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The Health of the Australian Construction Industry

Research Report

September 2020

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Photograph of Melbourne Connect under construction, 2020 (www.melbconnect.com.au) by Casamento Photography. Used with permission.

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Part A - Introduction, Summary of Findings and Methodology

1. Introduction

1.1. From the Lead Authors

The Construction industry in Australia generates over A$360 billion in revenue, producing around 9% of Australia's Gross Domestic Product.[1] In 2019, over 1.15 million people were employed in the construction industry (being 9.0% of the Australian workforce).[2] Governments at all levels spend a significant amount on construction and infrastructure and this amount is increasing.

Given this landscape, it is appropriate to pause and consider the health of the Australian construction industry. This research project did just that. The authors' intention was to 'take the temperature' of the industry and identify areas which might benefit from further research and consideration, with a view to maximising the prospects of the community, and the industry, enjoying the best return it can on the very significant investment made in the industry.

The project has been generously supported by the **Australian Construction Industry Foundation**, the **Society of Construction Law Australia** and **Melbourne Law School**.

We urge you to review the report and consider how you can best contribute to the positive development of this important industry.

Professor John Sharkey AM
Mr Phillip Greenham, Enterprise Fellow
Melbourne Law School

[1] Australian Industry and Skills Committee summary at https://nationalindustryinsights.aisc.net.au/industries/construction (accessed 9 August 2020).

[2] Parliament of Australia, 'Snapshot of employment by industry, 2019' at https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2019/April/Employment-by-industry-2019 (accessed 14 August 2020).

1.2. Message from the Dean of Melbourne Law School

Melbourne Law School is an outstanding research institution with internationally recognised scholars and some of the best emerging research talent in Australia. The impact of our scholarship is seen in its citation by leading judges, regulators and policy makers in Australia and throughout the world.

For twenty years, the construction law program at the Law School has been recognised as one of the world's leading teaching programs within this speciality area of scholarship and practice. Students and teachers within the program have published widely and received recognition at the highest levels for their scholarship, including by way of international construction law essay prizes.

In 2013, our construction law program's research capability received a significant boost through the appointment by the University of Mr John Sharkey AM as an Honorary Professorial Fellow. John is one of Australia's most experienced and highly-respected construction law practitioners and has published and lectured widely in the area, including having been a subject coordinator in the Melbourne Law Masters from 2000-2013.

The program's research capability was further enhanced in 2019 with the appointment of Mr Phillip Greenham as an Enterprise Fellow of the Law School. Phillip brings immense practising experience in construction law to this role, as well as the esteem in which he is held across the construction law community in Australia and abroad. Phillip also has been a subject coordinator in our Masters program for many years.

This Report continues a long tradition of collaboration with leading construction lawyers and is also a significant milestone in the continuing development of our construction law program. It was enabled by the support of many key stakeholders in the construction law sector. I am delighted to commend it to members of the construction law community.

Professor Pip Nicholson
Dean
William Hearn Professor of Law

1.3. Message from the Chair of the Society of Construction Law Australia

Cost effectiveness, efficiency, appropriate risk allocation and value for money are issues which are constantly front of mind for the Australian construction industry and its lawyers. Since its foundation in 2009, the Society of Construction Law Australia has been a key forum for examining these issues and sharing ideas about how the industry can forge a better future for the benefit, not just of the construction law community but the broader community as well.

For this reason the Society of Construction Law Australia is delighted to support this University of Melbourne research project and looks forward to continuing to participate in the discussion which this report is certain to provoke.

Laina Chan
Chair, Society of Construction Law Australia

1.4. Message from the Chair of the Australian Construction Industry Forum and the Chair of the Australasian Procurement and Construction Council

The role of ACIF is to bring together its members and meet in forum to discuss, develop policies, positions and advice, prioritise issues of common interest and to advocate these issues to the relevant parties, authorities and governments.

The role of APCC is facilitate collaboration between government and industry at a national level to drive positive change and encourage greater productivity in the building and construction industry.

The Australian Construction Industry Forum (ACIF) and the Australasian Procurement and Construction Council (APCC) together representing the interface between government and the building and construction industry welcomes the publication of this report and is honoured to be able to support its research and findings. It is a most important document, especially coming at a time of great disruption in the building and construction industry. The industry is dealing with issues of flammable cladding, non-conforming and non-complying product, increase in building related personal health issues and suicides, each jurisdiction considering and/or implemented new regulations in response to the range of disruptions, and also now COVID-19, amongst a plethora of other matters.

This report highlights many other areas for improvement, such as the allocation of risk, quality of documentation, adversity, construction industry tendering, contracts and administrative processes, being but some of the items discussed.

This report is a vital stepping stone in the evolution of critically needed change in the whole industry which could be dovetailed into the continuing industry discussions at the highest levels, such as at the Building Ministers Forum (BMF) and Senior Officers Group (SOG). It is an opportunity for every participant and practitioner in the industry to 'grasp the nettle' and collaborate, to assist and effect change. It is possibly a once in a generation opportunity to bring about lasting reform.

Professor Norman A Faifer FAIB, FAIQS, CQS, FIAMA, FRI(Adj), RegBldgPrac(Vic)
Chairman, ACIF

Glenn Bain, Executive Director of Procurement ACT, a division within the ACT Treasury
Chair, Australasian Procurement and Construction Council (APCC)

1.5. Melbourne Law School's Construction Law Program

The Law School first offered graduate courses in construction law in 2000. The program offers a specialist Master of Construction Law and Graduate Diploma in Construction Law. The specialisation in construction law has been tailored to give construction lawyers and professionals in building, construction, engineering and associated industries the specialised legal knowledge to take the next step in their careers.

Students learn from teachers who are leaders in their fields, and with fellow students from throughout Australia and around the world. The program gives students a unique opportunity to understand this vital area of law and its interaction with the commerce and practice of the industry.

www.law.unimelb.edu.au/constructionlaw

1.6. About the Authors

The research was undertaken, and the Report was prepared, by a research team comprising the following Melbourne Law School personnel:

- **Professor John Sharkey AM**, Honorary Professorial Fellow, Melbourne Law School
- **Phillip Greenham**, Enterprise Fellow, Melbourne Law School
- **Dr Matthew Bell**, Senior Lecturer and Co-Director of Studies, Melbourne Law School
- **Wayne Jocic**, Senior Lecturer and Co-Director of Studies, Melbourne Law School, Responsible Researcher under Melbourne Law School's Human Ethics Advisory Group approval for this project
- **Julia Korolkova** (Research Assistant)
- **Didi Hu** (Research Assistant).

1.7. Acknowledgements

The research team acknowledges with thanks the contribution of the following organisations and individuals.

- The project was funded by grants from:
    - the Society of Construction Law Australia
    - the Australian Construction Industry Forum
    - the Australian Institute of Quantity Surveyors
    - the Air Conditioning and Mechanical Contractors' Association
    - the National Fire Industry Association
    - the Australasian Procurement and Construction Council.
- The project was built on the generous support of the many construction industry professionals, lawyers and students who participated in the survey or interviews or who distributed the survey.

2. Summary of Findings

2.1. Key Findings

The key findings of this report are summarised in Figure 1.

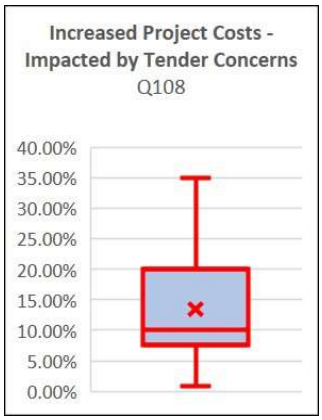
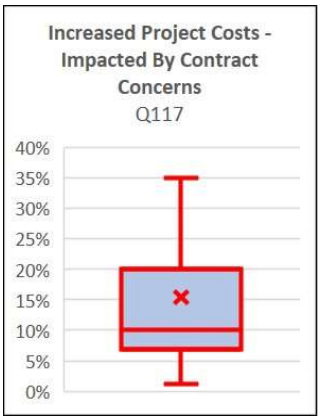
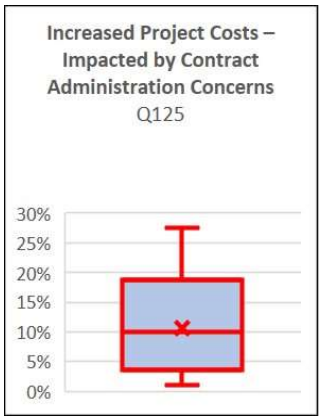
	Tender Phase	Contract Phase	Contract Administration Phase
Top three challenges named by survey participants	1. Quality of information provided in the request for tender 2. Time for tender response 3. Tender conditions	1. Absence of capped liability provision 2. Exposure to consequential loss 3. Narrow entitlement to extra money	1. Decisions in relation to claims 2. Delayed administration of claims 3. Lack of explanation in relation to decisions on claims
Source of disincentives	• Risk allocation • Documentation • Project scope • Tendering costs • Price competition	• Risk allocation • Performance evaluation • Contractual provisions • Contract administration	• Lack of impartiality • Assessment of claims • Emphasis on technicality
Added cost because of challenging attitudes or behaviours			

Figure 1– Overall Summary

2.2. Health and Optimism

Based on a compilation of data from various sections of this report, we estimate that:

- **34%** of respondents believe that the **Australian construction industry is healthy** (55% do not)
- **50%** of respondents are **optimistic about the industry's future** (32% are not).

2.3. Risk Allocation

Risk allocation was the most commonly nominated issue affecting the industry (nominated by 17% of respondents).[3]

The risk issues which were most often mentioned during the interviews were as follows:[4]

- subsurface risks and **latent conditions** generally
- environmental risks
- interface risks
- uncapped liability.[5]

Risk allocation is:

- one of the two issues most commonly mentioned as having potential to **improve** the industry (the other is **collaborative contracting**)[6]
- the **most commonly mentioned issue impacting satisfaction or dissatisfaction with the tender process**.[7]

The sentiments expressed during **the interviews** provide a perspective on **risk allocation** which was a little different from the conclusions suggested by the survey. The interviewees initially expressed concern about risk allocation. However, when this concern was explored, the real concerns were about**:**

- subsurface risks (comprising traditional latent conditions, environmental conditions and issues in relation to utilities)
- the administrative processes, such as notice provisions, applicable to potential relief once certain risk become manifest
- uncapped liability.

This sentiment was different from the usual energetic conversation about what is sometimes described as **burdensome risk allocation**. This may suggest that the conversation around risk should be focussed differently.

[3] Refer to section 8.3 and Figure 8.

[4] Refer to page 24.

[5] Whilst uncapped liability may not be a risk issue in a strict sense, most respondents regarded it as a risk issue.

[6] Refer to section 14.3.2.

[7] Refer to section 11.4.1.

2.4. Cost Consequences of Behaviour

As is summarised in Figure 2, our survey suggests that a positive change in attitudes and behaviours will have a positive impact on costs. That impact may well be material.[8]

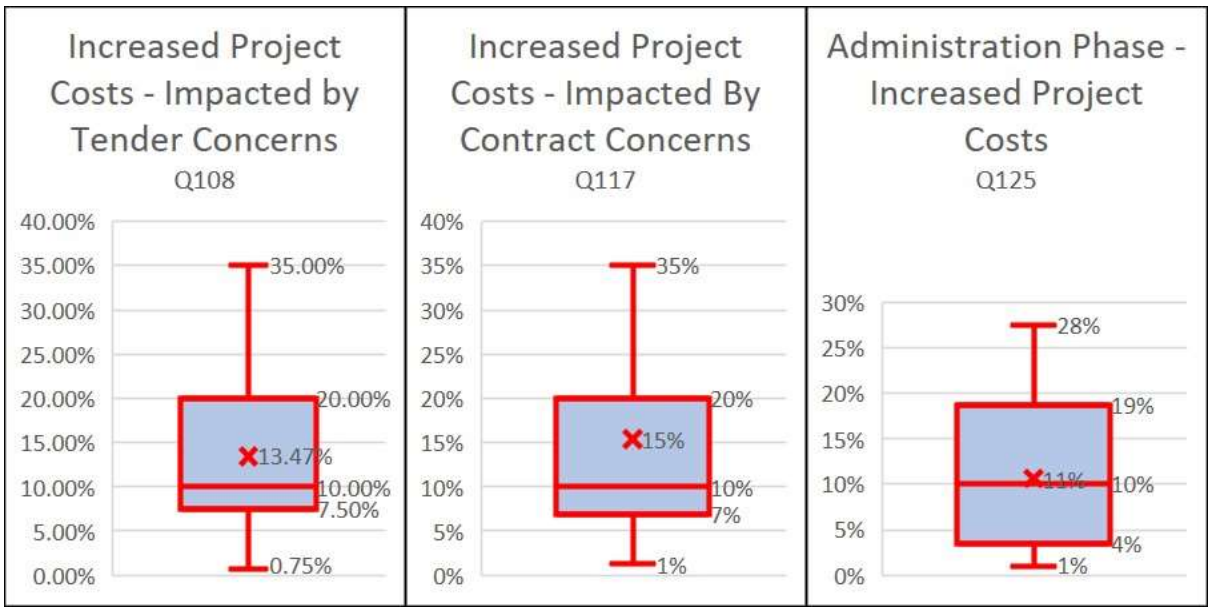


Figure 2 – Cost Impact of Matters of Concern – All Phases

2.5. Who Should Lead Positive Change?

The overwhelming majority of respondents (over 65%) saw **principals and government** as best placed to take the lead in industry improvement.[9]

[8] Refer to section 10.3.

[9] Refer to section 9.2.

3. Research Aims and Findings

3.1. Aims

This research project aims to make a substantial, evidence-based contribution to the healthy development of the construction industry in Australia.

It seeks to do this by exploring three questions:

1. **Is the Australian construction industry healthy and sustainable** generally and specifically in terms of **tender processes**, **contract negotiation** and **project delivery**?

2. What **behaviours and habits** promote or impede a healthy and sustainable industry?

3. What should the various **stakeholders** do to facilitate the development of a healthy and sustainable construction industry in Australia?

This study provides a snapshot of current practice in relation to project procurement and delivery in Australia as at early 2020.

3.2. Findings

Our detailed findings are set out in Part B - Detailed Findings.

3.3. Validity of Findings

Many of the findings presented in this report are based on the subjective assessment of the respondents and the interviewees and the interpretation of those assessments. This is an inevitable characteristic of a research project which canvasses people's impressions and experiences. These impressions are formed by the experiences and can be a significant influence on future behaviour. Hence, the survey results, and the findings based on those results, can provide useful insights into the changes in attitudes and behaviours which have the potential to contribute to the positive evolution of the industry.

4. Methodology

The methodology which we followed in undertaking the research and preparing this report was to undertake:

- a **literature review**
- a web-based **survey**
- a number of **interviews**.

4.1. Ethics Approval

This project has been undertaken in accordance with a methodology approved by Melbourne Law School's Human Ethics Approval Group. That methodology involved two key elements: a web-based survey and interviews. Both were conducted anonymously. The survey did not collect identifying details of participants (unless they opted-in to be contacted to undertake an interview). Interview participants were given the option of having comments attributed to them; most chose anonymity.

4.2. Literature Review

We sought to identify previous research and commentary on issues relevant to this project. Relevant material was reviewed, analysed and summarised. Relevant extracts appear in this report or are referenced throughout it.

4.3. Survey

The survey questions are set out in Appendix 1.

The survey was web-based, using the Qualtrics tool. The web link, which participants could click on if they wished to undertake the survey, was disseminated to potential participants in several ways, including through:

- direct emails to students, alumni and associates of the Melbourne Law School construction law program, and members of the Society of Construction Law Australia
- news items on the webpages of the Australian Construction Industry Forum and the Society of Construction Law Australia
- social media, including via the Twitter and LinkedIn feeds of the Melbourne Law School construction law program.

The survey was available online to participants from 11 December 2019 to 12 March 2020. **125 individuals completed the survey**.

The somewhat diffuse nature of the survey's dissemination, including the overlap in recipient cohorts (for example, many Melbourne Law School alumni are also members of the Society of Construction Law Australia) makes it impossible to state with certainty the number of potential participants in the survey.

The profile of the survey participants is shown at Figure 3 and the nature of the projects they have been involved is shown at Figure 4.

