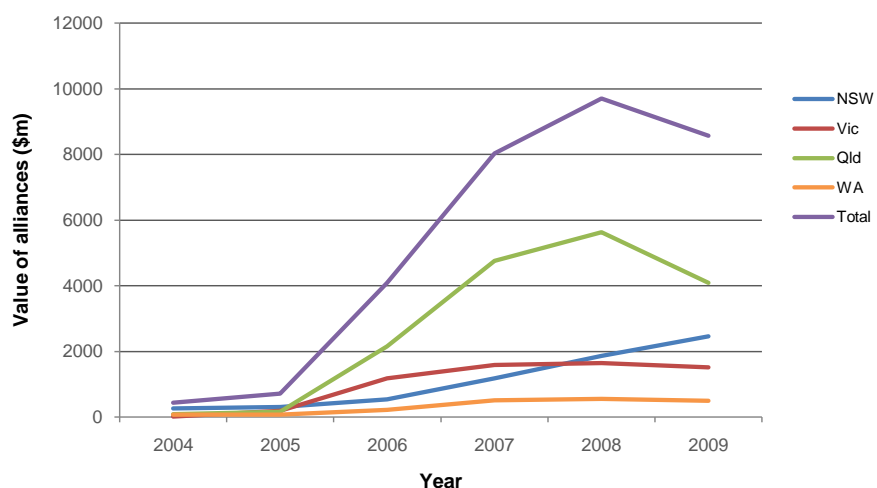


Figure 2.2: The value of alliancing projects undertaken in each state ⁴

The number and value of projects undertaken using the alliance delivery method has also grown over the past five years. The total value of alliance projects in the road, rail and water sectors in New South Wales, Victoria, Queensland and Western Australia, over the period 2004 to 2009 was \$32 billion.

This represents 29% of the total infrastructure spend of \$110 billion in the same sectors across the whole of Australia. The value of alliances undertaken in each state is shown in Figure 2.2, and the value of alliances undertaken by sector is shown in Figure 2.3.

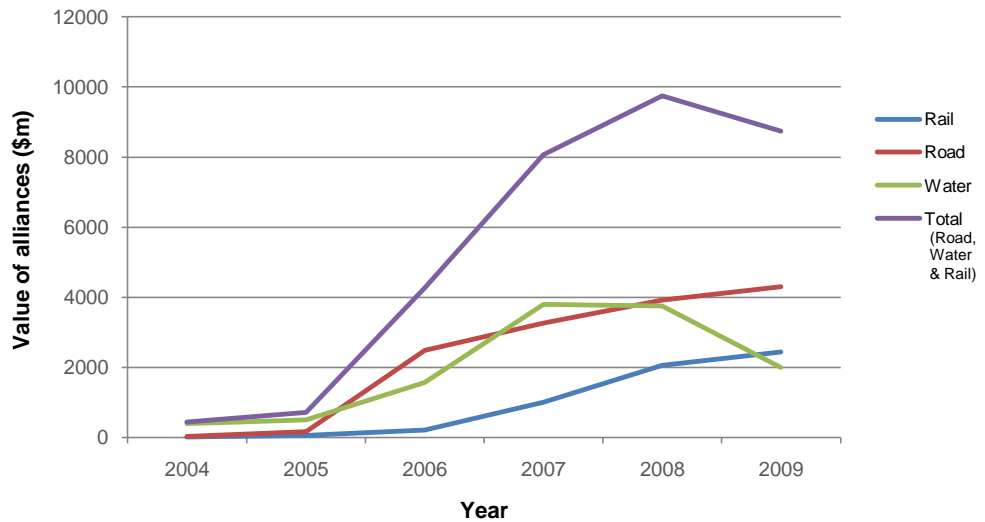


Figure 2.3: The value of alliancing projects undertaken by sector ⁴

Figure 2.4 compares the public sector and private sector use of alliancing across all sectors and states. It can be seen that the use of alliancing in the private sector has been relatively static while in the public sector its use has increased exponentially. Given that both sectors experienced substantial increases in infrastructure spending, it is unclear why the public sector has embraced alliancing to the extent it has but the private sector has not despite it pioneering this delivery method.

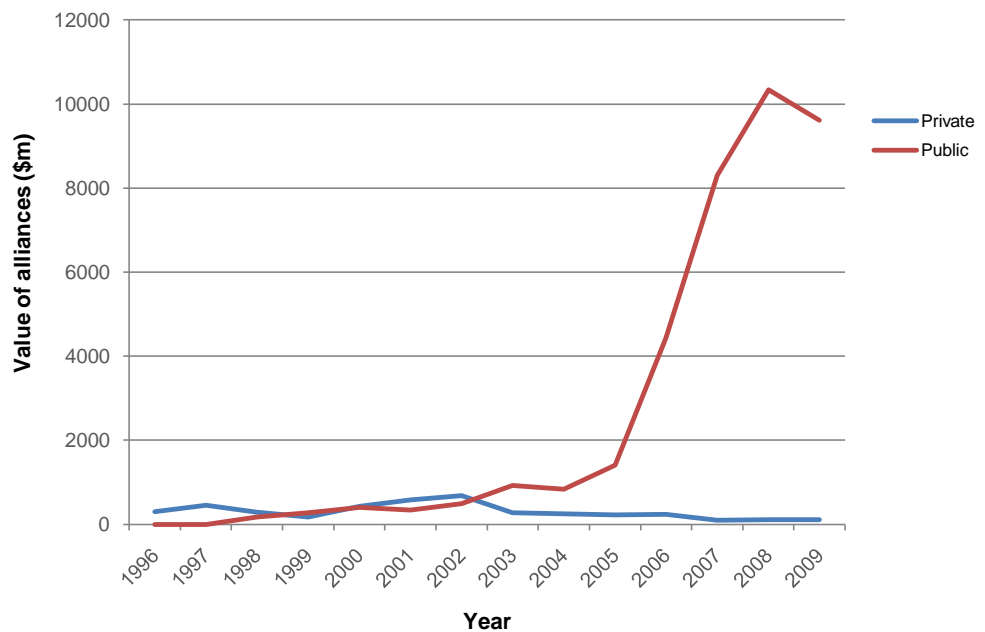


Figure 2.4: The use of alliancing in public and private sectors ⁴

The source data for 'private' in Figure 2.4 has been adjusted to reflect two major private sector projects that have been delayed or cancelled since the information was collected.

2.3 Mixed views on alliancing

In late 2008 and early 2009, representatives from the Victorian Department of Treasury and Finance undertook a fact-finding mission on alliancing as a delivery method in Australia. Around 40 organisations were visited throughout Victoria, New South Wales, Queensland, and Western Australia, and covered:

- line agencies (Owners)
- constructors and designers (Non-Owner Participants)
- lawyers
- alliance facilitators.

The representatives from the Victorian Department of Treasury and Finance provided the Research Team with the following key themes and anecdotes collected from their mission:

- *Alliancing as a procurement strategy provides a demonstrable value proposition for the private sector's commercial objectives.*
- *Agencies have not provided hard evidence that alliancing generally does provide demonstrable VfM for the public sector against other procurement alternatives.*
- *There is a possible imbalance in the value proposition for alliancing.*
- *It is acknowledged that generally a higher level of capability in an individual is required to deliver good to very good results within an alliance in comparison to hard dollar contracts.*
- *Some agencies are well resourced and work hard and plan smart to get the best result for the project, however, it is also common for alliances to either not have Owner representatives or to have representatives that are not sufficiently experienced for the role (i.e. there is an asymmetry of capability in comparison to the NOPs).*
- *There is a perceived resource paradox around alliancing; alliancing is often used because the agency lacks the resources to manage a non-alliance procurement strategy, yet there is also recognition that the agency needs highly capable resources for it to effectively engage in alliances.*
- *The DTF Alliance Practitioners' Guide is a good resource, but lacks the practicality to bridge the capability gap ("public officials are good at contract administration not necessarily at contracting").*
- *Further development is necessary in the selection criteria leading to the selection of alliancing as a procurement method.*
- *Tight timeframes and public sector resource restrictions are often cited as reasons for using the alliancing delivery method.*
- *If we can't understand what the project is about (scope/cost/risk/etc) then it should be an alliance (a theme).*
- *"I have never advised a client that a specific project should not be an alliance" (an Alliance Facilitator).*
- *In some sectors (e.g. water), it appears alliancing has become the default delivery mechanism.*
- *Alliancing is sometimes selected before the project is selected (as in program alliances)*
- *The role of the independent estimator is seen as problematic if they are only reviewing rates, and not scope.*

The Research Team was advised that these varied and mixed views were one of the catalysts for this Study.

2.4 How the alliance delivery method is selected

It is widely recognised in federal and state procurement guidelines^{11, 41, 43, 52, 58} that choosing the appropriate procurement method is critical for optimising VfM. The following subsections describe:

- How governments determine whether to use an alliance.
- How governments select the NOPs.
- Inconsistencies in procurement strategies and approaches.

2.4.1 How governments determine whether to use an alliance

There are a multitude of procurement strategy guidelines at federal, state and line agency level. For the purposes of this Study, how governments determine whether to use an alliance is distinguished through three core areas:

- the procurement strategy
- the procurement methodology
- the delivery method

It is generally expected that the assessment of the procurement strategy will be considered as part of the business case and will be reviewed and refined as necessary⁵². The purpose of the procurement strategy is to document a high level plan to achieve procurement objectives through a structured program of activity, with a focus on optimising value for money. It usually includes:

- a statement of objectives
- cost analysis
- policy context
- market analysis
- agency capability
- project characteristics
- funding
- risk analysis.

The data gathered from the above areas is the basis and justification for the procurement methodology decision which include market assessment, contract management and the delivery method i.e. alliance, design and construct, PPP etc.⁵²

When selecting the delivery method that will best optimise VfM, there are then five recommended steps:

- Data gathering.
- Shortlist delivery models.
- Validation.
- Delivery method options analysis.
- Preferred delivery method.

When analysing whether to use alliancing as a delivery method, common project characteristics recommended by government guidelines are those listed below⁵¹:

- Numerous complex and/or unpredictable risks with complex interfaces.
- Complex stakeholder issues.
- Complex external threats or opportunities that can only effectively be managed collectively.
- Very tight timeframes (driven by project risk rather than organisational capacity).
- Output specifications which cannot be clearly defined upfront, and/or a high likelihood of scope changes during design and construction (e.g. due to technological change, political influence etc).
- A need for Owner involvement or significant value adding during delivery.

2.4.2 How governments select the NOPs

Once the Owner has determined an alliance is the most appropriate delivery method, the expectation is that NOPs will be selected based on their potential to optimise VfM (which would be set out in the approved business case).

There are two principle approaches to selecting NOPs⁵¹ with a range of hybrid selection processes in between. Regardless of the approach used, each has the capacity to result in a legal agreement that recognises the fundamental alliance principles e.g. win:win, no blame, unanimous decision making etc.

1. Non-price competition
 - Also referred to as the 'single TOC' or 'pure' alliance.
 - The NOPs are selected on the basis of non-price criteria.
2. Price competition
 - Also referred to as the 'multiple TOC' or 'competitive' alliance.
 - The NOPs are selected using both non-price criteria and outturn price (TOC criteria).
3. Hybrid
 - There are various hybrids between the above approaches that include both non price criteria and commercial criteria but not full outturn price. These may include competitive selection criteria based on design innovation, overhead and profit margins, budget pricing and commercial framework.

There is little guidance on how to choose between these non-price competition, price competition, or hybrid approaches. However, the table below lists the statements provided in various procurement guidelines around the pros and cons of the non-price and price competition approaches to selecting the NOPs. (Commentary on hybrid approaches is not provided as no statements are provided in the guidelines).

Table 2.1: Statements on how to select NOPs ^{41, 44, 51, 52, 82}

Non-Price Competition	Price Competition
“Creates the right psychological foundation.”	“Use when the Owner must make a choice between competing proprietary technologies/ solutions.”
“More likely to align alliance Owner and Non-Owner goals after contract signature since the target cost is developed collaboratively.”	“Use when the choice of technology could have a substantial impact on the capital and/ or the operating cost of the project or facility.”
“The Owner and NOPs approach the development of the TOC in good faith, with sufficient checks and balances.”	“The use of cost competition inherently demonstrates value for money.”
“Promotes greater collaboration than other alliance models.”	“Weakens the psychological foundation of the alliance.”
“Must be underpinned by a comprehensive strategy to ensure VfM is (demonstrably) achieved.”	“Competing proponent teams are more likely to actively seek out and incorporate innovations to reduce their respective TOCs and give them the best chance of securing work.”
“Other alliance models cater for some of its shortcomings.”	“The nature of the process precludes the kind of close collaboration and integration that can lead to opportunities for innovation.”
“Facilitates faster tender selections and encourages maximum industry participation.”	“Provides the opportunity for the Owner to work with each of the two final proponents over several months and make a more informed assessment of their respective capabilities.”
“There is potential for reduced project costs, earlier completion and better outcomes in general, for special projects under extraordinary circumstances, through incentives for cost savings, cooperation and relationship management.”	“Eliminates several of the VfM concerns of ‘single TOC’ albeit at the expense of reduced collaboration.”
“Involvement of the contractor and stakeholders in design decisions facilitates the development of appropriate responses to the project objectives, providing potential for innovation to improve outcomes.”	“It may be difficult to make a fair comparison between two proponents.”

Non-Price Competition	Price Competition
<p>“There is more certainty and less risk for non-agency participants.”</p>	<p>“Where complex stakeholder issues exist, two separate proponent teams may unduly complicate matters.”</p>
<p>“Fast tracking of the project is possible.”</p>	<p>“Introducing cost competition/ tension may sharpen the approach, especially in areas that are difficult to benchmark such as the provisions for risk.”</p>
<p>“Issues that could cause claims and disputes are more likely to be resolved in the manner that is best for the project.”</p>	<p>“May drive the competing proponents to underplay the possibility and/or consequence of risks. This could give risk to potentially harmful consequences where the resulting TOC does not contain adequate contingency.”</p>
<p>“Success depends on teamwork and the adaptability, performance and attitudes of individuals.”</p>	<p>“The competitive element under price competition may lead to inadequate contingency which in turn may lead to more inclination for scope changes and less common purpose.”</p>
<p>“There are more demands on all personnel involved, and a change in culture and attitude may be required for many.”</p>	<p>“Both teams need to be the best available from the proponent organisations. This means two sets of quality personnel are dedicated to the project for an extended period of time, although only one set will continue through to deliver the project.”</p>
<p>“Non-agency participants are required to make extra effort to achieve “stretch” goals; manage changes to culture and attitudes; set up accounts open to public scrutiny; and commit the best people to one project.”</p>	<p>“The additional cost of running two teams in parallel, including the Owner’s extra staffing requirements, is likely to offset any reduction in the TOC.”</p>
<p>“Non-agency participants expect and receive a substantially higher margin (including profit) for the additional input required.”</p>	<p>“Price competition can be a waste of NOP resources.”</p>
<p>“More agency resources and higher costs are involved to manage tendering processes, establish the alliance, maintain relationships and determine costs.”</p>	<p>“As the Owner funds the design activities, all foreground intellectual property associated with the design is transferred to the Owner.”</p>
<p>“Quality can be compromised to meet cost targets.”</p>	<p>“Introduces large sunk costs to the alliance Owner.”</p>

Non-Price Competition	Price Competition
“Risk allocation may not be clear, and the agency bears the risks once the specified liability of other participants is exceeded.”	“Requires a much higher Owner resource.”
“There is less price competition and less certainty of obtaining value for money.”	“Proponents treat the process more like a design and construct bid.”
“Consultant costs for project development and design are likely to be higher.”	“It may be difficult to make a fair comparison between the two TOCs.”
“The agency loses some litigation rights, and reduced Professional Indemnity insurance cover is provided by the participants.”	“There may be lack of clarity, consistency, ownership of the TOC and commitment to it where the opportunity for full and open conversations based on principles is limited by the need for the two competing proponent teams to remain separate.”

This table demonstrates that the various guidelines strongly favour a non-price selection process for NOPs but the reasons are often inconsistent, anecdotal in nature and/or lack proof.

The Victorian DTF Project Alliancing Practitioners’ Guide expressly recommends the non price competition approach and this is echoed through most state guidelines.

2.4.3 Inconsistencies in determining the procurement strategy and approach

At federal, state, and line agency level there exists a plethora of procurement strategies, guidelines and supplementary documents which provide information on determining how best to procure a project. This includes, amongst other things, determining the optimum delivery method (alliance, D&C, PPP etc).

While there are some similarities within and across states, with each emphasising the need for a procurement strategy, there are also many differences. For example:

- Assorted terminology and definitions (i.e. DCT, TOC, TCE, ALT, PAB).
- A diversity of steps to be followed during the procurement strategy.
- Different project values noting when an alliance could be considered (lower limits range between \$5-50 million).
- Different processes within and across procurement strategy documents.
- Contradictory information within documents.
- Some states and line agencies note the different approaches (price and non-price competition) to selecting NOPs, some do not.

In relation to the approach to selecting NOPs, there is a lack of in-depth analysis within the guidelines clarifying which approach provides the best VfM outcome, nor does there appear to be a clear link to the primacy of satisfying the business case objectives.

Although most guidelines note the type of project characteristics that would best suit alliancing (i.e. complex unpredictable risks, tight timeframes etc), there is little information, particularly evidenced and quantified commercial advice, provided for decision makers on why alliancing is suited to these characteristics and how these characteristics can be compared against other delivery methods.

“ The prime focus of governments, when making decisions on the allocation of resources, is on supporting the delivery of services to the community. ”

VfM in an Alliance Context

3.1 Introduction

All Australian governments and many international governments, particularly the United Kingdom, have established VfM as the fundamental foundation of decision making in government contracting. Whilst providing a definition of VfM is not difficult (there are many to choose from), it is more challenging to fully articulate in a way that is meaningful for a project on how to apply an agreed VfM proposition in project planning.⁵⁵

This chapter explores the meaning of VfM, the VfM proposition and the associated accountabilities and responsibilities within the context of an alliance.

3.2 VfM defined

The use of the very words ‘value for money’ is a clear signal that project success encompasses more than price.

A selection of VfM definitions used by federal and state governments includes:

- Victorian Government, Department of Treasury and Finance, Strategic Sourcing Policy
Value for money denotes, broadly, a balanced benefit measure covering quality levels, performance standards, risk exposure, other policy or special interest measures (e.g. environmental impacts), as well as price [of inputs and outputs]. Generally, Value for Money is assessed on a “whole of life” or “total cost or ownership” basis, which includes the transitioning-in, contract period and transitioning-out phases of a contractual relationship. It is often used in the sense of the “long-term sustainability of Value for Money”, denoting that the state focuses on choices that ensure Value for Money outcomes are promoted and protected in successive anticipated contracts.
- The Australian Government, Department of Finance and Administration, “Commonwealth Procurement Guidelines”
Value for Money is the core principle underpinning Australian government procurement Officials buying goods and services need to satisfy that the best possible outcome has been achieved taking into account all relevant costs and benefits over the whole of the procurement cycle.
- New South Wales Government, Department of Treasury, “Code of Practice for Procurement”
Value for Money is defined as the benefits compared to the whole of life costs.

- Queensland Government, Department of Public Works, “Better Purchasing Guide – Value for Money”

Ensuring Value for Money is one of the three objectives of the state Purchasing Policy. Government purchasing must achieve the best return and performance for the money being spent. Price is not the sole indicator of value.

All these definitions are reasonable and aligned. Analysing these VfM definitions or even presenting a wide ranging debate on the best VfM definition adds little benefit, as each statement is drafted for a particular jurisdiction and context.

This Study has been guided by the Victorian definition of VfM as it is the most detailed and provides a wider range of value elements for consideration. While this definition (like the others listed) provides aspirational guidance to agencies implementing capital projects, the practical assessment of VfM is more difficult.

3.3 The principles of VfM and the value proposition

Governments contract on behalf of citizens to purchase infrastructure assets using taxpayer funds. Thus, the objective for government decision makers is to obtain the optimal value for citizens for the least amount of taxpayer funds. Government’s success in solving this dilemma allows it to discharge its responsibility to deliver infrastructure in a manner that protects the public interest.

As the elected representative of citizens and custodian of taxpayer funds, a government makes decisions on the application of public funds or resources.

The prime focus of governments, when making decisions on the allocation of resources, is on supporting the delivery of services to the community. Whilst governments will be very interested in the resources (capital and non capital) that the agency needs to deliver a required community service, their primary focus is not on the desirability or otherwise of capital assets in isolation of the service benefit.

For the purposes of this Study, the steps leading to a government decision on resourcing can be described as follows:

- Agencies come to government with **investment proposals** that call on public resources to facilitate delivery of priority services to the community.
- Investment proposals are analysed, dimensioned and articulated in **business cases**.
- Business cases document the merit of the investment proposal based on a thorough and wide ranging **analysis of costs, risks and benefits**.
- The decision to support or not support an investment proposal is based on a balanced judgement regarding the **‘VfM proposition’** in the business case, that is, the costs/risks of the proposal balanced against the service benefits to the community.

As such, investment proposals and business cases deal with both the whole-of-life capital and non-capital requirements of delivering community services. That is, the capital project component, the ongoing operations of the infrastructure or facility as well as the recurrent funding of services delivery.

The alliance team is primarily concerned with the delivery of the capital assets, it is not usually required to manage or address the operational phase (other than ensuring fit-for-purpose capital assets and whole-of-life considerations for the capital assets) nor is it responsible for the ongoing service benefits to the community (for example, the alliance does not take the risk of whether the new road does actually lead to travel time savings).

The role of the alliance is to dimension, detail, plan and deliver the capital assets and the VfM proposition impacting on those capital assets within the parameters of the approved business case.

Therefore, the VfM consideration important in the alliance is whether the government's/ Owner's capital project implementation objectives and works have been delivered by them at the lowest price and in accordance with the approved business case. This is not to say governments are only interested in cheapest price, rather they are interested in achieving the social, environmental, economic, quality and other objectives that they have agreed to, as well as the direct construction cost, at the lowest price.

Prior to the business case approval, if the Owner believes that a particular social, economic and/or environmental issue is important, and wants it addressed as part of the capital project, then the Owner should analyse its costs, risks and benefits and make it part of the VfM proposition in the business case submitted to government for approval.

After business case approval, if the alliance believes that there is a need to address a further social, economic and/or environmental issue, then the alliance must seek approval from the project Owner (as distinct from the Owner's representative) and potentially the Owner from government.

3.4 Business cases and the VfM proposition

Business cases for each investment proposal are prepared against standard guidelines (usually published by a Treasury), which facilitates the state making investment decisions on an 'opportunity cost of capital' basis. This basis recognises that the state is faced with finite resources that it needs to ration, and target its highest priority areas that will make the greatest impact on the quality of services to the community.

The absence of a robust and comprehensive business case is problematic for the government (and Owner). Without the analytics of a business case, dimensioning the costs, risks, scope and benefits of the investment proposals the Owner is not in a position to benchmark the project deliverables that the alliance has been engaged to deliver. This is particularly exacerbated in the absence of price competition (as the ICAC quote included further below reinforces).

Moreover, the business case is used as an anchor point for the Owner to ensure cost, time and quality constraints are managed. The absence of a robust business case introduces a flexibility for scope growth and budget drift that may not be supported by the Owner. Whilst the government may support a particular investment proposal with a capital component priced at (for example) \$200 million, it may wish to support other investment proposals if this price was to increase, as per Key finding 1, to \$300 million (i.e. the 'opportunity cost of capital' approach). A material misalignment between the business case project budget and the TOC will be a significant issue for the government and Owner.

In its Guidelines for managing risks in direct negotiations, published in May 2006, the NSW Independent Commission Against Corruption (ICAC), mirrored these concerns when it wrote in relation to both joint ventures and relationship contracting (page 18):

Before signing a contract with the proponent, the agency should satisfy itself that, in the absence of competitive bidding, the price paid by or to the proponent is consistent with market values.

In Appendix 2 of its Guidelines, ICAC also writes in relation to some of the probity risks associated with alliance contracting and the absence of an acceptable business case:

reliance on a non-adversarial approach to conflict resolution and a 'best-for-project' approach...may lead to the parties forming too close a relationship. This may in turn lead to 'capture' by the private sector proponent/s and a failure to consider the overall public interest. Capture can also be a problem if the 'partnership' is lopsided to the extent that the agency develops a dependence on the proponent/s for information and advice.

Alliancing is designed for complex projects with unpredictable risks, and this does not align well with any loose and sloppy practices; nor with taking the line of least resistance.

Therefore, it is of paramount importance that the VfM proposition is articulated in a robust and comprehensive manner in the business case, clearly and transparently analysing all the project's material costs, risks and benefits.

3.5 Accountability and responsibility for the VfM proposition

In an alliance context, the key parties for a public funded project can be considered as outlined in the following sections.

3.5.1 The State

Public projects are funded by an appropriation approved by a Parliament (either state or Commonwealth). The Government (specifically the Treasurer) of the day introduces the finance bills to Parliament, generally on a yearly basis, leading to the passing of a financial year State Budget or Commonwealth Budget. The Budget process is lead by a Treasurer who is supported by the Treasury.

In cases where funds for a specific project are sourced outside the jurisdiction's budget base (e.g. Commonwealth funding of a state road or water project), the state will underwrite the risks (financial and non-financial) for the successful delivery of that project. (Commonwealth funds are normally transferred to the State Treasury and not to the end recipient department or agency.)

In practical terms, these players are collectively referred to as representing the state. For the purposes of this Study, the words 'the state' and 'government' can be considered synonymous.

3.5.2 The Owner

In the alliance context of this Study, the project Owner is a department or agency (a non-departmental, government owned entity) that is the recipient of a Parliamentary appropriation (state or Commonwealth) for the project. Where funding (whole or in part) is not directly provided by a Parliamentary appropriation, the project risks are ultimately underwritten by the Treasurer and indirectly by Parliamentary appropriation. (The underwriting of financial risks by a state of its departments and agencies is sometimes referred to generally as Sovereign Risk.)

Departmental projects are approved by the Portfolio Minister and then by the Cabinet following recommendations from Treasury (and commonly the Department of Premier and Cabinet). A non-departmental Owner (or agency) is generally controlled by its corporate Board, which is appointed by the government, and it will need to approve projects. Significant capital projects also require specific approvals by the government, typically by the Portfolio Minister and Treasurer; and/or Cabinet. Jurisdictions will have various mandated thresholds that indicatively range from \$5 million to \$50 million.

The critical document that forms the basis of the investment decision for a capital project is the business case. The business case is prepared by the Owner, who submits it for approval to government. Unless explicitly stated otherwise, the “terms and conditions” of the government’s approval of funding and support for the project are effectively set out in the business case.

To help understand the roles of the state and the Owner in the approval and the allocation of funds for a specific project, we can think of the Owner as ‘selling’ the investment proposal to the state, and the state making the decision to either ‘buy or not buy’ the investment proposal. In this context the ‘sale contract’ is the business case.

3.5.3 The Alliance

The alliance is set up to deliver the capital assets component of the approved business case. The alliance broadly consists of:

- Owner Representatives (ORs)
- Non-Owner Participants (NOPs).

The alliance, including the ORs, must deliver the project within the parameters of the business case for the capital asset. Any departures to the business case must be approved by the Owner and if there are significant changes outside agreed governance thresholds, by the government. The OR’s are generally employees of the Owner who have been transferred to the alliance and only have responsibility for the delivery aspects of the capital asset.

A clear distinction needs to be made between the Owner and the ORs. The two are not inter-changeable. The Owner (which can be a Minister, the departmental head, the agency’s Board etc) may delegate certain limited responsibilities to nominated ORs, however, it cannot delegate its accountability to the state for the delivery of all aspects of the business case’s investment outcomes, which includes both the capital project component and the (normally) longer term delivery of the service benefits to the community.

The alliance team (i.e. the ORs and the NOPs) is appointed to deliver the capital project component of the business case. Whilst it is the role of the alliance team to plan, design and construct the project, it must do so within the parameters set by the business case approvals and it has no authority to change the business case. If any change is considered necessary, it must be approved by the Owner; and if there are significant changes outside agreed governance thresholds, by the government. (Normally government processes operate on the basis that the original approver of the business case needs to approve any material changes to that business case.)