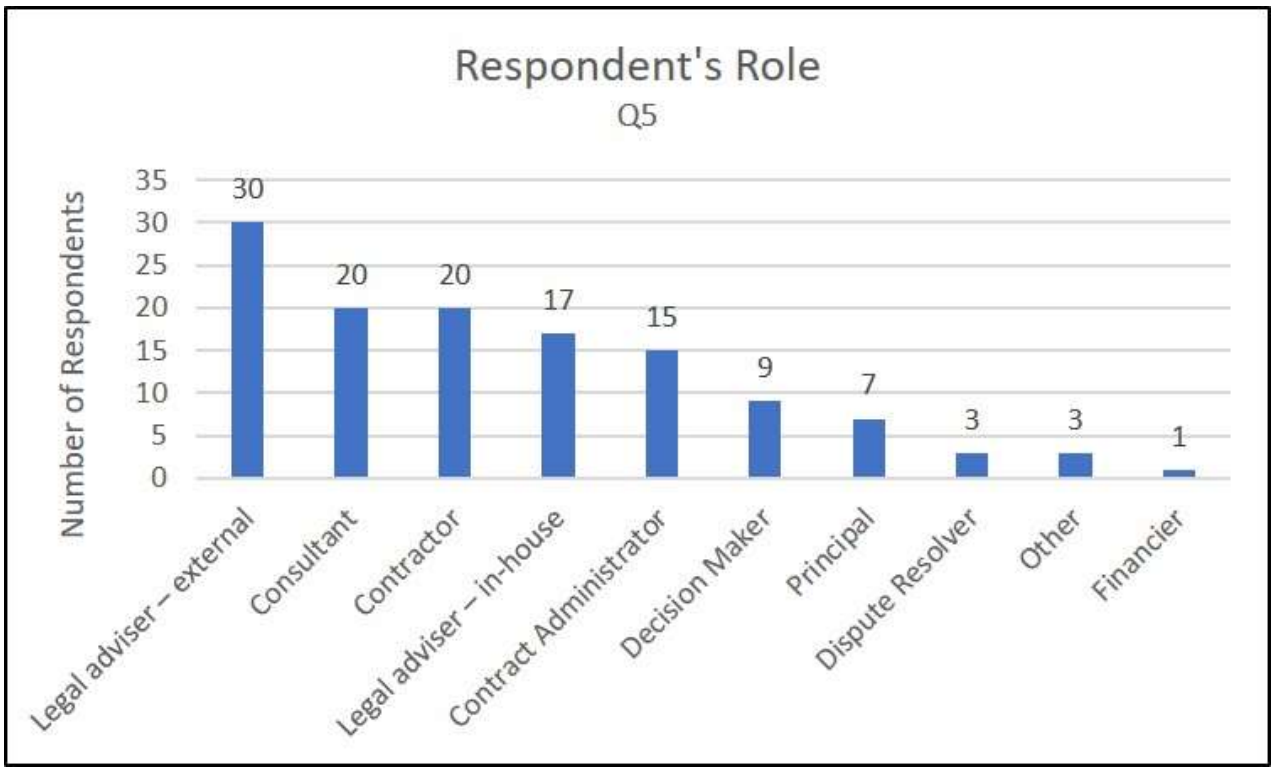


Figure 3 – Respondent's Role

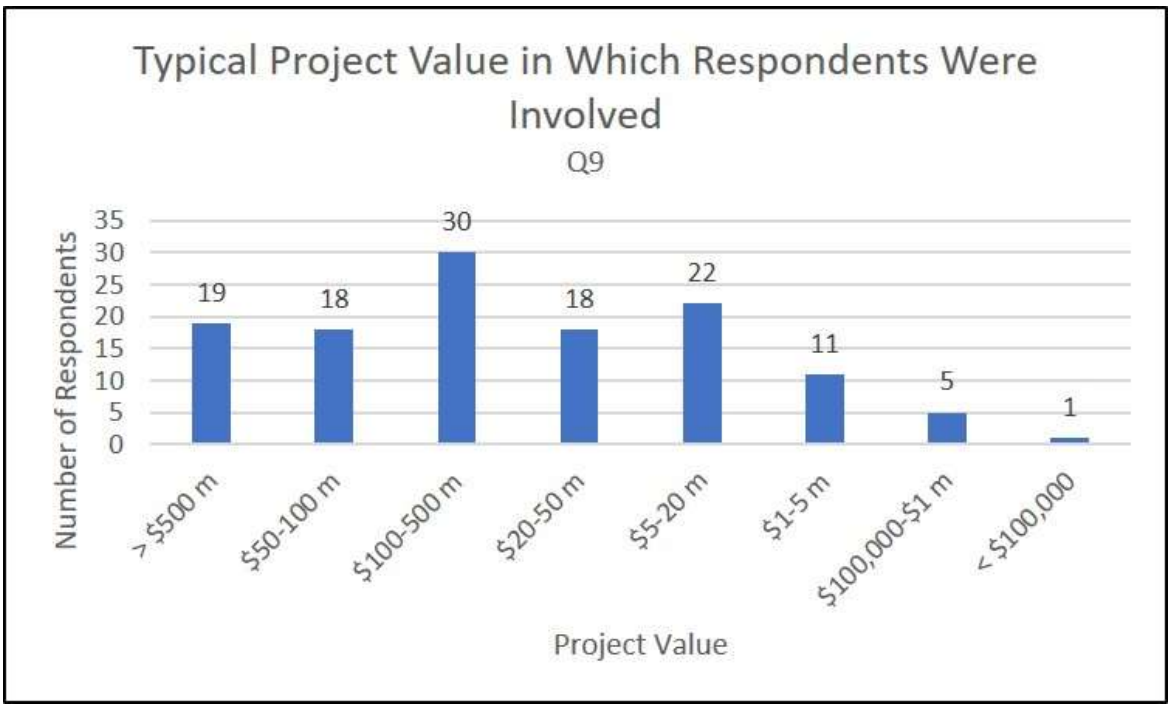


Figure 4 – Typical Project Value in which Respondents Were Involved

4.4. Interviews

The research team conducted 22 interviews between January and April 2020. The majority of interviewees had self-selected through a prompt in the survey, but the research team approached several interviewees directly because of their significant experience in the Australian construction industry.

The interviewees represented a range of participants in the industry. The role of the interviewees is set out in Figure 5.

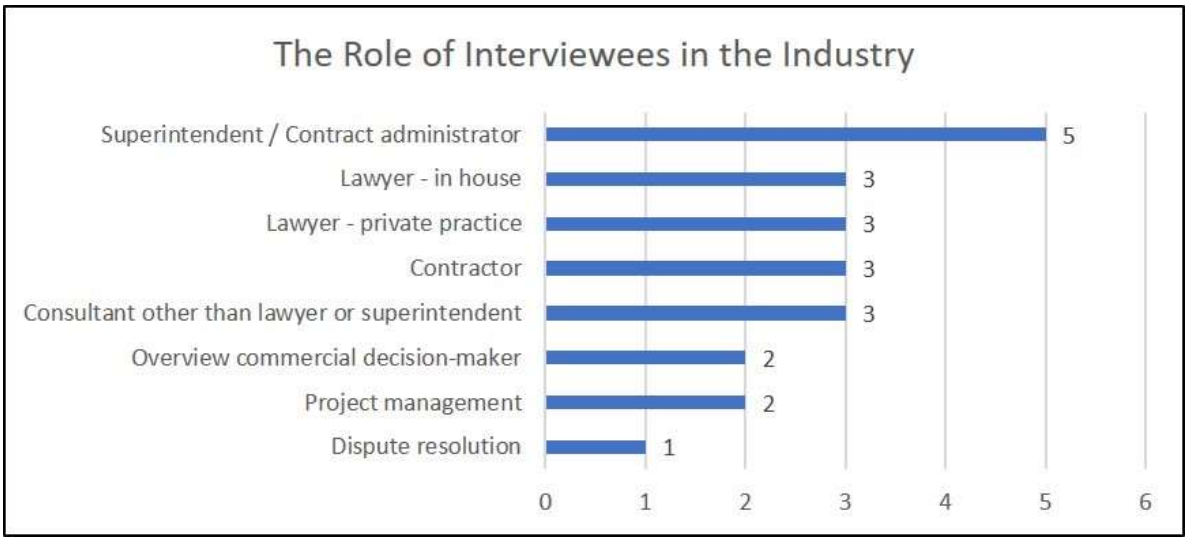


Figure 5 – The Role of the Interviewees in the Australian Construction Industry

The interviewees were overwhelmingly industry participants and advisers with substantial experience in the area, including construction firm executives, senior public servants, in-house lawyers at large contracting and consulting firms, law firm principals, senior counsel and representatives of peak bodies. All interviewees had 10 or more years' experience relating to the construction industry.

5. Further Research

The project has revealed issues which are ripe for further, detailed research. Whilst we were able to make some preliminary findings in this report, more focused research could allow for more meaningful analysis.

Our views in relation to areas ripe for further research are more substantially informed by the interviews than by the survey results. These include:

- the **financial consequences** of unhelpful behaviour and attitudes
- the **most important risk allocation issues** and how they might be addressed
- how to **improve collaboration** between parties
- the benefits which might arise through **earlier collaboration and communication**
- how to **improve the quality of project documentation**
- the **role of a commercial manager** and the training available to equip someone to become an effective commercial manager
- the training available to equip someone to become an effective **contract administrator**
- the dynamics which result in **unrealistic pricing by contractors**.

6. Associated Research: Standard Form Contracts

This research project was undertaken in conjunction with a research project on *Standard forms of contract in the Australian construction industry*. The survey in relation to that project was conducted in conjunction with the survey in relation to this project.[10] The results of the two surveys are published separately.

7. Terminology

This report generally adopts terminology currently used in the Australian construction industry for concepts and positions for which, though they are functionally identical, different terms may be used in other parts of the world.

For example, Australian standard forms tend to refer to a 'principal' and 'head contractor' whereas English forms favour 'employer' and 'main contractor' respectively; likewise, Australia prefers 'design and construct' as a term to 'design and build'. The expression 'Contract Administrator' is used as an overarching term to describe any person who undertakes the role similar to the Superintendent in the contracts published by Standards Australia.

If there is doubt about the sense in which we are using terminology here, we would refer readers to the handy guide to terminology provided by Minter Ellison in its 'Constructionary' at www.constructionlawmadeeasy.com.

[10] That research draws on earlier research by the authors: John Sharkey et al, *Standard Forms of Contract in the Australian Construction Industry Research Report* (2014) available at https://law.unimelb.edu.au/__data/assets/pdf_file/0007/1686265/Research-Report-Standard-forms-of-contract-in-the-Australian-construction-industry.pdf (accessed on 6 August 2020).

Part B - Detailed Findings

8. The State of the Australian Construction Industry in 2020

8.1. The Health of the Industry

Participants were asked about the extent to which they agreed with the following statement:

The Australian construction industry on the whole is healthy and sustainable.

Figure 6 shows that, in aggregate, 55% had a negative view of this statement compared to 34% who had a positive view.

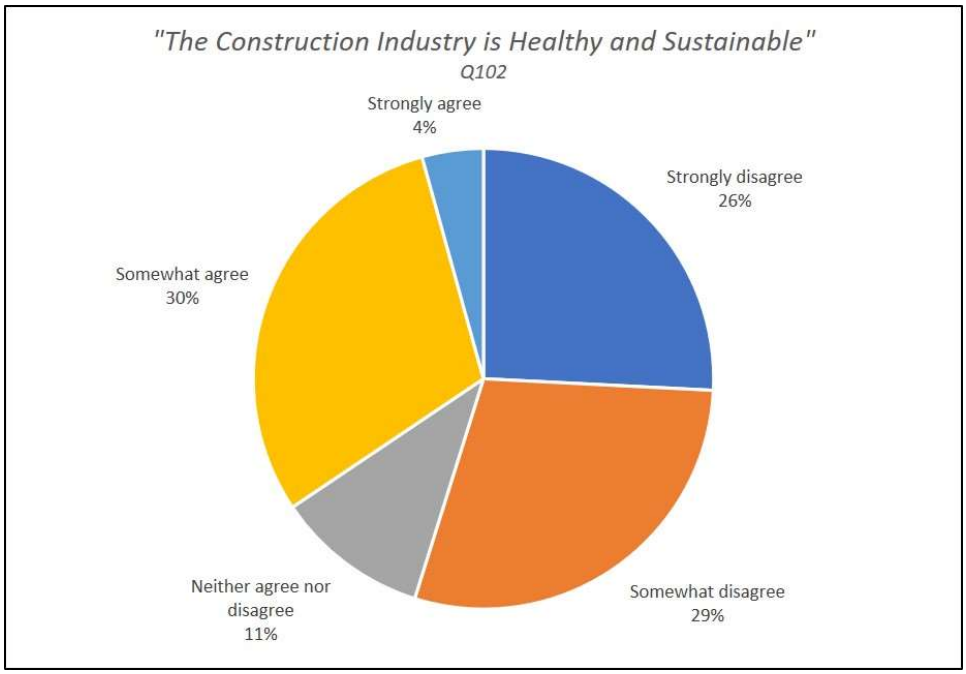


Figure 6 – Health of the Industry

8.2. Optimism about the Industry

Participants were asked about the extent to which they agreed with the following statement:

I am optimistic about the future of the Australian construction industry.

Figure 7 shows that, in aggregate, 50% had a positive view of this statement compared to 32% who had a negative view.

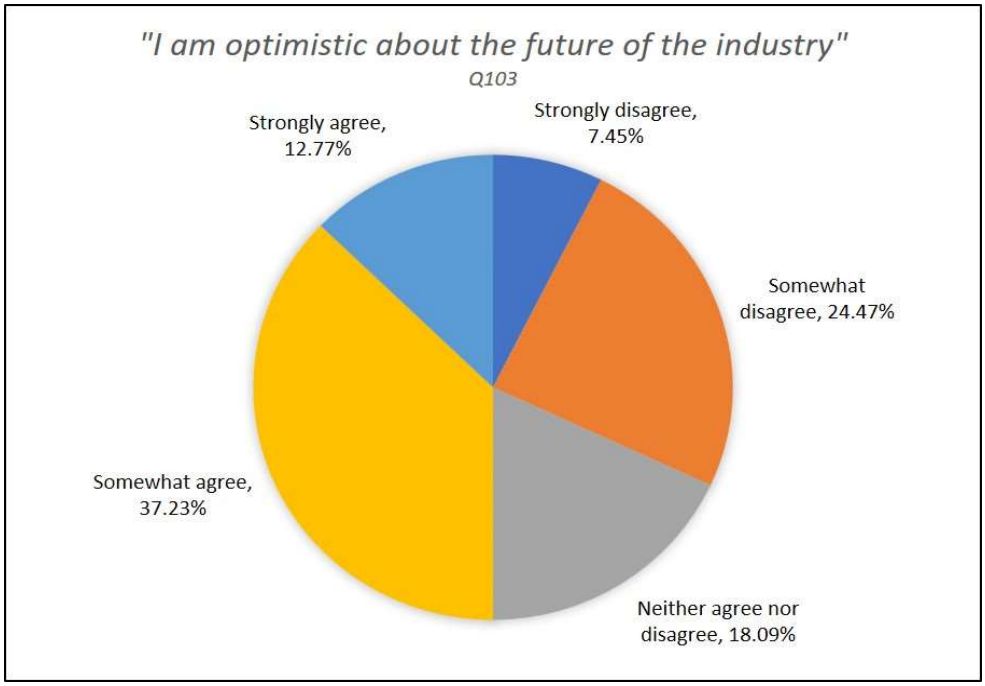


Figure 7 – Optimism about the Industry

8.3. Issues Confronting the Industry

Participants were asked to identify the main sources of problems or inefficiencies in the industry, selected from a closed list of 11 items.

The results set out in Figure 8 indicate that risk allocation is most commonly nominated as an issue confronting the industry. Indeed, risk allocation looms large in this report. It is discussed as an issue in its own right at section 10.1.

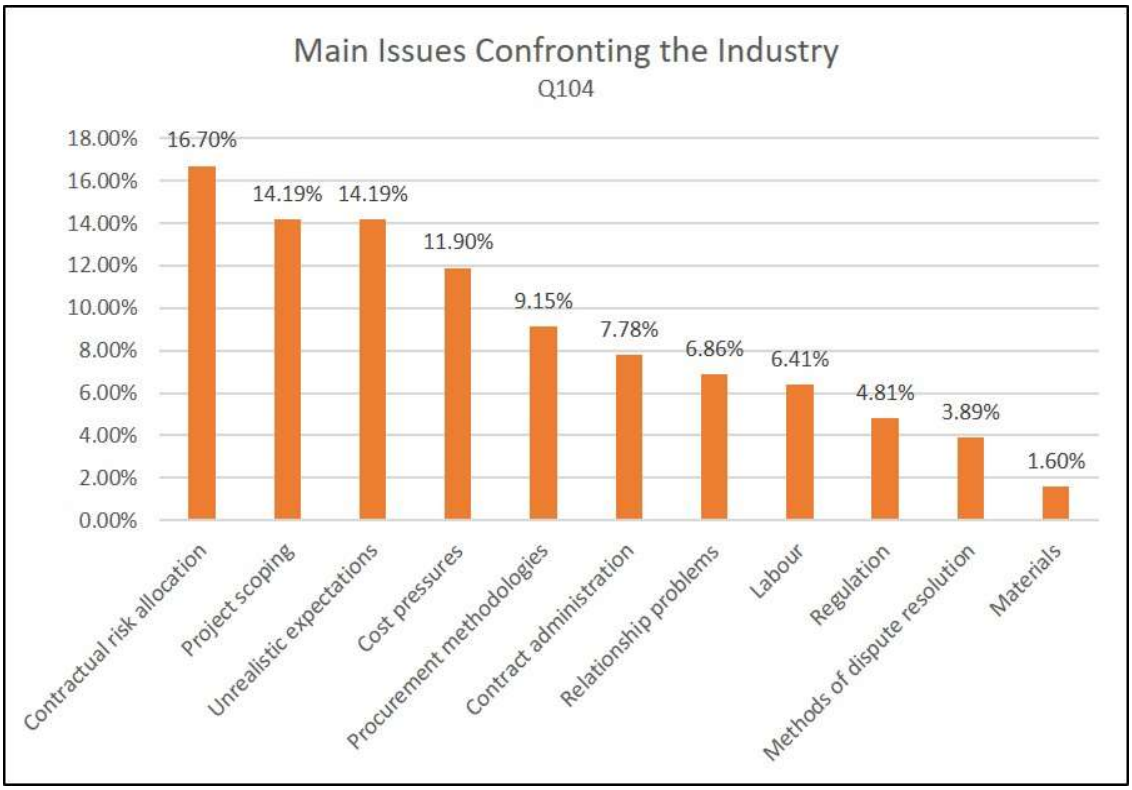


Figure 8 – Main issues Confronting the Industry

8.4. Where Do the Problems Arise?

A 2019 study by the Australian Constructors Association[11] considered the question of where challenges arise in the construction process. The results of that study are shown in Figure 9.

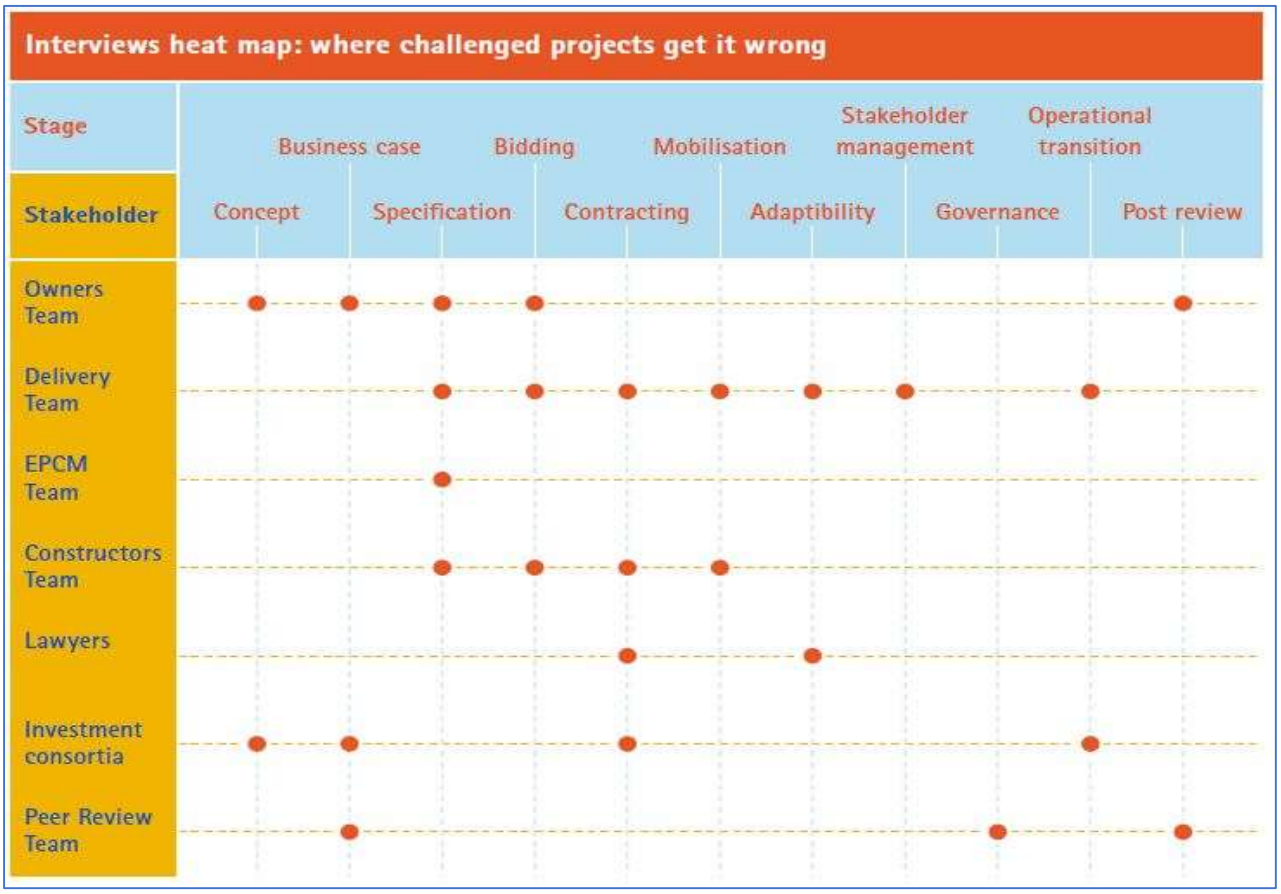


Figure 9 – Heat Map Identifying Where Challenged Projects Get It Wrong

The first four phases of activity (Concept, Business case, Specification and Bidding) are what might be described as the phases which are often the subject of *'Early Contractor Involvement'* (ECI) arrangements. ECI is referred to on a number of occasions throughout this report.[12]

At the time of writing, a working group convened by the Australian Construction Industry Forum and the Australasian Procurement and Construction Council is undertaking a project to explore the opportunity to improve outcomes in the construction industry through enhanced collaboration and communication through these early stages of a project.

8.5. Interviews

The health of the Australian construction industry in general terms was the issue which generated the most discussion in the interviews. Key aspects of the views which were expressed can be summarised as follows:

[11] Australian Constructors Association, 'Changing the game – How Australia can achieve success in the world of Mega-projects' (November 2019): https://www.constructors.com.au/wp-content/uploads/2019/11/Changing-the-Game-Mega-Projects-Final1.pdf (accessed 6 August 2020).

[12] Refer to section 11.4.3 in relation to matters of concern in government contracting and sections 0 and 14.3.3 in relation to opportunities for positive change.

- **Australia has one of the most efficient construction industries** in the world (in terms of putting up buildings without causing loss of life).
- The system of **subcontracting in Australia** has some distinctive features and presents **particular challenges, particularly for international contractors**.
- The **regulatory regime in Australia is particularly challenging**. Whilst this has its benefits (in terms of health and safety and protection of the environment), it also has its challenges (sometimes there are more people working against a project than for it).
- The **construction industry elsewhere generally runs a lot more smoothly** (in terms of industrial dynamics, relationship management contracting terms and general behaviour) than in Australia.
- The construction industry in Australia is **very busy**. However it is **very difficult to make a profit and it is not sustainable**.
- The way contractors **bid for and price projects** in Australia is **fraught**. Contractors are poor at analysing costs, often do not understand or allow for risk, and engage in irrational pricing.
- There are **not enough experienced people** available to the construction industry.

9. People in the Industry

9.1. Context

A significant proportion of Australia's workforce is involved in or connected with the construction industry. In 2019 over 1.15 million people were employed in the construction industry (being 9% of the people employed in Australia).[13]

Whilst most of those involved in the industry are engaged in the 'hands-on' work of construction, many are involved in supporting and administrative roles. These include lawyers, other professional advisers and business owners. Often it is those who are involved in these supporting roles that have the greatest influence on the health and sustainability of the construction industry.

This section explores the roles of various participants in the industry and the impact that they have, or might have, on the industry (both positive and negative).

9.2. Who Should Lead Improvements?

Respondents were asked to nominate, from a closed list of seven, which group of industry participants was best placed to lead improvements in the industry.

The results are shown in Figure 10.

Industry associations (such as the Australian Construction Industry Forum, the Australian Constructors Association and Consult Australia) were not listed in the closed list. Only one respondent nominated industry associations under the 'Other' option.

As is apparent from Figure 10, the overwhelming majority of respondents (over 65%) saw principals and government as best placed to take the lead in industry improvement. This is in contrast with much of the analysis of and suggested improvements for the industry. Most of this analysis is undertaken by industry bodies such as the Society of Construction Law Australia, the Australian Construction Industry Forum, the Australian Constructors Association and Consult Australia. Hence, there is a contrast between:

- those participants who are seen as best placed to take the lead
- those who are currently most visible in promoting positive change.

[13] Refer to https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2019/April/Employment-by-industry-2019 (accessed on 6 August 2020).

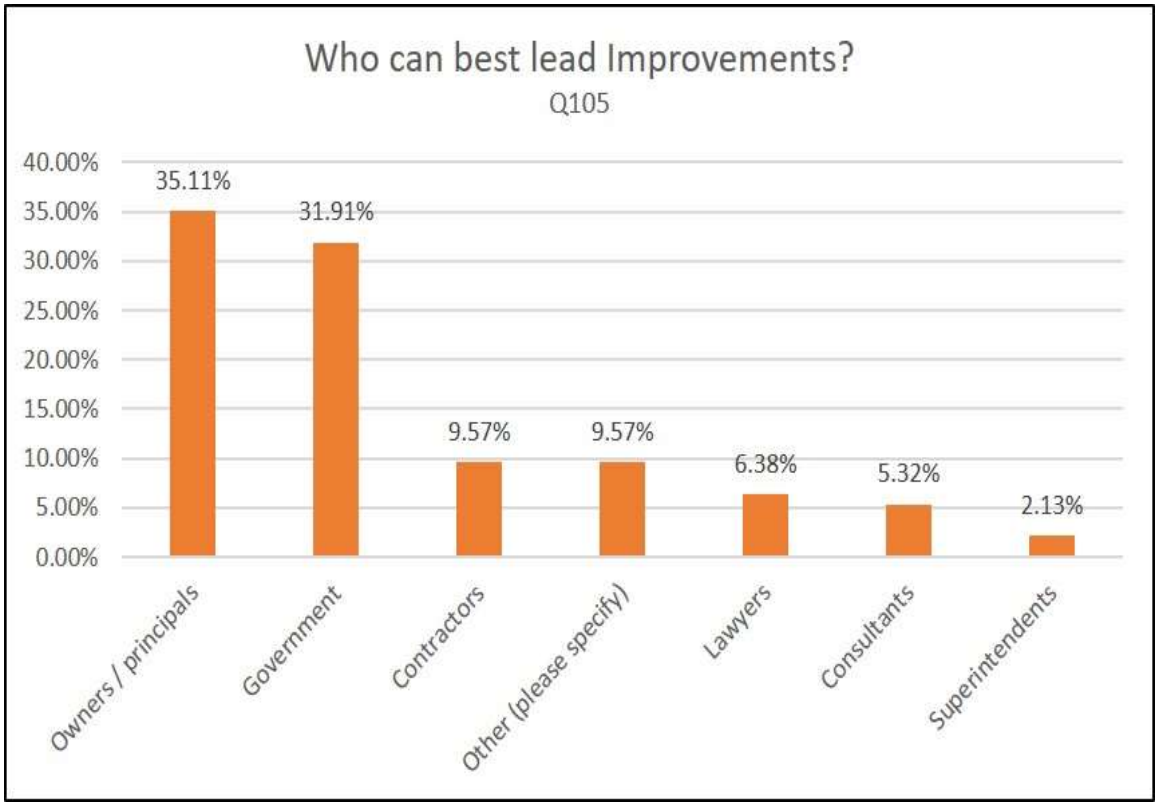


Figure 10– Who can best lead improvements?

9.3. The Interviews: 'Villains', 'Champions' and Roles

The issue of who is best placed to lead improvements was explored in a slightly different way in the interviews, by:

- identifying *'villains'* and *'champions'* in the industry
- discussing the roles of particular participants.

9.3.1 'Project Champions'

The concept of a *'project champion'* is a person whose sole interest is the successful delivery of the project, without regard to the partisan interests of those with a commercial stake in the project. Such a person might be regarded as the *'custodian of the project'* or the person who is most focused on *'best for project'* behaviours and outcomes. The discussion regarding a *'project champion'* focused on three questions:

- **Is the role of a *'project champion'* relevant** in the Australian construction industry?
- If the role is relevant, **is it being performed** on Australian projects?
- **Who** is best able to perform this role?

All participants who had a view on this issue considered that such **a 'project champion' role is valuable**. Comments from participants included the following:

- there is **generally no-one performing this role in Australia**
- **historically, the architect performed this role**, but this is no longer the case
- in the context of the **United Kingdom, the *Quantity Surveyor* does**, and is best placed to perform this role (a more detailed discussion on the *Quantity Surveyor* appears at paragraph 9.3.5)
- the **project manager has the greatest ability to perform this role**.

It is interesting to note that the *Superintendent* (or *Contract Administrator* generally) was not identified as a candidate for this role (although some participants see this administration role being undertaken by a *Quantity Surveyor*).

9.3.2 'Project Villains'

The concept of a *'project villain'* is a person whose role, behaviour, attitude or perspective creates the greatest challenge for a project or the industry. The views in relation to a *'project villain'* included the following:

- the **government is often unhelpful** (for a more detailed discussion on the role of government, refer to paragraph 9.3.3)
- **contractors do not help themselves** – they do not talk to each other and do not advance a common cause for improvement in the industry (in contrast to the USA); the industry associations were not seen to be sufficiently helpful or effective in this regard
- **lawyers were considered unhelpful** by many (for a more detailed discussion on the role of lawyers, refer to paragraph 9.3.4).

9.3.3 Government

Government plays a significant role in the construction industry, including because:

- of its significant role as a purchaser of construction
- of its role as regulator
- it can, and does seek to, influence behaviour in the industry generally
- the private sector will often look to government behaviour as a guide as to what is '*legitimate*' or '*appropriate*' commercial conduct.

Participants' views on the role of government included the following:

- **government is one of the villains** of the industry
- government **should take a 'back seat' in relation to project procurement** (it is not good at it) and allow the procurement of government projects to be managed by the private sector
- **Treasury has too much control over the non-financial aspects** of government projects (the selection of procurement methodology, the prescription of contract terms and the attitude to allocation of risk)
- **government does not understand or trust the industry** – government believes the industry is making too much money, whereas this is not the case.

The role of government is also discussed in the context of risk allocation (refer to page 25).

9.3.4 Lawyers

The role of a lawyer in relation to a construction project has evolved over time. The evolution has been as follows:

- **historically** lawyers were involved in disputes arising out of construction projects (with engineers, architects and others drafting the relevant contracts)
- lawyers then became involved in the **drafting of the contracts** for construction projects
- more recently lawyers have become **increasingly involved in the process of contract administration**
- lawyers are also involved in advising government on **policy issues** relevant to the industry (including procurement methodology and risk allocation) and in ***'educating'* the industry** generally (through presentations, seminars and newsletters on issues relevant to the industry).

Participants' views on the role of lawyers included the following:

- lawyers are a real problem when it comes to contracts – they are **too risk averse**

- lawyers **draft to respond to a problem** – they do not step back and look holistically at the document (this results in contracts growing in an untidy way)
- lawyers' **advice on contract administration is unhelpful** – they have never set foot on a construction project
- lawyers are **engaged too early** in construction projects – people with a '*hands-on'* interest in the project should be involved first and lawyers should be involved later
- the role of lawyers in the **setting up of a project** is too dominant
- **lawyers are their own worst enemy** – they are responsible for the unhelpful length and complexity of contracts.

The only participants who spoke positively about the role of lawyers in construction projects were other lawyers. Even then, not all participants who were lawyers had positive views on the role of lawyers.

The role of lawyers is also discussed in the context of risk allocation (refer to page 25).

9.3.5 Quantity Surveyors

Quantity Surveyors often featured in the interviews, always in a positive light. Comments included the following:

- the role of Quantity Surveyors in Australia (most often purely focused on costing and spreadsheets) is **different from the role in the United Kingdom** (involved in procurement method election, risk allocation and contract administration – the broader role in the UK was viewed favourably)
- in the United Kingdom, the **QS acts as the 'custodian of the project'** (refer to the discussion at paragraph 9.3.1)
- Quantity Surveyors trained in the United Kingdom are **well suited** to undertake contract administration.

9.3.6 Commercial Managers

Many projects involve a Commercial Manager (although this is not often the case in relation to most residential projects and some smaller commercial projects). However, the interviews revealed a lack of clarity and consistency regarding what the role of the Commercial Manager is or should be.

Comments made during the interviews regarding Commercial Managers included the following:

- traditionally, in Australia, Commercial Managers have **merely put cost reports together**
- **a good Commercial Manager should be across everything** – supply chain, finance matters and legal matters – this is the role they play in the UK, USA and Europe
- there are **no suitable comprehensive educational courses** for commercial managers or project managers
- **engineers do not make good Commercial Managers** as they are too process-driven.

9.3.7 Project Manager

A number of interviewees noted that there were insufficient capable project managers available to the industry. Comments included the following:

- the **mining industry and the oil and gas industry invest considerably more** in the project management resource for a project of a particular value than the construction industry does
- **government has divested itself of project management expertise** and has outsourced this role to *Commercial Advisers* or *Transaction Managers*

- many project managers **do not enjoy reading contracts**.

9.3.8 Contract Administrator

Many interviewees observed that contract administration was a more significant influencer of project success than the contract itself (including the risk allocation in the contract). Particular comments included the following:

- there is an **enormous variation in the skill** of Contract Administrators
- many Contract Administrators **do not read the contract**
- there is **no adequate training** in the art of contract administration
- it is necessary for a good Contract Administrator to **understand the art of *'give and take'*** (and display some flexibility in the administration of the contract)
- it is important to have **someone with the authority and power to resolve issues** in an intelligent way to administer a contract
- **lawyers' advice on contract administration is unhelpful** – they have never set foot on a construction project
- contracts are **rarely administered by the person who did the bid** – the bid part is exciting and alluring, the administration is perhaps dull in comparison; the good people do the bids and then move on.

10. Key Issues Identified in Our Research

Three issues featured significantly in the survey responses or in the interviews or are otherwise worthy of particular comment. In this section, those three issues are identified and discussed in detail. The three issues are:

- risk allocation
- collaboration (and its converse, adversarialism)
- cost consequences of changes in behaviours.

10.1. Risk Allocation

10.1.1 Context

Risk allocation featured heavily throughout the responses to most of the survey questions. It was only during the contract administration phase that there was almost no focus on risk allocation.[14] This is perhaps not surprising as, by the contract administration stage of the project, the contract risk allocation is set. During the contract administration stage, the focus shifts to how the contract is administered.

Our research examined the Health of the Australian Construction Industry generally. It was not a project focusing on risk allocation. However, given the extent to which risk allocation featured in the responses to the survey and the interviews, it is appropriate to spend some time focusing specifically on risk allocation here.

There have been many papers written and surveys undertaken in relation to risk allocation. One paper of particular interest is the report by Athol Yates and Bill Sashegyi into perceptions of project participants in Western Australia, published in 2001.[15]

A summary of the conclusions from that paper is as follows:[16]

> *Our report … identifies that effective risk management is far from common. Important findings for many large projects show that:*
>
> - *formal risk assessments were not undertaken;*
> - *risks were not being allocated to the party best able to manage the risk;*
> - *risk clauses were often varied from those in the standard form of contracts;*
> - *risks were being transferred to consultants and contractors which were impossible for them to manage;*
> - *cost savings would have occurred had risks been more efficiently allocated; and*
> - *contractors, consultants and principals have widely different views on current risk allocation.*

Yates and Sashegyi's respondents reported as follows:[17]

- 36% did not undertake a formal risk assessment process before awarding a contract or tendering for a contract
- 56% believed that at the contract delivery stage, risks were not allocated to the party best able to manage them

[14] In the Yates and Sashegyi paper (n 15), however, costs savings were identified during this phase.

[15] Athol Yates and Bill Sashegyi, 'Effective Risk Allocation in Major Projects: Rhetoric or Reality?: A Survey on Risk Allocation in Major WA Construction Projects' (Institution of Engineers, Australia and Chamber of Commerce and Industry of Western Australia, 2001).

[16] Ibid 1.

[17] Ibid 2.

- 60% said that the risk clauses in their contract varied from those in the standard form of contract
- 35% said that risks were transferred to them that were impossible to manage
- 49% stated that they did not determine the financial cost of the changes to risk allocation
- 45% said that the cost of the project during contract delivery would have been lower had risks been more efficiently allocated
- 70% said that they expected claims as a result of changes made to risk allocation by the parties to their contract.

The findings recorded in the Yates and Sashegyi report resonate with the findings set out in this report. Over the course of almost 20 years between the two reports, it appears that little has changed in relation to risk allocation.

10.1.2 Survey Results

Detailed results in relation to risk allocation are included in the overall survey results (refer to section 11 (in relation to the *Tender Phase*), section 12 (in relation to the *Contract Phase*) and section 13 (in relation to the *Contract Administration Phase*)). Risk allocation was most commonly nominated as an issue confronting the industry (refer to Figure 8 in section 8.3).

A summary of the respondents' view of risk allocation is set out in Figure 11 (which is an extract and compilation of the data in Figure 17, Figure 22, Figure 29, Figure 33, Figure 38, Figure 41, Figure 48 and Figure 49). Figure 11 sets out the number of times the issue of risk allocation featured in the responses of participants.