The following diagram illustrates the relationships of the key parties in an alliance:

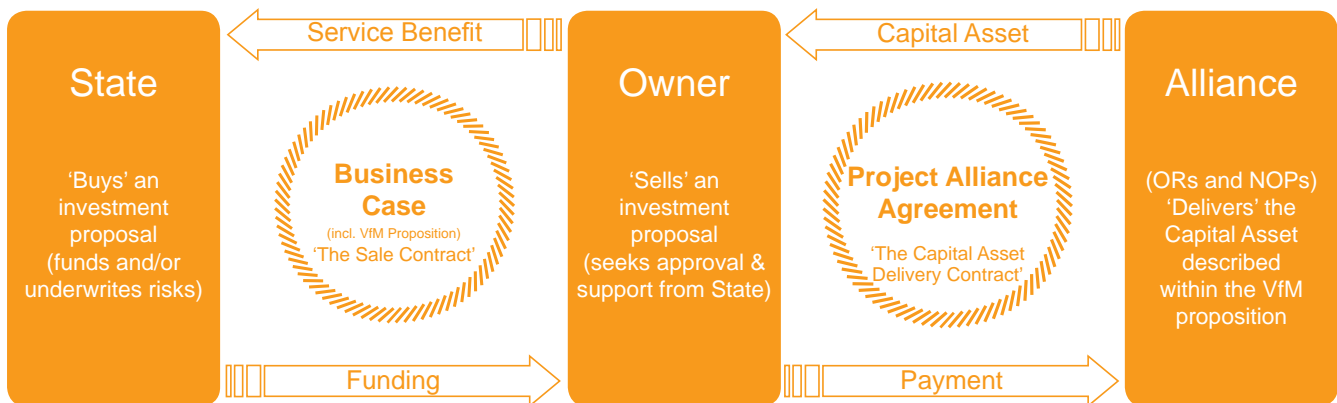


Figure 3.1: Accountability and responsibility of the VfM proposition

It is important to recall here that the state's interest is driven by the service benefit to community. The business case documents the analysis of the investment proposal and it identifies and dimensions the estimated costs/risks (capital and non-capital) and the estimated service benefits of the investment proposal.

“ To properly investigate the case studies, it was important that the presentation of findings maintain confidentiality throughout the Study. ”

Study Methodology and Previous Research

4.1 Introduction

This chapter provides an overview of the existing body of relevant research and presents the detailed Study methodology.

4.2 Previous research in alliancing

Within Australia, alliancing has increased significantly in the past decade, however, there has been comparatively modest research carried out into the VfM outcomes derived from this delivery method. Much of the research has been limited to desktop analysis of projects, with little in-depth evidence based field research.

4.3 Need for a mixed method

This Study was conducted using quantitative and qualitative research methods:

- Phase 1: A high level quantitative analysis of 46 alliances.
- Phase 2: A quantitative and qualitative confidential case study analysis of 14 alliances selected from Phase 1.

The reasons for adopting this methodology were:

- An identified gap in the literature which was generally limited to desktop analysis and often self assessment.
- The need to identify possible candidates in Phase 1 for the more detailed case study analysis in Phase 2.
- The possibility of the confidential case study method enabling in-depth exploration of the data, incorporating specific context and environmental facts that cannot be adequately addressed in a purely quantitative study.¹⁰⁶
- The ability of a combined qualitative study (into VfM) “to provide more rounded evidence in support of its conclusions and recommendations”.²⁰
- The enhanced ability of a mixed method to allow triangulation of evidence from “people as well as documentary sources”.²⁰

4.4 Methodology

The Study was conducted in two phases:

- Phase 1: A self-evaluation survey of alliance participants (quantitative).
- Phase 2: A detailed quantitative and qualitative confidential case study analysis.

The methodology is summarised in Figure 4.1 below.



Figure 4.1: Summary of Study methodology

4.5 Phase 1 methodology – alliance participants' self-evaluation

To gain a better understanding of how recent alliance teams have viewed their own performance, a self evaluation survey was undertaken. The survey also aimed to identify projects for inclusion in Phase 2 of the Study. Phase 1 findings shaped the key themes for further investigation in Phase 2.

4.5.1 Selection of survey participants

The Alliancing Association of Australasia (AAA) provided a list of current and past alliance projects. These projects were assessed by the Research Team against the parameters of the Study:

- Government alliancing projects.
- Procured within the last five years.
- Valued over \$100 million.
- Either current or completed after 2004.

Seventy-one alliance projects were identified that came within the Study parameters and the ALT members of these projects were approached to complete the survey.

4.5.2 Survey structure

A structured questionnaire for self completion was developed, posing questions regarding:

- Name and composition of alliance (Owner, designer, constructor and advisors).
- Alliance agreement format (project vs. program alliance, and single vs. multiple TOC).
- Perceived alliance performance based on reported project outcomes of time, cost, quality of work, functionality, safety, environment, community, other stakeholders, team dynamics, KRA achievement, and flexibility of approach.
- TOC comparison (initial, final and actual).
- Project duration comparison (initial, final and actual).
- Activities undertaken prior to selecting an alliance.
- Successful outcome indicators.
- The possibility of using an alternative delivery method.
- The use of cost criteria in the evaluation.

The questionnaire is included in the full Phase 1 Survey Results in Appendix A.

4.5.3 Survey metrics

Likert scales are the four, five, six, seven, eight or nine point scales used in various fields of research (Sclove, 2001)⁹³. A five-point Likert scale was implemented using the language associated with alliances (5-game breaking, 4-above, 3-met, 2-below, 1-poor) as this was seen to give the respondent the easiest possible method for answering the questions quickly and accurately. Other surveys within the infrastructure industry globally have implemented a similar scale⁹⁶.

4.5.4 Survey distribution and completion

The survey was distributed to ALT members of those specific projects. The surveys were self-completed through an internet based program.

4.5.5 Survey response

Respondents were grouped into two categories, Owners and Non-Owner Participants (NOPs), with Non-Owner Participants comprising constructors and designers.

Eighty-two responses were received from 46 alliances, with 35 Owner responses, and 47 NOP responses (of which 25 were constructors and 22 were designers). This response rate equated to 64% of the 71 alliances and 36% of ALT members, which is considered reasonable for the purposes of this Study.

From the original list of 71 alliances, projects were located in Victoria (18%), New South Wales (24%), Queensland (45%), and Western Australia (13%).

4.5.6 Survey results

Results from the survey are presented in full in Appendix A. Private organisations have been allocated a numeric identifier to maintain confidentiality (as required by The University of Melbourne's code of conduct for research), and are represented by this identifier throughout the data and associated figures. Public sector agencies have been named where these projects are listed in the public domain.

4.6 Phase 2 methodology – detailed confidential case study analysis

To fully investigate the VfM concepts, in depth analysis through case studies was undertaken. This included data gathering and analysis through interviews, document review and desktop research. An advantage of the case study method of research is its unique ability to incorporate a full range of evidence types, including documents, archival records, interviews and observations¹⁰⁶. This enables the consideration of a broad range of historical, attitudinal and observational issues and also allows for the inclusion of context.

The key objectives of the case study analysis were to:

- Explore and understand key factors and contextual influences on the individual alliances.
- Explore, understand and identify areas of potential enhancement or erosion of VfM throughout the lifecycle of the project.
- Explore and understand the alliance's concept of VfM vis-à-vis that in the business case.
- Establish an understanding of a broad range of aspects of the particular alliance.
- Make an assessment of the alliance's performance in a broad range of areas.

4.6.1 Selection of case studies

The following criteria were used to select projects from the Phase 1 respondents for inclusion in Phase 2:

- A balance of project and program alliances.
- A mixture of NOP selection processes (non-price and price).
- Projects from road, water and rail sectors.
- A range of projects including those considered to perform well (time, cost, quality), and projects that did not perform well (refer to Appendix D).
- Projects from Victoria, New South Wales, Queensland, and Western Australia.
- Projects where detailed data was available.
- Projects where the alliance staff were available for interviews.
- Projects that were well progressed or completed.
- Projects that were either nominated by the Owner or indicated in Phase 1 they were willing to participate in Phase 2.

Applying these criteria to the 46 alliances identified in Phase 1, 14 projects were initially selected as detailed below:

- 5 road projects, 6 water projects, 3 rail.
- 2 projects from Western Australia, 2 from Victoria, 1 from New South Wales and 9 from Queensland.
- 12 project alliances, 2 program alliance.
- 12 alliances that selected NOPs using non-price competition, 2 that used outturn price competition.

The Research Team noted that some of these alliances were part of a broader project undertaken by the same Owner and after review it was determined that they were sufficiently independent (different objectives, different scope of work, different NOPs, different commercial frameworks, different selection processes etc.) that they could be considered as individual case studies for the purpose of this Study.

The selection of 14 projects was then compared to the population of projects⁴⁰ which were identified as coming within the Study parameters to ensure that there was a representative collection of case studies. For example, 13% of the Phase 1 alliances were Western Australia based which compares reasonably with the two case studies from Western Australia selected (14% of 14). Similarly, 16% of project alliances involved price competition compared to the two case studies selected (14% of 14). The nine case studies in Queensland (64%) compares reasonably to the total population of projects in Phase 1 that occur in Queensland (45%). The one case study in New South Wales (which is somewhat less than the total population of 24%) reflects the availability of projects to the Research Team in that state.

4.6.2 Conduct of case studies

The case studies were conducted through a mixture of face to face interviews with key alliance Owner and Non-Owner personnel, and a detailed review of associated project documentation.

Consistency was achieved throughout the interviews by maintaining, to the maximum extent practicable, the same interview leader and the use of a structured set of interview topics.

Some of the Research Team members (Evans & Peck) had participated in varying roles in some of the alliances studied (advisor to the Owner, the NOPs or the alliance). To increase the integrity of the Study, internal processes were implemented within Evans & Peck that involved several peer reviews of all findings.

Each stage of the project lifecycle was analysed to determine actual performance and compared where possible to the business case and the TOC.

To properly investigate the case studies, it was important that the presentation of findings maintain confidentiality throughout the Study. In some instances this has meant some detail was removed from the data presented in this Study.

4.7 Limitations of Study

In conducting the Study a number of limitations were identified.

Phase 1 (alliance participants' self-evaluation):

- Some difficulties arose in identifying contact details of all ALT members, particularly where projects had been completed a number of years ago.
- Some survey responses were incomplete. Where only one incomplete response was received, the Research Team determined whether or not there was sufficient data to include it in the response. Where multiple responses were received, only those that were sufficiently complete were used.

Phase 2 (detailed case studies):

- It was often difficult to obtain access to the individuals who had significant decision making roles at various stages of the project due to the effluxion of time and the lack of traceability of who the individuals were.
- Similarly, in some instances access to documents (e.g. business cases), data collection and assessment was problematic given that some projects had been completed and sometimes relevant project information was lost or archived.
- The use of price competition to select NOPs is not common hence limiting the number available for case study analysis to only two projects. However, this compares reasonably with the population of Phase 1.
- The case studies available to the Research Team in Phase 2 did not always reflect the population of projects which were identified as coming within the Study parameters (refer Section 4.6.1).
- To maintain confidentiality, some detail regarding certain alliances could not be included.

4.8 Ensuring a transparent and unbiased research methodology

The Study was conducted under The University of Melbourne's Code of Conduct for Research. This Code of Conduct prescribes standards of responsible and ethical conduct expected of all persons engaged in research in The University of Melbourne based upon the following guiding principles:

- Research is original investigation undertaken in order to gain knowledge and understanding and make this widely available.
- Research workers should, in all aspects of their research:
 - demonstrate integrity and professionalism
 - observe fairness and equity
 - demonstrate intellectual honesty
 - effectively and transparently manage conflicts of interest or potential conflicts of interest
 - ensure the safety and well being of those associated with the research.
- Research methods and results should be open to scrutiny and debate.
- Commercially sensitive information obtained during the course of the Study is only presented in aggregated form to prevent identification.
- The Code of Conduct for Research and specific ethics approval was gained for the questionnaire and interview component of this Study (ID: 0931719).

“ The findings are structured following the project lifecycle and have been developed with consideration given to the associated VfM expectations at each stage of the lifecycle as articulated in state government guidelines. ”

Findings

5.1 Introduction

This chapter provides the key Study findings.

The findings below are structured following the project lifecycle and have been developed with consideration given to the associated VfM expectations at each stage of the lifecycle as articulated in state government guidelines.

The various state government guidelines have similar models of the project lifecycle and VfM expectations and the differences are not considered material. For convenience, the Victorian DTF Investment Lifecycle Guidelines was used as the basis, as shown in the diagram below.



Figure 5.1: Project Lifecycle in DTF Investment Guidelines

This project lifecycle model was tailored as follows to suit the purposes of this Study:

- The first three stages (strategic assessment, options analysis and business case) were combined into a single stage (business case) due to the lack of available information on the stages for strategic assessment and options analysis available from the research.
- Project tendering and solution implementation stages were disaggregated into the stages of procurement strategy, selecting the NOPs and agreeing the commercial arrangements to provide more granularity.
- Solution implementation was renamed project delivery to fit the alliance specific nature of the Study.

The project lifecycle used for this Study is shown diagrammatically below.

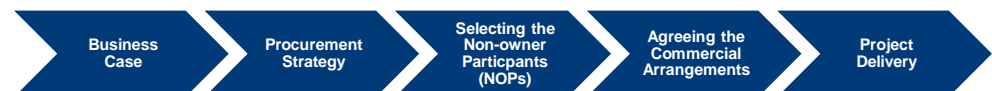
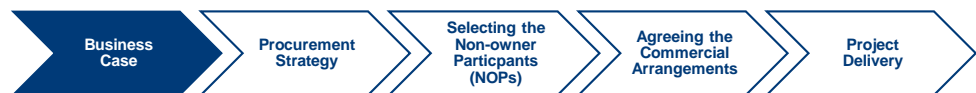


Figure 5.2: Project Lifecycle model used for this Study

The essence of the VfM expectations at each stage of the project lifecycle is:

Business Case:	Clearly define the project's VfM proposition to investment decision makers.
Procurement Strategy:	Identify the delivery method which will best achieve the VfM proposition defined in the business case.
Selecting the NOPs:	Select NOPs based on their potential to optimise the VfM proposition defined in the business case.
Agreeing the Commercial Arrangements:	Under a non-price selection process, the preferred NOPs must develop and agree commercial arrangements (including the PAA, TOC and painshare/gainshare) to deliver the VfM proposition defined in the business case.
Project Delivery:	At conclusion of the project, realise the VfM proposition defined in the business case. This requires achievement of the project's objectives in terms of time, quality and other non-price objectives for minimum cost.

5.2 Business case



The expectation of the business case is that it will clearly define the project's VfM proposition to investment decision-makers so they can determine if there is a compelling case to invest. A clear value proposition will also enable the establishment of parallel alliance objectives and also provide the benchmark against which commercial arrangements with the NOPs can be negotiated and VfM can be assessed at each stage of the project lifecycle.

The argument for investing in a project is best substantiated by rigorously examining the options, costs, timeframe and risks against the identified business case requirements and provides the basis for the investment decision. It is also expected that the business case would consider the delivery method best suited to optimise the VfM proposition.

The business case is expected to reflect a thoroughly documented service need, clear project objectives and cost estimates to a range of accuracy between 15% (lower) to 25% (higher) than the actual outturn cost.⁵² (Note: this range is positively skewed so there would be an expectation that over a portfolio of business cases, the business case estimate should on average be greater than the actual outturn costs.)

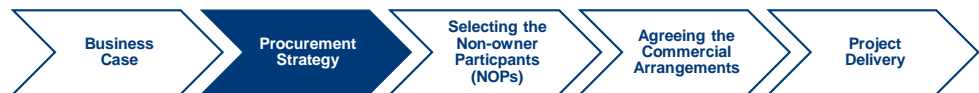
Key finding 1: Business case – Defining the project’s VfM proposition

Business cases often did not clearly define the project VfM proposition to the rigour required for investment decision making.

Particular findings of note:

- The average increase from business case cost estimate to AOC was of the order of 45-55%.
- The business case assessment of an optimum delivery method often tended to ‘default’ to alliancing using a non-price selection approach for NOPs and did not consider a range of other delivery options.
- In general a robust program and budget was not evident from the business case stage.

5.3 Procurement strategy



One of the purposes of the procurement strategy is to identify the optimal delivery method to achieve the VfM proposition defined in the business case. It is generally expected that the assessment of the delivery method is commenced as part of the business case and reviewed and refined as necessary at this stage.⁵²

As discussed in Chapter 2, there are various state guidelines outlining when to use the alliance delivery method. Common project characteristics most suited to alliancing are those listed in the Victorian DTF Project Alliancing Practitioners’ Guide⁵¹:

- Numerous complex and/or unpredictable risks with complex interfaces.
- Complex stakeholder issues.
- Complex external threats or opportunities that can only effectively be managed collectively.
- Very tight timeframes (driven by project risk rather than organisational capacity).
- Output specifications which cannot be clearly defined upfront, and/or a high likelihood of scope changes during design and construction (e.g. due to technological change, political influence etc).
- A need for Owner involvement or significant value adding during delivery.

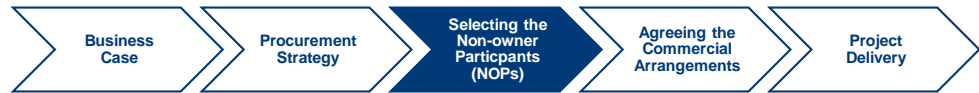
Key finding 2: Procurement strategy – Owner’s rationale for selecting the alliance delivery method

Having considered project specific requirements, the primary reasons for selecting the alliance delivery method, in addition to those contained in the DTF Project Alliancing Practitioners’ Guide were:

- To achieve early project commencement through early involvement of the NOPs.
- To progress the project development in parallel with the project approvals.

In general, Owner’s specifically used alliancing and the non-price competitive selection approach to attract key resources and capabilities to a project in a buoyant construction market.

5.4 Selecting the Non-Owner Participants



Once the decision has been made to use an alliance as the delivery method, the expectation is that NOPs are then selected based on their potential to optimise VfM in subsequent phases (agreeing commercial arrangements and project delivery).

As noted in Chapter 1, there are two broad alternative approaches to the selection of NOPs⁵¹ with a range of hybrid selection processes in between.

1. Non-price competition

- Also referred to as the ‘single TOC’ or ‘pure’ alliance.
- The NOPs are selected on the basis of non-price criteria.

2. Price competition

- Also referred to as the ‘multiple TOC’ or ‘competitive’ alliance.
- The NOPs are selected using both non-price criteria and outturn price (TOC) criteria.

3. Hybrid

- There are various hybrids between the above approaches that include both non-price criteria and commercial criteria but not full outturn price. These may include competitive selection criteria based on design innovation, overhead and profit margins, budget pricing and commercial framework.

Of the above approaches, the Victorian DTF Alliance Practitioners’ Guide recommends the first approach i.e. NOPs be selected using non-price competition.

Key finding 3: Selecting the NOPs – Non-price and price competition

Non-price competition

It was found that when non-price selection approaches were used to select NOPs:

- Owner representatives generally indicated moderate to high levels of satisfaction with the selection process.
- Owner representatives sometimes noted that the selected NOP team members were either not made available to the project or left prematurely.

Price competition

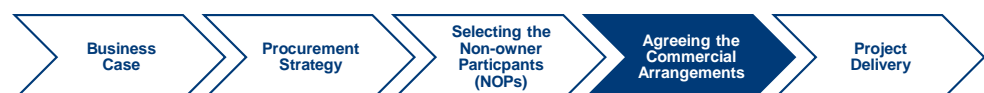
Noting that the number of price competition approaches examined in this Study was limited to two case studies (consistent with current industry practice), it was found that when price competition was used to select NOPs:

- Owner representatives reported a significant management demand on their organisation (compared with non-price selection approach).
- The total cost to establish a TOC using price competition (two TOCs) was less (of the order of 2% of TOC) than when non-price selection (single TOC) was used.
- The TOC was found to be of the order of 5-10% (of TOC) less, relative to non-price competition on the basis that the following items were lower (in aggregate and individually) when using price competition:
 - On-site overhead costs
 - Design costs
 - TOC development costs
 - NOP profit margins.

Owners on all alliances in the Study advised that good relationships had developed and that the participants worked well together as effective teams. No discernible difference was found between alliances that used price competition and non-price competition.

It was also found that generally NOPs have a strong preference for alliancing over other traditional delivery methods. Additionally, NOPs have a strong preference for non-price selection approach over price selection approach.

5.5 Agreeing the commercial arrangements



In simple terms, the commercial arrangements define the price to be paid by the Owner for the project’s benefits to be delivered by the alliance.

After the NOPs have been selected as preferred proponent they must develop and agree commercial arrangements (including the PAA, TOC and painshare/gainshare) to deliver the VfM proposition in the business case.

It is expected that the commercial arrangements will either validate the business case at this stage or the investment decision may need to be revisited.

Key finding 4: Agreeing the commercial arrangements – Commencement of physical work

Often physical works commenced prior to finalising the commercial arrangements with the NOPs.

Key finding 5: Agreeing the commercial arrangements – business case cost compared to initial TOC

In general the agreed (initial) TOC was higher than the business case cost estimate. The average increase was of the order of 35-45%.

Key finding 6: Agreeing the commercial arrangements – Project Alliance Agreement (PAA)

A variety of commercial terms and conditions were found in the PAAs. In particular:

- NOP corporate overhead and profit: Generally fixed upon agreement of the TOC, often variable as a percentage of actual costs.
- No blame clause: Generally unconditional; little indication of modified clauses.
- Dispute resolution: Generally silent; little indication of express provisions for resolution beyond the ALT (outside the alliance).
- Incentive/penalty arrangements on time: Generally included; often not.
- Owner reserved powers: Often reserved powers stated; sometimes not.
- Performance security by NOPs: Little indication that security was required; generally not.

Key finding 7: Agreeing the commercial arrangements – Outstanding outcomes

Generally it is a requirement expressed in the PAA that the parties commit to achieving outstanding (game breaking) outcomes.

The commercial arrangements generally provide financial incentives for NOPs (incentivised KRAs) to achieve outstanding (game breaking) outcomes.

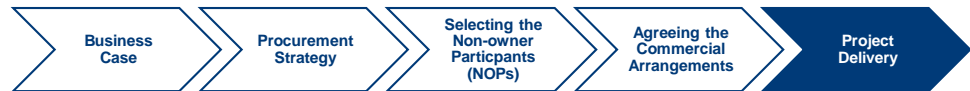
It was also noted that estimated costs associated with pursuing outstanding (game breaking) outcomes are often included in the TOC.

Key finding 8: Project delivery – Non-price objectives

In general, Owner representatives (regardless of approach to selecting NOPs) rated their alliance's performance in all areas of non-price objectives as above expectations or game breaking. The areas of non-price criteria assessed were:

- quality of work
- functionality
- safety
- environment
- community
- other stakeholders
- team dynamics
- KRA achievement
- flexibility of approach.

5.6 Project delivery



The expectation of the project delivery stage is to realise the VfM proposition defined in the business case. This requires achieving the alliance’s objectives in terms of time, quality and non-price objectives for minimum cost.

Key finding 9: Project delivery – Owner resources

The number of Owner resources provided to the alliances varied.

There was no clear correlation between the number of Owner resources and enhanced VfM.

It was noted that active senior level participation by the Owner provided clear direction and support to the alliance.

Key finding 10: Project delivery – Early commencement of physical work and project completion

The project’s physical works were able to be commenced many months in advance of what would have been possible using traditional delivery methods (as noted elsewhere) leading to a commensurate earlier completion date.

The majority of projects met the Owners’ target completion dates as set out in the business case.

Key finding 11: Project delivery – No disputes

There were no indications of any disputes between the Owner and the NOPs that needed to be resolved outside the alliance.

Key finding 12: Project delivery – Outstanding outcomes (game breaking / breakthrough)

There was little indication that outstanding outcomes (game breaking / breakthrough) were actually being achieved within the definitions in use in this Study (‘paradigm shift, not been done before’).

This finding significantly differs with the self-evaluation of both NOPs and Owner representatives within the alliances who considered that their own alliances had achieved outstanding outcomes.

Key finding 13: Project delivery – Adjustments to agreed TOC

In general, there was an increase from agreed (initial) TOC to adjusted (final) TOC. The average increase was of the order of 5-10%.

Key finding 14: Project delivery – Adjusted TOC and AOC

In general, the AOC was less than the adjusted (final) TOC. The average saving was of the order of 0.5%.

“ VfM definitions and the value proposition in the business case are the responsibility of investors...not of the alliance team engaged to deliver the capital assets. ”

Discussion and Observations

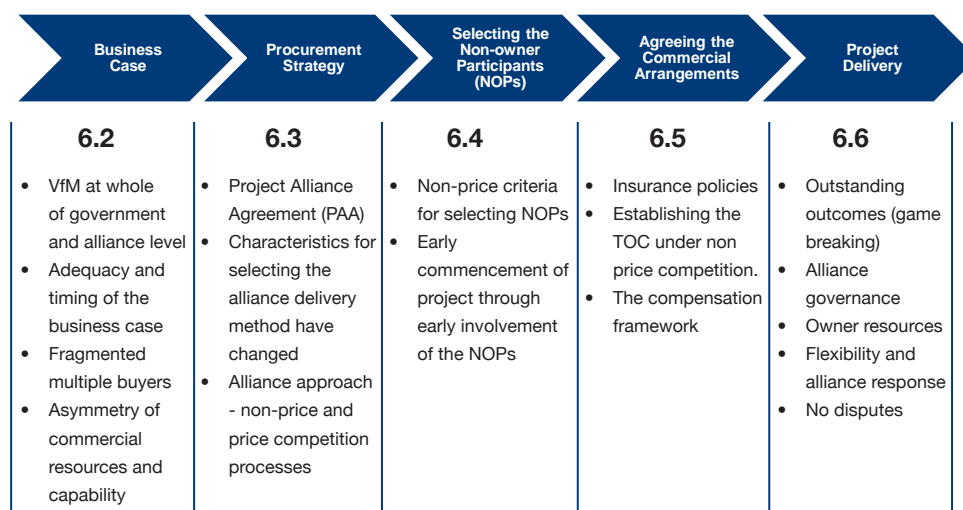
6.1 Introduction

This chapter is a requirement of the Study’s terms of reference, which instructed the Research Team to consider the findings, presented in empirical terms in Chapter 5, for implications in terms of public policy and guidelines development.

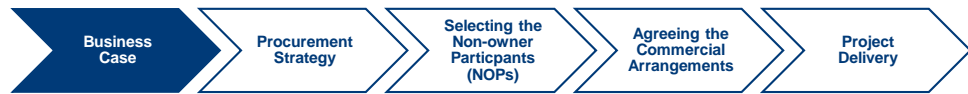
To increase the value obtained from this Study, this chapter further explores its key findings in the context of industry knowledge, historical information and context to form a series of Discussion Topics. It also incorporates general observations made by the Research Team during its research.

The topics have been chosen because of their importance to Study conclusions, their emergence as themes during the research and their potential impact on enhancing (or detracting) optimisation of VfM. The list of discussion topics is not necessarily exhaustive but reflects the practical constraints of the Study.

In a similar manner to Chapter 5 ‘Findings’, this chapter is structured around the project lifecycle with discussion topics linked as shown below:



6.2 Business case



The expectation of the business case is that it will clearly define the project's VfM proposition to investment decision-makers so they can determine if there is a compelling case to invest. It will also provide the benchmark against which VfM can be measured at each stage of the project lifecycle.

Topics to be discussed under this section are:

- VfM at whole of government and alliance level.
- Adequacy and timing of the business case.
- Fragmented buyers.
- Asymmetry of commercial resources and capability.

6.2.1 VfM at whole of government and alliance level

As noted in Chapter 3, governments contract on behalf of citizens to purchase infrastructure assets using taxpayer funds. Therefore, the objective for government decision makers is to obtain the optimal value for citizens for the least amount of taxpayer funds. Government's success in solving this dilemma allows it to discharge its responsibility to deliver infrastructure in a manner that protects the public interest.

The alliance team is primarily concerned with the delivery of the capital assets, it is not usually required to manage the operational phase (other than ensuring fit-for-purpose capital assets and whole-of-life considerations for the capital assets) nor is it responsible for the ongoing service benefits to the community (for example, the alliance does not take the risk of whether a new road does actually lead to travel time savings).

Therefore, the VfM consideration important in the alliance is whether the government's/ Owner's capital project objectives and works have been delivered by them at the lowest price and in accordance with the approved business case. This is not to say governments are only interested in cheapest price, rather they are interested in achieving the social, environmental, economic, quality etc objectives that they have agreed to, as well as the direct construction cost, at the lowest price.

Prior to the business case approval, if the Owner believes that a social, economic and/ or environmental issue is important, and wants it addressed as part of the capital project, then the Owner should analyse its costs, risks and benefits and make it part of the VfM proposition in the business case submitted to government for approval.

After business case approval, if the alliance believes that there is a need to address a further social, economic and/or environmental issue, then the alliance must seek approval from the project Owner (as distinct from the Owner's representative) and potentially the Owner from government.

The role of the alliance is to dimension, detail, plan and deliver the capital assets and the VfM proposition impacting on those capital assets within the parameters of the approved business case.

For instance, consider a case where a reduction in traffic delays due to construction activities is an aspect of VfM for a road program. Suppose a business case requires a certain traffic flow condition to be met (e.g. peak hour delays of below 15 minutes) and the alliance team identifies a method of delivery that reduces traffic delays (e.g. to 2 minutes). That appears to be a ‘game breaking’ outcome. But it is only game breaking if the change (e.g. from 15 minutes to 2 minutes) is sufficiently valued by the government (as an investor). This can only be assessed in light of the costs of the change – either additional cost or sacrificing possible budget savings. If there is no impact on cost or savings (and other criteria), then clearly the change should be implemented. However, if the change affects budget savings or any other criteria, it becomes a VfM decision that best rests with the Owner, not the alliance team. The decision making process (at negotiation of the PAA/TOC and during project delivery stage) needs to clearly and transparently establish the cost-benefit trade-off for all such changes in specifications, and clearly outline who can make such decisions.