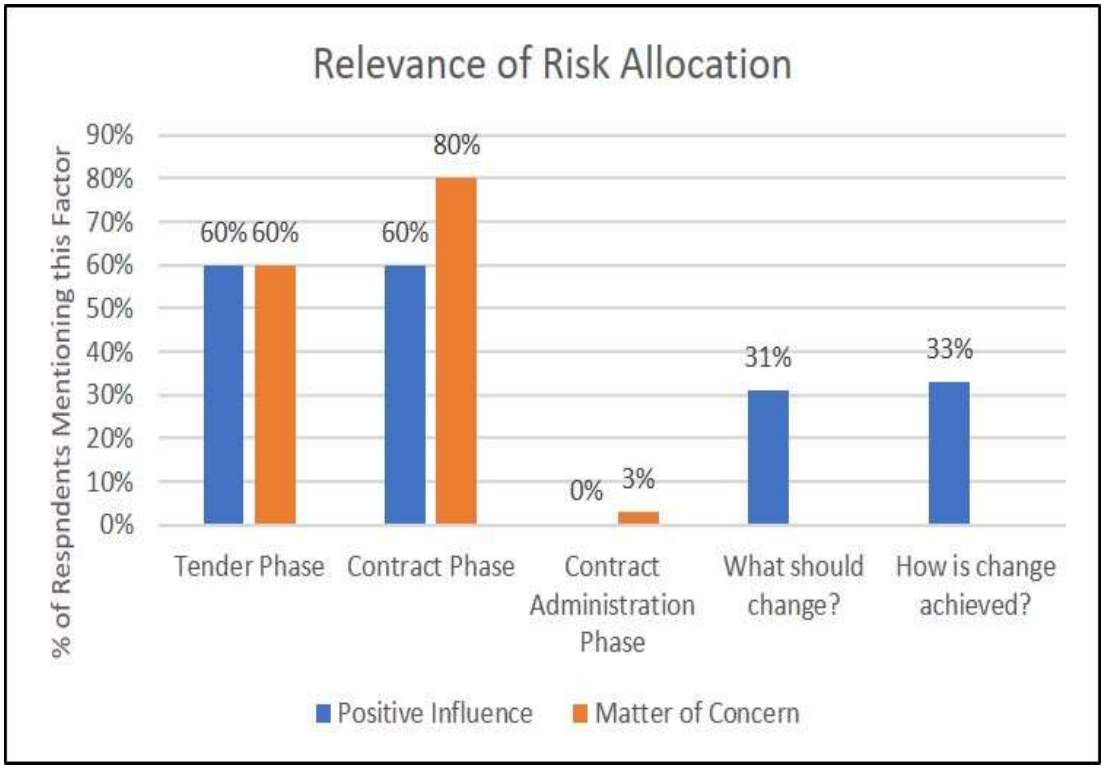


Figure 11 – Relevance of Risk Allocation

An associated finding, already noted in Figure 9, is that risk allocation was the most commonly-nominated issue affecting the industry (nominated by 17% of respondents) from a closed list of 12 options.

In our associated survey (*Standard forms of contract in the Australian construction industry*), respondents were asked to identify the clauses in standard form contracts which were amended or added. The practice of amending clauses or adding clauses can give some insight into what risks are

often dealt with or modified in standard form contracts. This can, in turn, provide an idea of the risks which parties consider to be worthy of most attention.

This analysis is not perfect. Parties may be content with the risk allocation in relation to a particular issue and therefore are not motivated to alter the standard form in relation to it. Alternatively, the commercial position between the parties may prevent any modification in relation to a particular risk. Nonetheless, some insight into the importance of particular risks may be gained.

The issues which were most often the subject of **amendment or addition** (selected from a closed list, with the ability to identify items outside the list) are set out as follows:

- issues which were mentioned **more than 50 times** (from a pool of 58 respondents) are shown in Figure 12
- issues which were mentioned **between 30 and 50 times** are shown in Figure 13.

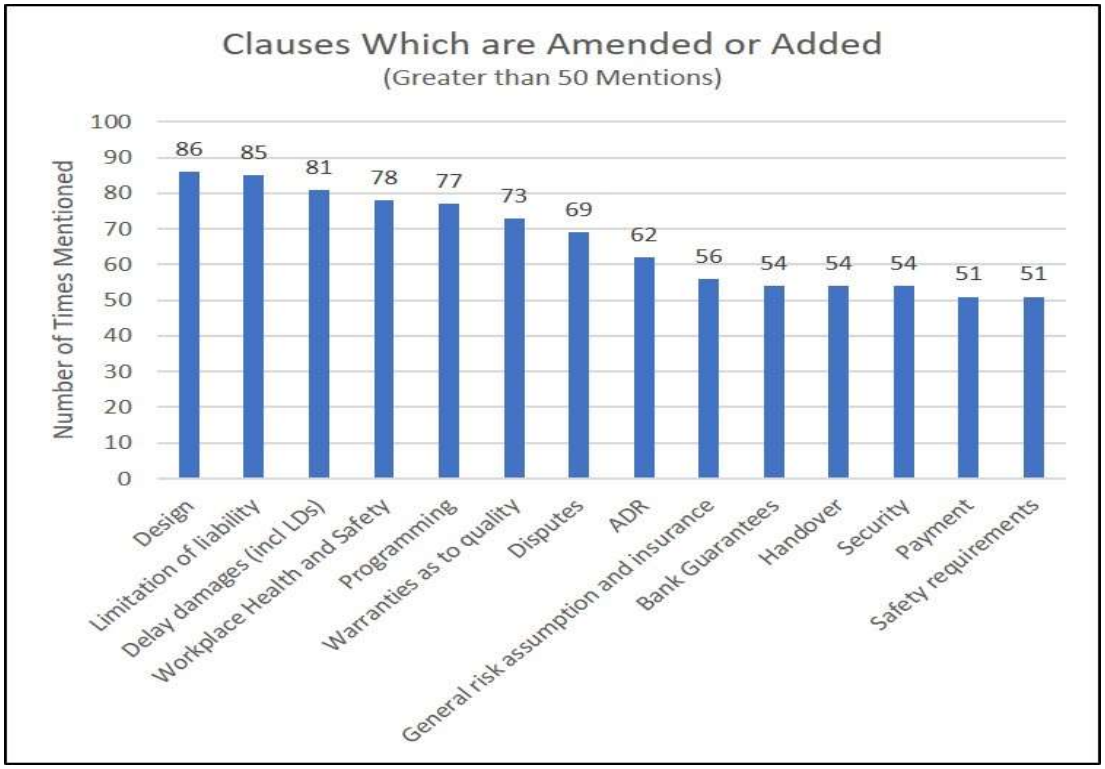


Figure 12 – Issues the Subject of Amended or Added Clauses (more than 50 mentions)

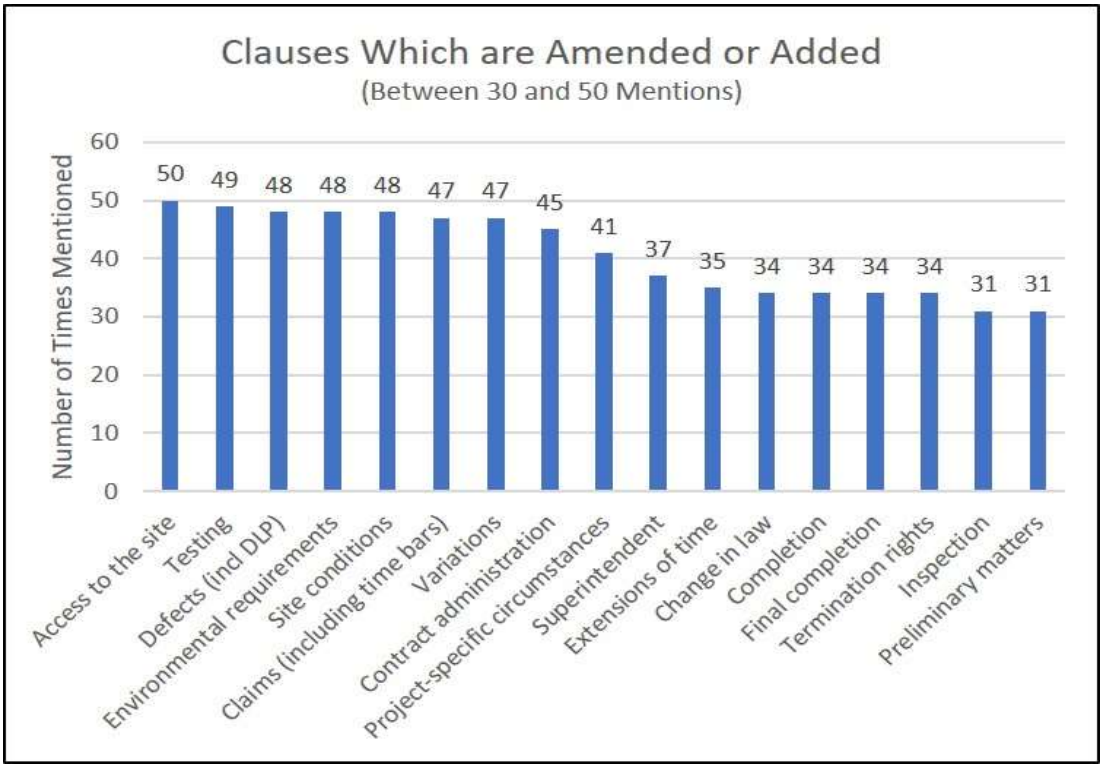


Figure 13 – Issues the Subject of Amended or Added Clauses (between 30 and 50 mentions)

The risk issues which were most often mentioned during the interviews were as follows (refer to page 26):

- **subsurface risks**/ latent conditions (mentioned 48 times (as 'Site Conditions'))
- **environmental risks** (mentioned 48 times)
- **interface risks** (not mentioned in response to this question)
- **uncapped liability** (mentioned 85 times (as 'limitations of liability'); the second highest mentioned issue).

There is a disconnect between the risk issues mentioned in the interviews and the clauses which are most often amended or added. This disconnect creates some uncertainty as to which risks are of most concern to industry participants and the degree of concern.

In discussing *'hard to manage risks'*, as identified by respondents, Yates and Sashegyi[18] noted as follows:

> *Hard to manage risks as identified by respondents included:*
>
> - *asbestos and latent conditions*
> - *costs of prolongation caused by delays in documentation*
> - *documentation risks were passed on while we had no control over consultants or client decisions*
> - *time for authorities to process design approval and building licences were included in the 16 week duration to hand over*
> - *unsuitable material, contaminated soil, and unknown services*
> - *wet weather*

[18] Yates and Sashegyi (n 15), 9.

Subsurface conditions feature strongly in the results of our survey[19] and in the Yates and Sashegyi report.[20]

10.1.3 Interviews

Risk allocation featured strongly during the interviews. The comments fell into seven categories:

- **General:**
  - **risks should be allocated to the party best able to bear them**
  - it is **better for the principal to hold a contingency** rather than to allocate all risk to a contractor
  - many contractors do not understand or assess risk properly
  - the **current attitude to risk allocation puts too much pressure on people** – it is bad for the industry
  - risk allocation has got to the point of **absurdity and is not sustainable for the industry**
- **Lawyers:**
  - risk allocation is **often determined by lawyers**, often to the exclusion of those who will be involved in delivering the project or with a greater understanding of the project
  - lawyers would **often not usefully participate** in discussion on risk allocation and attempts at such discussion were simply met with *'it's market'*
  - many **principals do not appreciate how risk is being allocated by the lawyers**
  - **clients rarely challenge a lawyer's approach** to risk allocation
- **Government:**
  - government, often driven by Treasury, strives for a 'not to exceed price' and this drives an **attitude of 'transferring all the risk'**
  - government is a **significant influencer of attitudes** to risk allocation
  - government **should let contractors rely upon information** regarding subsurface conditions and utility location
  - government **should bear the risk of coordinating the various government agencies**
  - the approach of government to risk allocation **adds 15% to 30%** (on one estimation) **and 30% to 50%** (on another estimation) **to project cost**
  - the Commonwealth **Department of Defence** is an example of a government procurer which, **whilst having tough contract conditions, takes a realistic attitude to risk allocation**
  - the attempt to **transfer all risk to a contractor through the PPP model is misconceived** and **does not bring value to government**
- **Pricing Risk:**
  - there is **nothing wrong with onerous risk allocation** provided **the principal recognises it will have to pay for it**
  - **contractors do not price risk properly** – they hope the risk will not manifest or that they can 'work the contract' to improve the financial position
  - often, **bid qualifications are raised as a substitute for pricing risk**

[19] In this survey, it may be appropriate to include the risks described as *'subsurface risks'* and '*environmental risks'* within the *'subsurface condition'* risk (at least to a certain extent).

[20] In the Yates and Sashegyi paper (n 15), it may be appropriate to include the risks described as 'asbestos and latent conditions' and 'unsuitable material, contaminated soil, and unknown services' within the 'subsurface condition' risk (at least to a certain extent).

- **The Cost of Risk Allocation:**[21]
    - **tough risk allocation adds** 15% to 30% (on one estimation), 20% (on another estimation) and 30% to 50% (on further another estimation) **to project cost** (at least in relation to government projects)
    - a **more balanced risk allocation in relation to subcontracts can reduce costs by 5%** with a further 5% savings in more efficient contract administration which results from the more balanced risk allocation
    - tough risk allocation **gives rise to more disputes at the end of the project** and this **adds at least 10% to project cost** (and sometimes up to 50%)
- **'Troublesome Risks:**[22]
    - **subsurface** risks
    - **latent** conditions
    - **environmental** risks
    - interface risks
    - uncapped liability
- **Particular Contracts:**
    - the contracts issued by **Standards Australia were seen as outdated and onerous**
    - the **NEC contracts have a balanced approach to risk allocation** (but require a larger team to deal with administration)
    - the **GC21 contract has a more balanced approach to risk allocation**.

10.1.4 Literature Review

Not surprisingly, the issue of risk is discussed frequently in the literature. The extracts and references set out in this section are merely a selection of some of the most pertinent comments and observations.

The law firm Ashurst observed in June 2014 that there is a general tendency and expectation to shift risks down the contracting chain to parties who are not necessarily best suited to manage such risks.[23]

A recent NSW Government discussion paper promoting best practices for public sector procurement acknowledged that capacity-based risk allocation remains an aspiration yet to become industry reality.[24]

In its submission in 2014 to the Standing Committee inquiry,[25] Consult Australia noted that it was 'common practice' for public sector agencies 'to offer contracts where all risk is transferred to other parties irrespective of who is best able to manage that risk'.[26]

In a 2015 report, *Deloitte Access Economics* observed as follows:

[21] The cost of risk allocation is explored in sections 11.4.2, 0 and 0.

[22] Troublesome risks are also explored at section 8.3.

[23] Ashurst, 'Scope for Improvement 2014: Project Pressure Points – Where Industry Stands' (Report, June 2014) 53-54.

[24] Construction Leadership Group, NSW Government, *Construction Procurement Methods* (Industry Discussion Paper, December 2018).

[25] House of Representatives Standing Committee on Infrastructure and Communications, Parliament of Australia, *Inquiry into Infrastructure Planning and Procurement* (10 April 2014).

[26] Consult Australia, 'Submission No 2 to the House of Representatives Standing Committee on Infrastructure and Communications', Parliament of Australia, *Inquiry into Infrastructure Planning and Procurement* (10 April 2014) 7.

> *In relation to contracting, government has expressed a willingness to pay for the transfer of risk to the private sector. However, it was acknowledged that government is uninformed about the costs incurred, particularly as they are often hidden by the competitive market. Inclusion of contract clauses is driven by legal advice, rather than economic assessments, and it was considered that the practical benefits of a standard approach offset the benefits of flexibility. However, this may not appropriately take into account the implications of shifting risks to the private sector which they may not be best placed to manage.*[27]

In relation to Public–Private Partnerships (PPPs), the University of NSW noted, in its submission to the Productivity Commission's 2014 inquiry, that '[m]any PPPs are "partnerships" in name only' as the 'risk-transfer culture often results in … risks … passed down the contract chain to subcontractors that cannot manage them'.[28]

However, as the NSW Government recognised in its 2018 discussion paper, there is a tricky balance between not 'unreasonably putting the contractor's overall viability at risk' and 'bailing them out in all circumstances'.[29]

The Productivity Commission, in its final report in 2014, noticed that **government assistance** for 'struggling public infrastructure projects' **can 'cause moral hazard'** if it affects the private party's incentive to manage risks and to undertake construction and operation efficiently'.[30] The Standing Committee also noted that 'government accepting the principal risk in project management **leads to a loss of commercial discipline**'.[31]

Submissions from public sectors variously acknowledged that governments do not have a good track record of enforcing risk allocation or addressing residual risks that have only 'notionally been transferred to the private sector'.[32] In its submission to the Productivity Commission, the Office of the National Infrastructure Coordinator attributed such poor performance to the lack of 'necessary commercial expertise … in the public sector to analyse and negotiate complex infrastructure transactions'.[33]

According to the WA Auditor General, the rigidity of pro forma risk allocation can also be seen in parties' failure to reassess project selection decisions once project scope changes and better information becomes available.[34]

Ashurst also noted in 2014 that outdated standard form contracts 'do not allow contractors to quickly and efficiently appreciate the risk profile for any specific project'[35] without substantial amendment.

In its submission to the Standing Committee inquiry, Consult Australia noted that such common practices of transferring risks down the contracting chain 'result from the relevant [procuring] officers

[27] Deloitte Access Economics (for Consult Australia), *Economic benefits of better procurement* (2015).

[28] University of New South Wales, Submission No 44 to the Productivity Commission, *Inquiry into Public Infrastructure* (29 November 2013) 4.

[29] Construction Leadership Group, NSW Government, *Construction Procurement Methods* (Industry Discussion Paper, December 2018) 5.

[30] Productivity Commission, *Public Infrastructure: Inquiry Report* (Report No 71, 27 May 2014) vol 1, 136.

[31] House of Representatives Standing Committee on Infrastructure and Communications, Parliament of Australia, Planning, Procurement and Funding for Australia's Future Infrastructure: 'Report on the Inquiry into Infrastructure Planning and Procurement' (4 December 2014) 53 [4.39].

[32] Productivity Commission (n 30) vol 1, 134.

[33] Office of National Infrastructure Coordinator, Submission No 78 to the Productivity Commission, *Inquiry into Public Infrastructure* (29 November 2013) 15 [65].

[34] Office of the Auditor General Western Australia, *Western Australian Auditor General's Report: Major Capital Projects* (October 2012) 9.

[35] Ashurst (n 23), 55.

… not being fully aware of the ramification of their actions, [or] external legal advisors without a stake in the project outcome … producing] contracts more aggressive than necessary'.[36]

Similar opinions were expressed by several submissions to the Productivity Commission's 2014 inquiry.[37] Notably, Lend Lease commented that '[i]t is common practice for [s]tate governments to seek to vary established risk transfers based on the differing views of transaction managers and Treasury representatives involved in the development of project briefs'.[38]

10.2. Adversarial Culture – Collaboration

10.2.1 Survey Results

The concepts of collaboration and the absence of an adversarial culture appeared to have been used interchangeably by the respondents. A summary of the respondents' view of the relevance of collaboration is set out in Figure 14 (which is an extract and compilation of the data in Figure 17, Figure 22, Figure 29, Figure 33, Figure 38, Figure 41, Figure 48 and Figure 49).

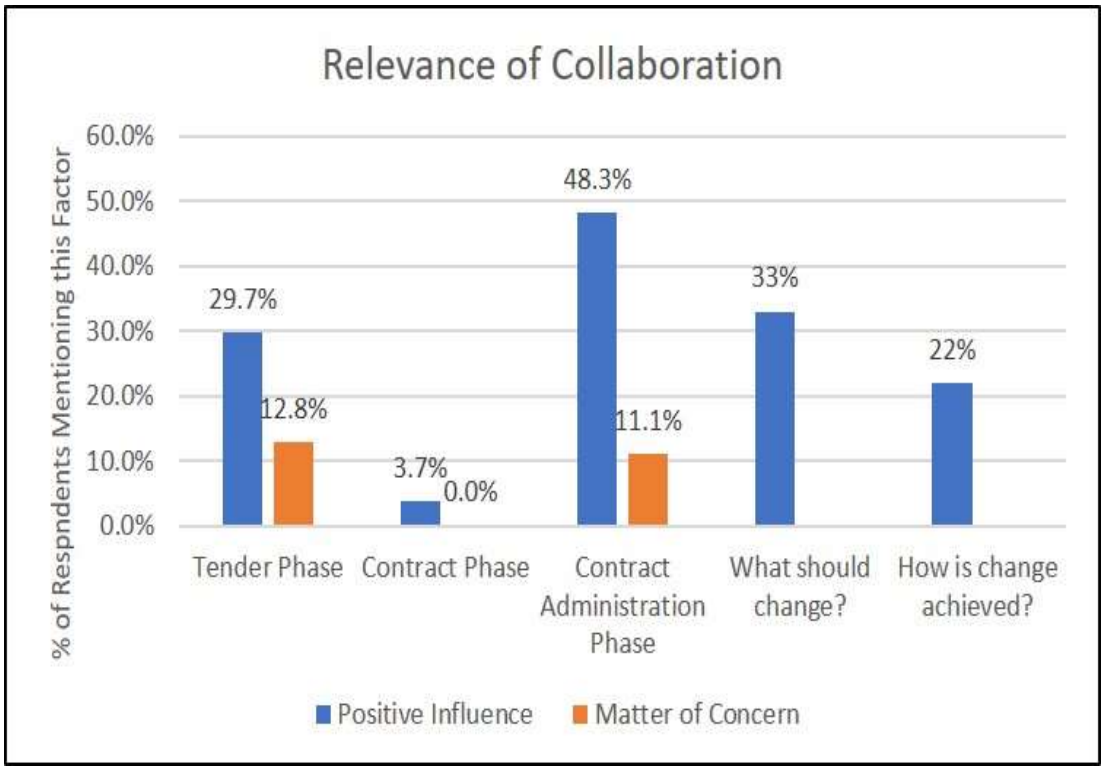


Figure 14 – Relevance of Collaboration

As we have already noted in relation to Figure 8, 7% of respondents nominated relationship problems as an issue affecting the industry (it ranked at number 7 out of the 12 options in a closed list).

10.2.2 Interviews

A number of interviewees raised the issue of an adversarial culture in the industry and a lack of collaboration. Comments, from three seasoned project managers with both private sector and public sector experience, included the following:

[36] Ibid 8.

[37] Productivity Commission (n 30) vol 1, 133.

[38] Lend Lease, Submission No 46 to the Productivity Commission, *Inquiry into Public Infrastructure* (23 December 2013) 17.

- the industry has been **plagued by an adversarial culture for over 35 years**, although this is beginning to change
- there are those in the public sector who think **an adversarial attitude is the only way to protect the public purse**
- the adversarial nature of the Australian construction industry **contrasts with a less adversarial culture in other countries**
- **project managers are not head-kickers** – they like to be collaborative
- the **culture** and **behaviour** in **second-tier builders** are **generally better** than in first tier builders
- too often, contracts are **not collaborative in style**.

10.2.3 Literature Review

A recent book chapter by Professor Paula Gerber of Monash University and Marko Misko of HWL Ebsworth Lawyers noted the Australian construction industry's reputation of 'being highly adversarial' and costly.[39]

In a speech delivered in 2007, Justice David Byrne observed that 'it is inevitable that the commercial activities of those engaged in the construction industry will always produce disputes'.[40]

In its report, the Productivity Commission noted debt finance's dominance at the early stage of project finance,[41] which could contribute to the 'adversarial' nature of risk allocation among parties:

> *debt investors have a 'regulatory' role to assess the robustness of the project planning, allocate risks to appropriate firms within the private sector counterparty, monitoring performance and step in to manage projects. On the other hand, equity holders, with a low priority claim to project cash flows and a greater risk that the project will fail to achieve its expected return, have a strong incentive to act as integrators and managers of construction and operation.*[42]

The Productivity Commission noted that 'short term focused project sponsors are motivated to put forward aggressive financing assumptions to lower the cost of capital'.[43]

In its 2014 report, the House of Representatives Standing Committee on Infrastructure and Communications acknowledged that all submissions it received agree that collaborating is *'the best way to manage risk'.*[44] However, Australian stakeholders are reportedly slow and reluctant to embrace the collaborative and relational approach that has been encapsulated in standard forms prevalent in the UK and the USA.[45]

Gerber and Ong observed that relational contract theory and stakeholder collaboration might be foreign to standard form construction contracts commonly used in Australia.[46]

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[39] Paula Gerber and Marko Misko, 'How Does Collaborative Procurement Operate in Australia?' in David Mosey (ed), *Collaborative Construction Procurement and Improved Value* (Wiley, 2019) 391, 391.

[40] David Byrne, 'The Future of Litigation of Construction Law Disputes' (2007) 23 *Building and Construction Law* 398, 405.

[41] Productivity Commission (n 30) vol 1, 220.

[42] Ibid, vol 1, 219.

[43] Ibid, vol 1, 247.

[44] Standing Committee (n 25) 53 [4.40].

[45] Gerber and Misko (n 39) 397.

[46] Paula Gerber and Brennan Ong, *Best Practice in Construction Disputes: Avoidance, Management and Resolution* (LexisNexis, 2013) 71.

10.3. Cost Savings and Consequences from Changes in Behaviours and Attitudes

Changes in behaviours and attitudes might affect costs in different ways, including through:

- potential increased costs during the Tender Phase (from an upstream perspective) - section 11.4.2 and Figure 19
- potential cost savings during the Tender Phase (from an upstream perspective) - section 11.6.2 and Figure 23
- potential cost savings during the Tender Phase (from an upstream perspective) (Yates and Sashegyi)[47] - section 11.6.2 and Figure 24
- potential increased costs during the Contract Phase (from an upstream perspective) - section 0 and Figure 31
- potential cost savings during the Contract Phase (from an upstream perspective) - section 0 and Figure 34
- potential increased costs during the Contract Administration Phase (from an upstream perspective) - section 0 and Figure 39
- potential cost savings during the Contract Administration Phase (from an upstream perspective) - section 0 and Figure 42
- potential cost savings during the Contract Administration Phase (from an upstream perspective) (Yates and Sashegyi)[48] - section 0 and Figure 43.

There were few answers to some of these questions and accordingly one must be cautious about relying on the data and the conclusions which might be drawn. Notwithstanding this, the data all point in the same direction – **a positive change in attitudes and behaviours will reduce costs** (and that impact may well be material).

This sentiment is consistently reflected in the following:

- this research project
- the Yates and Sashegyi research[49]
- the Deloitte paper.[50]

Figure 15 shows the potential impact of unhelpful behaviours and attitudes during the various phases of a project.

[47] Yates and Sashegyi (n 15).

[48] Ibid.

[49] Ibid.

[50] Deloitte Access Economics (n 27).

Figure 15 – Cost Impact of Matters of Concern – All Phases

11. Tender Phase

This section examines the **Tender Phase**. The other two Phases examined are:

- the Contract Phase: see page 44
- the Contract Administration Phase: see page 52.

11.1. Questions Explored

Our research explored questions:

- from a downstream perspective (for example from the perspective of a principal issuing a tender to the marketplace)
- from an upstream perspective (for example from the perspective of a head contractor responding to a tender issued by a principal).

The *'downstream questions'* explored the attitudes and behaviours of a tenderer, during the tender phase, which:

- created difficulties for the organisation issuing the tender
- were a positive influence on the tender process.

The *'upstream questions'* explored the following issues:

- the attitudes and behaviours in the tender phase, of the organisation issuing the tender, which were a disincentive to tendering
- the extent to which the attitudes and behaviours identified above increased the tender price
- which of the attitudes and behaviours identified above were particularly relevant to government projects
- the attitudes and behaviours in the tender phase, of the organisation issuing the tender, which were an incentive to tendering
- the extent to which the attitudes and behaviours identified above reduced the tender price
- which of the attitudes and behaviours identified above were particularly relevant to government projects
- what percentage of tenders a potential tenderer would decline to respond to as a result of the attitudes and behaviours identified above
- the significance of the challenges raised in relation to certain nominated issues in the context of the tender phase.

11.2. Key Matters of Concern

The survey clearly identified two matters of particular concern in relation to the tender process:

- allocation of risk
- quality of documentation.

These two matters together represented almost 50% of the pool of matters of concern. The remaining 50% of the pool comprised 21 individual themes. This was the case whether the principal was government or the private sector, although the focus on risk allocation was more pronounced in relation to government projects.

Risk allocation and the quality of documentation also featured strongly in the positive matters which were identified. A focus on these two areas would appear to represent a real opportunity to improve the tendering process.

11.3. Matters of Concern (Downstream Perspective)

Respondents were asked to identify what attitudes and behaviours of the party responding to the tender caused difficulties for the party issuing the tender. The question invited respondents to identify the type of difficulty caused, within three nominated categories:

- what matters added to the cost of the tendering process?
- what matters detracted from the efficiency of the tendering process?
- what matters resulted in a tender being unfavourably considered?

All but a few of the respondents provided narrative responses which did not directly address these three categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 15 (12%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 17 comments (with some respondents making more than one comment) identifying four themes.

The matters of concern are shown in Figure 16.

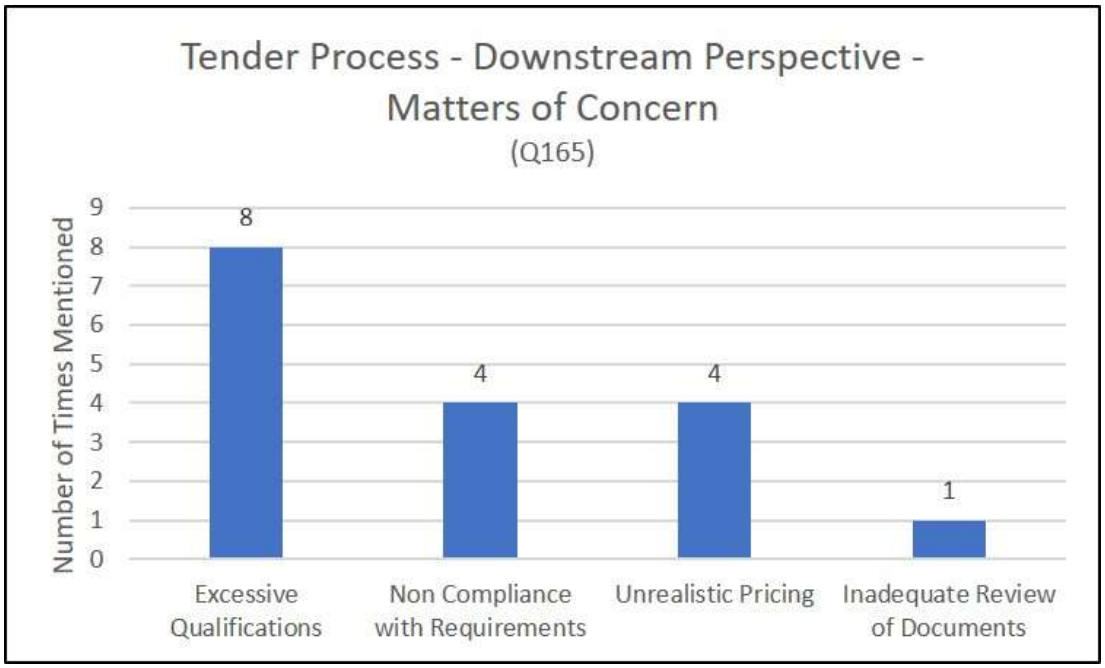

Figure 16 – Tender Process – Downstream Perspective – Matters of Concern

11.4. Matters of Concern (Upstream Perspective)

11.4.1 Identification of Matters of Concern

Respondents were asked to identify what attitudes and behaviours of the party issuing the tender caused difficulties for the tenderer. The question invited respondents to identify the type of difficulty caused within four nominated categories:

- what matters are a disincentive to bidding for work?
- what matters add to the cost of the tendering process?
- what matters add to the cost of the works?
- what matters give rise to disputes during or after project delivery?

All but a few of the respondents provided narrative responses which did not directly address these four categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey respondents, 51 (40%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 99 comments (with some respondents making more than one comment) identifying 23 themes.

The most significant matters of concern are shown in Figure 17.

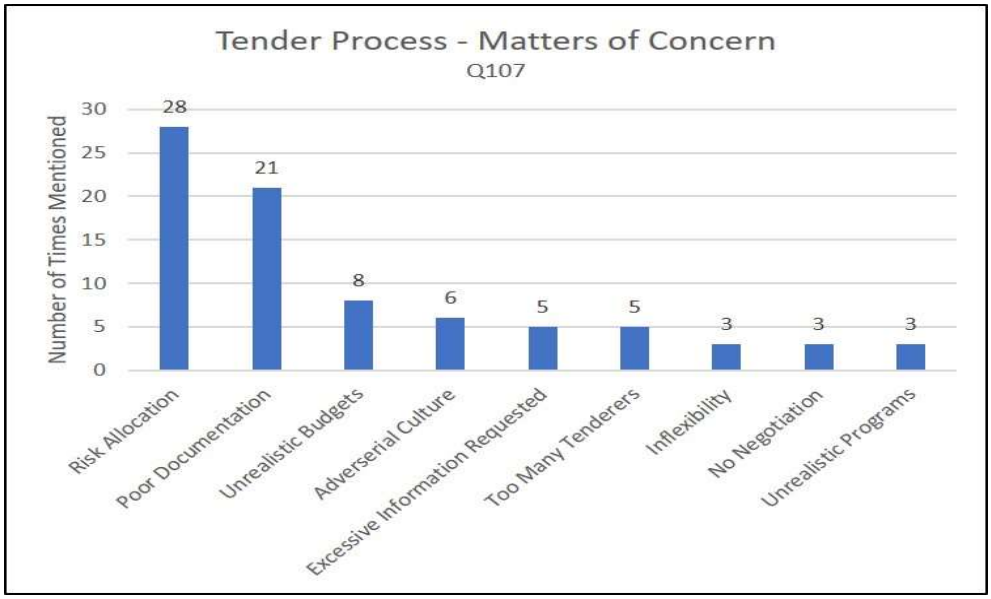

Figure 17 – Tender Process – Upstream Perspective – Matters of Concern

Additional matters of concern, which were only mentioned once or twice, were as follows:

- Inadequate tender period
- Excessive tender process
- Prospect of novation
- Inadequate information
- Poor project understanding
- Lack of skill
- Delayed decisions
- No Bill of Quantities

The percentage of respondents mentioning each of the issues identified in Figure 17 is shown in Figure 18.

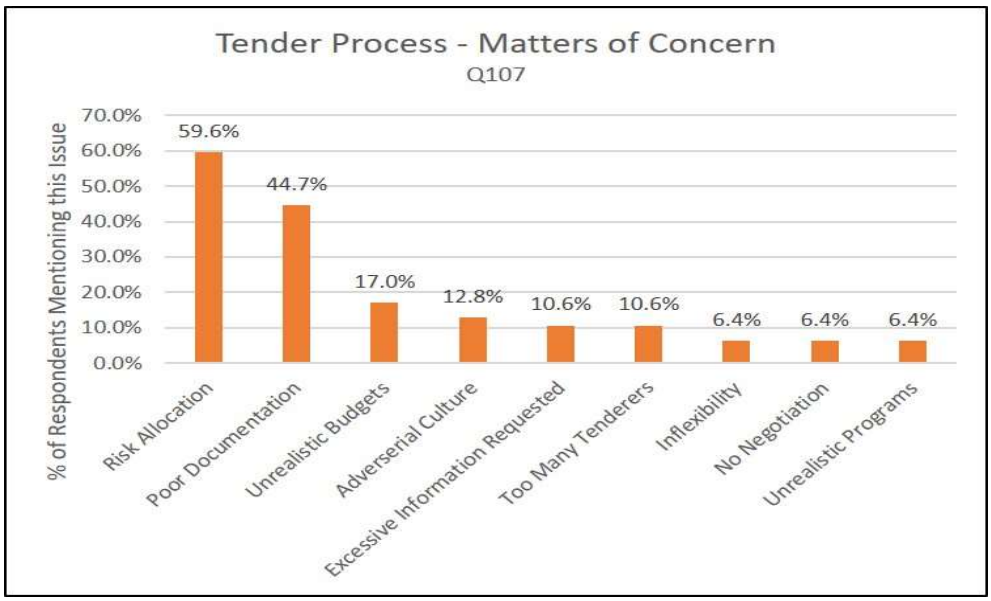

Figure 18 – Tender Process – Upstream Perspective – Matters of Concern

Over 55% of the respondents nominating *Risk Allocation* as a matter of concern ranked the concern as *Very Significant* or *Significant*.

11.4.2 Negative Cost Impact

Respondents were asked to nominate what price impact the matters of concern had on the tendered price. This question did not seek to identify the price impact of the individual matters raised, rather, the price impact of tender difficulties generally. Thirty-six respondents (28%) nominated a percentage impact on the tendered price. A further nine respondents noted an impact on price but did not nominate a percentage. They considered it was too difficult to do so.

The price impact is set out in Figure 19.

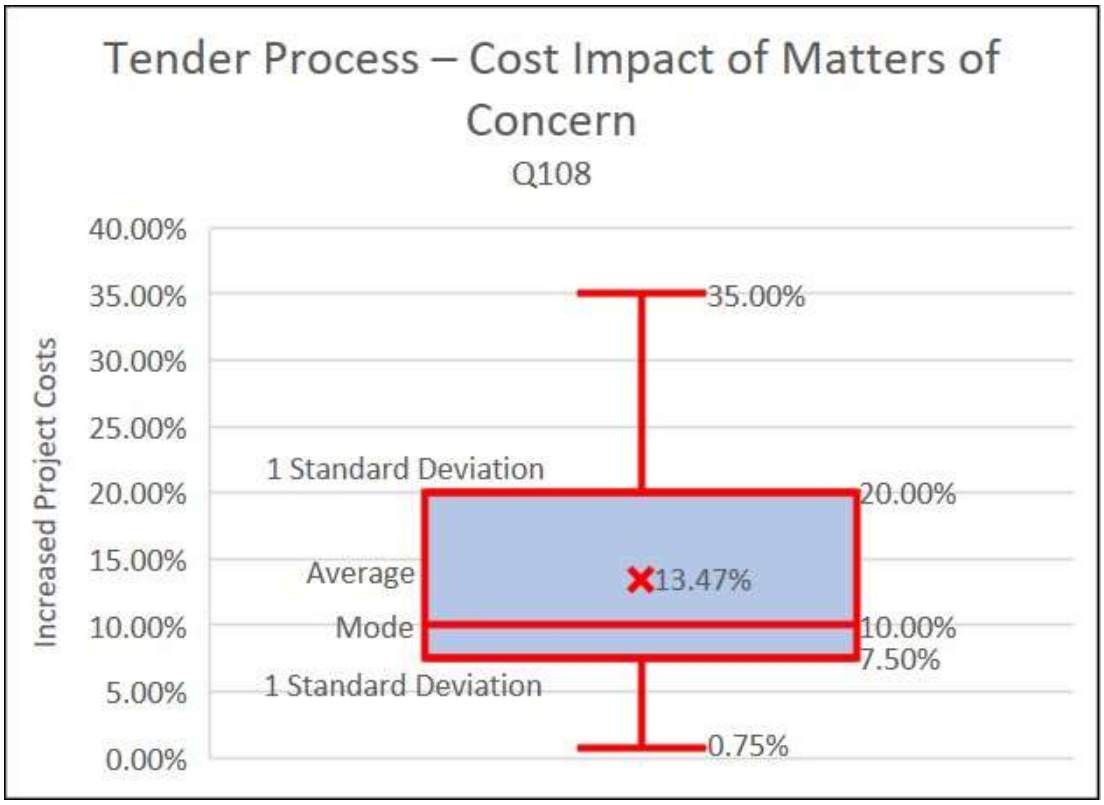

Figure 19 – Tender Process – Upstream Perspective – Increased Tender Costs

Whilst there is a significant spread of estimates, the average of 13.47% (and the most common percentage of 10%) represents a significant impost on project costs. It also represents a saving principals could enjoy if they were able to address some of the concerns of tenderers in relation to the tendering process.