By changing the purchase process to allow suppliers (NOPs) to specify elements of the value proposition, alliancing subtly shifts the accountability and responsibility mechanisms away from government. The potential impact of that shift will depend on the type and impact of criteria that are open to amendment during the project. While NOPs may have superior technical capabilities, they may not share the government’s perspective on preferred outcomes, particularly with respect to trade-offs between multiple criteria, especially when taking a whole-of-government perspective to the issue. Government, therefore, needs to take care to ensure that the definition of VfM for an alliance project accurately reflects its perspective on the project.

This challenge of defining VfM has been subject to much review and has driven the development of several methods of project performance assessment. A key element of any such model is the development of a robust and comprehensive business case on which to benchmark project success as well as inform the investment decision. Government policies and guidelines generally state that investment decisions should be based on business cases where there is a full and transparent articulation of the costs, risks and benefits (the VfM proposition) of an investment proposal. This means that the VfM proposition for the project is owned by the ‘investor’ (usually the state and Owners), not by the alliance team (including the NOPs and Owner’s representative) engaged to deliver the project. NOPs will often have either an inherent conflict of interest (since their reward is potentially linked to achieving the VfM proposition) and/or they may not understand the true preferences of the government across multiple, complex criteria on a whole-of-government basis. Engagement of NOPs prior to adequate specification of the business case may also be effectively pre-judging the investment decision.

There needs to be clear delineation between the roles of state as an investor, the Owner, and the Owner’s representative as a member of the alliance. As noted earlier, these roles are fundamentally different. Of particular note is that there may be cases where the Owner and Owner’s representative may be the same individual acting in different capacities. This would not be considered ‘best practice’, however, in such an event they then need to be very clear when they are acting as an Owner (responsible for the service outcome) or Owner’s representative (responsible for joint alliance delivery of the value proposition).

If the government does not retain the right (as the investor of public funds) to set the expected performance standards or objectives, then there is a fundamental shift in the accountability arrangements surrounding the project whereby the alliance team (at least potentially) becomes the arbiter of social value.

The Research Team observed that VfM was rarely raised by either Owner's representative or NOPs as priority considerations for alliances and if it was, there was often a lack of clarity or consistency as to its definition. Sometimes it was viewed as "price (capex) and non-price", sometimes "price (whole of life) and non-price", and sometimes "only non-price". Occasionally a view was expressed that the alliance had both a right and responsibility to define the VfM proposition. This is not correct, as explained above.

VfM is defined at the highest level as ensuring that resources are optimised to achieve desired benefits for the public good. Optimising VfM in alliancing must be considered not only at a discrete alliance level, but also at a whole of government level.

This Study used the expression of 'whole of government' to denote the perspective where decisions and analysis of issues takes into consideration the potential impact across project and portfolio boundaries to optimise outcomes that are best for all citizens. Whole of government is defined in the Australian Public Service (APS) as:¹²

"Whole of government denotes public service agencies working across portfolio boundaries to achieve a shared goal and an integrated government response to particular issues. Approaches can be formal and informal. They can focus on policy development, program management and service delivery."

The Study findings raise two issues that government must consider in order to optimise value for money outcomes in alliancing:

1. The project or alliance level considers elements that influence the VfM required to be delivered by that individual project.
2. The whole of government level considers elements that must be coordinated at a whole of agency, whole of department, whole of state or even whole of country level.

It is possible that only focussing on alliance VfM outcomes may lead to sub-optimal whole of government VfM.

Discussion Point 1 – VfM at whole of government and alliance level

VfM definitions and the value proposition in the business case are the responsibility of investors (usually the government and Owners); not of the alliance team engaged to deliver the capital assets.

Government needs to consider optimising VfM at the whole of government level, not just at the alliance level.

Alliances should respond to, and be measured by, the VfM proposition contained in the business case.

6.2.2 Adequacy and timing of the business case

Business cases are not just one-off documents to gain government funding, but tools which when used wisely will improve VfM in project implementation, service delivery and substantiate general government sector accountability⁵².

A sound business case will detail costs (both Capex and Opex), timeframes and risks together with the project's operational specifications and service outcomes both in delivery and operational phases. It is a fundamental step in the government's investment decision.

The state uses business cases as the principle vehicle for making decisions on the investment of public funds involving capital assets. The business case allows the state to make investment decisions on projects on an opportunity cost of capital basis. Therefore, the absence of a robust and comprehensive business case is problematic for the state and Owner.

Moreover, the business case is used as a critical reference point for the Owner to ensure cost, time and quality objectives and constraints are managed. The absence of a robust business case introduces the high likelihood for uncontrolled scope growth and budget drift. While the state may support a particular investment proposal with a capital component priced at \$200 million (for example), if price was to increase to \$300 million (see Key finding 1) it may wish to revisit the investment decision and support an alternative investment proposal. A material increase from the business case project budget and the AOC could mean a significant erosion of VfM for the state.

The responsibility for preparing the business case rests with the Owner, as noted earlier. It is a potential conflict of interest for the alliance to prepare the business case given the commercial interest of the NOPs in the business case outcomes and delivery of the value proposition.

Furthermore, without the analytics of a business case, dimensioning the costs, risks, scope and benefits of the investment proposals, the Owner is not in a position to benchmark the project deliverables and VfM proposition that the alliance has been engaged to deliver. This is particularly exacerbated in the absence of price competition since the level of project detail required in the business case can be significantly less than that required for traditional methods of project delivery. Expressed more pointedly, shortfalls in the business case may be less evident when the alliance delivery method using non-price selection process is selected for delivering the project.

A sound business case is expected to provide the following benefits:

- Confirms the service need, including how it aligns with government policy objectives.
- Evaluates the costs and benefits of alternative proposals for meeting an identified service need (including non-asset solutions).
- Clarifies the key assumptions, risks, timeframes and costs on which the project is based.
- Analysis and recommendation of the optimal procurement method and strategy for achieving the VfM proposition.
- Evaluates project progress by continuously referring back to the business case and benchmarking actual versus planned performance.
- Dimensioning and evaluating project benefits.

- Identifies funding sources for the investment proposal.
- Improves accountability for the proposal and increases management's ability to monitor whether the alliance is achieving set milestones and key outcomes including VfM.

It was found that business cases often did not meet the above expectations. It was also noted that, for whatever reason, the alliance team rarely had access to the business case.

There was occasionally an underlying frustration by NOPs that they were not privy to the business case which mitigated against the ability of the alliance to optimise VfM. The open and transparent principles of alliancing mean that the business case should be made available to the alliance (barring any sections subject to confidentiality).

Alliances are often associated with projects where time is of the essence. In those situations where government has mandated an urgent start to a project with the expectation of early completion, it may be that it is not realistic to prepare a full, properly documented business case before the alliance selection process commences. In these rare situations a business case should not be dispensed with, rather a fast track process implemented to define the value proposition including project objectives, options, scope of work, program and a robust cost plan. This will ensure that an alliance, when evaluated as the appropriate delivery method, is able to focus on optimising VfM, although Owners should recognise that early commencement will almost certainly attract a significant price premium and not guarantee earlier completion.

Discussion Point 2 – Completeness of business case and clarity of objectives

The business case must be adequately developed with clearly expressed VfM proposition to allow a robust and transparent investment decision and to provide a framework for ongoing assessment of project success in meeting business case objectives.

Business case discipline and rigour should not be dispensed with in fast track projects.

Fast track processes need to be developed for those (rare) projects where timing of commencement is of the essence. Owners should recognise that early commencement could attract a significant price premium, particularly when physical works commence prior to finalising commercial arrangements with the NOPs (see Key finding 4).

The business case should (barring sections subject to confidentiality) be made available to the alliance to ensure that alliance objectives can be aligned with the business case.

It was found that the estimate of AOC generally increased by approximately 45-55% during the project lifecycle:

- Of the order of an additional 35-45% from business case to initial (agreed) TOC.
- Of the order of an additional 5-10% from initial (agreed) TOC to final (adjusted) TOC
- Negligible difference between the final (adjusted) TOC and the AOC resulting in negligible painshare/gainshare (refer to the discussion in Section 6.4).

These cost movements are significant and raise serious doubts about the basis of the original investment decision and/or the veracity of the cost movements during the course of the alliance.

The movement in costs during the project lifecycle is shown below with a comparison against other delivery methods.^{64, 68}

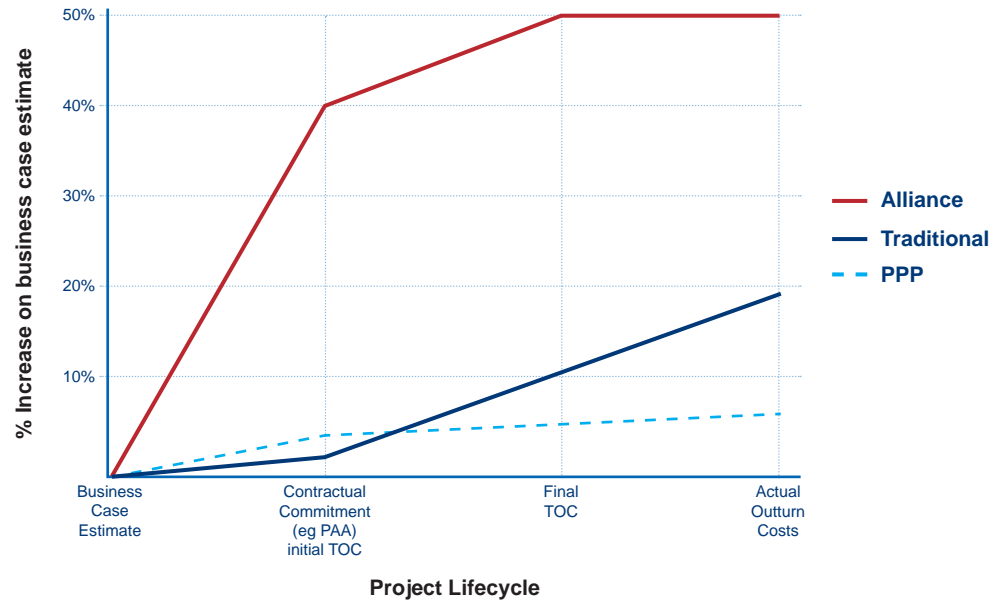


Figure 6.1: Cost movement for various delivery methods

This would indicate that PPPs provide the greatest cost certainty at business case stage (an increase of 5-10% to AOC), followed by traditional (~20%) and then alliances (~50%).

This may reflect the significant difference between the delivery methods when project clarification occurs. For alliances this would appear to occur between business case and contractual commitment, while for traditional projects it occurs to a greater extent between contractual commitment and actual outturn costs.⁶³

The greater differential may also be explained as alliancing is often used for projects with high risk and uncertainty that cannot be dimensioned at the business case stage or soon thereafter.⁷⁵ In these situations the differential may indicate that business case estimates did not provide a sufficient contingency allowance.

The movement during the project is also noteworthy. An adjustment to the TOC almost certainly reflects an increase to the alliance scope (since that is generally the only grounds for adjustment) and raises doubts as to the widespread perception of certainty of the initial alliance TOC compared to other delivery methods.

The very close alignment of the Final (adjusted) TOC with the actual outturn cost is discussed in Section 6.5.

A strength and weakness of the alliance delivery method is that it is very forgiving of inadequate business cases. A strength is that in times of urgency when it is difficult to prepare a full business case, an alliance can be mobilised faster and more effectively than traditional methods. A weakness is that shortcomings in a business case's VfM proposition are far less transparent under an alliance (particularly ones involving non-price selection of NOPs).

Further research is needed on how governments can best implement fast track projects.

Discussion Point 3 – Adequacy and timing of the business case cost estimate

Estimates of AOC generally increased by about 45-55% during the project lifecycle; 35-45% from business case to initial (agreed) TOC and a further 5-10% to final adjusted TOC. Painshare/gainshare was negligible.

It would appear that PPPs provide the greatest cost certainty at business case stage (an increase of 5-10% to final, followed by traditional ($\approx 20\%$) and then alliances ($\approx 50\%$)).

Alliancing is generally associated with high risks (as in PPPs) that cannot be dimensioned upfront. They are often incomplete contracts. This uncertainty requires effective discipline in setting project objectives and controls to allow the Owner to understand and participate in decisions (including VfM) as the project progresses.

This uncertainty also requires the cost estimates to be even more robust, not less.

An alliance is more forgiving of inadequate business cases than traditional methods. This is both a strength and a weakness. The weakness is the potential of significant price premiums which may include scope and risk premiums in the absence of adequate project definition at the business case stage.

6.2.3 Fragmented multiple buyers

It was observed that the alliance sector is made up of 'multiple buyers (Owners) and few sellers (NOPs)'.

There was no evidence that the various buyers (Owners) took a collective or co-operative whole of government approach to the market and in some cases Owners were competing with one another to attract resources (NOPs) to their particular project, with the tools of attraction being the use of the alliance delivery method proposed terms, conditions and NOP selection processes that use non-price. As noted in Section 6.3, NOPs generally have a strong preference for the alliance delivery method over other delivery methods.

In this situation, and if the selection of NOPs does not involve robust competition, then the anomalous possibility exists that the primary competition could be occurring on the buyer (Owner) side not the seller (NOP) side. It is doubtful that VfM is being optimised in this situation.

Discussion Point 4 – Fragmented multiple buyers (Owners)

The alliance market may be characterised by multiple buyers (Owners) and few sellers (NOPs) with the possibility that the primary competition is occurring on the buyer (Owner) side to attract sellers (NOPs) to their individual projects.

VfM will be enhanced through a whole of government approach to the use of the alliance delivery method, engaging the market, commercial arrangements, legal agreements and selection processes.

6.2.4 Asymmetry of commercial resources and capability

Establishing the alliance delivery method is a complex commercial transaction.^{51, 98}

In the context of alliancing, public officials are accountable for ensuring that the alliance is delivering public value in line with duly authorised approvals (e.g. the business case VfM proposition). There are a number of publications that clearly note that public officials are required to work in the public interest; for example, the Victorian Public Administration Act 2004. This accountability cannot be outsourced to the alliance but must remain with the public officials.

The Owner must ensure that public value is being delivered by independently assessing and verifying that the commercial transaction is in the benefit of public interest and optimises VfM as articulated in the business case.

In particular, the selection of NOPs using solely non-price criteria requires a much higher degree of commercial engagement by Owners compared to traditional (competitive) procurement because of the need to negotiate a wide range of commercial parameters that would normally be tendered by suppliers (NOPs), particularly the TOC. Some of these parameters include^{75, 98}:

- Profit margins.
- Business as usual components of branch and corporate overheads.
- Insurances (public liability, construction, professional indemnity).
- Ensuring that alliance objectives reflect business case objectives.
- Aligning Owner and NOP commercial requirements.
- Negotiating the TOC.
- Commercial framework including pain/gain split and extent of any cap on gainshare.
- Ensuring that any incentives only reflects outstanding outcomes (not normal business improvement).
- Risk, contingency and opportunities assessment.

In negotiating with NOPs on areas such as those above, there is potential for serious asymmetry of commercial capability and capacity between public sector officials and private sector employees, and their respective senior executives, for many of whom such commercial engagement has been their livelihood. Such asymmetry would negatively impact VfM.

The commercial engagement of the Owner during the establishment of the TOC is particularly problematic. The alliance has not fully formed at this stage as the fundamental principle of commercial alignment is not in place and there is an inherent commercial tension between the NOPs and the Owner: NOPs naturally seek a higher TOC and Owners a lower. This is exacerbated if there is a misunderstanding that the discussions surrounding the TOC at this time are occurring under the auspices of alliance principles (good faith, best for project, collective assumption of risk etc) rather than a normal position based commercial negotiation. This situation is common as a result of different forms of interim alliance agreements that exist in the Australian market.

The reality of TOC establishment is that, notwithstanding the aspiration to select integrated project team resources on a best for project basis from the alliance participant organisations, the primary role influencing VfM at the TOC development phase will (ordinarily) be filled by the NOPs (e.g. Alliance Manager, TOC Development Manager, Design Manager, Construction Manager, Commercial Manager). This has the potential for both information and commercial asymmetry for Owners. This may be compounded by the various ‘agree-to-agree’ clauses that reflect the incomplete nature of many alliance agreements. This situation has been identified as creating information asymmetries that may place greater bargaining advantage with one or more parties.⁸⁸

Owners also need to recognise that under an alliance they have agreed to share project risks (and opportunities) and therefore must maintain active commercial engagement throughout the life of the project and that the commercial engagement does not cease on agreeing the TOC or signing the PAA. Firstly, there are generally a significant number of commercial ‘agree to agree’ clauses mentioned previously; secondly, the alliance ALT will require and expect the Owner to actively participate in a large number of commercial decisions for the life of the project. It is in both the Owner’s and NOP’s interests that the Owner brings appropriate commercial expertise and authority to the alliance, rather than play a passive role in commercial decisions on the alliance.

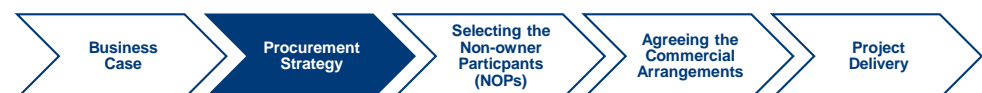
It was observed that both the practice of alliancing and commercial asymmetry are not uniform across the various Owners and asymmetry will not be a serious issue in every case.

In short, asymmetry of Owner resources, requisite expertise, information and therefore knowledge in the commercial aspects of the alliance has the potential for significant erosion of VfM on the individual alliance.

Discussion Point 5 – Asymmetry of commercial resources and capability

Alliances require commercially complex transactions. The TOC development phase has high potential to influence VfM outcomes. During this phase there is fundamental commercial misalignment between Owner and NOPs. Owners (in the public sector) may be exposed to serious asymmetry of resources, information, and commercial capability in their commercial engagement with the NOPs particularly during the critical TOC development phase. This asymmetry has the potential for significant erosion of VfM.

6.3 Procurement strategy



One of the purposes of the procurement strategy is to identify the delivery method which will best achieve the VfM proposition defined in the business case. It is generally expected that assessing the optimum delivery method, which commenced as part of the business case, is further reviewed and refined as necessary at this stage⁵².

Topics to be discussed under this section are:

- Project Alliance Agreement (PAA).
- Characteristics for selecting the alliance delivery method have changed.
- Alliance approach – non-price and price competition processes.

6.3.1 Project Alliance Agreement (PAA)

A project alliance is a complex business relationship⁵¹. Its key value proposition is that Owners trade off their traditional contractual rights (under a 'risk transfer' contract) in exchange for NOPs bringing to the project their good faith in acting with the highest level of integrity and making best for project decisions that will drive the delivery of outstanding outcomes in all project objectives.

Concerns have been expressed⁵³ that there is a potential risk of a 'disconnect' between the aspirational use of alliancing terms and practical application of these terms where a project becomes 'distressed'.

A variety of alliance agreements exist both within a state and across states. These agreements contain significant differences relating to key terms as noted below:

- NOP profit margins: Sometimes fixed as a lump sum upon agreement of the TOC and sometimes variable as a percentage of TOC.
- No blame clause: Sometimes unconditional and sometimes heavily modified or not used.
- Dispute resolution: Sometimes silent and sometimes express provisions for resolution beyond the ALT (outside the alliance).
- Incentive/penalty arrangements on time: Sometimes included, generally not.
- Owner reserved powers: Significant variation in the extent of powers reserved by the Owner.
- Reimbursable costs: Sometimes defined in the PAA, sometimes not.
- Performance security by NOPs: Sometimes required, generally not.

Specific terms that are not clearly and consistently defined and therefore require further attention include:

- no blame / no suit
- good faith
- best for project
- collective assumption of risk
- outstanding outcomes (game breaking)
- risk/reward (commercial framework)
- agree to agree

The development of a national standard form of legal alliance agreement would be of benefit to both Owners and NOPs. Alliancing is maturing as a form of project delivery and the development and use of standard legal forms are appropriate. For Owners, a properly and equitably drafted standard alliance agreement will go some way to addressing the possible commercial capability asymmetry discussed previously in this Study, and possibly reduce the potential for a lowest common denominator approach to terms, conditions and selection processes by Owners.

For both Owners and NOPs a standard form of agreement and selection processes with standard terms and conditions that may be modified to suit project specifics should also enhance transaction efficiency. It would also improve certainty around the legal language in the agreements compared to the aspirational intent. However, it needs to be noted that this is only a part solution and some terms such as ‘good faith’ and ‘best for project’ might prove elusive to a satisfactory definition. Further research and industry engagement is necessary on how best to provide this certainty.

The Study also noted that sometimes the same legal advisor acted for both the NOP and the Owner during the PAA negotiation. The rationale appears to be that this reduces overall costs and improves transaction efficiency, and because it is an alliance, the parties are so aligned that the legal agreement contains few contentious clauses. Hence, it does not warrant separate legal advice for the parties. This view is not universally accepted. The alliance does not formally exist until the PAA is executed. As noted elsewhere, the Owner and NOPs are almost certainly misaligned commercially until after the TOC is agreed. Furthermore, the PAA will inevitably contain various clauses that reflect the unique specifics of the project and the particular Owner’s requirements for such matters as Reserved Powers. The NOPs may or may not be aligned with all of these requirements. As stated previously, an alliance is a complex business relationship; the parties (Owner and NOPs) require separate legal counsel to establish and formalise that relationship. Moreover, the Owner is obliged to discharge its accountability in regard to the public interest, and NOPs to their corporate boards and shareholders.

Discussion Point 6 – Project Alliance Agreement (PAA)

There is a potential risk of differences between the aspirational use of alliancing terms and the practical application of these terms if a project becomes ‘distressed’. A variety of PAAs exist with different terms and conditions. A national standard PAA template, tailored to project specifics, should enhance certainty, transaction efficiency and improve VfM from both an individual alliance and whole of government perspective.

The Owner and NOP require their own legal counsel during PAA establishment.

6.3.2 Characteristics for selecting the alliance delivery method have changed

The emergence of project alliancing in Australia provided an alternative to the adversarial nature of traditional risk allocation contracts.

As the Australian market has changed and matured over time, so too has the alliance delivery method. What were once considered to be the overriding reasons for selecting an alliance have themselves changed.

From its inception in Australia in 1994, alliancing was chosen to reduce development costs, share risks, avoid disputes, and minimise use of the Owner’s management team. Fifteen years later, common characteristics for using an alliance noted in various government guidelines include a need for Owner involvement, complex interfaces, tight timeframes, complex and/or unpredictable risks, complex external threats or opportunities, and scope or output specifications which cannot be clearly defined upfront.

This change in alliance characteristics is in itself not seen as unusual. Any new idea or methodology will mature and hopefully improve over time. However, the Research Team found that project alliancing is now being adopted for reasons other than those described in the relevant guidelines, namely:

- To make the project more attractive to NOPs, especially in the context of a buoyant construction market.
- To achieve early project commencement through early involvement of the NOPs.
- To achieve outstanding (game breaking / breakthrough) outcomes.

Based on the Study findings, it is not clear that these are the project characteristics that will lead to better VfM on an alliance.

Making the project more attractive to NOPs, especially in a buoyant construction market

Making their own project attractive (over other projects) to contractors and designers to draw industry interest and project resources now ranks highly amongst Owners' reasons for selecting the alliance delivery method.

In general, NOPs have a strong preference for alliancing over other traditional delivery methods. Additionally, there is a strong preference for non-price selection process over price selection process. Reasons for this NOP preference for non-price alliances include:

- Better collaboration with the Owner.
- Capped downside.
- Relatively quick selection process.
- Negotiated price and commercial arrangements.
- More secure margin.
- Lower risk profile.
- Less adversarial.
- Better work / life balance for staff.
- Ability to develop less experienced staff.

Many contractors and designers have not only expressed a preference for alliancing over other delivery methods, but market sounding exercises undertaken in the preliminary stages of project development have indicated that many NOPs intended to not participate unless non-price alliance selection was used.

Achieving early project commencement through early involvement of the NOPs

Owners are often faced with compelling reasons to complete a project in the fastest possible time. Occasionally it is the earliest start to construction rather than completion which is paramount. This naturally leads to a requirement to initiate and complete the selection of the NOPs as quickly as possible and begin project construction in a timely fashion.

The collaboration that the alliance delivery method allows between the Owner and NOPs at the earliest stage provides significant benefits to an early project start compared to traditional methods. The contractual framework for the alliance, more than traditional methods, also facilitates the earliest possible start of physical works under a non-price selection process. However, there may be a price premium associated with this early start due to selecting NOPs on a non-price basis (as discussed elsewhere in this Study). In this case, the business case needs to alert decision makers that there is likely to be a price premium associated with early commencement.

It is common to see alliancing being adopted early in the project lifecycle, and the research has noted that in some cases alliancing has become a default alternative to the traditional approach of defining the project scope and VfM proposition before contract commitment. This approach may not allow the merits of other forms of delivery to be evaluated on a VfM basis.

It was observed that the alliance scope was sometimes expanded to embrace the traditional work of government agencies, including planning, site selection, option development, concept design and even business case development. While this may allow early project commencement it may lead to sub-optimal VfM and/or conflict of interest for the reasons identified in Section 6.2 on the responsibilities of the alliance and the Owner.

Achieving outstanding (game breaking) outcomes

The concept of outstanding outcomes is discussed in Section 6.6.1 which notes *inter alia* that there was little evidence that outstanding outcomes have been achieved.

Discussion Point 7 – Characteristics for selecting the alliance delivery method have changed

The Research Team found that the characteristics for selecting the alliance delivery method have changed.

It appears that two reasons used by Owners (attracting NOPs and early commencement) are being achieved but the achievement of outstanding outcomes is not supported by the Study findings.

Based on the Study findings, these changes in characteristics are often not directly aligned with achieving the business case objectives and can potentially have an adverse impact directly on VfM.

Owners need to understand that early commencement will almost certainly attract a significant price premium and not guarantee earlier completion.

The use of alliances to avoid the adversarial nature of traditional risk allocation contract is successful.

There is a need for national procurement selection guidelines which include an explanation of the characteristics best suited to alliancing versus other delivery methods and a rationale for the same.

6.3.3 Alliance approach – non-price and price competition processes

Historically, the majority of alliance selection processes have selected proponents on the basis of non-price criteria. This is the method recommended in the DTF Project Alliancing Practitioners' Guide⁵¹.

The alternative approach is to select proponents through a process where a significant competitive criterion involves developing the TOC by two (or more) parties. There are also hybrid approaches between the non-price competition and price competition as discussed elsewhere in this Study.

In all Australian jurisdictions there is an emphasis on the integrity of competitive tendering to secure value for money and deliver policy objectives⁹. Both price and non-price factors tend to be emphasised.

For example, in the NSW Government's Procurement System for Construction⁸³ and its series of Procurement Practice Guides, the Tendering Construction Works guide of July, 2008 states:

A tender evaluation committee will assess each tender against the requirements stated in the RFT documents.The Department of Commerce seeks the best value for money in all its procurement activities for clients. The assessment of tenders is based on all of the evaluation criteria. Contracts and consultant engagements are awarded to the service provider who offers the best value for money, not necessarily to the lowest price.

Although for less complex procurement, price can remain a key determinant. The NSW Procurement Practice Guide 'Tender Planning for Project Management Services engagements' also of July, 2008 states (page 2):

If the engagement is straightforward and most aspects are well defined, and tenderers are expected to have similar capability, experience and expertise, it may be appropriate to use price criteria only.

The application of such price and non-price criteria, is that competition should be designed so that "the procurement process should optimise effective competitive tension to maximise value-for money opportunities for government"¹⁰³. This is further elaborated as "Value for money is optimised in the "best bid offer" as assessed against the tender evaluation criteria"⁵⁰.

The Queensland Government has also published 'Construction Tender Evaluation: Best Value Not Lowest Price' which states:

Achieving value for money typically involves comparing alternatives for the supply of goods and services to get the best mix of quality and effectiveness for the lowest cost over the required term. Importantly, it involves an appropriate allocation of risk, making the selection of a suitable procurement strategy and contract a critical factor in determining whether value for money is achieved.⁴⁵

In other words, the basis of selecting between competing bidders in public procurement is not the sole criterion of price, rather on selecting the tenderer that on balance best demonstrates achieving the required benefits at the lowest price.

In its Guidelines for managing risks in direct negotiations, published in May 2006, the NSW Independent Commission Against Corruption (ICAC) concluded that⁷⁷:

Before signing a contract with the proponent, the agency should satisfy itself that, in the absence of competitive bidding, the price paid by or to the proponent is consistent with market values...