The issue of the cost impact of behaviours and attitudes during all phases of a project is discussed at section 10.3.

11.4.3 Government Projects

Respondents were then asked to consider which of the matters of concern they had nominated were particularly relevant when the government was the principal. In answering this question, many respondents did not confine themselves to the matters previously raised but offered additional concerns.

The responses were narrative in nature. Again, the narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 50 (40%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 69 comments (with some respondents making more than one comment) over 26 themes.

The most significant matters of concern are shown in Figure 20.

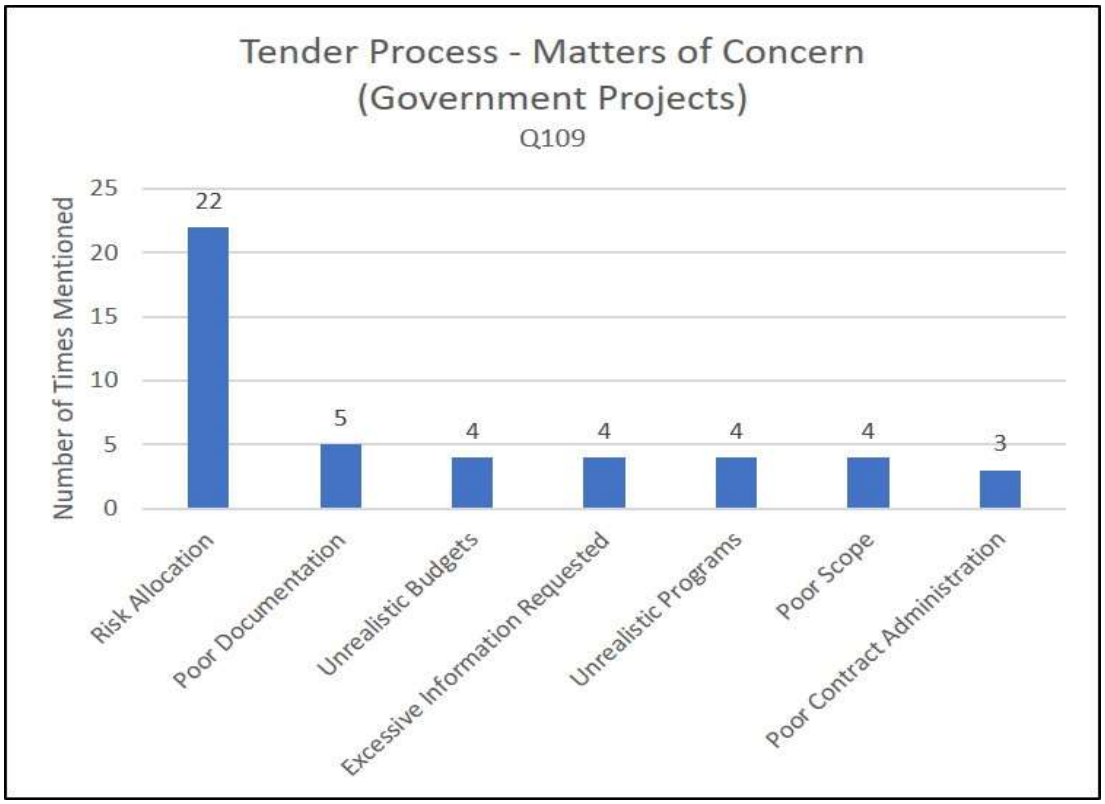

Figure 20 – Tender Process – Upstream Perspective – Matters of Concern (Gov Projects)

Risk allocation in contracts is the most significant concern. It was raised almost five times more than the next matter of concern.

Additional matters of concern, which were only mentioned once or twice, were as follows:

- Inflexibility
- Slow responses
- Absence of negotiation
- Difficult tender conditions
- Delayed decisions
- Insufficient principal contingency
- Too many tenderers
- Intervention by principal without consequences
- Inadequate tender period
- Lack of skill
- Inadequate information
- Poor team
- No Early Contractor Involvement
- No entitlement to rely on information
- Unrealistic expectations
- Prospect of novation

11.5. Positive Influences (Downstream Perspective)

Respondents were asked to identify what attitudes and behaviours of the party responding to the tender were a positive influence on the tender process. In particular respondents were asked to consider:

- what attitudes and behaviours assist in the administration of an efficient tender process
- what attitudes and behaviours result in a tender being favourably considered

All but a few of the respondents provided narrative responses which did not directly address these two categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 15 (12%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 19 comments (with some respondents making more than one comment) identifying five themes.

The most significant positive influences are shown in Figure 21.

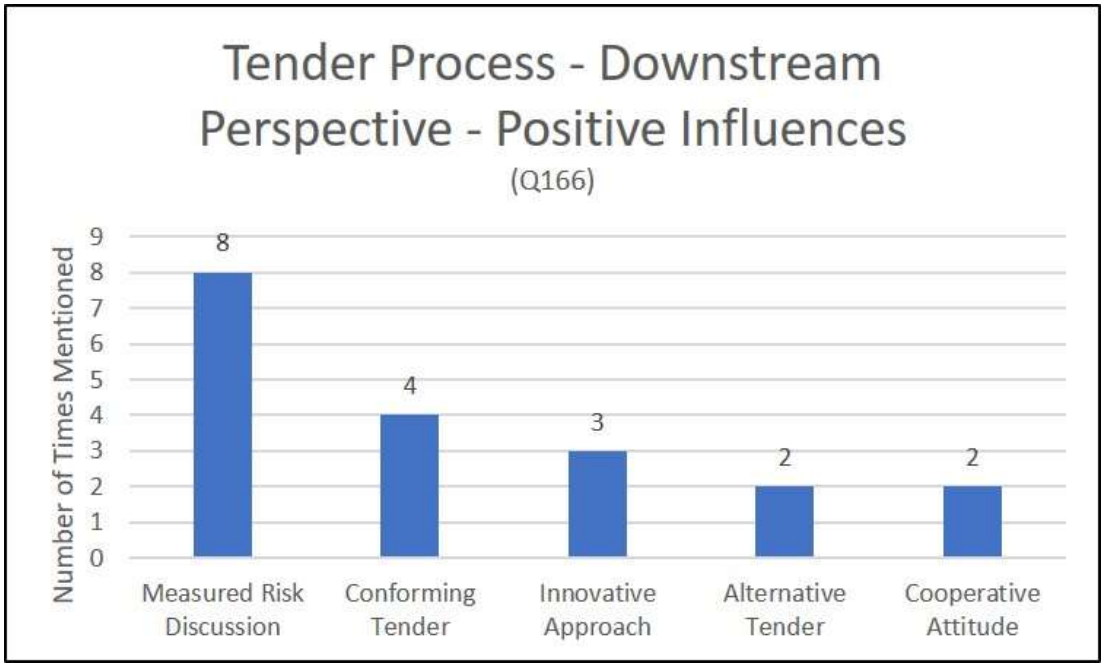

Figure 21 – Tender Process – Downstream Perspective – Positive Influences

11.6. Positive Influences (Upstream Perspective)

11.6.1 Identification of Positive Influences

Respondents were asked to identify what attitudes and behaviours of the party issuing the tender were a positive influence on the tender process. In particular, respondents were asked to consider which matters:

- are an incentive to bidding for work
- reduce the cost of the works
- contribute to a reduction in disputes during or after project delivery.

All but a few of the respondents provided narrative responses which did not directly address these three categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 49 (40%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 79 comments (with some respondents making more than one comment) identifying 19 themes.

The most significant positive influences matters are shown in Figure 22.

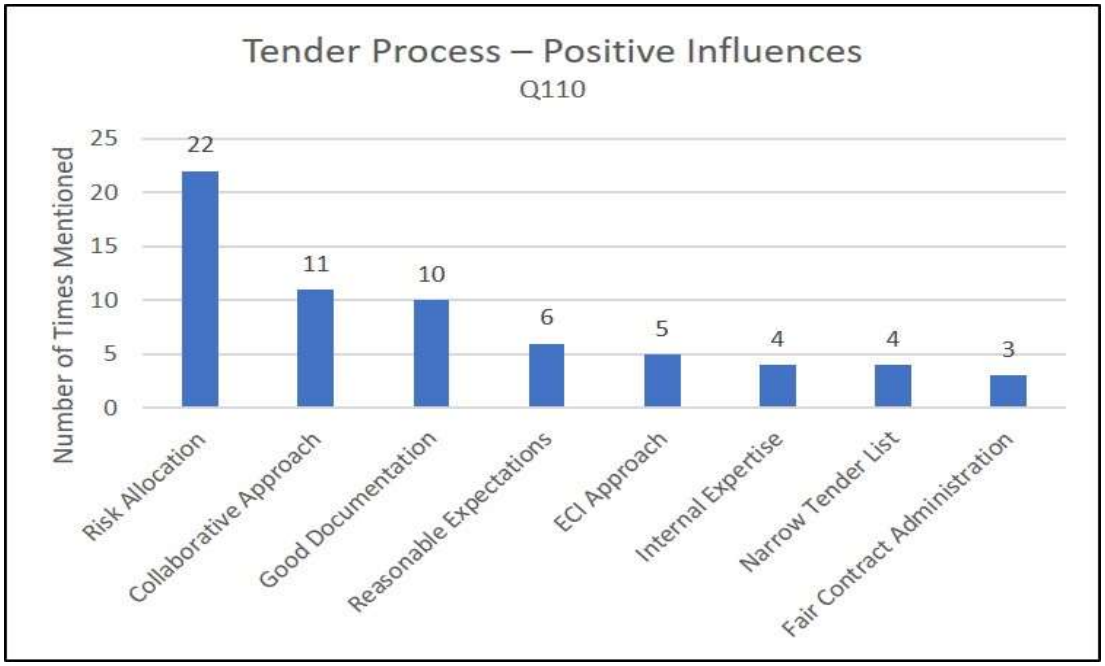

Figure 22 – Tender Process – Upstream Perspective – Positive Influences

Additional positive influences, which were only mentioned once or twice, were as follows:

- Flexibility
- Good scope description
- Timely decisions
- Unamended contracts
- Dispute avoidance boards
- Relevant information requirements
- Existing conditions information provided
- Reliable information
- Fair process
- Request for Proposal prior to Request for Tender
- Good documentation

Risk allocation was again the matter most often referred to. Almost 60% of respondents referred to risk allocation.

A collaborative approach was the next most often mentioned. The absence of a collaborative approach (described as the presence of an adversarial culture) was identified as a matter of concern in relation to the tender process (refer to Figure 17).

The quality of documentation was identified almost as often as a collaborative approach. The quality of documentation was the second most common matter of concern in relation to the tender process, both in relation to government tendering and private sector tendering (refer to Figure 17 and Figure 20).

11.6.2 Positive Cost Impact

Respondents were asked to nominate the impact that positive influences might have in reducing project costs. This question did not seek to identify the price impact of the individual matters raised, rather, the reduction in project costs generally. Thirty-six respondents (29%) nominated a percentage impact on the tendered price. A number of respondents considered it was too difficult to nominate a percentage.

The price impact is set out in Figure 23.

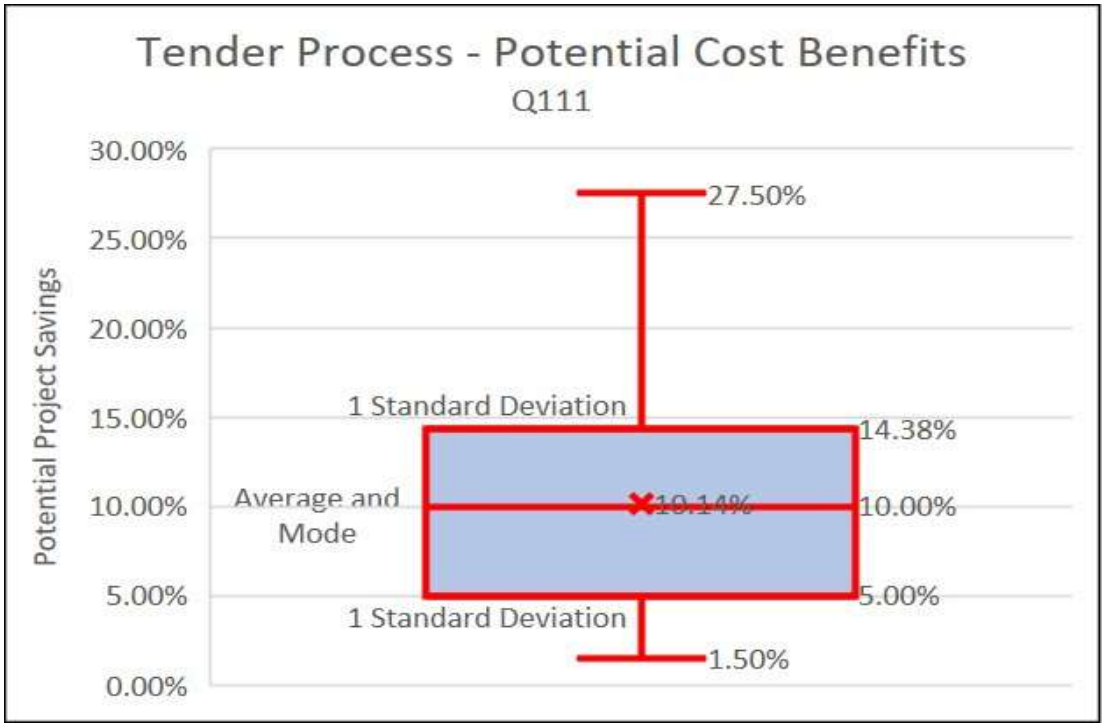

Figure 23 – Tender Process – Upstream Perspective - Potential Cost Savings

The picture presented in Figure 23 is similar to the picture presented in Figure 19 (which looked at the potential increase in project costs resulting from concerns with the tender process). In both cases, the most commonly reported percentage was 10%. It may not be safe to add these two amounts and conclude that improved tender processes would result in a 20% reduction in project costs – not least because it may be that the two estimates overlap. However, even a 5% reduction in projects costs may be a worthwhile objective to be pursued through improved tender processes.

The issue of potentially lower bid prices if the parties adopted a different attitude to risk allocation was explored in the Yates and Sashegyi paper. The results reported in that paper (in relation to the *Tender Phase*) are set out in Figure 24.[51]

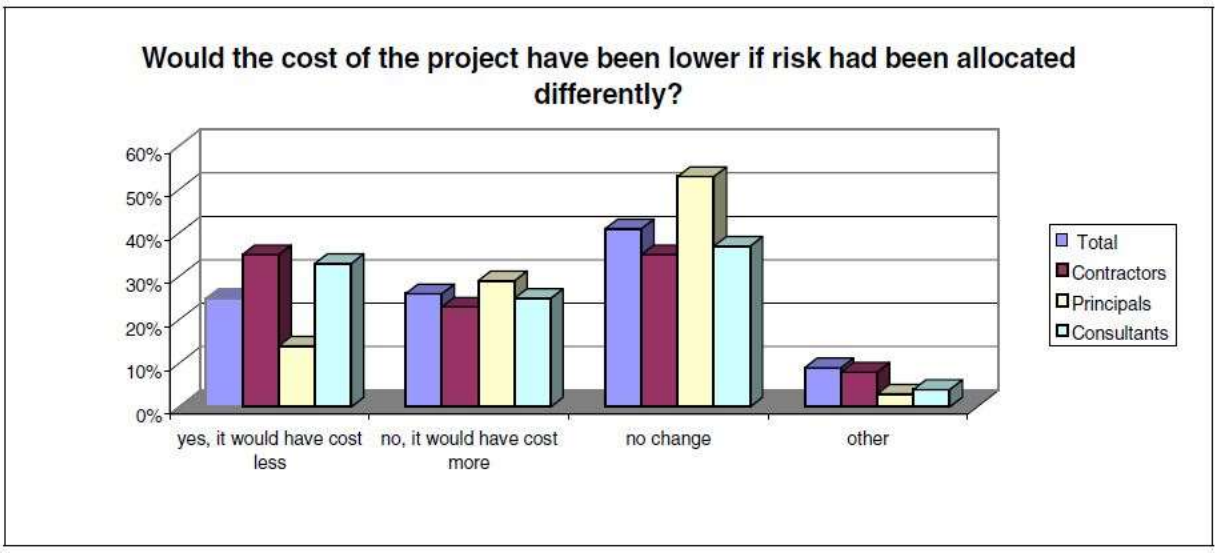

Figure 24 – Tender Process – Risk Allocation Savings – Yates and Sashegyi

[51] Yates and Sashegyi (n15) 8.

The authors summarised the results as follows:[52]

> *Respondents stated that costs savings for projects would have occurred had risks been more efficiently allocated. 25% of respondents said that the cost of the project would have been lower at the pretendering stage. The figure rose to 45% at the contract delivery stage.*
>
> *Below are the findings for each stage of the contract:*
>
> ***Pre-tendering stage**: 25% of all respondents said that the cost of the project would have been lower if risk had been allocated differently. The figures for each group were: 35% for contractors, 14% for principals and 33% for consultants. In other words, twice as many contractors as principals believe that costs could have been lower. …*
>
> *Interestingly, between 14% and 38% of principals recognised that had risks been allocated to the party best able to manage and control the risk, the price of the project would be less. As this was not done, it could mean that for principals, the protection from risk is more important than overall cost.*

The results from the two surveys are broadly consistent with each other and add weight to the proposition that a different attitude to risk allocation could well result in significant reduction in project costs.

The issue of the cost impact of behaviours and attitudes during all phases of a project is discussed at section 10.3.

11.6.3 Government Projects

Respondents were then asked to consider which of the positive matters they had nominated were particularly relevant when the government was the principal. In answering this question, many respondents did not confine themselves to the matters previously raised but offered some additional matters of concern.

The responses were narrative in nature. Again, the narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 47 (38%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 55 comments (with some respondents making more than one comment) over 20 themes.

The most significant positive matters in the context of a government project are shown in Figure 25.

[52] Ibid 4.

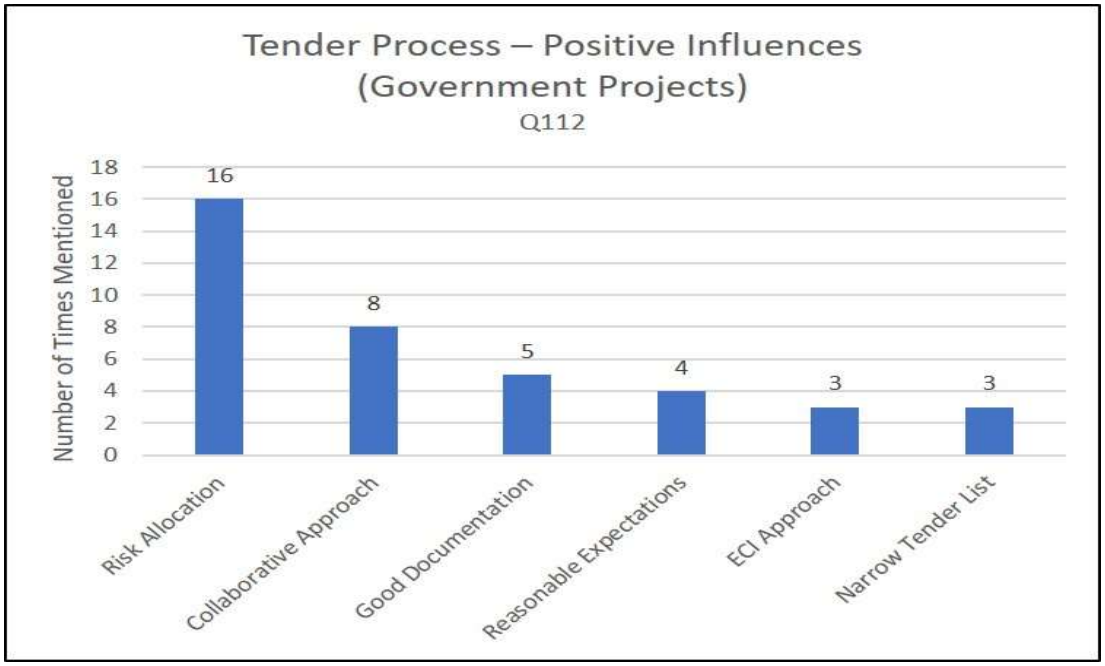

Figure 25 – Tender Process – Upstream Perspective – Positive Influences (Gov Projects)

The significance and order of significance of these matters mirrors the response in relation to projects generally (refer to Figure 22).

11.7. Tenders Not Submitted

Respondents were asked to nominate the percentage of tenders that they declined to submit as a result of issues surrounding the tender process. Whilst 48 respondents provided an answer to this question, only 15 respondents (12%) nominated a percentage. This is a small sample and no firm conclusions can be drawn from the data.

The percentage of tenders where the prospective tenderer declines to submit a response is set out in Figure 26.

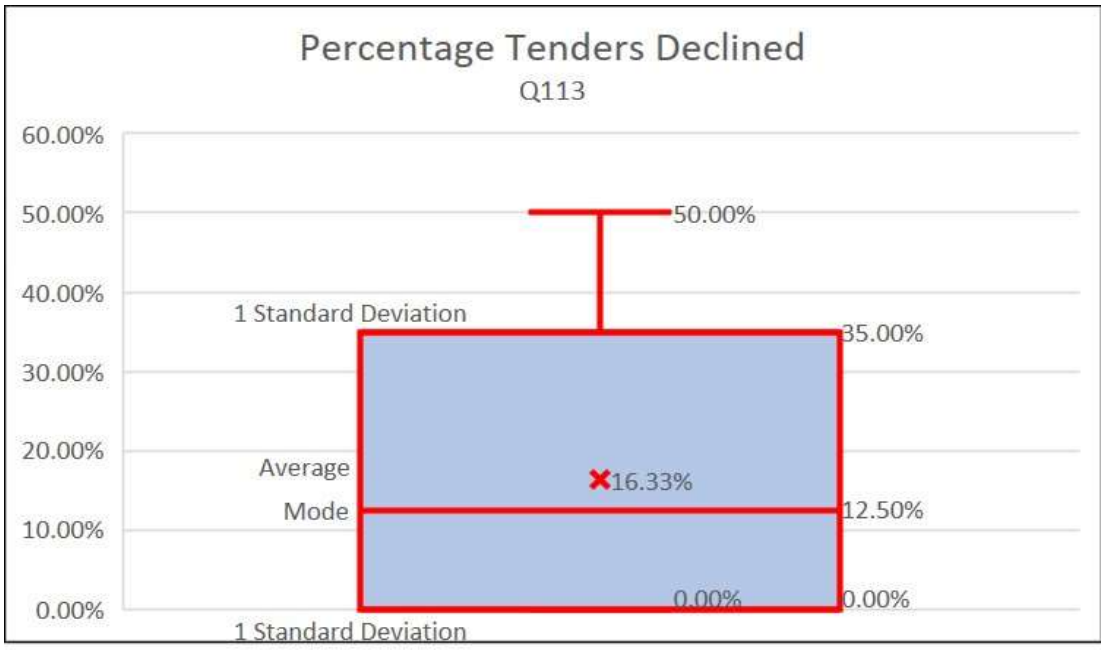

Figure 26 – Tender Process – Upstream Perspective – Tenders Not Submitted

Whilst care is required in drawing any conclusions from these numbers, they do suggest that some prospective tenderers are declining to submit a tender as a result of concerning aspects of the tender material. This could have implications for robust price competition and for maintaining a spread of work amongst market participants.

In 2015, in the context of consultants, Deloitte Access Economics prepared a report for Consult Australia that explored tenderers' responses to certain characteristics of the tendering process.[53] The Deloitte report identified the following potential responses:

- higher priced bids
- the business absorbing the cost
- a tender not being submitted
- the relevant liability or accountability not being insured.

The results of the Deloitte research are set out in Figure 27.[54]

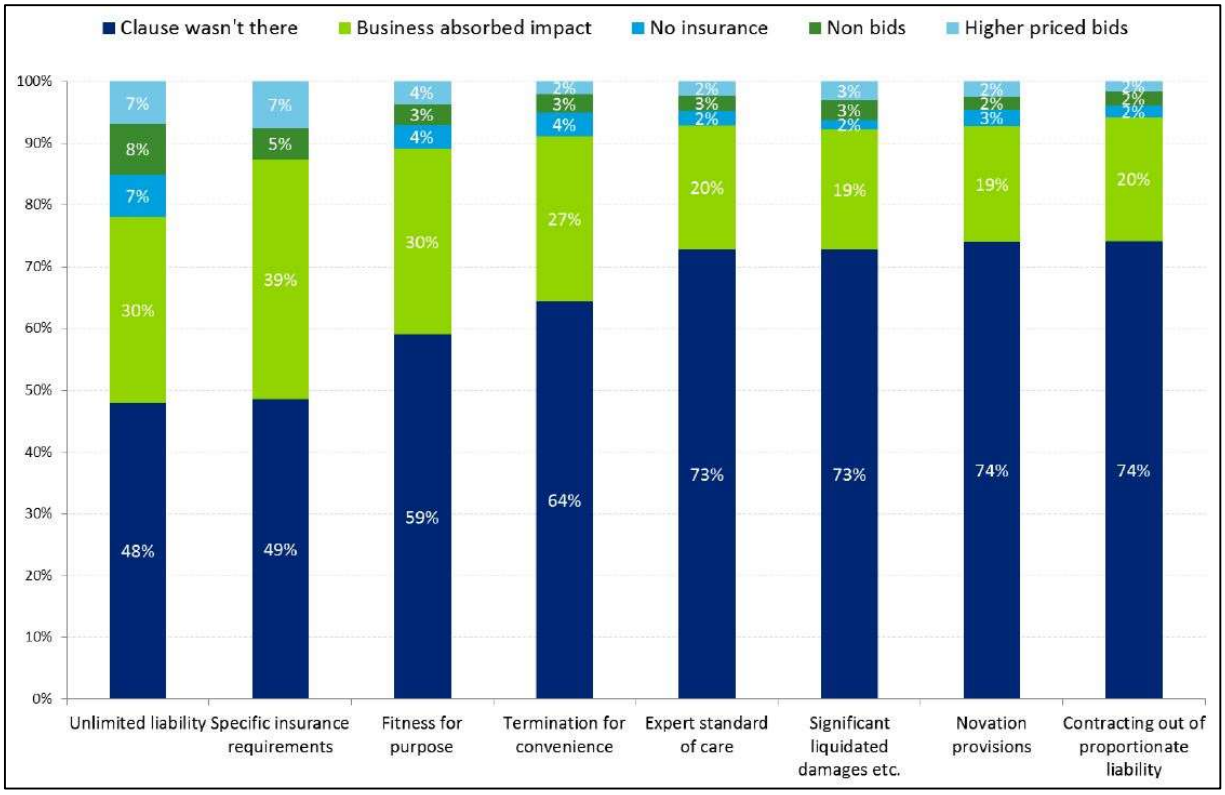

Figure 27 – Tenderers' Reaction to Contract Provisions (Consultants)

11.8. Challenging Factors

Finally, respondents were asked to consider five nominated issues and rank each of the issues as to the degree to which each contributed to challenges in the tendering process.

The results are in Figure 28.

[53] Deloitte Access Economics (n 27).

[54] Ibid 21.

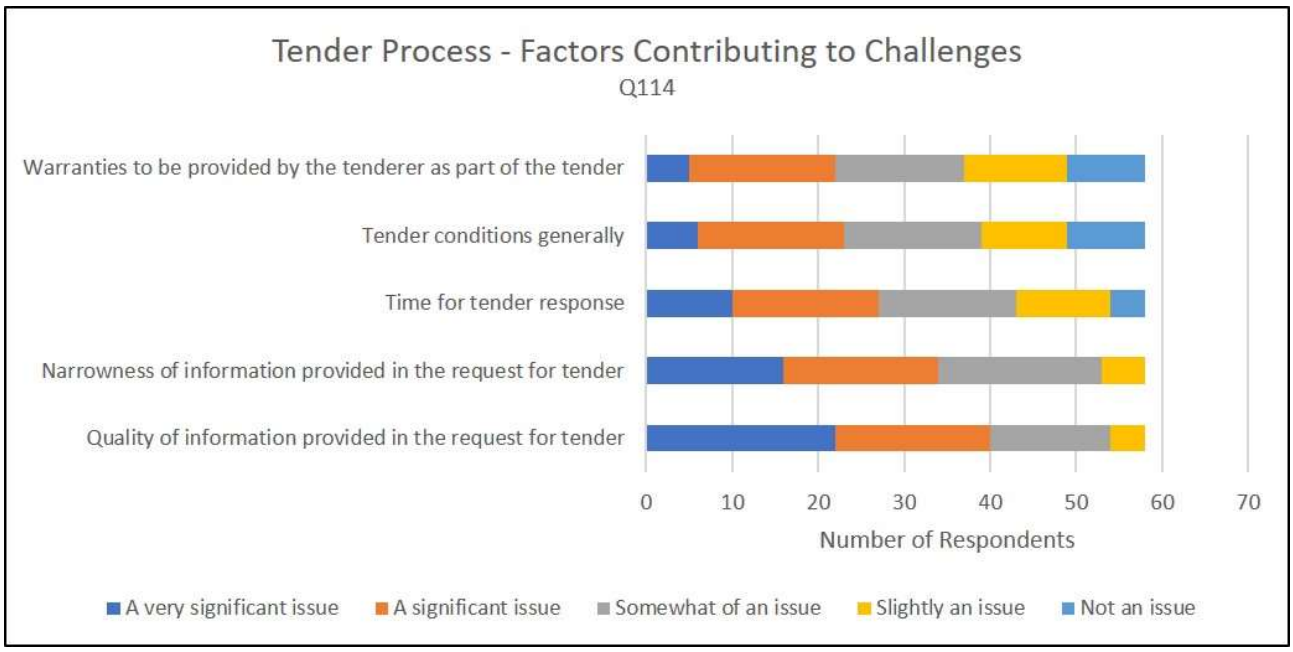

Figure 28 – Tender Process – Upstream Perspective – Significance of Issues

It is of interest to note that only one of the matters in the table above featured strongly in the comments volunteered by the respondents – that is, the quality of information (refer to the references to good documentation or poor documentation in Figure 17, Figure 20, Figure 22 and Figure 25). The other matters noted as *'very significant issues'* or *'significant issues'* in the table above did not feature strongly or did not feature at all in the comments volunteered by the respondents. Hence, the significance attributed to them in this table may be a comparative significance (that is in comparison to other matters in the table) rather than an absolute significance.

12. Contract Phase

This section examines the **Contract Phase**. The other two Phases examined are:

- the Tender phase: see page 32
- the Contract Administration Phase: see page 52.

12.1. Questions Explored

The survey sought to explore the following issues:

- the aspects of or provisions in contracts which created difficulty in relation to a project
- the extent to which the aspects of or provisions in contracts identified above increased the project cost
- which of the aspects of or provisions in contracts identified above were particularly relevant to government projects
- the aspects of or provisions in contracts which were helpful in relation to a project
- the extent to which the aspects of or provisions in contracts identified above reduced the project cost
- which of the aspects of or provisions in contracts identified above were particularly relevant to government projects.

12.2. Matters of Concern (Upstream Perspective)

12.2.1 Identification of Matters of Concern

Respondents were asked to identify the aspects of or provisions in contracts which are a cause for concern. The question invited respondents to identify the type of difficulty caused, within three nominated categories:

- what matters are a disincentive to bidding for work?
- what matters add to the cost of the works?
- what matters give rise to disputes during or after project delivery?

All but a few of the respondents provided narrative responses which did not directly address these three categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 37 (27%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 76 comments (with some respondents making more than one comment) identifying 22 themes.

The most significant matters of concern are shown in Figure 29.

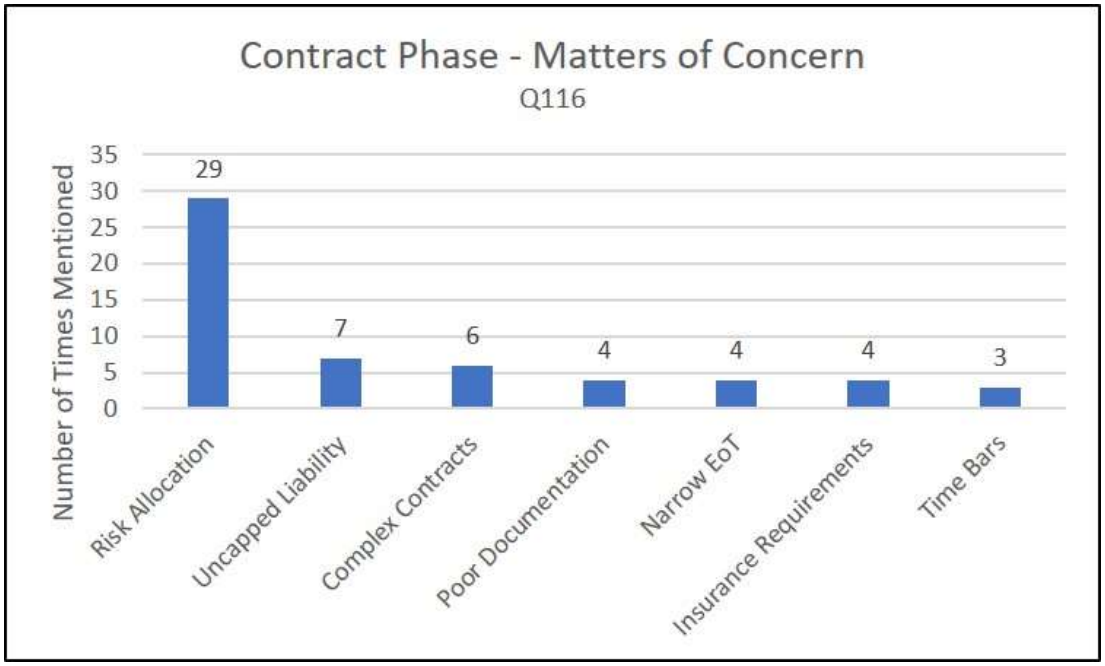

Figure 29 – Contract Phase – Upstream Perspective – Matters of Concern

Risk allocation was again the matter most often referred to (almost 80% of respondents referred to risk allocation).

The percentages of respondents mentioning each the issues identified in Figure 29 are shown in Figure 30.

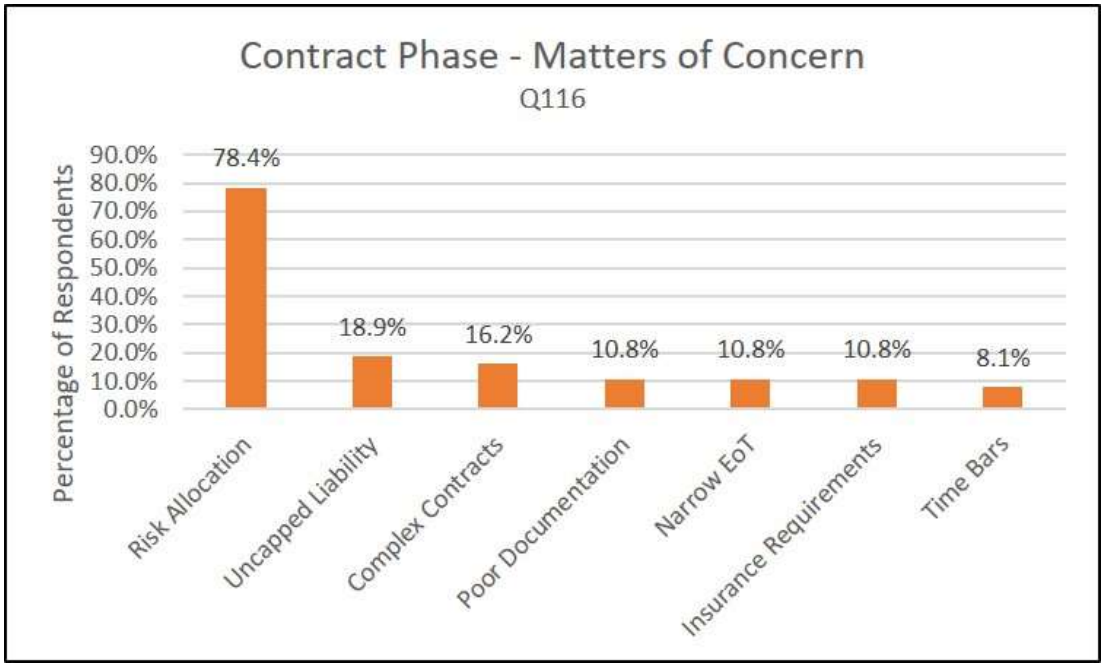

Figure 30 – Contract Phase – Upstream Perspective – Matters of Concern

Three of the 29 respondents who identified risk allocation as a matter of concern identified particular risks which were of concern. These were:

- design risk
- risk in relation to site conditions
- risk in relation to ambiguities.