...the Commission believes alliance contracting can be beneficial for certain projects, provided the risks are properly managed. Some of the probity risks associated with alliance contracting include:

- reliance on a non-adversarial approach to conflict resolution and a ‘best-for project’ approach, which may lead to the parties forming too close a relationship. This may in turn lead to ‘capture’ by the private sector proponent/s and a failure to consider the overall public interest. Capture can also be a problem if the ‘partnership’ is lopsided to the extent that the agency develops a dependence on the proponent/s for information and advice.*
- negotiating the target cost of the project after the preferred proponent has been selected, which may remove or dilute the competitive tension that would be present under normal bidding conditions. In this scenario, the successful proponent may have the opportunity to increase the agreed cost or over-design the project.*

The above reflects what the Research Team considers to be the cornerstone of good procurement in government. That is, procurement should involve a significant element of competition on outturn price to demonstrate good stewardship of public funds and to optimise both the price and non-price aspects of VfM.

Price is the value placed on what is exchanged. This value includes tangible and intangible factors. Price represents that value and allows buyers to make a choice amongst potential purchases and provides a mechanism for competition amongst sellers in an open market economy.

For comparable products and services, price-only competition requires a seller to constantly innovate and adapt to beat the price of a competitor, and therefore be the lower cost producer. Pure non-price competition requires a seller to compete on only the basis of product features, service, quality etc. Competition based on VfM criteria, which is the common procurement policy criteria for governments, is only possible when there is competition on both price and non price elements. In this later case, buyers assess differences in the products offered and make a choice on the basis of how the non-price differences balance with the price differences.

In the case of alliancing, introducing price-competition as a selection criterion allows the buyer (or Owner) to assess the seller's cost basis compared to its competitors. The buyer will also consider non-price elements to make an informed decision to optimise the VfM outcome. It is difficult for a buyer to make a value for money assessment without considering price as a key element as they need to understand the various trade-offs between price and non-price. Introducing price as a selection criterion provides a positive tension that causes sellers to innovate and provide the best cost solution to address the overall project objective.

However, it is recognised that there are situations where full price competition may not always provide best VfM to the state. Reasons could include high degrees of project uncertainty that preclude project definition or time constraints or there is only one supplier for the required project, product or service. In those situations public officials are normally required to present their reasons and seek approval from senior management and/or Minister before adopting any procurement process that precludes price as a selection criterion.

In other words the default policy position should be to include a significant element of price competition and to depart from this policy must be justified and approved.

In contrast to this view, and despite the emphasis on both price and non-price factors in various general procurement guidelines mentioned above, the DTF Alliance Practitioners' Guidelines expressly states that non-price competition is the recommended approach for alliancing. This suggests that non-price competition should be the default position and any departures must be justified.

It would appear that the focus on price as the primary selection criterion has been in decline relative to non-price factors during the past 10 years or so. For example, the abstract of a paper in the Journal of Construction Procurement in May 2000 highlights the negative perception that has been evident:

*The construction industry is dominated by procurement methods that encourage short-term competitive behaviour, driven by price competition. The Australian Procurement and Construction Council has been seeking alternatives in procurement methods, designed to achieve breakthrough change in the Australian industry...*⁷³

Moreover, the majority of alliance selection processes during this period have selected proponents on the basis of solely non-price criteria as per the method recommended in the DTF Project Alliancing Practitioners' Guide⁵¹.

Some of the main arguments against price competition^{51, 81} are outlined below along with counter arguments, including observations arising from the Study.

1. “The alliance relationship is established on the basis of trust and price competition will fundamentally alter this relationship for the worse limiting possibilities and the potential of the alliance.”

This Study found no evidence to support the above argument.

A foundation of the alliance delivery approach is that the parties to the alliance take a ‘best for project’ perspective in determining how to deliver the project and meet the business case objectives. The key requirement in achieving effective best for project decisions is trust between the alliance participants including NOPs and the Owner. There is no evidence that using price competition as a criterion for selecting the NOPs erodes the trust the alliance team develops as the project progresses.

It is important to note that a high performance team can be characterised by the effectiveness of its decision making, and this does not preclude vigorous debate prior to reaching a decision. In fact a lack of competitive tension may lead to poor quality decision making through the effects of group think or misinterpretation that ‘trust’ means ‘no disagreements’.

Owners commented that they did not see any material differences between the effectiveness of alliance teams when selected using either price or solely non-price approach.

The NSW Independent Commission Against Corruption noted that some of the probity risks associated with alliance contracting include reliance on a non-adversarial approach to conflict resolution and a ‘best for project’ approach, which may lead to the parties forming too close a relationship. This may in turn lead to ‘capture’ by the private sector proponent/s and a failure to consider the overall public interest. Capture can also be a problem if the ‘partnership’ is lopsided to the extent that the agency develops a dependence on the proponent/s for information and advice.

2. “The costs of paying two proponents to develop a TOC (together with Owner costs) cannot be justified.”

Noting that the number of price competition selection approaches examined in this Study was limited, the research conducted during the Study indicated that the cost to establish a TOC using price competition was less (of the order of 2% of TOC) than when non-price competition was used. (This recognises that two proponents are paid under price competition.) This saving can be generated through:

- Better upfront project definition.
- Fixed timeframe for TOC development.
- The ability to put a cap on reimbursement of costs for TOC development that is equitable for both proponents.

Furthermore, the TOC established using price competition has been found to be in the order of 5-10% (of TOC) less than when using non-price competition based upon the following elements (which are directly comparable from one project to another) each being higher when using non-price competition:

- On-site overheads.
- NOP profit margins.
- Design costs.
- TOC development costs.

It was also found that, regardless of the process to select NOPs, the project price and non-price outcomes were viewed favourably by Owner representatives. No disputes between Owner and NOPs were evident that were not resolved within the alliance.

The price competition processes observed in this Study involved reimbursement of costs to the NOPs by either a predetermined lump sum cap or full reimbursement of costs incurred. The Research Team supports this approach of reimbursing the costs to NOPs of preparing their proposals:

- The proposals involved significant design development costs often beyond that required for a traditional tender.
- The intellectual property of the unsuccessful proposal resided with the Owner. (on payment of costs) for possible use by the successful alliance team to the Owner's commercial advantage.
- Non-payment can create entry barriers for mid-tier proponents.

3. *“Price competition limits innovation. Probity considerations reduce the intimate collaboration with the Owner during TCE development which limits ability to innovate.”*

This Study found little evidence to support this argument. Intimacy is not a pre-requisite for innovation nor does probity limit access to the Owner. There is no apparent reason why formal Probity protocols need to exclude access to the Owner. Rather it is in place, amongst other things, to ensure no proponent is given advantage to information over another proponent, therefore ensuring that equal opportunity exists for all parties to innovate.

The Research Team agrees with the UK Government which has stated that, rather than inhibiting innovation, “vigorous competition strengthens incentives to innovate...”⁷⁶

4. *“The pursuit of lowest price could give rise to underpricing risk with potentially unproductive arguments if contingency is inadequate.”*

This Study found no evidence to support this argument; there was no discernable difference between TOC/AOC outcomes and no evidence of ‘unproductive’ behaviours.

5. *“There is a significant requirement to control and support two teams in competition together with the need for more external advisors which does not produce net VfM.”*

This Study found that there is a significant demand on the Owner's management resources. However, there may be a net VfM benefit given the potential for a lower TOC with price competition while non-price objectives are still achieved.

6. *“Price competition is a waste of critical resources - In boom times where design and construction resources are at a premium it is not beneficial to tie up two teams for extended periods.”*

The statement has merit but the key issue, in the case of any particular proposed alliance, is whether there is likely to be a net improvement in VfM from a whole of government perspective.

7. “Most non-price competitive alliances have been delivered to $\pm 3\%$ of the TCE (TOC) – The accuracy and VfM of the TCE is verified by the fact that it was very close to the actual outturn costs.”

The Study found that there indeed was a high degree of similarity between AOCs and TOCs, with a low average difference and a low overall range of variation between AOCs and TOCs. TOCs were less than the AOCs by 0.5% on average. In addition, the difference between TOC to AOC across the alliances was $\pm 2\%$.

On face value, these similar TOC-AOC outcomes appear to support the contention within the above statement that an AOC close to the TOC demonstrates VfM. However, closer scrutiny is in order.

Given the inherent forecasting error associated with pre-construction cost estimation techniques, the high level of TOC-AOC similarity is statistically improbable. An estimate is made up of hundreds or thousands of components, many of which cannot be estimated with certainty in advance (e.g. days of constrained work due to wet weather). This inherent uncertainty would typically produce final cost to pre-construction-estimate variations of up to 10-20%, compared to the negligible variation found in this Study.

As a result, the low overall variation range and low average TOC-AOC differences on the examined alliance projects suggests that one or more factors associated with current alliance practices may be distorting outcomes and artificially driving TOC-AOC similarity.

Some possible reasons for the similarity between the AOCs and TOCs include:

- (a) The effort, rigour and therefore cost of developing an alliance TOC is significantly greater than a traditional estimate. (This is unlikely to completely explain the results due to the influence of inherent uncertainty as discussed above).
- (b) The risk pricing basis of the TOC is not consistent amongst Owners and some reflect a higher (more conservative) estimate (e.g. P75) with a commensurate pain/gain share, while other TOCs may reflect a P50 estimate. (This explanation would be statistically unlikely to explain a low variance outcome over a range of projects using different approaches to uncertainty).
- (c) The adjustments to the TOC during the project (found to be 5-10%) are grounded in the emerging knowledge of forecast actual outturn costs, i.e. the adjusted TOC tends to become the AOC.
- (d) The ability of alliance teams to continuously and effectively pursue and deliver savings is not consistent across all alliances and forecast savings that may emerge early in the alliance delivery can tend to be eroded.
- (e) Significant savings to the TOC are perceived by alliances as detrimental to demonstrating VfM and additional scope is undertaken by the alliance without adjustment to the TOC.

The Research Team’s judgement is that the most likely reasons are found in items (c), (d) and (e). However, a definitive conclusion could not be drawn from this Study and this issue may warrant further research and investigation. If further research was able to confirm the existence of AOC distorting factors, it could be concluded that AOC-TOC similarity is not an indicator of VfM since the TOC is conservative.

8. “The TCE is subject to rigorous scrutiny by an Independent Estimator and the commercial alignment framework ensures that the Owner typically receives 50% of the gainshare should it be overstated.”

Scrutinising the target cost of the project after the preferred proponent has been selected may remove or dilute the competitive tension that would be present under normal bidding conditions and which would reduce the potential to increase the agreed cost or over-design the project as mentioned by the NSW Independent Commission Against Corruption (ICAC).

The Study indicates that gainshare is negligible and, as previously noted, the TOCs may reflect a level of conservatism much higher than P50 estimates, however, this observation is inconclusive.

Refer to Section 6.5 for comments on the effectiveness of the Independent Estimator.

The choice between a competitive selection process involving only non-price factors and a process involving a price factor should also be considered from an economic efficiency perspective. In particular, the need to optimise:

- productive efficiency; and/or
- allocative efficiency; and/or
- dynamic efficiency.

From an economic efficiency perspective, the Research Team considers that an alliance selection process including competition on price factors is likely to lead to lower costs of project delivery (i.e. maximise productive efficiency), to encourage the allocation of scarce human, capital and equipment resources to highest value uses (allocative efficiency) and/or to encourage efficient innovation and investment in innovation over time (dynamic efficiency). All other factors being equal, a company competing to become a NOP on an alliance which is optimally efficient in one or more of these efficiency areas at the relevant point in time should be more likely to be selected to participate in the alliance compared with a company which is less efficient.

Given that firms should and probably do primarily seek to maximise profit, price competition would tend to maximise the incentives and focus the profit maximising efforts of industry players on improving their dynamic and/or allocative and/or productive efficiency performance so as to gain a profitable advantage over actual or potential competitors (e.g. to become better at technical or managerial innovation, allocating/deploying scarce equipment or management time etc so as to win jobs).

An approach involving governments signalling in advance (and following through in practice) that they will almost always seek price competition before they agree a TOC is more likely to maximise each of these efficiency factors over time.

This approach can be consistent with a focus on competition (efficiency) behavioural drivers during the period before the TOC is settled and which focuses on collaborative problem-solving behavioural drivers after the TOC is settled.

In other words, a NOP selection process using price as a key criteria will tend to optimise economic efficiency in the long term from all relevant efficiency perspectives (productive, allocative and dynamic) and hence optimise VfM from a whole of government perspective.

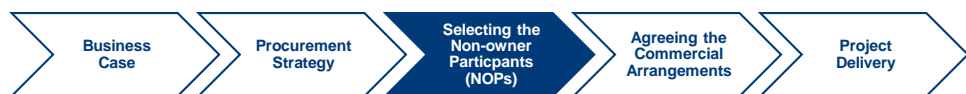
Discussion Point 8 – Price competition in the procurement process

The foregoing discussion has considered the merits of price and non-price competition from multiple perspectives:

- The Research Team found no evidence to support the view that a price based selection process produced a lesser VfM outcome than a non-priced process. Indications are to the contrary.
- The cost to establish a TOC using price competition was found to be 5-10% less compared to using non-price competition.
- Price competition strengthens the incentive to innovate.
- The Research Team found no evidence to suggest that price competition erodes the alliance fundamentals of trust and relationships.
- There will be certain projects where contextual factors (market conditions, Owner resources, project specifics etc) mean that a non-price selection process may optimise VfM.
- The cornerstone of good procurement in government involves a significant element of competition on outturn price to demonstrate good stewardship of public funds and to optimise both the price and non-price aspects of VfM.
- It is inconsistent with broader government procurement policy for government to acquiesce (as is effectively current practice through the DTF Project Alliancing Practitioners' Guide) a non-price selection process as the recommended or default policy.
- Economic efficiency (productive, allocative and dynamic) and VfM at the whole of government level is best achieved in the long term by price competition.

The above needs to recognise the limited number of price-competition selection processes examined in this Study.

6.4 Selecting the NOPs



The previous Section 6.3 has discussed the approach taken to selecting the NOPs and the characteristics for choosing an alliance during the procurement strategy. Once these decisions have been made, the expectation is that NOPs are then selected based on their potential to optimise VfM. This section therefore discusses the:

- Non-price criteria for selecting NOPs.
- Early commencement of a project through early involvement of the NOPs.

6.4.1 Non-price criteria for selecting NOPs

Regardless of whether a non-price or price selection approach is used, an assessment of the NOP's non-price attributes is essential. Put more simply, a selection process using price competition must also assess non-price selection criteria if VfM is to be optimised.

Alliancing by its very nature puts a strong emphasis on the collaborative relationship between the owner and NOPs. This characteristic naturally flows into the selection criteria when determining the NOP team with whom the owner will form an alliance.

Typical alliance selection criteria includes:

- Track record of the organisation.
- Team.
- Approach to project.
- Understanding and commitment to alliancing.
- Potential to be a 'high performance team'.
- Willingness to commit to project objectives and outstanding outcomes.

In many cases the selection criteria that deal with project management skills are used as a 'hurdle' based on evidence of past experience and the selection criteria that deal with cultural and alliance affinity were used as 'differentiators'. This higher emphasis on cultural and alliance affinity selection criteria may have the effect of eroding the value proposition required by the business case. This is evidenced through:

- Previous alliance experience is taken as evidence of alliance affinity, tending to raise the entry barrier to proponents who do not have this experience.
- Selecting proponents on their alliance and cultural affinity potential is difficult and arguably highly subjective when combined with extensive preparation effort by proponent teams (which include alliance coaching, team building events and workshop rehearsals) to present themselves to best advantage.
- Alliance projects often have 'complex' characteristics and greater uncertainty that necessarily require more robust design and project management skills to deliver these projects – particularly if things go wrong during project delivery. It cannot be taken for granted that these skills are uniform across proponents or that a minimum level of skills (i.e. a hurdle) will optimise VfM.
- Considerable time and effort is expended in determining cultural and alliance affinity through workshops, interviews and the like. Owners sometimes commented that those nominees who attended the workshops and upon whom the NOPs were chosen as an alliance partner, were either unavailable or were phased out of the project quickly.

Therefore, to optimise VfM from alliancing, the non-price selection criteria need to have a greater emphasis on proven high calibre design, project management and commercial skills, together with the rigorous controls needed to deliver a complex, challenging project. The Research Team considers that such skills should be differentiators not mere hurdles.

There is a view that having a greater emphasis on price competition criteria for selecting NOPs will prove difficult when comparing two different teams, two different prices, and two different solutions. While this can certainly present challenges for the evaluation team, the challenges of evaluating two teams using non-price competition criteria are arguably even more subjective. It is also noted that traditional tenders regularly require evaluation of different proposals to identify superior VfM outcomes. This challenge should be seen positively as it provides the Owner with options on which to assess the optimum project VfM from a variety of potential NOP inputs.

Discussion Point 9 – Non-price criteria for selecting NOPs

Because alliancing has matured over the last ten years and a better understanding now exists amongst NOPs of the collaborative nature of alliancing, the attributes of alliance affinity of NOPs may be better assessed as hurdle criteria and the NOPs project delivery skills (design, construction, controls, design management and commercial) as differentiators.

Moreover, the maturity of alliancing should mean that any relationship risk (however real in the past) associated with a price competition can be satisfactorily managed.

A price competition selection process must also include the evaluation of non-price criteria since governments are not interested solely in lowest price as a determination of value for money.

6.4.2 Early commencement of project through early involvement of the NOPs

The Study found that one of the Owner's primary reasons for selecting the alliance delivery method was the benefits of early commencement of a project through the early involvement of the NOPs.

The Study observed that this reason was generally validated although it was unable to accurately quantify it as a finding. Early involvement of the NOPs generated intangible VfM by way of increased efficiencies in the design and construction process through a collaborative and integrated (Owner, contractor and designer) approach to the project at its crucial formative stages.

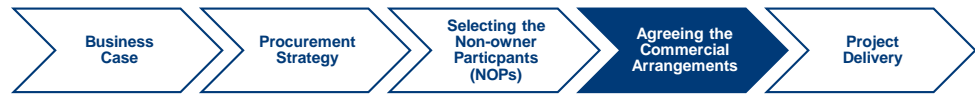
The use of alliancing often allowed physical works to commence many months ahead of what would be possible using traditional delivery methods.

Discussion Point 10 – Early commencement of a project through early involvement of NOPs

Compared to traditional methods, the alliance delivery method can provide significant time advantages (several months) to Owners who are under severe time imperatives to commence physical works as soon as possible.

The reason for this is the alliance undertakes many project 'front end' activities in a collaborative and more efficient manner, and in parallel rather than sequentially. Owners need to recognise that there may be a significant price premium associated with early commencement and that early completion is not guaranteed through earlier commencement.

6.5 Agreeing the commercial arrangements



After the NOPs have been selected as preferred proponent under a non-price selection process, they must develop and agree commercial arrangements (including the PAA, TOC, insurances and painshare/gainshare) to deliver the value proposition.

Topics to be discussed under this section are:

- insurance policies
- establishing the TOC under non-price competition
- the compensation framework.

6.5.1 Insurance policies

Insurance is a cost to alliance projects that is directly or indirectly borne by the state. Directly and indirectly the Owner will pay of the order of 1-2% of TOC by way of premiums for the various alliance insurances. In the last five years this amounts to some \$300-\$600 million based on alliance infrastructure delivered by governments. Not only is it costly but the effectiveness of alliance insurance is problematic given a lack of case law and successful claims are believed to be minimal. It is also technically and commercially complex and can have significant implications on the risk profile of the alliance and the commercial framework (risk/reward mechanism) for NOPs.

Insurance for traditional construction projects is complex⁵⁴, involving:

- various parties with potentially misaligned commercial interests
- specialist advisers, brokers, risk consultants
- specialist lawyers
- various insurance underwriters (who may overlap in their individual cover)
- complex legal concepts
- statutory obligations (e.g. Insurance Contracts Act).

Insurance in the alliancing context adds further complexity by raising a multitude of special options and further difficult issues that need to be understood and responsibly considered if VfM is to be optimised.

Traditional insurance products hinge on findings of 'liability' and 'fault'. More specifically, the liability of the insurer under traditional insurance products and terms is not triggered without the existence of a liability of one or more relevant insured parties.

However, these concepts of liability are generally not part of the collaborative relationships established in alliancing. On the contrary, alliance participants employ no blame/no dispute principles and terms in their alliance agreements to block any such liability between them.

As a result, traditional insurance policy terms may not be triggered and, therefore, alliance parties may find that there is no effective insurance cover. While this typically is not problematic in relation to project works and public liability cover it is a significant issue for professional indemnity insurance and is often overcome by project specific insurance. This in turn raises the issue of who controls the various insurances.

Efforts to overcome this difficulty have included special drafting, through which alliance participants aim to provide a carve out from no suit terms for claims for which insurance will respond or for specific categories of claim, such as a contribution arising out of a professional negligence claim made by a third party against a participant in connection with the alliance project works. However, these approaches remain complex and uncertain in operation where the alliance agreement contains no express risk allocation terms or mechanism, and are therefore fraught with potential issues and arguments about how the terms might operate in the context of a dispute.

Insurance in alliancing also raises the possibility of adverse risk transfer and loss of value to the state through:

- The commercial behaviour of project participants (particularly if they feel the project has been de-risked due to their participation in a no fault, no blame arrangement).
- The risk profile of the project/program for both the state and the NOPs.
- Each party's insurance history, insurance premium costs and the future cost of insurance.
- Factoring of premiums into project costs.
- Outcomes which are best for the insurance industry, best for NOPs, but not necessarily best for the state in either a project or whole of government context.

The true effectiveness of insurance is tested when a claim is made and a policy responds. To date Australian alliance projects do not have a history of claims experience and therefore the effectiveness of the insurance has generally not been rigorously tested. It raises the question of the effectiveness of the cover obtained – if there have been no claims, and a substantial volume of projects have been delivered then what risks are being insured and how is VfM being optimised by insurance?

The broader issue of insurance in an alliance context is the manner in which insurance costs will be allocated. If insurance is a project cost, it still needs to be managed to ensure that policies are affected on appropriate terms, at appropriate levels and at appropriate times, and maintained. Importantly, if insurance costs will be an alliance budget reimbursable item that has no impact on NOPs, then VfM will be adversely impacted if:

- Insurances are not managed effectively.
- Relevant claim and other information required from or in relation to NOPs is not available or is not forthcoming.
- Insurance costs are adversely impacted by a poor claims history of one or more NOPs becoming known.

The overall objective in procuring insurance is to optimise VfM. This may mean that less project insurance is more appropriate because the state is either comfortable assuming certain risks or that it already carries the risk. This is different to a best for project approach which would generally require that all identifiable project risks are insured at the project level.

It is not clear from the findings whether VfM is being optimised on a whole of government basis for insurance cover and indications are that there may have been significant VfM erosion.

Discussion Point 11 – Insurance policies

Insurance is a complex and costly matter, particularly for alliances, and needs specialist skills. Insurance in alliancing also raises the question of whether VfM is being optimised by the Owner on a whole of government portfolio basis or merely on a sub-optimal project by project basis.

The true effectiveness of insurance is tested when a claim is made and a policy responds. To date Australian alliance projects do not have a history of claims experience and therefore the effectiveness of alliance insurance has generally not been rigorously tested. This raises the question of the effectiveness of the cover obtained – if there have been few claims, and a substantial volume of projects have been delivered then what risks are being insured and how is VfM being optimised by insurance?

6.5.2 Establishing the TOC under non-price competition

Setting an accurate outturn cost (TOC) presents a complex and difficult challenge for any alliance. It is also a critical factor in terms of delivering the best overall VfM for the state.

Current industry guidelines recommend that the process of developing and agreeing a TOC (and other performance targets) for an alliance is typically performed by Owner and NOP resources working as a single integrated team. In the absence of comparative price competition, achieving and demonstrating that a TOC represents VfM is largely subjective, due to a potentially large number and range of input variables and the use of individual experiences and judgement in combining the variable inputs. As behavioural researchers have pointed out, any estimate of cost is influenced by the incentives faced by the individual making the estimate.⁸⁰

Key points considered worthy of discussion are:

- commercial misalignment issues
- role of the Independent Estimator
- use of ‘hybrid’ pricing elements
- certainty of outcomes
- TOC negotiation.

Commercial misalignment issues

A wide range of alliance literature suggests that the benefits of alliancing include greater collaboration and a ‘best for project’ focus, underpinned by a framework of total alignment of Owner and NOPs commercial interests and objectives.

However, prior to agreeing the TOC (and other performance targets), a state of commercial misalignment exists between the Owner and the NOPs. While both Owner and NOPs are seeking a ‘reasonable’ TOC, their natural commercial interests would lean towards a lower TOC and higher TOC respectively. Therefore commercial alignment for an alliance does not exist in the TOC development phase.

Alliancing practice is geared towards achieving superior performance once participants’ interests are fully aligned (after the TOC is agreed). The inherent commercial tension between Owner and NOPs in the TOC development phase is fundamentally inconsistent with driving superior VfM in developing and agreeing the TOC.

The Owner resources operating in this environment of commercial misalignment are at a distinct disadvantage in terms of optimising VfM. Asymmetry issues associated with limited resources, incomplete information flow and knowledge transfer add to the potential commercial asymmetry difficulties (described in Section 6.2) that can adversely affect the VfM outcome. While this asymmetry varies across Owners, it needs to be openly addressed as part of the business case.

The role of the independent estimator

The title Independent Estimator (IE) suggests a professional who undertakes an independent estimation of a settled scope of works.

Historically the IE's role has been to provide an independent assurance and/or validation to all the alliance participants that the TOC is fair, reasonable and defensible. In current alliance practice, the IE is often selected by and reports to the alliance participants collectively. To provide greater transparency and accountability the IE should be engaged by the Owner, at arm's-length to the alliance, to protect the Owner's commercial interests.

The brief for the IE is commonly focussed on estimating skills including elemental analysis and pricing, quantity surveying, scheduling and risk assessment, across the required disciplines of a project. While this ordinarily dictates a team of estimating resources to provide the specifics and requisite skills and experience, the IE role often falls to one dominant/lead resource with general industry skills. The IE is often engaged on a limited resource and minimal fee basis to assess and advise on the work for an alliance with uncapped resources and (within reason) uncapped fees.

In the absence of price competition, when determining the TOC for an alliance, the IE role has become the default for demonstrating that the agreed TOC represents VfM. The relatively close correlation between AOC and TOC in many cases has been used to support this approach.⁶ However, as noted elsewhere, an equally valid argument exists that this close correlation reflects a TOC that is extremely conservative.

The IE as sole arbiter of price will often come under intense pressure from both Owner and NOPs to agree to a TOC value close to the alliance TOC estimate. The alliance, as distinct from the Owner, may decide to proceed regardless of unreconciled differences between IE and alliance TOC estimates due to external pressures to commence the physical works. The commercial position of the Owner in that situation may be less than ideal.

The role of IE, as currently applied, may be too narrow and poorly defined. The title suggests a focus on price estimation of a settled scope rather than an holistic approach to VfM at the alliance level. The approach taken by an IE can vary from a simple check of overall rates to a more detailed review of the estimate developed by the NOPs and in some cases a full independent estimate. Similarly, the form of the PAA may reflect a TOC prepared as an alliance estimate or alternatively a proponent's estimate. The difference is significant and needs to be understood. IEs are encouraged to work collaboratively with the NOPs when undertaking review and verification giving rise to possible compromise of independence. It also raises possible confusion as to whether the IE is required to act in a positional sense or under the auspices of alliance principles (win:win etc).

Contractors and to a lesser degree designers will have in-house systems that provide a verification of scope and costings for the scope that gives their senior management confidence that the project has been planned and contracted in accordance with its corporate benchmarks. The Owner should similarly engage (reporting directly to it) services whose scope of service mirrors that of the NOPs' advice to its management.

To improve VfM from current alliance practice, the role of the IE should be reconsidered. A more comprehensive approach to overall VfM is required at the project/alliance level, rather than a price-only review, involving:

- Renaming the role to Owner's VfM Advisor.
- Extending the role to include value based reviews of scope of work, design standards, design efficiency, construction methodology and resourcing before NOP mark-ups for overheads, risk and margin are applied.
- A first principles risk adjusted estimate prepared by the IE in parallel with that prepared by the NOPs.
- Full reconciliation against both the business case estimate and alliance TOC.

Discussion Point 12 – The role of the independent estimator

In the absence of price competition, the IE role has become a default position for demonstrating the TOC represents VfM.

The IE role as currently practiced focuses on pricing of a settled scope and may be too narrow to optimise VfM. The IE role should be expanded to become Owner's VfM advisor including:

- Reviewing scope, design, construction method, materials and resources.
- Preparing an estimate (possibly from first principles, risk adjusted) that parallels in detail the estimate that Owners would normally prepare under traditional delivery methods.
- Reconciling the IE estimate against business case and NOP/alliance TOC.

Use of 'hybrid' pricing elements

While the use of competitive price tension to improve VfM in alliance procurement would appear to have widespread application, it is not likely that this will provide optimal VfM in all cases. There will be some cases where it is neither possible nor desirable to structure an alliance selection process around full price competition on the TOC. However, in these cases the benefits of competitive tension in other elements of VfM should not be dismissed.

Use of 'hybrid' pricing elements in a competitive selection process can also provide material VfM benefits compared with solely non-price selection and TOC development in the absence of price competition.

'Hybrid' pricing elements provide a wide range of options for creating competitive tension between proponents around pricing elements. These pricing elements can be used to inform the VfM criteria of the selection process and also to provide VfM benchmarks for the subsequent TOC development phase. Appropriately constructed hybrid alliance procurement should allow competitively developed proponent offers to be tested against the business case pricing benchmark and compared on a VfM basis.

Where benchmarking of hybrid pricing elements is derived from previous project performance, including project margins, corporate on-costs, site overheads, productivity benchmarks and unit rates, the benchmark projects should be selected by the Owner from a full list of current and completed projects rather than projects nominated by the proponent.

Benchmark projects selected in this way by the Owner should include competitively tendered projects and reference final project accounts (or current management accounts) and original tender estimates.

To ensure full benefits of innovation and optimisation are realised during TOC development, rather than 'held back' for potential gainshare, hybrid alliance selection should also include competitive tension on design solutions and construction methodology. In combination with hybrid pricing elements these can be used to test VfM against the business case and also facilitate direct VfM comparisons between proponents.

This process has an added benefit of progressively re-assessing project scope and services if the VfM proposition in the business case is not being delivered.

Discussion Point 13 – Use of 'hybrid' pricing elements

The use of hybrid elements allows the benefits of competitive tension and comparative testing of VfM when full TOC pricing competition is not desirable.

Hybrid elements include:

- Cost benchmarking against previous projects selected by the Owner.
- Cost benchmarking of major elements between shortlisted parties during the NOP selection process.
- Innovation in design and construction methodology.

Certainty of outcomes

Greater certainty of achieving desired project outcomes is often noted as a benefit of alliancing or as a characteristic on when to use alliancing. The outcomes described in this context generally include:

- On-time or early completion.
- Optimum asset lifecycle cost and performance.
- Stakeholder satisfaction.
- Knowledge transfer and job satisfaction for Owner's staff.
- Quality, safety and environmental management performance.

The certainty of achieving these outcomes in alliancing is said to be a result of:

- Aligning the objectives of the alliance participants.
- Providing incentives for the NOPs to achieve these objectives.
- Collective ownership of project risks and outcomes.
- Collaboration and flexible approach to management.

Alliances are also widely regarded as providing greater certainty of outturn cost. However, there are varying views as to whether this means a smaller range of possible outcomes around the TOC or enhanced probability ('certainty') that the actual outturn costs will be less than TOC. Owners need to be clear if they are seeking one or both of these since it will have a material impact upon the TOC. The results of this Study found that the majority of alliances deliver the actual outturn costs extremely close to the TOC but that the TOC is generally significantly greater than the business case estimate.

While this can be considered as a possible indicator of certainty of outcomes it should not be considered an indicator of VfM. It also raises the following questions in relation to VfM:

- What certainty of outcome does the Owner (investor) require?
- How should the project outcomes and required level of certainty be defined and by whom?
- What premium should be paid for certainty of outcomes and how should the appropriate premium be determined?

It was observed that an emphasis by alliances on outstanding outcomes may result in outcomes exceeding the business case objectives. This is compounded by the fact that the costs associated with exceeding business case objectives are often included in the TOC. Hence it is possible that the Owner may be paying more for something they did not want or need.

Alliances should consider outcomes rather than certainty of outcomes. A focus on VfM suggests achieving the business case objectives at minimum cost, rather than exceeding business case objectives at additional cost.

TOC negotiation

In traditional contracts, where a fixed price for a specific scope is set by competition, the client is not required to have high visibility of the cost structures of the proponent.

In contrast, the nature of alliances requires the Owner to have a very high, detailed visibility and understanding of the NOPs cost structures. The NOP cost structures are highly complex and require a forensic understanding if the Owner is to have confidence that the public interest is being properly managed. The Owner needs to have an understanding of:

- Game breaking vs. Business As Usual continuous improvement.
- Painshare/gainshare that is set against challenging benchmarks.
- Cost structures that are transparent and reflect the best in class prices.
- Profit calculations that are transparent and reasonable for market conditions.
- Its own project budget approvals.

It is not injurious to the alliance relationship for the development of the TOC and the settlement of commercial issues to take place in a business like environment and have 'every stone turned upside down' in the search of additional public value.

One of the many advantages claimed for alliancing is that it allows for early commencement of physical works often before the TOC is finalised and it was a finding of this Study that this did occur. While this may be an attraction it places the Owner in a commercially vulnerable position. Notwithstanding the ability to ‘terminate for convenience’ should the Owner disagree with the TOC, the commercial reality is that it can be extremely difficult for the Owner to negotiate a robust TOC when physical works are underway and any time gain (the reason for starting early) would be highly compromised. In other words, the Owner may become captured in the sense used by ICAC.⁷²

Discussion Point 14 – Establishing the TOC under non-price competition

To ensure optimum VfM, the process leading to agreeing the TOC requires commitment to commercial rigour in negotiations between Owner and NOPs, based on business principles rather than alliance principles.

This requires that the commercial misalignment that exists in the TOC development phase is addressed openly by the NOPs and the Owner.

NOPs undertake extensive in-house reviews of alliance TOCs to give confidence to senior management that all corporate requirements are satisfied. Owner representatives need to take the opportunity to understand the TOC in a similar manner.

NOPs have clear corporate requirements in terms of risk and return and these are applied rigorously. The Owner also should have (but often does not have) clear outcomes, objectives and the value proposition articulated in the business case, which also need to be applied rigorously in TOC negotiations.

There was some evidence from the Study that from time to time robust commercial negotiations were undertaken that resulted in substantial TOC reductions with no adverse impact on business case objectives or on NOP margins.

An Owner led improvement strategy (which will help avoid capture) could include features such as:

- Maintain a viable alternative project procurement and delivery strategy until TOC is agreed.
- Avoid physical works being undertaken under the alliance agreement before TOC is agreed or at least recognise the potential for price premium.
- Better Owner focus on the business case VfM proposition prior to and during TOC development.
- Assemble an Owner’s commercial team with appropriate skills and experience to drive better VfM outcomes.
- Be prepared to re-assess business case decision to proceed if the project VfM proposition is not achieved or modified beyond target ranges.
- Greater Owner participation in the TOC development phase.

6.5.3 The compensation framework

The compensation framework of an alliance is a key mechanism for aligning the objectives of the NOPs with the Owner's project objectives (DTF Project Alliancing Practitioner's Guide).

There are generally three elements:

1. Reimbursable costs – Actual costs of design and construction and project specific Overheads.
2. Fee – Corporate overhead and profit.
3. Painshare/Gainshare – A pre-agreed share of the pain or gain depending on actual outcomes.

These are discussed further below.

Reimbursable costs

The validation of reimbursable costs is often the domain of the alliance financial auditor, whose role is to verify that costs claimed by NOPs were actually incurred in accordance with the PAA.

In many cases the PAA does not contain a requirement that reimbursable costs be reasonably and properly incurred in the delivery of the alliance works and the alliance financial auditor does not necessarily investigate this important consideration into expenditure of public funds.

A prudent commercial review role to complement the financial audit role has significant potential to optimise and demonstrate VfM in this area.

Fee

Under non-price competition, the fee for the NOPs is generally determined by one of two methods – either nominated by proponents at an early stage of the selection process or assessed by an audit of the proponent's historical BAU (Business As Usual) Fees. The rationale for the latter being that NOPs should receive their BAU fees for BAU outcomes.

However, adopting a Fee based on a historical assessment of BAU fees obtained from a limited selection of previous projects may not reflect⁷⁵:

- The market's current conditions.
- The NOP's current appetite for risk/reward.
- The specifics of the current project.
- The modern corporate approach of continuous improvement.
- A balance of the NOPs' historical good and bad projects.
- That alliances provide a commercially more advantageous risk profile for NOPs than traditional contracting.

The benefits of determining fees by historical assessment are therefore problematic and it would appear to be simpler and more relevant for the NOPs to nominate their fees under competition during the initial expression of interest period. Owners would need to ensure that undue weighting was not given to the fees in the selection process.

Additionally, the Research Team observed that some Owners expected NOPs to accept a lower fee return than normal BAU because under the risk sharing framework of an alliance the Owner retains significantly more risk relative to a traditional contract, particularly the downside financial risk that is capped for NOPs.

Painshare / gainshare

In the typical alliance selection process the Owner (through the EOI or RFP) will nominate a suggested painshare/gainshare model to the market and invite comments. The most common model reflects:

- A gainshare of 50% for NOPs that is unlimited.
- A painshare for NOPs of 50% that is limited (capped) to the NOP's fee.

While there is merit in Owners advising of their desired principles for the painshare/gainshare model, there appears little evidence to support the approach of Owners prescribing the actual details of a painshare/gainshare model. It is possible that this prescriptive approach may be inhibiting commercial innovation from proponents at an early stage in the selection process and therefore limiting differentiation between proponents on the basis of VfM potential. It is also possible that a prescriptive approach (even one inviting alternatives) could be viewed as market signalling by the Owners to the NOPs, hence stifling innovative responses. It may also be inconsistent with government procurement policy.

Of particular concern is the prescription of a cap on painshare. Risk and reward are intrinsically linked. The level of fee required by the NOPs will reflect, amongst other things, the risk (gainshare/painshare) that the NOPs face and the desired reward for taking that risk. A crucial ingredient is the cap (if any) of painshare. The desired level of such a cap will vary according to the NOP's risk appetite, the fee received and the project specific risks. Therefore the level of cap that is appropriate is contextual on the project, the wider market and the NOP. The Owner will likewise have its own views.

There is little evidence that the (typical) current approach where Owners prescribe the compensation model, involving the level of capped painshare, optimises VfM.

The issue of a capped painshare also raises the serious whole of government issue of moral hazard. Moral hazard arises because a party to a transaction does not bear the full consequences of their actions. They therefore have less incentive to act as carefully as would otherwise be the case. With a capped painshare only one party (the Owner) will bear the cost if things go badly on the project. In this situation, the moral hazard implications are unclear but unlikely to be positive from a whole of government perspective. Further research is recommended in this area.

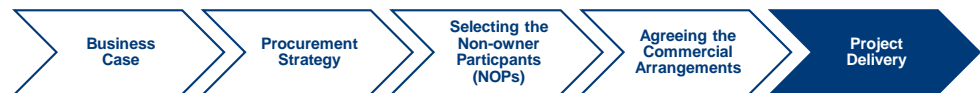
The capped painshare is most likely to be exceeded if the project is in distress for whatever reason. At this time of distress, commercial alignment is essential to eliminate the natural potential for traditional position based adversarial behaviours to emerge. However, the introduction of a cap means that the alliance will move from win:win to win:lose if the cap is exceeded. That is, the NOPs will be insulated if things continue to go badly beyond their cap. At the time of greatest need, a cap has the potential to destroy a fundamental alliance principle and create significant commercial misalignment.

Discussion Point 15 – The compensation framework

The compensation framework is fundamental to aligning the objectives of the Owner and the NOPs. The compensation framework will differ between Owners, projects and NOPs in accordance with project specifics and the risk/reward appetite of the participants. Prescribing the commercial framework as distinct from the commercial principles may stifle commercial innovation and possibly lead to sub-optimal VfM.

The use of a prescribed cap on the NOPs painshare may not reflect the risk appetite of individual NOPs and may introduce moral hazard issues.

6.6 Project delivery



The expectation of the project delivery stage is to achieve the value proposition defined in the business case. This requires achieving the project’s objectives in terms of cost, time, quality and non-price objectives for minimum cost.

Topics to be discussed under this section are:

- outstanding outcomes (game breaking)
- alliance governance
- owner resources
- flexibility and alliance response
- no disputes.

6.6.1 Outstanding outcomes (game breaking)

The decision to use alliancing for delivering major infrastructure projects and programs often includes the expectation of project Owners achieving benefits described as ‘outstanding’ outcomes (also described synonymously as ‘game breaking’ or ‘breakthrough’). Indeed, most alliance agreements (PAAs) provide an expressed obligation to reflect this expectation of outstanding outcomes by the alliance participants.

The Owner’s objective in using an alliance to deliver outstanding outcomes is also often reflected in the initial request for proposals to proponents. These proposals sometimes provide examples of the level of outcomes that the alliance will need to achieve before NOPs receive a gainshare. More frequently however, proposals do not clearly articulate what is meant by outstanding outcomes or link it to the gainshare/painshare.

Outstanding outcomes are typically defined as performance or outcome objectives which are:^{2, 51}

- a ‘step change’ or ‘quantum leap’ better than anything previously achieved
- “discontinuous with previous performance or improvement trends”
- “beyond predictability”
- “not known to be achievable”
- “paradigm shift”
- “don’t know how to do it”.

Outstanding outcomes are differentiated from normal year-on-year business improvement or business as usual (BAU) incremental improvement.

Typical examples of outstanding performance objectives include:

- “Beat the agreed TOC by 20%”.
- “Beat the agreed target completion date by six months”.
- “Deliver the works to agreed benchmarks of outstanding workmanship and design”.
- “Achieve widespread community advocacy for the project”.

The achievement of such ‘outstanding’ outcomes is commonly held to require a ‘high performance team’ or ‘organisational peak performance’ within the alliance and this in turn requires the use of specialist coaching and facilitation. The cost of such support and associated facilities varies widely but 0.25-1% of TOC is indicative of amounts often included in the TOC.

Despite the attraction of ‘outstanding’ outcomes (‘game breaking’) for Owners using alliancing, there was little evidence of outstanding outcomes being achieved. This finding contrasts with the view of the NOPs and Owners that their alliances often achieved outstanding outcomes.

This raises various questions:

- Is there misalignment in industry as to the definition of outstanding outcomes?
- Is the significant investment in the development of ‘high performance teams’ yielding net VfM given the Study finding of little evidence of outstanding outcomes?
- Do other delivery methods (PPPs, D&C) invest as heavily in the development of ‘high performance teams’ as alliances? If not, why not?
- Are the benchmarks against which outstanding outcomes are defined measured robustly and independently set?
- Are outstanding outcomes necessary to achieve business case objectives?

The Study was unable to reach a conclusion on the first four questions above but notes that they are sufficiently significant to warrant further research.

Discussion Point 16 - Outstanding outcomes (game breaking)

Achieving outstanding outcomes is part of the alliance value proposition and is usually a legal requirement of the PAA. The research has found little evidence that outstanding outcomes have been achieved. While teamwork is recognised as important to successful project delivery, this raises doubts about the VfM from investing in ‘high performance teams’.

Outstanding outcomes should only be pursued if they are needed to satisfy the business case value proposition.

6.6.2 Alliance governance

The importance of project governance as a critical success factor in delivering major projects has been widely acknowledged. The UK Office of Government Commerce⁸⁶ and the Victorian Department of Treasury and Finance have both noted a lack of project governance as one of the major contributors to project failure. The Queensland Auditor General has also referred to ‘incorrect procurement decisions because of ineffective project governance’.⁸

While the importance of project governance is widely accepted, what is less clear is what the term project governance means in an alliance project and what constitutes best governance practice to optimise VfM.

These questions are discussed through the following perspectives:

- Definition of project governance.
- Alliance governance arrangements and Study findings.
- Corporate governance concepts applied to an alliance and associated conceptual difficulties.

Definition of project governance

There is no widely accepted definition of project governance which is surprising given the importance of effective governance to project.

Garland ‘Project Governance for the 21st Century’ describes project governance as “the process of project decision making and the framework.... to enable this”.

The UK OGC refers to Project Governance in terms of “direction and control”.⁸

The Victorian Department of Treasury and Finance adopts a similar base but takes it further and refers to “directed, controlled and held to account”.⁵²

Each of the above (OGC, DTF, Garland) provides, to varying degrees, guidance on how to implement effective governance in a traditional project environment. However there is little guidance provided in an alliance context and consistent with Study observations there does not appear to be any wide acceptance in the industry on what constitutes alliance project governance and what is best practice.

It does appear that the above references to project governance refer to governance above the project not within the project as is generally understood by the term ‘alliance governance’.

Alliance governance arrangements and Study findings

The alliance governance arrangement is described in the DTF Project Alliancing Practitioners’ Guide as a ‘virtual organisation’ comprising:

- **Alliance Leadership Team (ALT).** The most senior body within the alliance comprising senior executives of the participants.
- **Alliance Management Team (AMT).** The AMT is headed by the Alliance Manager and reports to the ALT. Ideally it consists of a participant from each alliance party.

Other terms used interchangeably with ALT are PAB (Project Alliance Board) and PLT (Project Leadership Team).

The ALT's decision making processes operate under the aspirational and well known alliance principles which are captured in the alliance legal agreement. In reality there is a significant variation in ALT practice.

Some of the differences include:

- Focus on 'governance' or 'operational management'.
- Levels of formality and protocols.
- Levels of authority delegated to Owner representatives and NOP representatives on the ALT.
- Seniority, authority and experience of both Owner and NOP representatives on the ALT.
- Rigour and effectiveness of the ALT in achieving best for project outcomes.
- Ability of ALT members to enhance VfM outcomes.

It has been noted earlier that there needs to be a clear understanding of the various decision rights and a delineation of the role of the Owner (accountable to government for delivery and service) and the Owner representative (responsible for delivery as part of the alliance). It is the Owner representative who should sit on the ALT. Decisions that relate to changing the business case VfM proposition are not the responsibility of the alliance or the Owner representative.

Corporate governance concepts applied to an alliance and associated conceptual difficulties

In Australia the ASX Corporate Guidance Council has defined corporate governance as "the framework of rules, relationships, systems and processes within and by which authority is exercised and controlled in corporations". It notes that effective governance can help companies create value through innovation and provide accountability and control commensurate with the rules involved.

The ASX further provides a set of eight principles that should underpin the corporate governance framework.

These principles can be expressed in an alliance context as follows:

- Lay solid foundations for management and oversight.
- Structure the Board to add value.
- Promote ethical and responsible decision making.
- Safeguard integrity to project reporting.
- Make timely and balanced disclosure.
- Respect the rights of shareholders.
- Recognise and manage risk and opportunity.
- Encourage enhanced performance.
- Remunerate fairly and responsibly.

The adoption of a corporate governance framework to an alliance has certain advantages:

- It provides a simple and easily communicated parallel between an alliance and a virtual company: (ALT/PAB being the Company Board and the Alliance Manager being the CEO).
- It provides a proven and well documented approach to alliance governance.
- It provides guidance on procedural expectations and practices for the ALT/PAB
 - Meeting protocols (format, minutes, board paper etc).
 - Obligations and responsibilities of PAB members (Directors).
- It provides clarity of purpose of the ALT/PAB (Company Board).

However, there are some deep and significant differences between company boards and alliance ALT/PAB's that may serve to severely reduce the effectiveness of the corporate governance approach. These differences include:

Table 6.1: Differences between alliance and corporate governances

Purpose	Company boards were originally established to address the potential problem of separation of ownership and (management) control. This does not exist in an alliance. Owners (Directors) of a company only profit through the overall profitability of the Company. Alliance NOPs foremost profit is through the role as a supplier (and modified by overall alliance profitability). A company board has a primary purpose of splitting company profits while for an alliance this is pre-determined. An alliance ALT/PAB has a primary purpose of settling disputes at the management level. Company Boards (generally) do not intervene in management. A key purpose of the company board is to hire (and fire) the CEO. In an alliance, the reality is that this is a NOP decision.
Transparency of information	Company information is totally transparent to Directors but often there is only limited transparency of the Owner's information on an alliance.
Liability and no blame	There are no restrictions on liability between the various company Directors but alliance participants have agreed to a no-suit position.
Conflict of interest	The Owners (Directors) of a company are (generally) not the key suppliers to a company as is the case for alliance NOPs.
Fiduciary duty	A company Director's fiduciary duty is clear and express under Corporations Law. It is only implied for an ALT member under an alliance.
Decision making	The concept of best for company has an unlimited time horizon unlike an alliance best for project goal with a limited time horizon. A Company Board decision may be win:lose for its Directors which is contrary to the fundamental alliance principle of win:win. Company Board decisions can be made on a majority basis while alliances operate on a unanimous decision making basis.
Context: project	A company is typically a portfolio of projects while an alliance is (generally) a single project.
Suppliers on the Board	The suppliers (NOPs) to an alliance are given an ownership-like stake in the entity which raises the issue of what constitutes shareholder/ Owner's interests. Directors must act in the best interests of the company and are appointed by and act for all shareholders equally. ALT members are appointed by and act for individual shareholders.

The above table demonstrates that there may be a fundamental and irreconcilable difference between the aims and practice of alliance and corporate governance which makes the application of a corporate style governance to an alliance problematic.

The adoption of a corporate governance framework to an alliance presents certain advantages but also suffers from serious differences between the underlying philosophy and intent of a Company and an alliance. These differences may lead to suboptimal performance from the alliance particularly in times of project stress when possible weaknesses in the corporate governance model are likely to come to the fore.

The question of what constitutes best practice in terms of alliance governance remains unanswered. The Study was inconclusive in this regard but did indicate widely varying and potentially ineffective governance practices that would benefit from a more informed approach.

Given the widely accepted view that effective project governance is critical to project success it is important that further research is undertaken in this area in parallel with further development of appropriate legal arrangements between the alliance participants.

Discussion Point 17 – Alliance governance

There are significant variations in alliance governance. Effective alliance governance is critical to project success yet little guidance is available on the optimum form of governance. Also, governance structures need to recognise that the alliance has a limited and defined role to play in the lifecycle of the state's investment decision. The application of corporate governance is problematic.

Governance above the alliance needs to be distinguished from governance within the alliance.

Decision rights need to be clearly articulated and the role of the Owner outside of the alliance needs to be distinguished from the Owner's representative role within the alliance (responsible for only project delivery).

6.6.3 Owner resources

With Owners and NOPs sharing project risks and the alliance principles noting the concept of unanimous decision making, it makes sense for Owners to inject personnel into the alliance. Or does it?

As noted elsewhere in this report, while the responsibility to do certain things to deliver a project can be transferred by the Owner to the NOPs, accountability for the results cannot. In meeting its public accountability duty and its duty to the alliance under the PAA, what is the best use of Owner resources, what is the optimum number needed and what type of skills are required?

Alliance literature is generally silent on how many Owner representatives are required on an alliance, however, industry forums often promote the need for greater Owner representatives at all levels of the alliance.

A typical PAA will say something along the lines of:

The AMT will be made up of persons from each of the Participants and recruited from outside the resources of the Participants if necessary, selected on a 'best for project' basis...

and for the ALT

We will each appoint one or more senior representatives as members of the ALT

When putting forward Owner nominees for a project it generally starts at the procurement stage:

- The EOI may list people who the Owner is nominating to be considered for particular positions.
- The EOI/RFP will ask the tenderer (proponent NOP) to provide an organisation chart listing key positions and nominees for delivering the project.
- The tenderer will generally ensure that the Owner's nominees are included in the organisation chart in the position for which they have been nominated.

In many instances the Owner's nominees will be well suited to undertake the role for which they have been nominated, in other instances they will not. If an Owner is not in the business of delivering infrastructure, how can they be expected to provide personnel (assuming they are available) on a best for project basis into an alliance created to deliver infrastructure?

Many of the reasons for including Owner personnel into the project alliance include:

- Upskilling of Owner personnel with current industry best practice.
- Sensitivity in dealing with key stakeholders.
- Providing personnel when construction resources are scarce.
- Providing the alliance with Owner personnel who have an intimate knowledge of the project often from developing the business case.
- The benefits of collaboration including better operational input to design and a better understanding of the project value proposition.
- Ensuring long term asset performance perspective.
- Leadership provided by the Owner at the ALT level.
- Owner systems that are required by the Owner.

It was found that there was a great variation in the number of Owner resources that participated in the alliances. The Study found that there was no clear correlation between the number and skill levels of Owner resources in the alliance and overall performance.

This was a surprising result and should be investigated further. It was noted that active senior level participation by the Owner on the ALT did provide enhanced clarity of alliance objectives. As noted by HM Treasury^{75, 76}, the successful delivery of project outcomes is strongly dependent on the skills of the Owner.

The Owner should actively control project objectives and scope, provide leadership, have input into requisite quality and input into critical interfaces. To do this requires senior level commitment by the Owner organisation.

Discussion Point 18 – Owner resources

Owners need to actively participate at senior levels in an alliance if VfM is to be optimised.

It is less clear whether active participation by the Owner below ALT level is positively influencing VfM.

6.6.4 Flexibility and alliance response

As noted several times in this Study, alliances are often associated with highly uncertain projects.

The Research Team observed many times that unforeseen challenges and/or major scope changes arose during the lifecycle of the various projects. These were invariably addressed effectively and efficiently by the alliance, certainly far better than would be normally expected using traditional delivery methods where VfM erosion would be highly likely.

Discussion Point 19 – Flexibility and alliance response

The alliance delivery method provides superior flexibility and potentially greater VfM compared to traditional delivery methods for highly uncertain projects where unforeseen challenges, risks and concept changes are likely and cannot be dimensioned in the business case or soon thereafter.

6.6.5 No disputes

The research found no evidence or indications of any dispute between the Owner and NOPs that was not resolved within the alliance and without recourse to third parties.

It is easy to gloss over this finding but disputes are widely recognised for their potential to seriously erode VfM. Owner and supplier senior management's productive efforts become diverted to resolving disputes, often acrimoniously over long periods of time. Gaming can occur, before and during project delivery, at the expense of productive efforts.

Discussion Point 20 – No disputes

The ability of alliances to avoid non-productive disputes between NOPs and Owners has been validated by this Study.

There were no indications of any dispute between NOPs and Owners that was not resolved within the alliance.

“ To extract the optimum VfM from alliancing, changes must be made at both the alliance and whole of government levels. ”

Conclusion

7.1 Introduction

Based on the Findings, Discussion and Observations of the Study, it can be concluded that VfM can be enhanced in the alliance delivery method.

As a collaborative delivery method alliancing has demonstrated its ability to avoid disputes, improve non-cost outcomes and commence projects earlier than by traditional methods.

To extract the optimum VfM from alliancing, changes must be made at both the alliance and whole of government levels. There are a number of discrete conclusions that support this overall conclusion and these are discussed below.

7.2 Enhancing whole of government VfM

In this section, the conclusions relevant to enhancing VfM at the whole of government level are discussed. These are generally areas where there would only be a benefit if a whole of government approach were taken, rather than an alliance only approach.

Business case

VfM definitions and the value proposition in the business case are the responsibility of the Owner, not of the alliance which has been engaged to deliver the capital asset component of the business case at the lowest price. The role of the Owner needs to be distinguished from the Owner's representative on the alliance, who only has responsibility for delivery and has no authority to change the business case as these are normally approved by Government.

It would appear that PPPs provide the greatest cost certainty at business case stage (an increase of 5-10% to AOC), followed by traditional ($\approx 20\%$) and then alliances ($\approx 50\%$).

The lack of accuracy in the business case cost estimate must be considerably improved to better inform the capital investment decision. Alternatively, the business case should include explicit advice to investment decision makers regarding the risk of potential increases. Fast track processes need to be developed for the minority of projects where time of commencement is of the essence and decision makers need to be alerted to the significant price premium that may be associated with fast tracking.

Procurement strategy

There is a plethora of selection guidelines on the use of the alliance delivery method that are inconsistent, confusing, do not reflect current practice and are not focussed on optimising VfM. Given a robust construction market it is possible that the primary competition is occurring on the buyer (Owner) side as they seek to attract NOPs to their own project using the alliance delivery method and non-price criteria, both of which are highly favoured by NOPs over traditional delivery methods.

A consistent approach across jurisdictions would improve the procurement selection strategy and buying power, and ensure consistency in government engagement with industry.

Selecting the NOPs

Current guidelines recommend selecting NOPs using predominately non-price criteria. This does not always reflect good government procurement practice which requires price to be included as a significant criterion. Whilst price competition is not appropriate in all circumstances, it should be required as a default position.

Agreeing the commercial arrangements

The range of the PAAs in use in Australia is neither efficient nor effective for government or industry. An alliance is a complex commercial transaction. Now that alliancing is a mature delivery method, there is a need for government to establish a standard form of contract that is robust, tested and clearly understood by all parties. This would improve legal certainty and transaction efficiency for government and NOPs.

Government would benefit by taking a portfolio management approach to procuring and delivering projects. This would enable the whole of government risk (and associated insurances) to be managed more effectively. This approach would also enable government to achieve synergies across multiple projects through leveraging buying power, smoothing resource demands, and possible consolidation of some activities to achieve economies of scale.

Project delivery

Governance arrangements above the alliance vary significantly from project to project and little guidance exists. A standard governance arrangement would result in improved understanding of roles and authorities and more effective and efficient project delivery.

An increase in the TOC of approximately 5-10% during project delivery raises doubts on the widespread perception of certainty of the initial TOC compared to traditional methods. Savings on the TOC are negligible.

7.3 Enhancing alliance VfM

In this section, the conclusions relevant to enhancing VfM at the alliance level are discussed. These topics are those that could add benefit to each project independently.

Business case

Alliance projects are often associated with uncertainty and complexity. This requires greater, not less, rigour in the business case to ensure that adequate anchoring, benchmarking and guidance is provided to the alliance team as the project progresses.

As a minimum the business case should include the value proposition which incorporates the project objectives, agreed funding of 'externalities' (for example environmental, stakeholder relations) and a robust cost plan. It should (barring sections subject to confidentiality) be made available to the alliance team.

Procurement strategy

Procurement strategy should be selected on the basis of the project characteristics. The selection of the alliance delivery method to attract scarce resources or to start the project earlier may not be appropriate if the associated price premium is considered. This premium may be acceptable if the risk profile of the project is high, however, for lower risk projects the premium may be excessive.

Selecting the NOPs

The selection criteria used for selecting the NOPs should encourage innovation and efficiency. Although not always appropriate, price competition can achieve this by providing productive competitive tension. The selection process should not be overly prescriptive that it stifles NOP's ability to provide technically and commercially innovative offers.

Agreeing the commercial arrangements

Although the philosophy of alliancing is non-adversarial, the alliance is a commercial transaction and the alliance legal agreements (PAAs) must be appropriate to that commercial transaction.

The complex nature of alliances can result in Owners being exposed to serious asymmetry of information, commercial capability and capacity in their engagement with the NOPs. Owners should ensure that any asymmetry is identified and addressed to enhance VfM outcomes. The exposure of Owners can be increased when there is no price competition as there has not been the 'traditional' competitive tension which can alleviate such asymmetry.

Project delivery

Effective alliance governance is critical to project success. The alliance delivery method is mature and an optimum governance structure needs to be researched, defined and applied. In particular it is important in an alliance that decision rights are clearly articulated, particularly the role of the government vis a vis the Owner and the Owner's Representative.

Through project delivery, the Owner may be exposed to continued commercial asymmetry.

It is important that the Owner establishes capability to represent their interests in the alliance at a level commensurate with the commercial capability of the NOPs.

Outstanding outcomes ('paradigm shift', 'not been done before') are often sought by Owners when selecting the alliance delivery method and they are generally a requirement in the PAA. However, there was little evidence that outstanding outcomes are being achieved despite significant investment in 'high performance teams'. There is little point in pursuing outstanding outcomes if they are not required to satisfy business case objectives.

7.4 Realising improved VfM

There is opportunity to enhance VfM outcomes achieved in the alliance delivery method and a number of recommendations have been made. These recommendations seek to optimise VfM at both whole of government and alliance level. They will improve the quality of the investment decision, optimise the appropriate use of alliancing, increase government's buying power, increase transaction efficiency, increase technical and commercial innovation and allow for best practice to be captured and disseminated.

If all of these recommendations are adopted, the actual outturn cost of alliance projects could, in the judgement of the Research Team, be improved by 5-15% without diminishing the many benefits that the alliance delivery method is capable of providing.

“ If all of the recommendations are adopted the actual outturn cost of alliance projects could...be improved by 5-15% without diminishing the many benefits that the alliance delivery method is capable of providing. ”

Recommendations

The six policy recommendations below address how VfM can be enhanced in the alliance delivery method.

These recommendations are neither complex nor onerous, nor do they compromise the efficacy of a government's procurement process. The recommendations take into account a whole of government perspective from national through state to agency level, setting out the principles for action that can be adopted regardless of a state's particular circumstances, policies or procedures. The recommendations will provide enhanced VfM if they are implemented individually, but will realise additional VfM if implemented in their entirety due to their potential synergies.

If all of the recommendations below are adopted the actual outturn cost of alliance projects could, in the judgement of the Research Team, be improved by 5-15% without diminishing the many benefits that the alliance delivery method is capable of providing.

Policy Recommendation No. 1

The alliance delivery method be retained and developed further as one of the mature procurement strategies for the delivery of government's infrastructure projects that are complex with significant risks that cannot be dimensioned in the business case or soon thereafter.

Policy Recommendation No. 2

The State Treasuries collaborate to develop a comprehensive Procurement Selection Guide and training materials for use by government agencies on when to use the alliance delivery method.

Policy Recommendation No. 3

The State Treasuries (and relevant line agencies) collaborate to develop common policy principles, guidelines and training for the selection of the NOPs and implementation of the alliance delivery method that reflect the outcomes of this Study.

Policy Recommendation No. 4

Governments take a greater role in ensuring that alliance best practice is captured and disseminated; and also take a greater oversight role on individual alliance projects to ensure that VfM is optimised at whole of government level.

Policy Recommendation No. 5

An adequate business case, which includes the case for the procurement decision, to be prepared and approved as required by relevant state government guidelines before the alliance selection process commences. (This will recognise the development of fast track processes for times of genuine urgency such that the alliance is provided, as a minimum, with appropriate delivery objectives and a robust cost plan.)

Furthermore, business cases that recommend an alliance delivery method must:

- Considerably increase the accuracy of their capital cost estimates and scope statement.
- Address how the state will manage possible asymmetry of commercial capability and capacity in engaging with alliance NOPs throughout the project lifecycle.

Policy Recommendation No. 6

A competitive process should be used as the default approach to selecting NOPs having price (including outturn costs/TOCs) as a key selection criterion. This will be consistent with established government procurement policies that support a competitive process with one of the key selection criteria being price unless compelling reasons (which are outlined in the same government procurement policies) for non-price competition can be made and approved.

“ A number of issues raised in this Study would benefit from further research and investigation. ”

Further Research

This chapter discusses a number of issues raised in this Study that would benefit from further research and investigation.

Portfolio approach to alliance procurement

- Findings raised in this Study warrant investigating a portfolio risk management approach by states to alliance procurement. This could also extend to other procurement methods. While appealing in concept, practical guidance is lacking in assessing the optimum whole of government risk profile that would in turn allow the composition of the portfolio to be determined.

Procurement models in the private sector

- The alliance delivery method was pioneered by the private sector yet there is little current research on the procurement models (and outcomes) currently being used in the private sector (domestically and internationally) and what, if any, are common characteristics with the public sector.

Other traditional delivery methods

- A limitation of this Study was the difficulty of comparison with traditional projects. A Study similar to this on other more traditional risk transfer delivery methods would provide valuable information for policy makers.

Alliance governance

- The importance of alliance governance to successful project outcomes is widely recognised. However, there is little research on the optimum form of such governance and its theoretical underpinnings.

Outstanding outcomes (game breaking)

- This Study found little evidence of outstanding outcomes which is considered by Owners as a primary reason for choosing the alliance method. However, this contrasted with the observations of Owners and NOPs for their alliances. This raises various potential research questions including definitional aspects of 'outstanding outcomes' and the benefit of investment in team development and the causal drivers for the formation of 'high performance teams'.



AAA	Alliancing Association of Australasia
ALT	Alliance Leadership Team
AMT	Alliance Management Team
AOC	Actual Outturn Cost
BAU	Business As Usual
DCT	Direct Cost Target
DTF	Department of Treasury and Finance
ECI	Early Constructor Involvement
EOI	Expression of interest
IE	Independent Estimator
IAA	Interim Alliance Agreement
KPI	Key Performance Indicator
KRA	Key Result Area
NOP	Non-Owner Participant
OR	Owner's Representative
PAA	Project Alliance Agreement
PAB	Project Alliance Board
PLT	Project Leadership Team
PPP	Public Private Partnership
RFP	Request for Proposal/s
SPV	Special Purpose Vehicle
TCE	Target Cost Estimate
TOC	Target Outturn Cost
VfM	Value for Money



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The background is a vibrant blue with a complex pattern of thin, curved lines that create a sense of motion and depth. A central graphic consists of several concentric circles, with a bright white dot at the very center. The lines radiate from this center, some following the curve of the circles and others crossing them at various angles. The overall effect is a modern, technological aesthetic.

Appendix A

Phase 1 Survey Results



**Department of Treasury and
Finance (Victoria)**

Benchmark Study into
Alliancing

**Alliance Participants
Self Evaluation
(Phase 1)**

1 August 2009

EPM report 090801

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Appendices

APPENDIX A PHASE 1 SURVEY TEMPLATES

APPENDIX B LIST OF ALLIANCES INCLUDED IN PHASE 1

This study involved a collaborative effort between Evans & Peck and the Department of Civil & Environmental Engineering at the University of Melbourne.

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Acknowledgements: Staff at Evans & Peck – in particular Dave Clark, Peter Wood, Peter Trueman and Vic Delosa; staff at the University of Melbourne – David Young and Ming Xu.

Executive summary

As part of the larger Benchmark Study into Alliancing and to gain a better understanding of how recent alliance teams have viewed their own performance, an electronic web-based survey was undertaken.

This survey (Phase 1) also aimed to identify participants (and projects), who were willing to participate in the detailed case study component (Phase 2). Phase 1 shaped the key themes for further investigation in Phase 2.

The key findings from the Phase 1 study have been outlined below.

Perceived performance:

- 94.5 percent of owners and 97.3 percent of non-owner participants (NOPs) believed that their alliance met or exceeded the requirements (aggregated)
- NOPs tended to have a higher perceived degree of success in each performance area and overall than owners.

Reported performance:

- 80% of alliances used the single target outturn cost (TOC) approach
 - 54% as a project alliance
 - 26% as a program alliance
- 85% of alliances had an actual outturn cost (AOC) that met or came below the TOC
- 94% of alliances were completed on time or ahead of schedule
- there was strong correlation between stakeholder management and community with good time and cost outcomes.

Selection of an alliance:

- team dynamics was viewed as a significant driver for NOPs in the selection of an alliance and had a moderate correlation with good time and cost outcomes
- owners placed the lowest degree of importance on team dynamics when selecting an alliance
- 91 percent of projects included benchmarked NOP profit and overhead fee
- there was an even split of projects that used cost criteria in their evaluation process.

Alliance development:

- 14.3 percent of surveyed alliance owners had not completed a business case prior to selecting an alliance as the preferred delivery method.

Detailed survey methodology

In order to identify potential candidates, a list of current and past alliance projects was obtained from the Alliancing Association of Australasia (AAA). The identified projects were filtered by the study team to meet the criteria of the study:

- government alliancing projects procured within the last five years
- valued over \$100 million
- either current or completed after 2004.

The survey was prepared and distributed to alliance leadership team (ALT) members of the selected projects via email.

A structured questionnaire approach was adopted, posing questions regarding:

- name and composition of alliance (owner, designer, constructor and advisors)
- alliance agreement format (project vs program alliance, and single vs multiple TOC)
- perceived alliance performance based on reported project outcomes of time, cost, quality of work, functionality, safety, environment, community, other stakeholders, team dynamics, KRA achievement, and flexibility of approach
- TOC comparison (initial, final and actual)
- project duration comparison (initial, final and actual)
- activities undertaken prior to selecting an alliance
- successful outcome indicators
- the possibility of using an alternative delivery method
- the use of cost criteria in the evaluation.

Refer to Appendix A for the full survey template.

Sample and participant description

Respondents were grouped into two distinct categories, owners and NOPs, with NOPs comprising constructors and designers.

Seventy-one alliance projects were identified that met the study criteria of projects, and the ALT members of these projects were approached to complete the survey (a full list of these projects is provided in Appendix B). A total of eighty-two responses were received, covering forty-six alliances, with thirty-five owner responses, and forty-seven NOP responses (twenty-five constructor responses and twenty-two designer responses).

This indicates an owner response rate of 42.7 percent and a NOP response rate of 57.3 percent. Of the seventy-one alliances approached, 64.8 percent were able to be included in the study, which for this kind of survey is quite reasonable.

From the original list of seventy-one alliances, projects were located in Victoria (18.3%), New South Wales (24.0%), Queensland (45.1%), and Western Australia (12.7%).

Figures 1-3 list out the alliances that surveyed organisations have participated in. The data was gathered from the condensed Alliancing Association of Australasia inventory of alliances.

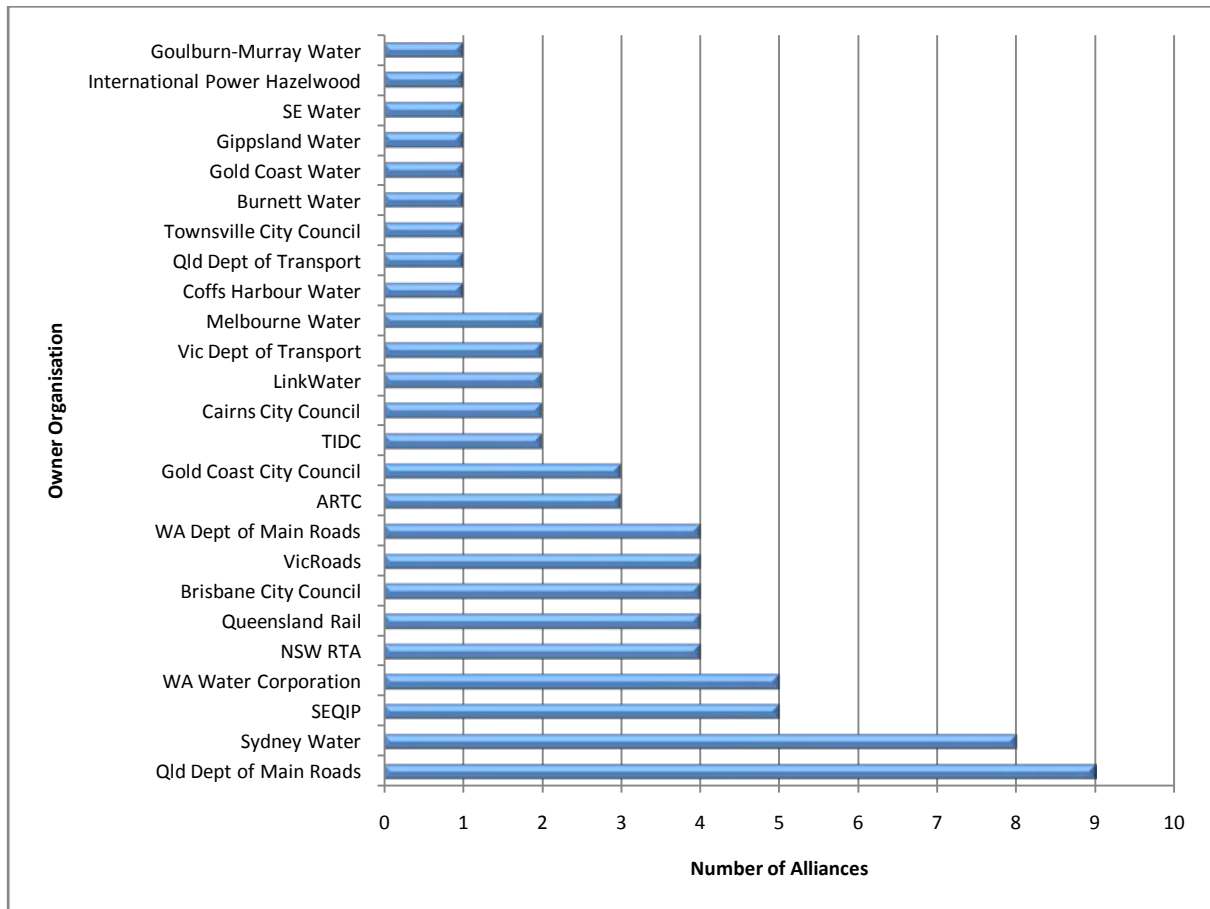


Figure 1: Owners – number of alliances involved in

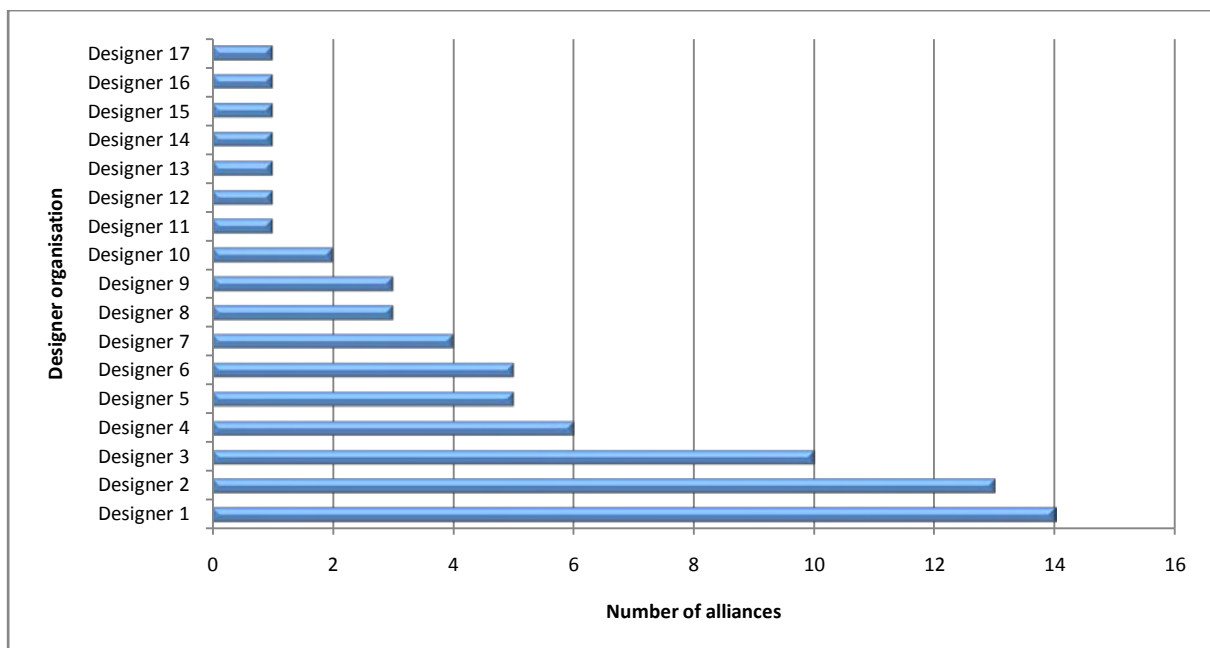


Figure 2: Designers – number of alliances involved in

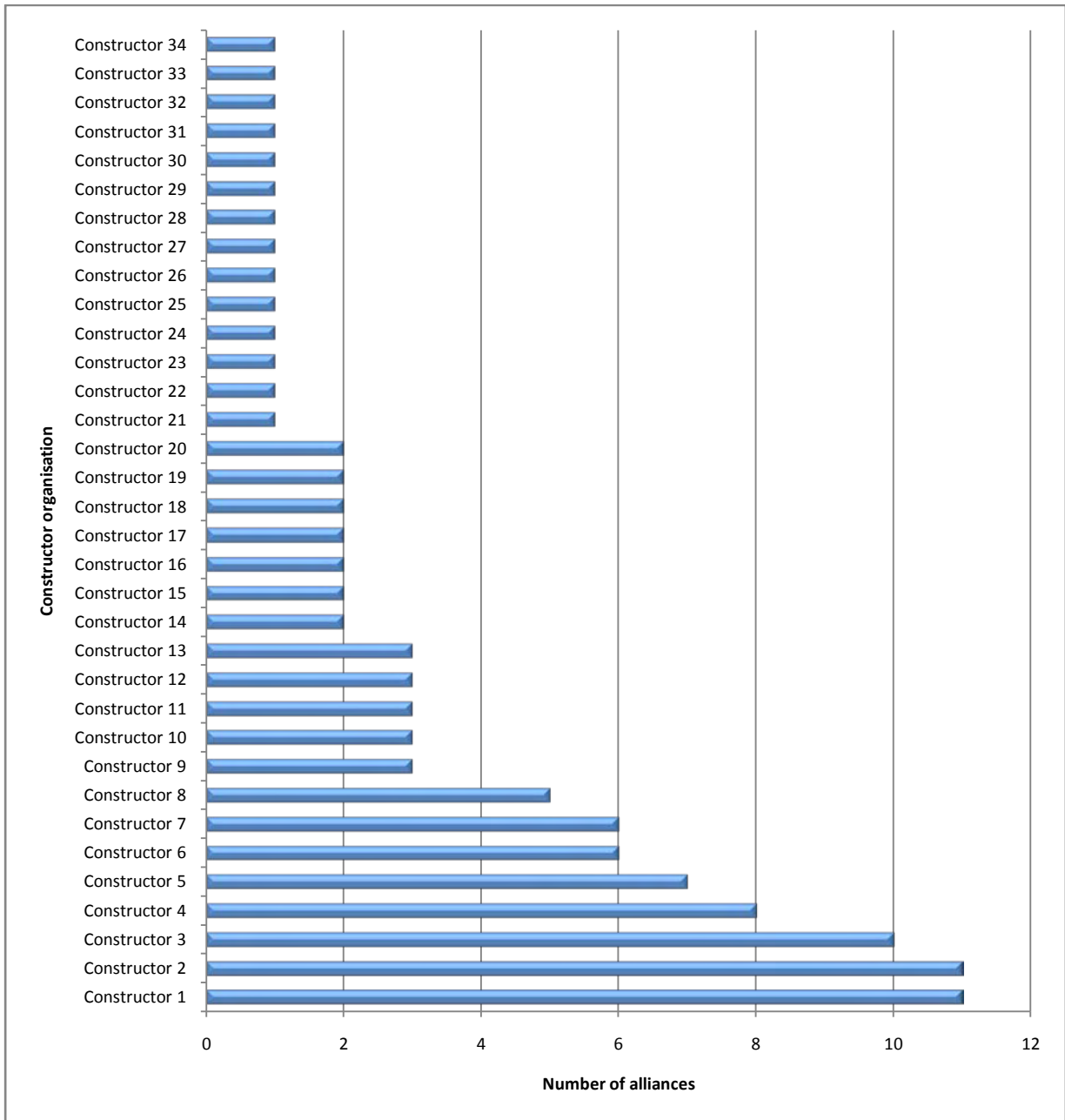


Figure 3: Constructors – number of alliances involved in

Table 1 lists out the value of alliances included in the study for each sector and within the years covered by the study. It should be noted that this does not represent the total value of alliances completed in Australia, as this study included only projects with a value of \$70 million or more.

Table 1: Value of alliance projects included in this study by sector and year

Year	Water	Road	Rail	Grand Total
2003	\$276m	\$23m	\$45m	\$343m
2004	\$395m	\$23m	\$17m	\$435m
2005	\$500m	\$163m	\$56m	\$718m
2006	\$1,563m	\$2,486m	\$220m	\$4,268m
2007	\$3,792m	\$3,270m	\$1,010m	\$8,072m
2008	\$3,755m	\$3,921m	\$2,066m	\$9,742m
2009	\$1,994m	\$4,301m	\$2,442m	\$8,737m
2010 forecast	\$883m	\$3,351m	\$2,224m	\$6,458m
2011 forecast	\$268m	\$1,495m	\$862m	\$2,625m
2012 forecast	\$182m	\$528m	\$656m	\$1,366m
Totals	\$13,608m	\$19,561m	\$9,598m	\$42,764m

Analysis of the responses

In conducting the survey, a number of restrictions have become evident, which need to be factored into any conclusions drawn from the data as follows:

- Some difficulties arose in identifying contact details of all the ALT members, especially where these projects have been completed for a number of years.
- Where only one response has been received for an individual project, it is difficult to ensure the integrity of the data without further corroborating data sets.
- Where more than one response has been received from an alliance, all responses been used in the analysis of the data.
- Some of the responses to the questionnaire were incomplete. Where only one incomplete response has been provided, the study team at their discretion decided whether or not there was sufficient data to include the response. Where multiple responses were received for an alliance, only those that were complete or sufficiently complete were used.

Summary of Phase 1 results

For each individual survey question, an overview of the results is provided graphically, along with a discussion of any observations or trends.

Alliance selection process

The survey data set provides a good representation of alliancing in Australia. Single TOC project alliances are the most widely used, comprising 54.30 percent of the respondents, as illustrated in Figure 4.

This was followed by a single TOC program alliance (26.1%), a multiple TOC program alliance (8.9%) and a multiple TOC project alliance (6.5%). There were also two projects in the “other” category (4.3%), comprising a service alliance, and a single TOC project alliance that started as fixed price and was converted to an alliance part way through.

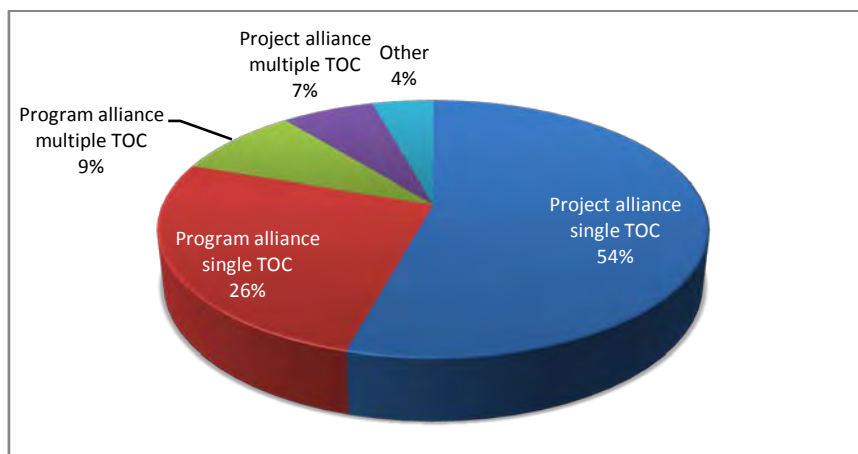


Figure 4: Alliances by type

Perceived alliance performance

Respondents were asked to rate their alliance on a number of project outcomes:

- time
- cost
- quality of work
- functionality
- safety
- environment
- community
- other stakeholders
- team dynamics
- KRA achievement
- flexibility of approach.

A five-point scale was implemented using alliancing terminology (5-game breaking, 4-above requirements, 3-met requirements, 2-below requirements, 1-poor).

Responses have been grouped into the following categories:

- owner responses
- NOP responses.

Graphical representations of the results are provided in Figures 5 - 8.

Observations on the perceived performance of the alliances include:

- typically the NOPs tended to have a higher perceived degree of success on most items surveyed than their owner counterparts
- only 2.7 percent of NOPs believed their alliance did not meet the requirements (aggregated), compared with 4.5 percent of owners
- NOPs were significantly more positive about time and cost outcomes than owners
 - time: 72.3 percent vs 45.7 percent rated their alliance above or game-breaking
 - cost: 74.4 percent vs 54.3 percent rated their alliance above or game-breaking.

Alliance performance – owners

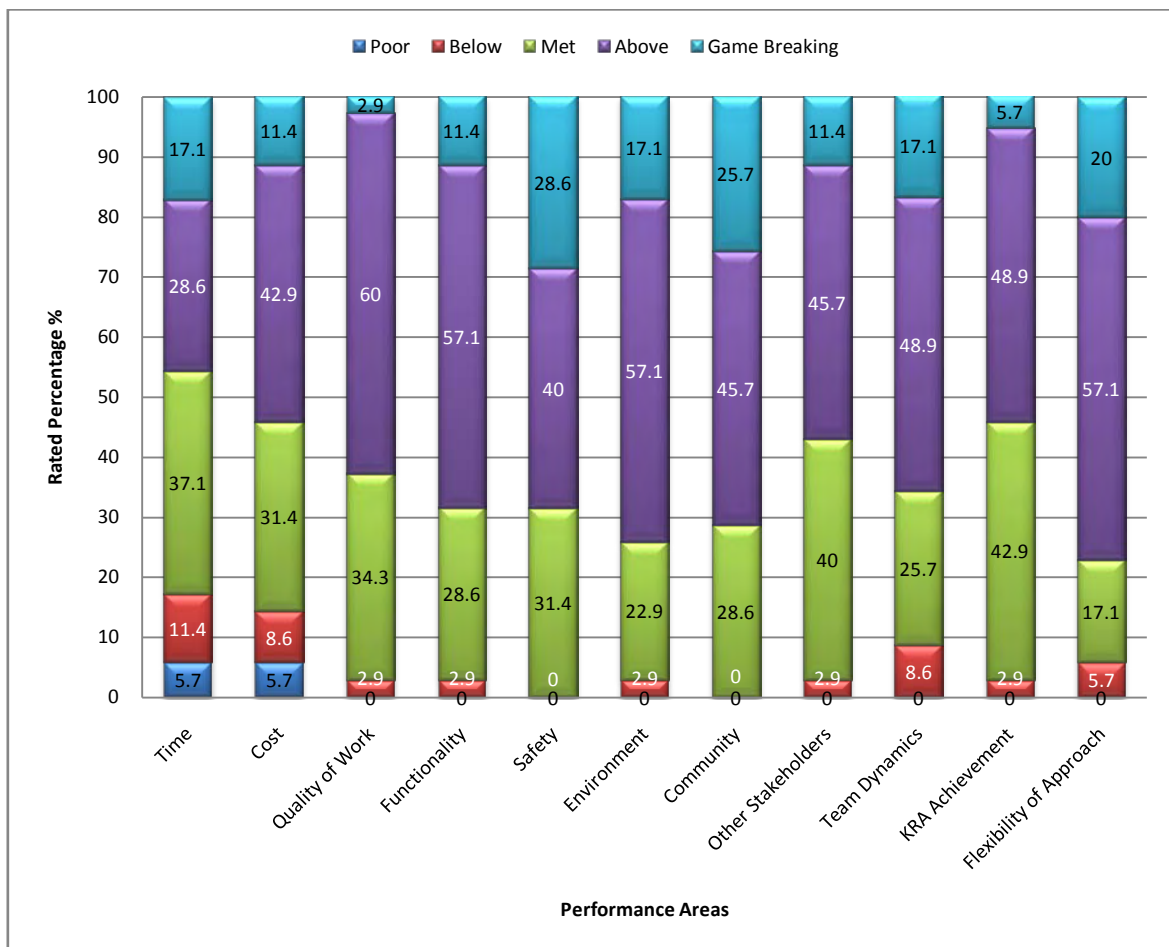


Figure 5: Alliance performance – owners (key areas)

Alliance performance – NOPs

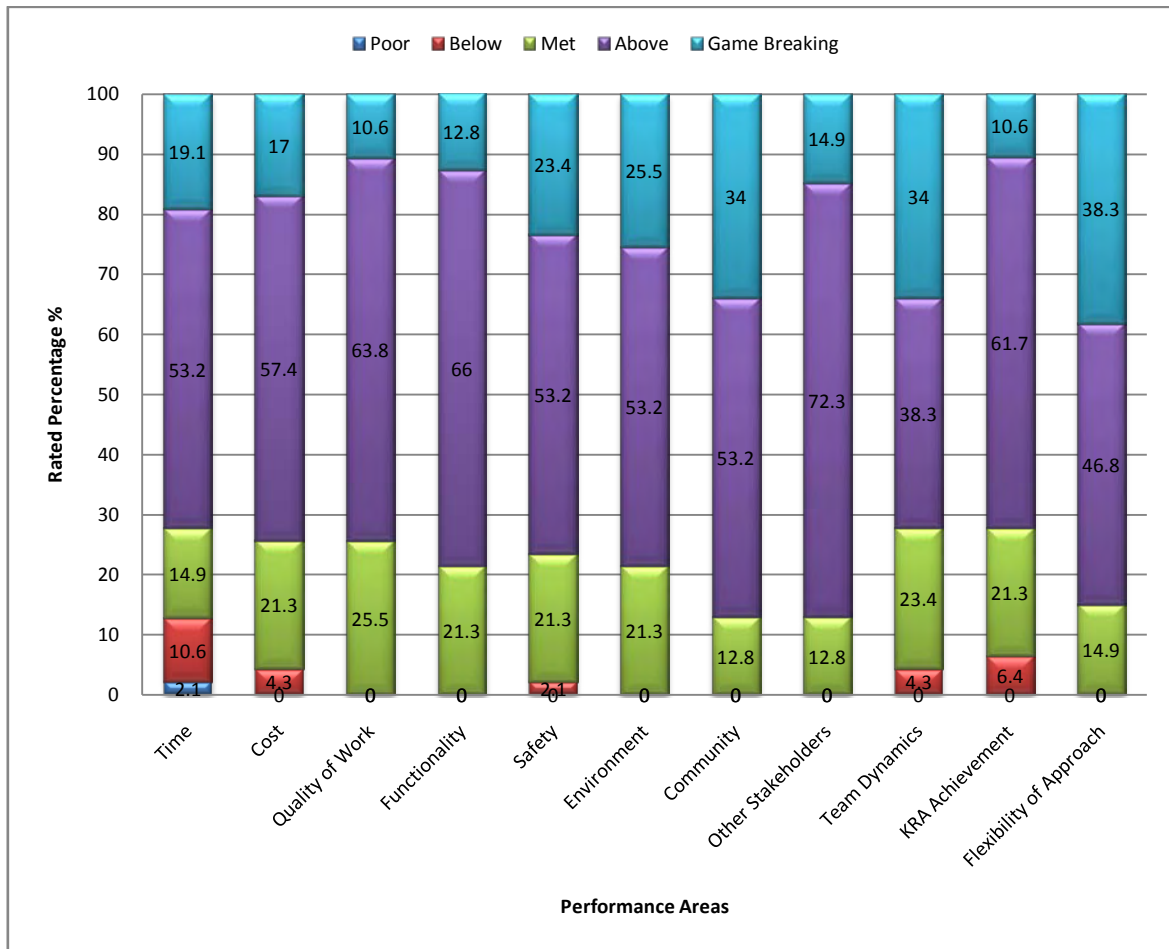


Figure 6: Alliance performance – NOPs (key areas)

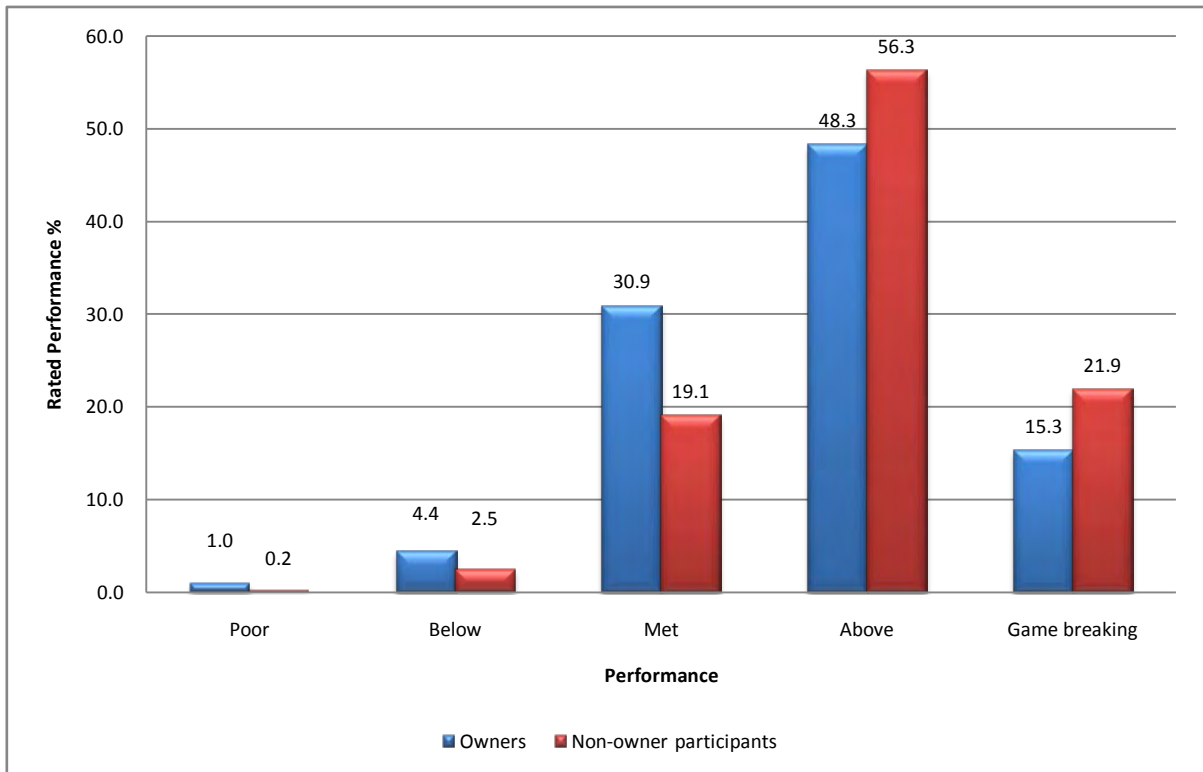


Figure 7: Alliance performance percentages – owners and NOPs (average)

TOC Comparison

Respondents were asked to provide the initial, final and actual (if complete) target outturn cost (TOC). Of the forty-six alliances surveyed, 85 percent met or came below the TOC, with 15 percent over budget. Figure 8 outlines the percentage of alliances that either met the TOC or fell within each 10 percent range below and over the TOC.

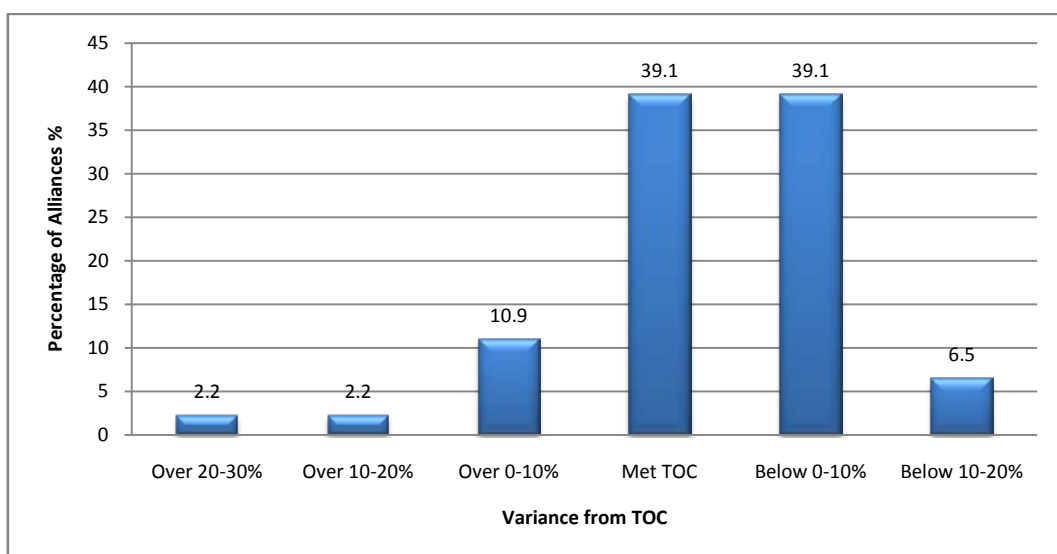


Figure 8: Variance in TOC – Range

Project duration comparison

Initial, final and actual project duration was also analysed. Figure 9 outlines the percentage of alliances that met the target project duration and those that fell within each 10 percent range below and over the target.

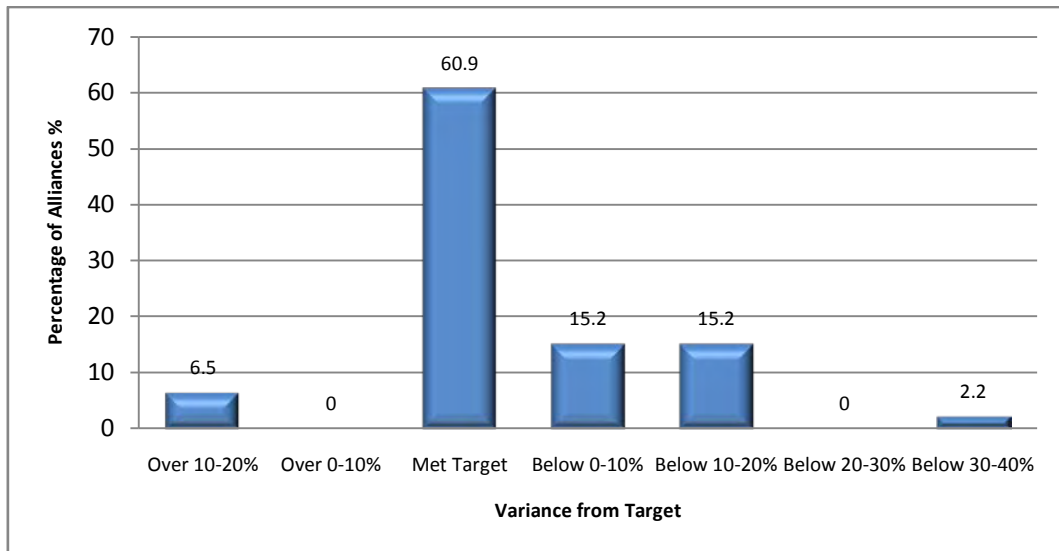


Figure 9: Variance in project duration – range

Figure 10 shows actual time and cost performance of the forty-six alliances as a percentage of final time and cost as agreed in the TOC. The majority of alliances performed well on time and cost, but it is interesting to note, the projects that ran over time, did not always run over cost, and vice versa.

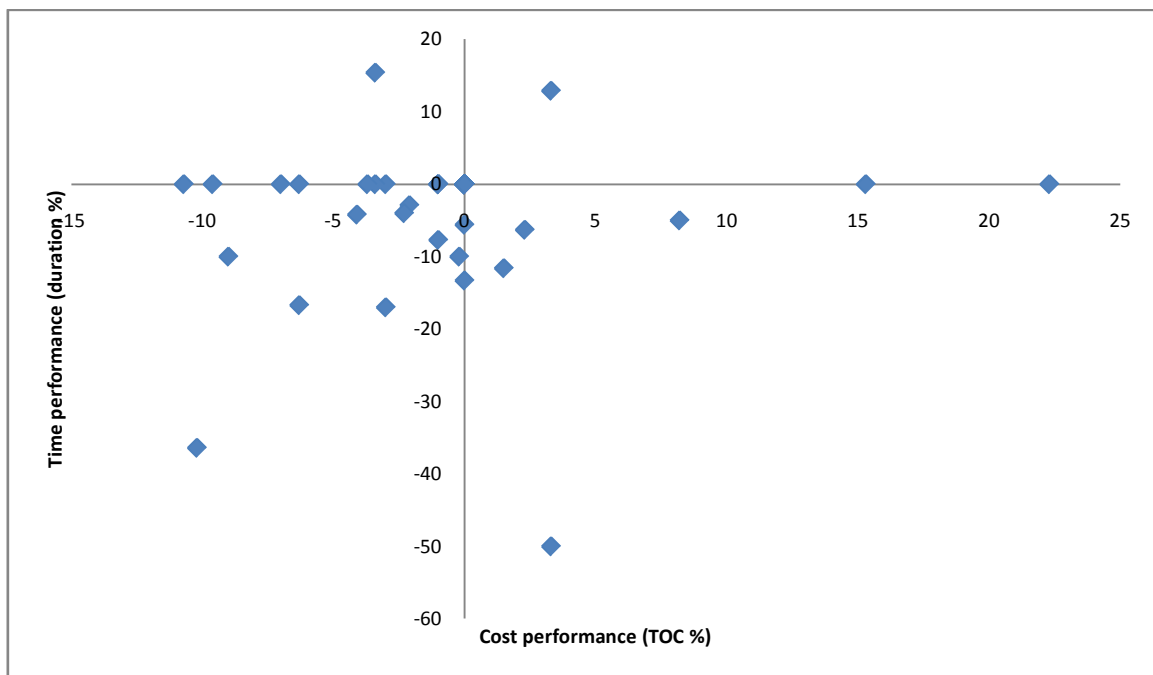


Figure 10: Final vs actual time and cost performance

Activities undertaken prior to selecting an alliance

A review of activities undertaken by the owner prior to selecting an alliance as the delivery method revealed that a business case had not been developed 15.1 percent of the time nor a scope of work 12.1 percent of the time (Figure 11).

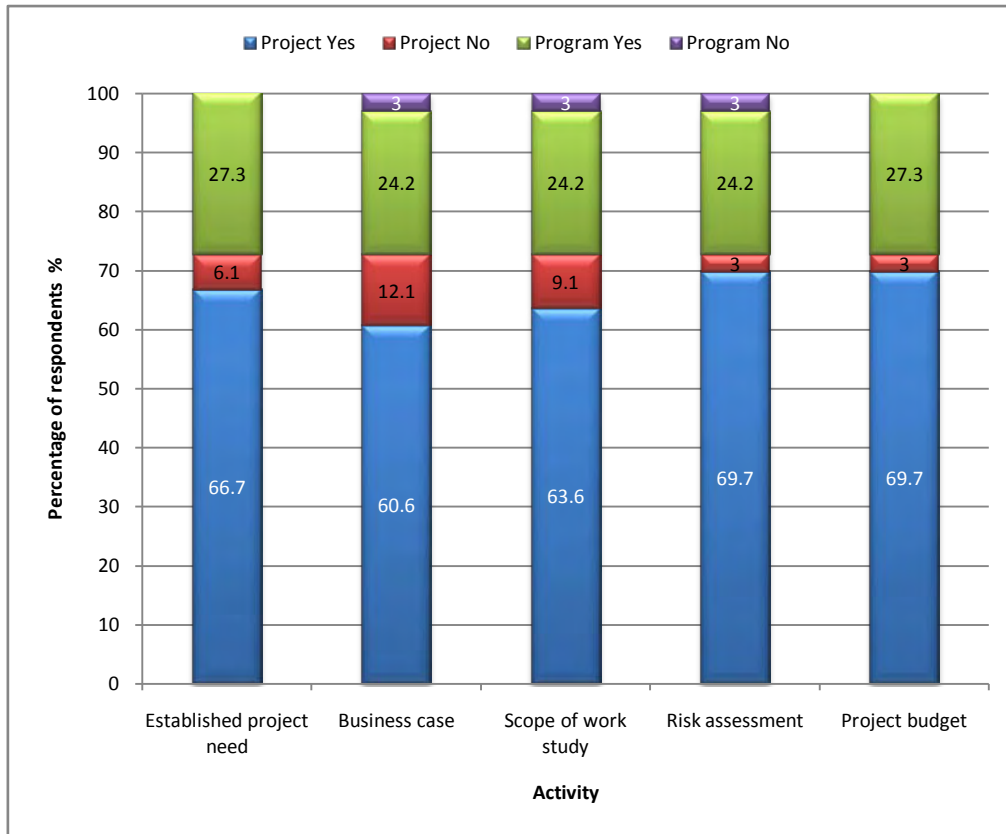


Figure 11: Summary of activities undertaken prior to selecting an alliance

Items of importance

Respondents were asked to rate key items considered in terms of their importance in arriving at the decision to use an alliance procurement method.

Responses have been grouped into the following categories:

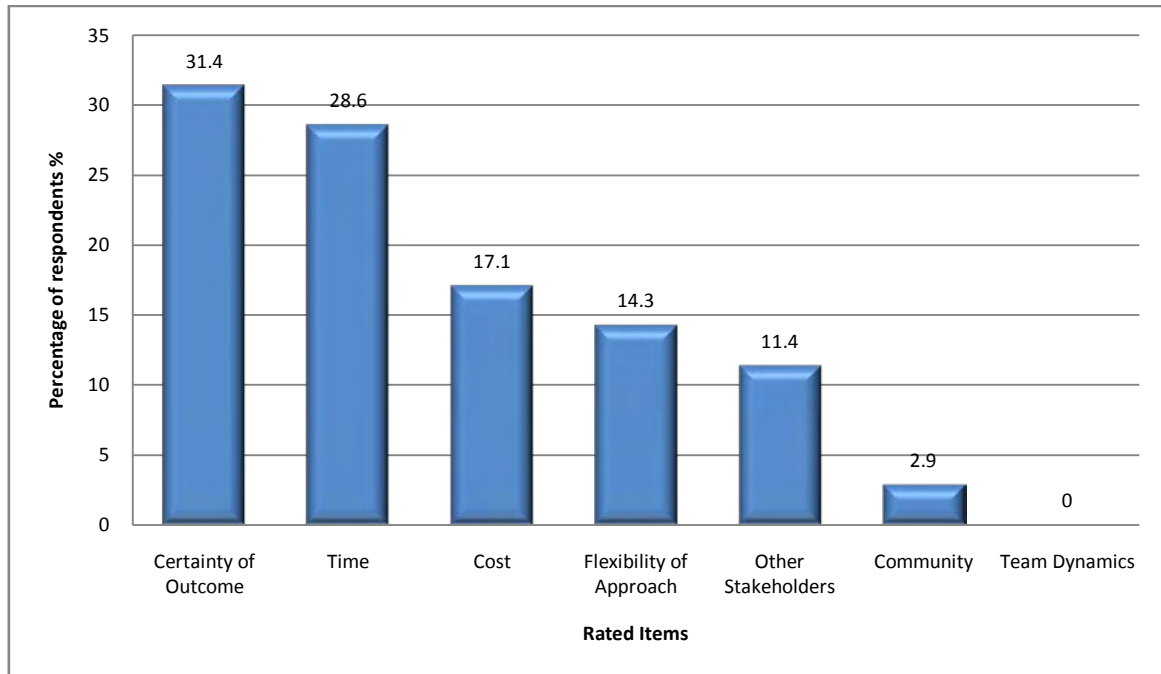
- owner responses
- NOP responses

Graphical representation of the results is provided in Figures 12 and 13.

Observations on the perceived items of importance to select an alliance include:

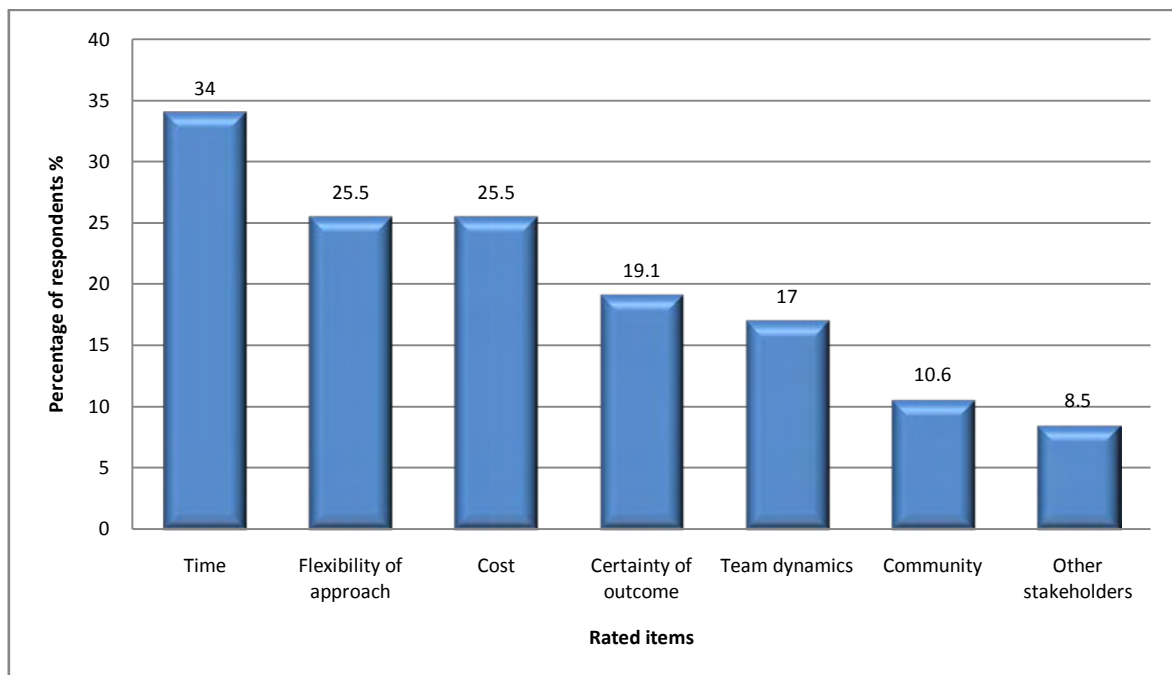
- Owners viewed certainty of outcome (31.4%) to be of highest importance when selecting an alliance procurement method, followed by time (28.6%) and cost (17.1%).
- Non-owner participants viewed time (34.0%) to be of highest importance, followed by flexibility of approach and cost (both 25.5%).
- Non-owner participants did not rate certainty of outcome (19.1%) very highly in comparison to the owners' view that this was most important.

- Both owners and non-owner participants did not view other stakeholders or community to be of particularly high importance.
- Non-owner participants viewed team dynamics significantly higher than owners (17% to 0%).



Note: Does not total 100% as some respondents gave multiple answers/no answer for this question

Figure 12: Summary of items of importance – owners



Note: Does not total 100% as some respondents gave multiple answers/no answer for this question.

Figure 13: Summary of items of importance – non-owner participants

Other items

A number of further questions were posed in the survey which, together with their responses are:

- Could the project have achieved a better result using an alternative delivery method?
 - owners Yes 3%, No 97%
 - NOPs Yes 5%, No 95%
- Did the evaluation include cost criteria?
 - Yes 50%, No 50%
- Did the evaluation include benchmarking the NOPs profit and overhead fee?
 - Yes 91%, No 9%

Correlation of key factors to TOC and time outcomes

Further analysis of the data was undertaken to determine if there was any correlation between data sets that drove time and cost outcomes.

From the owners data, there was a strong correlation between good time and cost outcomes, that is those that bettered the TOC and time requirements, and those projects which had good performance on stakeholder management and community. There was also a strong correlation between poor time and cost outcomes, and those projects which placed a lower degree of importance on cost, team dynamics and safety.

From the non-owner participant data, there was a moderate correlation between good time and cost outcomes, and projects which placed a larger degree of importance on team dynamics and community. Supporting this point, there was a strong correlation between poor project performance, and projects which placed a lower degree of importance on team dynamics, community and other stakeholders.

Discussion

Key observations from the survey on the perceived performance of the alliances include:

- NOPs tended to have a higher perceived degree of success than owners
- 14.3 percent of surveyed alliances had not completed a business case prior to selecting an alliance as the preferred delivery method
- there was an even split of projects that used cost criteria in their evaluation process
- 91 percent of projects included benchmarked NOP profit and overhead fee
- there was an even split of projects that used cost criteria in their evaluation process
- Only 11 percent of projects included benchmarked NOP profit and overhead fee
- team dynamics is viewed as a significant driver for NOPs, and had a moderate correlation with good time and cost outcomes
- owners placed the lowest degree of importance on team dynamics
- there was strong correlation between stakeholder management and community with good time and cost outcomes.

In drawing conclusions from the data, we must be mindful of the limitations of the study, and beware of overly optimistic self evaluation.

Further analysis will be possible for the projects which are used as detailed case studies in phase 2, where any optimistic evaluations can be further investigated and reported.

Items for further investigation

Key items and themes which have become evident through the Phase 1 study, and worthy of further investigation in Phase 2 include:

- an analysis of the self evaluations against actual project data gained from the detailed case studies
- the gap between owner and NOPS' approach to team dynamics, and its subsequent affect on project outcomes
- the relationship between excellent project outcomes and the overall cost of the project.

Appendix A Phase 1 Survey Templates

In Pursuit of Additional Value - Owner Questions

1. Introduction

A group of four State Treasuries (NSW/Qld/Vic and WA) consider it timely to measure the incremental value for money being achieved for taxpayers through the adoption of Alliancing and have sought the joint services of The University of Melbourne and Evans & Peck to undertake a detailed benchmarking study of Alliancing across Australia.

This study aims to measure whether Alliancing delivers incremental value for money (VfM) to Government (the taxpayer) against other procurement methods. It is important because it will provide a guide for industry to better understand the concept of value for money from the Government's perspective and under what circumstances Alliances are the preferred project implementation methodology.

Thank you for participating in Phase 1 of this important study. The following questionnaire will take you approximately 10-15 minutes to complete.

This Phase 1 questionnaire will involve investigating a broad range of public sector Alliances in Australia to establish:

- The forms of Alliancing being used in Australia;
- The perceived success of current Alliancing, based on reported project outcomes of time, cost, quality of work, functionality, safety, environment, community, other stakeholders, team dynamics, KRA achievement, and flexibility of approach;
- Key factors and contextual influences on projects; and
- An identified list of Alliances that are prepared to participate in Phase 2 of the study and on a confidential basis provide Alliance information and documentation for review.

At the end of this questionnaire, you will have the opportunity to give your contact details if you are prepared to participate in Phase 2 of the study. This phase will involve an in-depth investigation of Alliances through confidential interviews and providing access to Alliance documentation.

Phase 2 is anticipated to be completed in July 2009.

The study report is to be presented to the Departments of Treasury & Finance in August 2009.

In Pursuit of Additional Value - Owner Questions

2.

1. What is/was the name of your Alliance?

2. Please provide the names of the companies involved in your Alliance:

Owner

Contractor

Contractor

Designer

Designer

Sub-Alliance

Sub-Alliance

Sub-Alliance

3. Please provide the names of the individuals involved in your Alliance who undertook the following positions:

PAB/ALT[Owner]

PAB/ALT[Owner]

PAB/ALT[Owner]

PAB/ALT[Contractor]

PAB/ALT[Contractor]

PAB/ALT[Contractor]

PAB/ALT[Designer]

PAB/ALT[Designer]

PAB/ALT[Designer]

Alliance Manager

4. Please provide the company names of any Advisors to the Alliance:

Legal Advisor

Alliance Facilitator

Coach

Independent

Estimator

Financial Auditor

Gateway Review

Other

Other

In Pursuit of Additional Value - Owner Questions

3.

5. What format did the Alliance Agreement take?

Note:

- **Project Alliance** - means a project that is implemented as an Alliance - similar to - refer to **Victorian Government Alliancing Practitioner's Guide**;
- **Program Alliance** - means a series of Project Alliances carried out by the same Alliance team

	Single TOC	Multiple TOC
Project Alliance	<input type="radio"/>	<input type="radio"/>
Program Alliance	<input type="radio"/>	<input type="radio"/>
Other ie. ECI	<input type="radio"/>	<input type="radio"/>

If Other, please specify

6. How would you rate the Alliance's performance in the following areas (performance as set out in the accepted PAA - TOC):

	Poor	Below	Met	Above	Game Breaking
Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Functionality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Stakeholders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team Dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
KRA Achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility of Approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please answer the following questions:

Note:

- **Initial Target Outturn Cost** - means Target Cost Estimate (TCE) plus Fee;
- **Final Target Outturn Cost** - means Final agreed TCE plus Fee adjusted for approved variations;
- **Actual Outturn Cost** - means Total agreed Actual Cost plus Fee (excluding pain/gain share);
- **Target Cost Estimate (TCE)** - means Direct Project Costs plus Project specific Overheads;
- **Fee** - means Corporate Overheads and charges and Profit

What was the initial target outturn cost (\$m)?

What was the final target outturn cost (\$m)?

What was the actual target outturn cost (\$m)?

In Pursuit of Additional Value - Owner Questions

8. Please answer the following questions:

Note:

- **Initial Project Duration** - means the project durations as agreed in the TCE;
- **Final Project Duration** - means the project duration as agreed and amended in terms of the Alliance Agreement;
- **Actual Project Duration** - means the Actual project duration to complete the project in terms of the Alliance Agreement

What was the initial
Project duration?
[months]

What was the final
Project duration?
[months]

What was the actual
Project duration?
[months]

In Pursuit of Additional Value - Owner Questions

4.

9. What activities did you undertake prior to selecting the alliance procurement method?

	Yes	No
Established project need	<input type="radio"/>	<input type="radio"/>
Business Case	<input type="radio"/>	<input type="radio"/>
Scope of Work Study	<input type="radio"/>	<input type="radio"/>
Risk Assessment	<input type="radio"/>	<input type="radio"/>
Project Budget	<input type="radio"/>	<input type="radio"/>

10. Rate the items below in terms of their importance in arriving at the decision to use an alliance procurement method.

Note: Please rate items on a scale of 1 to 7 with 1 being of highest importance and 7 being of lowest importance.

Time	<input type="text"/>
Cost	<input type="text"/>
Flexibility of Approach	<input type="text"/>
Community	<input type="text"/>
Other Stakeholders	<input type="text"/>
Team Dynamics	<input type="text"/>
Certainty of Outcome	<input type="text"/>

In Pursuit of Additional Value - Owner Questions

5.

11. Do you believe that this project could have achieved a better result using an alternative delivery method ie. D&C/other?

- Yes
- No

If yes, please specify the delivery method

12. During the procurement phase, did the evaluation include cost criteria?

- Yes
- No

13. During the procurement phase, did the evaluation include benchmarking the non-owner participants' profit and overhead fee?

- Yes
- No

14. Please provide your contact details below if you would be prepared to participate in Phase 2 of this study and provide more detailed information and documentation for review on a confidential basis.

Name:

Company:

Email Address:

Phone Number:

In Pursuit of Additional Value - NOPs Questions

1. Introduction

A group of four State Treasuries (NSW/Qld/Vic and WA) consider it timely to measure the incremental value for money being achieved for taxpayers through the adoption of Alliancing and have sought the joint services of The University of Melbourne and Evans & Peck to undertake a detailed benchmarking study of Alliancing across Australia.

This study aims to measure whether Alliancing delivers incremental value for money (VfM) to Government (the taxpayer) against other procurement methods. It is important because it will provide a guide for industry to better understand the concept of value for money from the Government's perspective and under what circumstances Alliances are the preferred project implementation methodology.

Thank you for participating in Phase 1 of this important study. The following questionnaire will take you approximately 10-15 minutes to complete.

This Phase 1 questionnaire will involve investigating a broad range of public sector Alliances in Australia to establish:

- The forms of Alliancing being used in Australia;
- The perceived success of current Alliancing, based on reported project outcomes of time, cost, quality of work, functionality, safety, environment, community, other stakeholders, team dynamics, KRA achievement, and flexibility of approach;
- Key factors and contextual influences on projects; and
- An identified list of Alliances that are prepared to participate in Phase 2 of the study and on a confidential basis provide Alliance information and documentation for review.

At the end of this questionnaire, you will have the opportunity to give your contact details if you are prepared to participate in Phase 2 of the study. This phase will involve an in-depth investigation of Alliances through confidential interviews and providing access to Alliance documentation.

Phase 2 is anticipated to be completed in July 2009.

The study report is to be presented to the Departments of Treasury & Finance in August 2009.

In Pursuit of Additional Value - NOPs Questions

2.

1. What is/was the name of your Alliance?

2. Please provide the names of the companies involved in your Alliance:

Owner

Contractor

Contractor

Designer

Designer

Sub-Alliance

Sub-Alliance

Sub-Alliance

3. Please provide the names of the individuals involved in your Alliance who undertook the following positions:

PAB/ALT[Owner]

PAB/ALT[Owner]

PAB/ALT[Owner]

PAB/ALT[Contractor]

PAB/ALT[Contractor]

PAB/ALT[Contractor]

PAB/ALT[Designer]

PAB/ALT[Designer]

PAB/ALT[Designer]

Alliance Manager

4. Please provide the company names of any Advisors to the Alliance:

Legal Advisor

Alliance Facilitator

Coach

Independent

Estimator

Financial Auditor

Other

Other

In Pursuit of Additional Value - NOPs Questions

3.

5. What format did the Alliance Agreement take?

Note:

- **Project Alliance** - means a project that is implemented as an Alliance - similar to - refer to **Victorian Government Alliancing Practitioner's Guide**;
- **Program Alliance** - means a series of Project Alliances carried out by the same Alliance team

	Single TOC	Multiple TOC
Project Alliance	<input type="radio"/>	<input type="radio"/>
Program Alliance	<input type="radio"/>	<input type="radio"/>
Other ie. ECI	<input type="radio"/>	<input type="radio"/>

If Other (please specify)

6. How would you rate the Alliance's performance in the following areas (performance as set out in the accepted PAA - TOC):

	Poor	Below	Met	Above	Game Breaking
Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Functionality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Stakeholders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team Dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
KRA Achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility of Approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please answer the following questions:

Note:

- **Initial Target Outturn Cost** - means Target Cost Estimate (TCE) plus Fee;
- **Final Target Outturn Cost** - means Final agreed TCE plus Fee adjusted for approved variations;
- **Actual Outturn Cost** - means Total agreed Actual Cost plus Fee (excluding pain/gain share);
- **Target Cost Estimate (TCE)** - means Direct Project Costs plus Project specific Overheads;
- **Fee** - means Corporate Overheads and charges and Profit

What was the initial target outturn cost (\$m)?

What was the final target outturn cost (\$m)?

What was the actual target outturn cost (\$m)?

In Pursuit of Additional Value - NOPs Questions

8. Please answer the following questions:

Note:

- **Initial Project Duration** - means the project durations as agreed in the TCE;
- **Final Project Duration** - means the project duration as agreed and amended in terms of the Alliance Agreement;
- **Actual Project Duration** - means the Actual project duration to complete the project in terms of the Alliance Agreement

What was the initial Project duration? [months]

What was the final Project duration? [months]

What was the actual Project duration? [months]

9. Rate the items below in terms of their importance in delivering a successful outcome for this Alliance.

Note: Please rate items on a scale of 1 to 7 with 1 being of highest importance and 7 being of lowest importance.

Time	<input type="text"/>
Cost	<input type="text"/>
Flexibility of Approach	<input type="text"/>
Community	<input type="text"/>
Other Stakeholders	<input type="text"/>
Team Dynamics	<input type="text"/>
Certainty of Outcome	<input type="text"/>

In Pursuit of Additional Value - NOPs Questions

4.

10. Do you believe that this project could have been effectively implemented using a different procurement method ie. D&C/other?

- Yes
- No

If yes, please specify the delivery method

11. Please provide your contact details below if you would be prepared to participate in Phase 2 of this study and provide more detailed information and documentation for review on a confidential basis.

Name:

Company:

Email Address:

Phone Number:

Appendix B List of alliances included in Phase 1

No.	Alliance/Project Name
1.	ARTC – Ansaldo STS Network Control Systems Alliance (AANCSA)
2.	Alkimos Water Alliance
3.	ARTC Victoria Network Maintenance Alliance
4.	Aspect3 Alliance
5.	Brisbane Waste Innovation Alliance – Transfer Station & Landfill Project
6.	Beenleigh Merrimac Pimpama Wastewater (BMP) Alliance – Network Upgrade
7.	Blue Water Consortium
8.	Boggo Road Busway Alliance
9.	Brisbane Inner Northern Busway Alliance
10.	Brisbane Water Enviro Alliance (BWEA)
11.	Burnett Dam Alliance – Paradise Dam
12.	C2HC Alliance – Cooperook to Herons Creek
13.	Cleaner Seas Alliance
14.	CoalConnect Alliance – Goonyella to Abbot Point
15.	Coal Stream Alliance
16.	Connect Alliance – Sydney Desalination Plant Pipeline
17.	Craigieburn Rail Alliance
18.	Cronulla Rail Line Alliance
19.	Deep Sea Ocean Release Alliance
20.	Future Flow Alliance – Shepparton
21.	Gippsland Water Factory Alliance
22.	Gold Coast Desalination Alliance (GCDA)
23.	Hale Street Link Alliance
24.	Hinze Dam Stage 3 Alliance
25.	Horizon Alliance
26.	Ingham Alliance – Bruce Highway
27.	K2RQ Alliance – Kingsgrove to Revesby Quadruplication
28.	Middleborough Road Alliance

No.	Alliance/Project Name
29.	Millstream Link Alliance – Karratha to Tom Price
30.	Monash-City Link – South Link
31.	Monash-City Link – Monash Section
32.	Monash-City Link – West Gate Alliance
33.	Networks Alliance
34.	Northern Hume Alliance
35.	Northern Improvement Alliance
36.	Northside Storage Tunnel
37.	PacificLink Alliance – Tugun Bypass
38.	Port of Melbourne and Boskalis Australia Alliance (POMBAA) – Channel Dredging
39.	PPS Upgrade Program Alliance
40.	Priority Sewerage Program
41.	Roads Rivers Relocation (RRR) Alliance
42.	ROE 7 Alliance
43.	RXR Alliance – Acacia Ridge Rail Crossing Overpass
44.	S2K Rail Alliance
45.	Safelink Alliance – Ipswich Upgrade Wacol to Darra
46.	Sandgate WWTP Upgrade
47.	Sewer Fix Pumping Stations SPS Alliance
48.	SewerFix Wet Weather Alliance (SWWA)
49.	South East Water Services Alliance "us Alliance"
50.	South Improvement Alliance
51.	Southern Gateway Alliance – Perth to Bunbury
52.	Southern Hume Alliance
53.	Southern Region Water Pipeline Alliance (SRWPA)
54.	Southern Road Services Alliance
55.	Southern Queensland Accelerated Road Rehabilitation Project (SQARRP) – Bridge Replacement

No.	Alliance/Project Name
56.	Sugarloaf Pipeline Alliance
57.	Sunset Coast Water Alliance
58.	Toowoomba Pipeline Alliance
59.	TrackStar Alliance
60.	Tulla-Calder Freeway Alliance
61.	Tully Alliance – Bruce Highway
62.	W2W-Bunyup WWTP
63.	Water Matters Alliance
64.	Water Services Alliances (3 contracts)
65.	Western Corridor Recycled Water Project (WCRWP) – Bundamba Alliance
66.	Western Corridor Recycled Water Project (WCRWP) – Eastern Pipeline Alliance
67.	Western Corridor Recycled Water Project (WCRWP) – Gibson Island Alliance
68.	Western Corridor Recycled Water Project (WCRWP) – Luggage Point Alliance
69.	Western Corridor Recycled Water Project (WCRWP) – Western Pipeline Alliance
70.	Western WWTP Enviro
71.	Windsor Road Alliance



Appendix B

Findings and Cross Case Analysis

This appendix provides a high level summary of the cross case analysis that forms the basis of the key findings.

Key

Symbol	Description
✓	Represents the individual case study exhibited the criteria noted
✗	Represents the individual case study did not exhibit the criteria noted
—	Represents insufficient data available to undertake analysis

Terminology

Term	Description	Quantity
No indication	In none of the case studies	0
Little indication	In one or two of the case studies	1-2
Some/sometimes	In three or four of the case studies	3-4
Often	In five, six or seven of the case studies	5-7
Generally/majority	In greater than seven, but less than 14 of the case studies	8-13
Always	In all case studies	14

Key finding 1: Business case – Defining the project’s VfM proposition

Business cases often did not clearly define the project VfM proposition to the rigour required for investment decision making.

Particular findings of note:

- The average increase from business case cost estimate to AOC was of the order of 45-55%.
- The business case assessment of an optimum delivery method often tended to ‘default’ to alliancing using a non-price selection approach for NOPs and did not consider a range of other delivery options.
- In general, a robust program and budget was not evident from the business case stage.

Business case development	1	2	3	4	5	6	7	8	9	10	11	12	13	14
AOC higher than business case cost estimate by more than 25%	✓	✗	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗
Delivery methods other than alliancing using a non-price selection approach for NOPs, were considered at the business case stage	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
Evidence of a robust program and budget from the business case stage	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓

Analysis of the case study data found an average increase from business case cost estimate to AOC of the order of 45-55%.

Key finding 2: Procurement strategy – Owner’s rationale for selecting the alliance delivery method

Having considered project specific requirements, the primary reasons for selecting the alliance delivery method, in addition to those contained in the DTF Project Alliancing Practitioners’ Guide were:

- to achieve early project commencement through early involvement of the NOPs
- to progress the project development in parallel with the project approvals.

In general, Owner’s specifically used alliancing and the non-price competitive selection approach to attract key resources and capabilities to a project in a buoyant construction market.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Alliance method selected to achieve early commencement	x	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alliance method selected to progress project development in parallel with project approvals	x	✓	x	✓	x	✓	✓	✓	x	x	x	x	x	✓
Non-price competitive approach selected to attract NOPs in a buoyant construction market	x	x	x	x	x	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key finding 3: Selecting the NOPs – Non-price and price competition

Non-price competition

It was found that when non-price selection approaches were used to select NOPs:

- Owner representatives generally indicated moderate to high levels of satisfaction with the selection process
- Owner representatives sometimes noted that the selected NOP team members were either not made available to the project or left prematurely.

Price competition

Noting that the number of price competition approaches examined in this Study was limited to two case studies (consistent with current industry practice), it was found that when price competition was used to select NOPs:

- Owner representatives reported a significant management demand on their organisation (compared with non-price selection approach).
- the total cost to establish a TOC using price competition (two TOCs) was less (of the order of 2% of TOC) than when non-price selection (single TOC) was used.
- the TOC was found to be of the order of 5-10% (of TOC) less, relative to non-price competition on the basis that the following items were lower (in aggregate and individually) when using price competition:
 - On-site overhead costs.
 - Design costs.
 - TOC development costs.
 - NOP profit margins.

Owners on all alliances in the Study advised that good relationships had developed and that the participants worked well together as effective teams. No discernible difference was found between alliances that used price competition and non-price competition.

It was also found that generally NOPs have a strong preference for alliancing over other traditional delivery methods. Additionally, NOPs have a strong preference for non-price selection approach over price selection approach.

This finding and its components emerged from in-depth discussions with ALT members and analysis of the research data including associated commercial information.

Interviews with Owners on all alliances in the Study indicated that good relationships had developed and that the participants worked well together as effective teams. From these interviews there was no discernible difference between alliances formed from the price competitive and non-price competitive NOP selection process. There was no evidence in any alliance to indicate that undesirable behaviours or outcomes were evident as a result of price competition.

Discussions with NOPs found that they generally have a strong preference for alliancing over traditional methods and that they also generally prefer a non-price selection process.

Non-price competition

Some Owners mentioned that the team members nominated by NOPs in their proposal sometimes were either not made available to the project or left prematurely.

Price competition

A greater demand on the Owner's management resources in a price competitive selection process was noted by Owners.

Analysis of the costs to establish the various TOCs found that when price competition approaches were used TOC establishment costs were in the order of 2% (of TOC) less than when non-price approaches were used. This recognises the costs for two teams being reimbursed when using price competition.

The TOC was also found to be lower by 5-10% (of TOC) when using price competition relative to non-price competition. In reaching this finding the Research Team recognised the difficulties in making cost comparisons between different alliances as no two projects are the same. However, an insight can be gained by comparing elements of the TOC that are common across all projects.

An analysis of the commercial data revealed that each of the following elements is lower when price competition is used:

- On-site overheads.
- Design costs.
- NOP profit margins.
- TOC development costs.

In aggregate, they were found to be of the order of 10-12% (of TOC) lower when price competition was used.

Consideration was then given to factors which may materially impact on the above elements. This included:

- the different project types under consideration (road, rail, water etc.)
- the different project values and timeframes
- the different NOPs in the various alliances who may have different margin expectations
- the differing compensation frameworks and risk profiles
- the different Owners and their expectations
- the different geographic areas and time periods with different market pressures and different demands on the project.

Consideration was also given to the fact that there was little evidence of outstanding outcomes and that savings on the TOC were generally small, as noted elsewhere.

On balance, the Research Team assessed that there was no net material change to the original 10-12% due to these factors. However, recognising that there were only two case studies, the Research Team felt it prudent to adjust the range downwards to 5-10%, to be conservative for the purpose of reporting the Study finding.

Key finding 4: Agreeing the commercial arrangements – Commencement of physical work

Often physical works commenced prior to finalising the commercial arrangements with the NOPs.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Work commenced prior to finalising the TOC	✓	x	x	x	x	x	x	x	✓	✓	✓	✓	✓	x

Key finding 5: Agreeing the commercial arrangements – Business case cost compared to initial TOC

In general, the agreed (initial) TOC was higher than the business case cost estimate. The average increase was of the order of 35-45%.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Initial TOC higher than business case estimate by more than 25%	✓	✗	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗

Analysis of the case study data found an average increase from business case cost estimate to (initial) TOC of the order of 35-45%. Although the initial TOC was generally more than 25% higher than the business case estimate, there was little evidence to suggest the investment decision was formally reconsidered.

Key finding 6: Agreeing the commercial arrangements – Project Alliance Agreement (PAA)

A variety of terms and conditions were employed by the various Owners in the PAA.

In particular:

- NOP corporate overhead and profit: Generally fixed upon agreement of the TOC, often variable as a percentage of actual costs.
- No blame clause: Generally unconditional; little indication of modified clauses.
- Dispute resolution: Generally silent; little indication of express provisions for resolution beyond the ALT (outside the alliance).
- Incentive/penalty arrangements on time: Generally included; often not.
- Owner reserved powers: Often reserved powers stated; sometimes not.
- Performance security by NOPS: Little indication that security was required; generally not.

PAA terms	1	2	3	4	5	6	7	8	9	10	11	12	13	14
NOP profit margin variable	✓	✓	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓
Unconditional no blame clause	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Express provision for dispute resolution beyond ALT	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
Incentive/penalty arrangements on time included	✓	✓	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
Owner reserved powers	✗	✗	–	✗	–	–	–	–	✓	✓	✓	✓	✓	–
Performance security supplied by NOPS	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗

Key finding 7: Agreeing the commercial arrangements – Outstanding outcomes

Generally it is a requirement expressed in the PAA that the parties commit to achieving outstanding (game breaking) outcomes.

The commercial arrangements generally provide financial incentives for NOPs (incentivised KRAs) to achieve outstanding (game breaking) outcomes.

It was also noted that estimated costs associated with pursuing outstanding (game breaking) outcomes are often included in the TOC.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PAA specifies outstanding or game breaking outcomes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Incentivised KRAs specified	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓

Generally the alliances engaged external coaches and provided extra facilities and services to support the achievement of outstanding (game breaking) outcomes as set out in the alliance charter (or similar) and the incentivised KRAs. In these cases, provision for the associated costs was generally made in the TOC.

Key finding 8: Project delivery – Non-price objectives

In general, Owner representatives (regardless of approach to selecting NOPs) rated their alliance's performance in all areas of non-price objectives as above expectations or game breaking. The areas of non-price criteria assessed were:

- quality of work
- functionality
- safety
- environment
- community
- other stakeholders
- team dynamics
- KRA achievement
- flexibility of approach.

Analysis

Alliance performance as rated by Owner representatives in Phase 1 of the Study:



Key finding 9: Project delivery – Owner resources

The number of Owner resources provided to the alliances varied.

There was no clear correlation between the number of Owner resources and enhanced VfM.

It was noted that active senior level participation by the Owner provided clear direction and support to the alliance.

The various in-depth interviews with Owners and NOPs provided an overall pattern of responses that led to this finding.

Key finding 10: Project delivery – Early commencement of physical work and project completion

The project's physical works were able to be commenced many months in advance of what would have been possible using traditional delivery methods (as noted elsewhere) leading to a commensurate earlier completion date.

The majority of projects met the Owners' target completion dates as set out in the business case.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Alliance works were able to commence in advance of a traditional delivery method	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Projects met the Owners' target dates as set out in the business case	x	✓	✓	x	✓	x	✓	x	✓	✓	✓	✓	✓	✓

Key finding 11: Project delivery – No disputes

There were no indications of any disputes between the Owner and the NOPs that needed to be resolved outside the alliance.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Indication of any disputes not resolved within the alliance	x	x	x	x	x	x	x	x	x	x	x	x	x	x

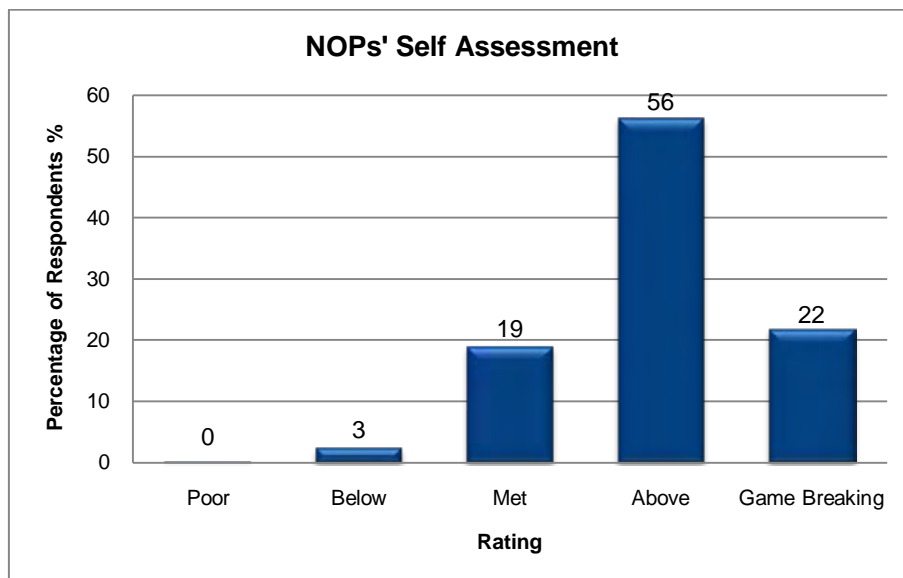
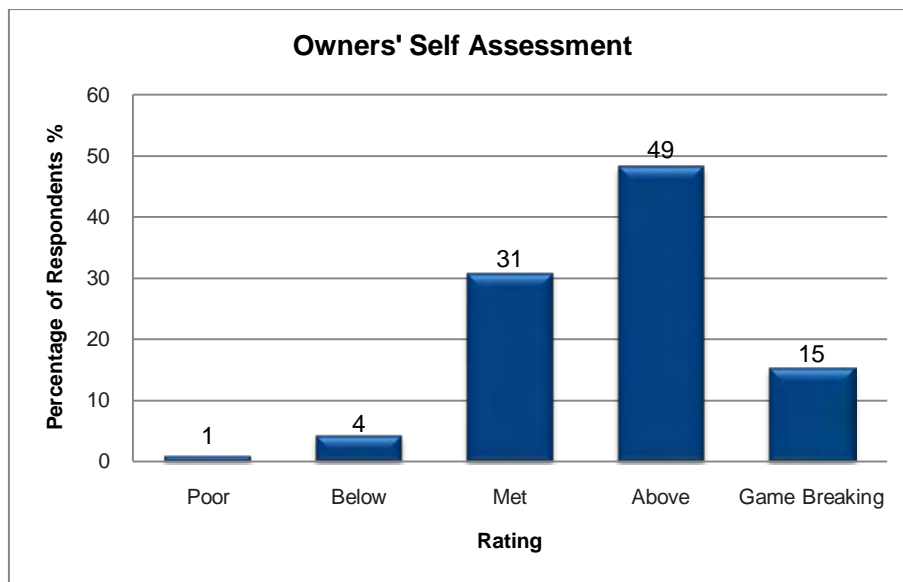
Key finding 12: Project delivery – Outstanding outcomes (game breaking / breakthrough)

There was little indication that outstanding outcomes (game breaking / breakthrough) were actually being achieved within the definitions in use in this Study ('paradigm shift', 'not been done before').

This finding significantly differs with the self-evaluation of both NOPs and Owner representatives within the alliances who considered that their own alliances had achieved outstanding outcomes.

Analysis

Data from Phase 1 of the Study shows that 15% of Owners and 22% of Non-owner Participants rated their alliance performance in some areas as game breaking.



The Study uses a definition for outstanding performance, as used in industry, which includes:

- a 'step change' or 'quantum leap' in performance, better than anything previously achieved
- performance improvement that is discontinuous with previous performance or improvement trends
- a 'paradigm shift'
- performance that is beyond predictability
- performance not known to be achievable.

It is not known what definition NOPs or Owners used in their assessment.

Research Team assessment of the alliance performance based on the Study definition of outstanding (game breaking):

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Outstanding outcomes achieved in any area of the project	x	x	x	x	x	x	x	x	✓	x	x	x	x	x

Based on the in-depth interviews and detailed analysis of the project data there was little indication of outstanding outcomes. Outcomes and performance were generally consistent with past industry practice and results evidencing a 'quantum leap' from past performance, performance beyond predictability or 'paradigm shift' was not identified.

Key finding 13: Project delivery – Adjustments to agreed TOC

In general, there was an increase from agreed (initial) TOC to adjusted (final) TOC. The average increase was of the order of 5-10%.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Upwards adjustment from initial to final TOC	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✗

Analysis of the case study data found an average increase from agreed (initial) TOC to adjusted (final) TOC of the order of 5-10%.

Key finding 14: Project delivery – Adjusted TOC and AOC

In general, the AOC was less than the adjusted (final) TOC. The average saving was of the order of 0.5%.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
AOC less than final TOC	x	✓	✓	x	✓	x	x	✓	✓	✓	x	x	✓	✓

Analysis of the case study data found an average decrease from adjusted (final) TOC to AOC of the order of 0.5%.

The majority of alliance AOCs were within $\pm 3\%$ of TOC (final).

The background is a vibrant blue with a complex pattern of thin, curved lines that create a sense of motion and depth. A central graphic consists of several concentric circles with a bright white center, surrounded by smaller, fainter circles. The overall aesthetic is modern and technological.

Appendix C

Example of case study data
collection format

Ref	Project Element	Description
1	ALLIANCE DEVELOPMENT	
1.1	Project Need	Comprehensiveness of the assessment and documentation of the requirement for the project
1.2	Value for Money	VfM objectives used
1.3	Business Case	Comprehensiveness of the business case
1.4	Reason for Alliancing	The key reason to adopt an alliance
1.5	NOP Selection	The NOP selection process
1.6	PAA/TOC Development	The PAA and TOC development process
2	ALLIANCE IMPLEMENTATION PERFORMANCE	
2.1	Time	Assessment of the delivery of the project in key areas
2.2	Relationships	
2.3	Cost	
2.4	Stakeholders	
2.5	Community	
2.6	Environment	
2.7	Safety	
2.8	Quality	
3	ALLIANCE AGREEMENT – Variations in PAAs	
3.1	Insurance	Insurance arrangements
3.2	Performance Security	
3.3	No Blame/Blame	Dispute provisions
3.4	Fees	Nature of fees (variable/lump sum)
3.5	Pain/Gain	Pain/Gain mechanism
3.7	Completion Incentive	Any incentive/penalty provisioned in the PAA
4	FEES – % OF INPUT COSTS – Competitiveness	
4.1	Designer	Related to designer inputs
4.2	Constructor	Related to constructor inputs
4.3	Pain/Gain	Awarded
5	ESTIMATE AT TOC – Competitiveness	
5.1	Cost Analysis	The TCE and TOC mark-up on project DC
5.2	Supervision	Supervision as a percentage of DC
5.3	Total Indirect Cost	Indirect costs as a percentage of DC
5.4	Design	Design cost as a percentage of DC
5.5	Risk/Opportunity	Risk/opportunity allowance as a percentage of TCE
5.6	Escalation	Escalation as a percentage of TCE

The background is a vibrant blue gradient. It features several thick, curved lines that sweep across the frame. A central graphic consists of concentric circles with a bright white center, surrounded by smaller circles and lines, resembling a stylized atom or a data node. The bottom portion of the image has a pattern of small, light blue dots that fade into the background.

Appendix D

Summary Data