Additional matters of concern, which were only mentioned once or twice, were as follows:

- Unrealistic program
- Novation
- Uncapped liquidated damages
- Non-reliance clauses
- Payment terms
- Intellectual property ownership
- Narrow variations entitlements
- Inappropriate procurement
- Inflexibility
- Fitness for purpose obligations
- Consequential loss exposure
- Poor contract administration
- Social procurement
- Broad indemnities
- Program

12.2.2 Negative Cost Impact

Respondents were asked to nominate what price impact the identified difficulties had on the cost of the work. This question did not seek to identify the price impact of the individual matters raised, rather, the price impact of difficulties generally. This question sought to elicit the *'post contract sum'* impact. However, it is possible that the percentage impacted nominated by some respondents was embedded in the initial contract sum.

Twenty-seven respondents (21%) nominated a percentage impact on the cost of the works. A further eight respondents noted an impact on cost but did not nominate a percentage. They considered it was too difficult to do so or noted that, whilst there was an impact on cost, they did not seek that cost as it would be uncompetitive to do so.

The cost impact is set out in Figure 31.

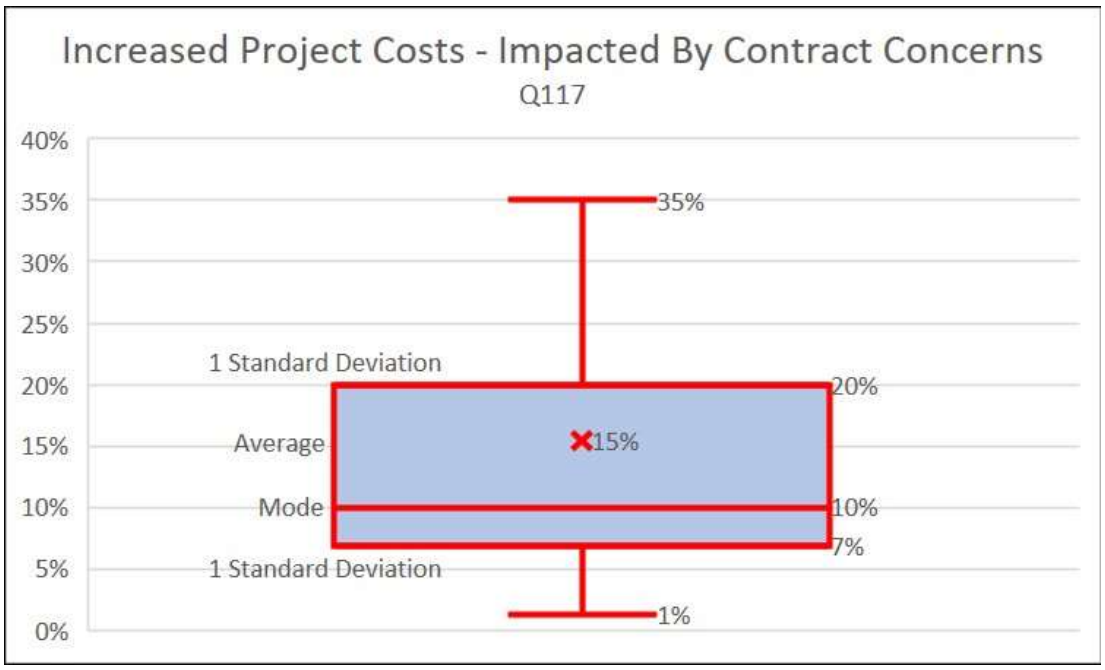

Figure 31 – Contract Phase – Upstream Perspective - Increased Project Costs

Whilst there is a significant spread of estimates, the average of 15% (and the most common percentage of 10%) represents a significant impost on project costs. This represents a saving principals could enjoy if they were able to address some of the concerns of contractors in relation to the contracts deployed for projects.

Caution should be exercised in considering these results with the results depicted in Figure 19 and Figure 23 (negative and positive cost impacts during the tender phase). It is unlikely it is justified to add the percentages nominated across these three graphs. It is likely that, at least to a certain extent, the same percentage impact is reported in each of the three cases.

The issue of the cost impact of behaviours and attitudes during all phases of a project is discussed at section 10.3.

12.2.3 Government Projects

Respondents were then asked to consider which of the matters of concern they had nominated were particularly relevant when the government was the principal. In answering this question, many respondents did not confine themselves to the matters previously raised but offered additional concerns.

The responses were narrative in nature. Again, the narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 31 (23%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 61 comments (with some respondents making more than one comment) over 22 themes.

The most significant matters of concern are shown in Figure 32.

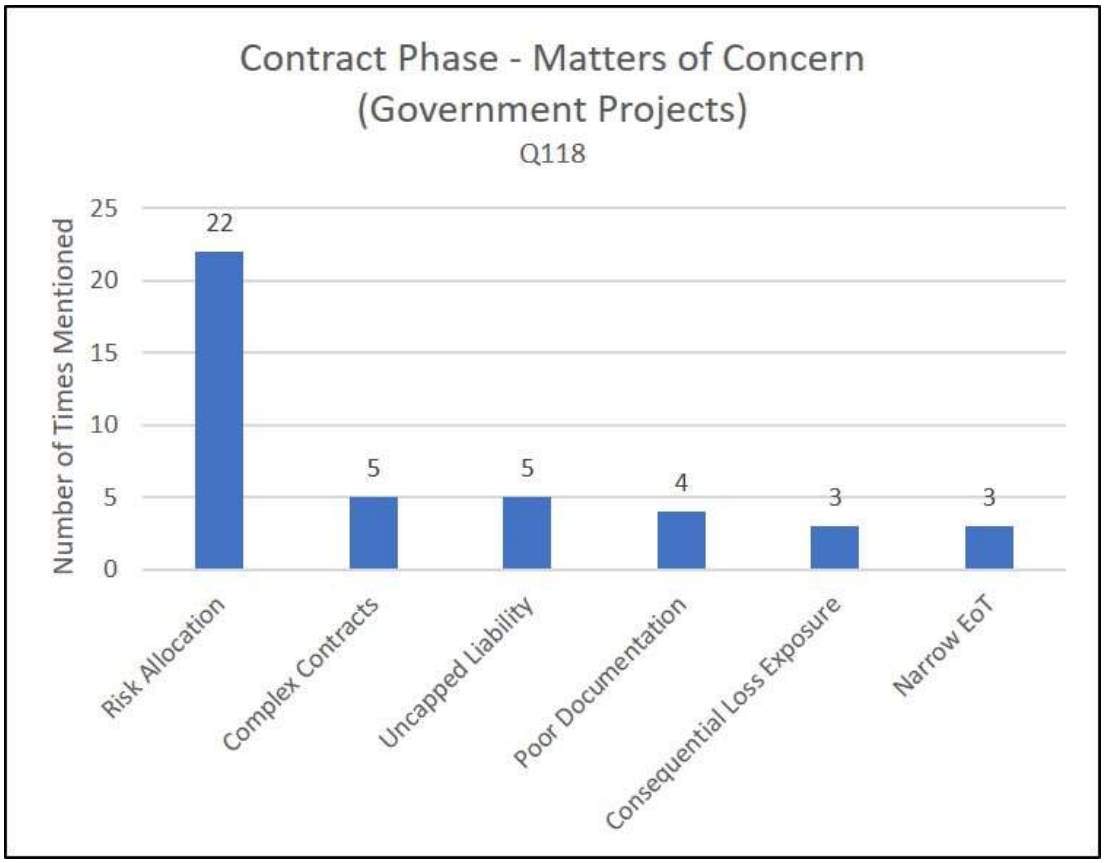

Figure 32 – Contract Phase – Upstream Perspective – Matters of Concern (Gov Projects)

Risk allocation in contracts is the most significant concern. It was raised almost five times more than the next matter of concern.

Additional matters of concern, which were only mentioned once or twice, were as follows:

- Inflexibility
- Intellectual property ownership
- Insurance requirements
- Narrow variations
- Time bars
- Non-reliance clauses
- Unrealistic program
- Narrow variations
- Time bars
- Non-reliance clauses
- Broad indemnities
- Social procurement
- Fitness for purpose
- Tender assessment

12.3. Positive influences

12.3.1 Identification of Positive Influences

Respondents were asked to identify what aspects of, or provisions in, contracts encourage a positive environment for the project; in particular the matters which:

- are an incentive to bidding for work
- reduce the cost of the works
- contribute to a reduction in disputes during or after project delivery

All but a few of the respondents provided narrative responses which did not directly address these three categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 27 (21%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 50 comments (with some respondents making more than one comment) identifying 20 themes.

The most significant positive influences are shown in Figure 33.

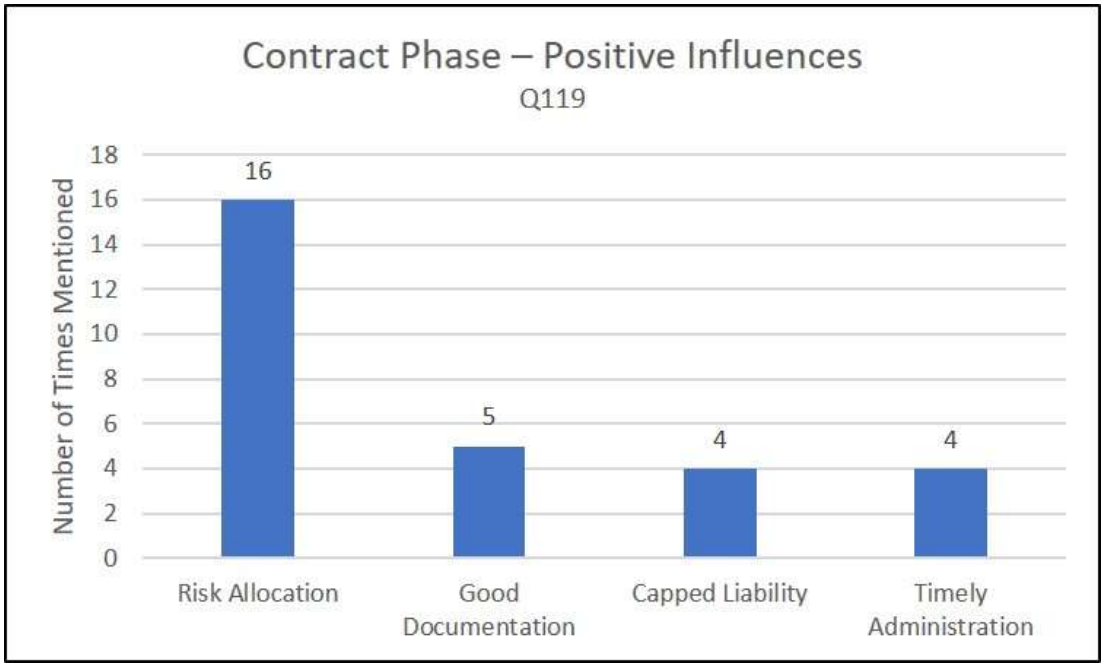

Figure 33 – Contract Phase – Upstream Perspective – Positive Influences

Risk allocation was again the matter most often referred to. Almost 60% of respondents referred to risk allocation.

Additional positive influences, which were only mentioned once or twice, were as follows:

- Simple contracts
- Realistic reporting
- Insurance requirements
- Quality team
- Fair administration
- Procurement strategy
- Extension of time requirements
- No consequential loss
- Quality team
- Fair administration
- Procurement strategy
- Facilitating innovation
- Standard forms
- Collaborative approaches
- Reliable information
- Capped liabilities

12.3.1 Positive Cost Impact

Respondents were asked to nominate what reduction in the contract sum might arise if a contract was regarded as having positive characteristics. This question did not seek to identify the price impact of the individual characteristics, rather, the potential reduction generally.

Twenty-seven respondents (20%) nominated a percentage impact on the contract sum. A further five respondents noted a potential impact on the contract sum cost but did not nominate a percentage. They considered it was too difficult to do so.

The cost impact is set out in Figure 34.

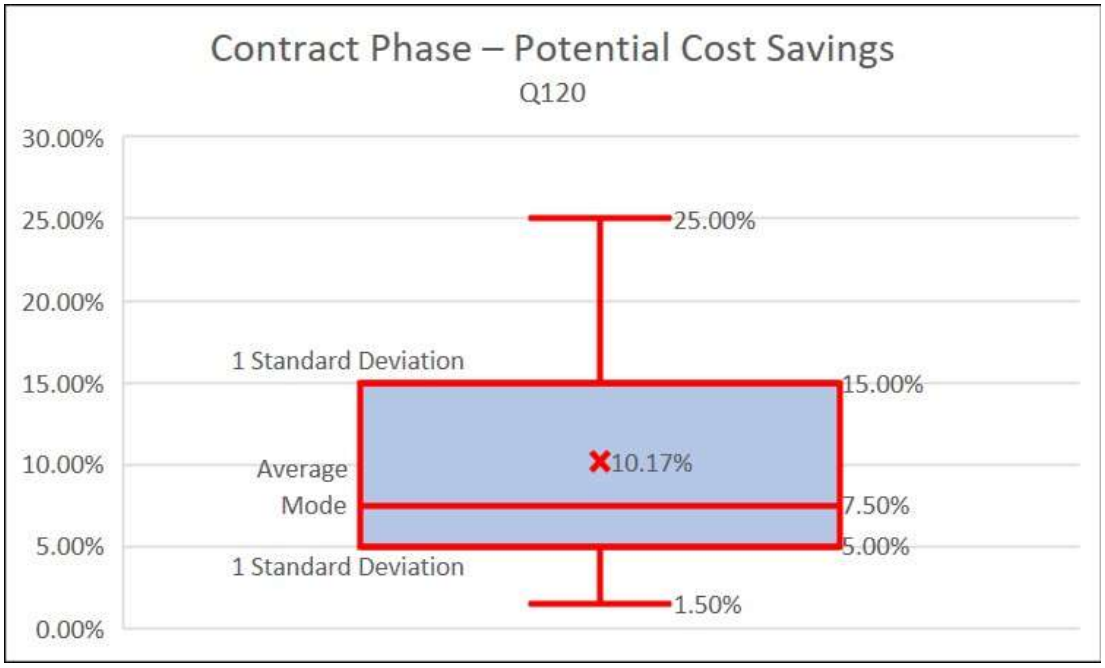

Figure 34 – Contract Phase – Upstream Perspective – Decrease in Contract Sum

Whilst there is a significant spread of estimates, the average of 10% (and the most common percentage of 7.5%) represents a significant potential reduction in the contract sum. This represents a saving principals could enjoy if they were able to introduce some of the positive characteristics in the contracts deployed for projects.

The issue of the cost impact of behaviours and attitudes during all phases of a project is discussed at section 10.3.

12.3.2 Government Projects

Respondents were then asked to consider which of the beneficial matters they had nominated were particularly relevant when the government was the principal. In answering this question, many respondents did not confine themselves to the matters previously raised but offered additional concerns.

The responses were narrative in nature. Again, the narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 24 (18%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 35 comments (with some respondents making more than one comment) over 16 themes.

The most significant matters of concern are shown in Figure 35.

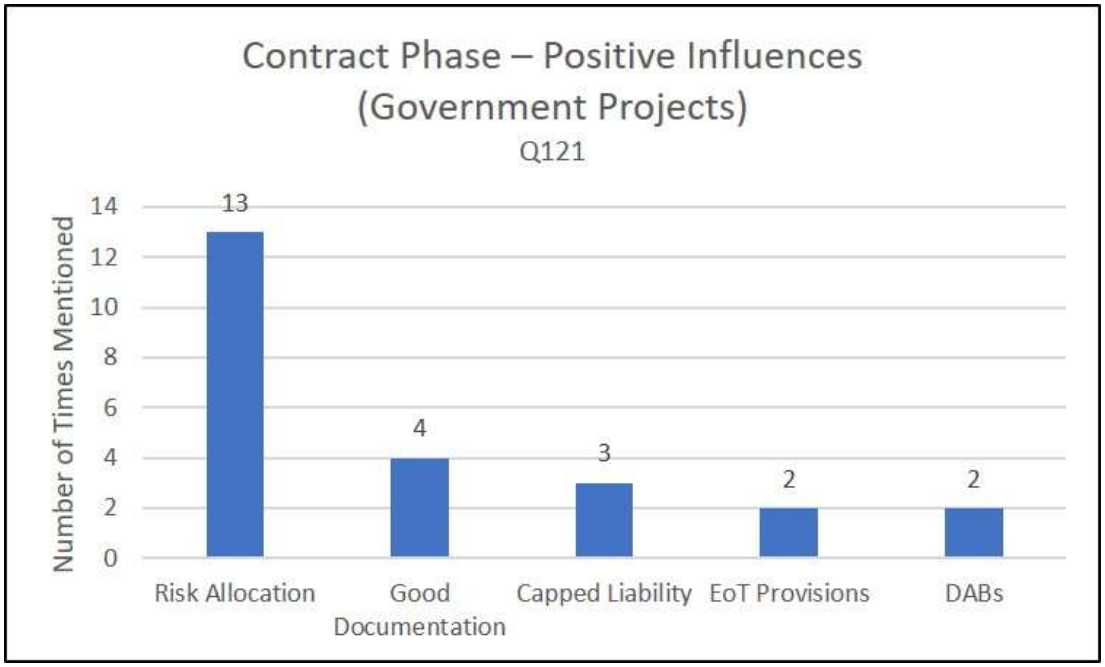

Figure 35 – Contract Phase – Upstream Perspective – Positive Influences (Gov Projects)

Risk allocation in contracts is the most significant concern. It was raised almost four times more than the next matter of concern.

Additional positive influences, which were only mentioned once, were as follows:

- Simple contracts
- Flexibility
- Reliable information
- Fair administration
- Realistic reporting
- Exclusion of consequential loss
- Narrow tender list
- Insurance requirements
- Collaborative attitude

12.4. Challenging Factors

Finally, respondents were asked to consider 10 nominated issues and rank each of the issues as to the degree to which each contributes to challenges in the contract phase.

The results are in Figure 36.

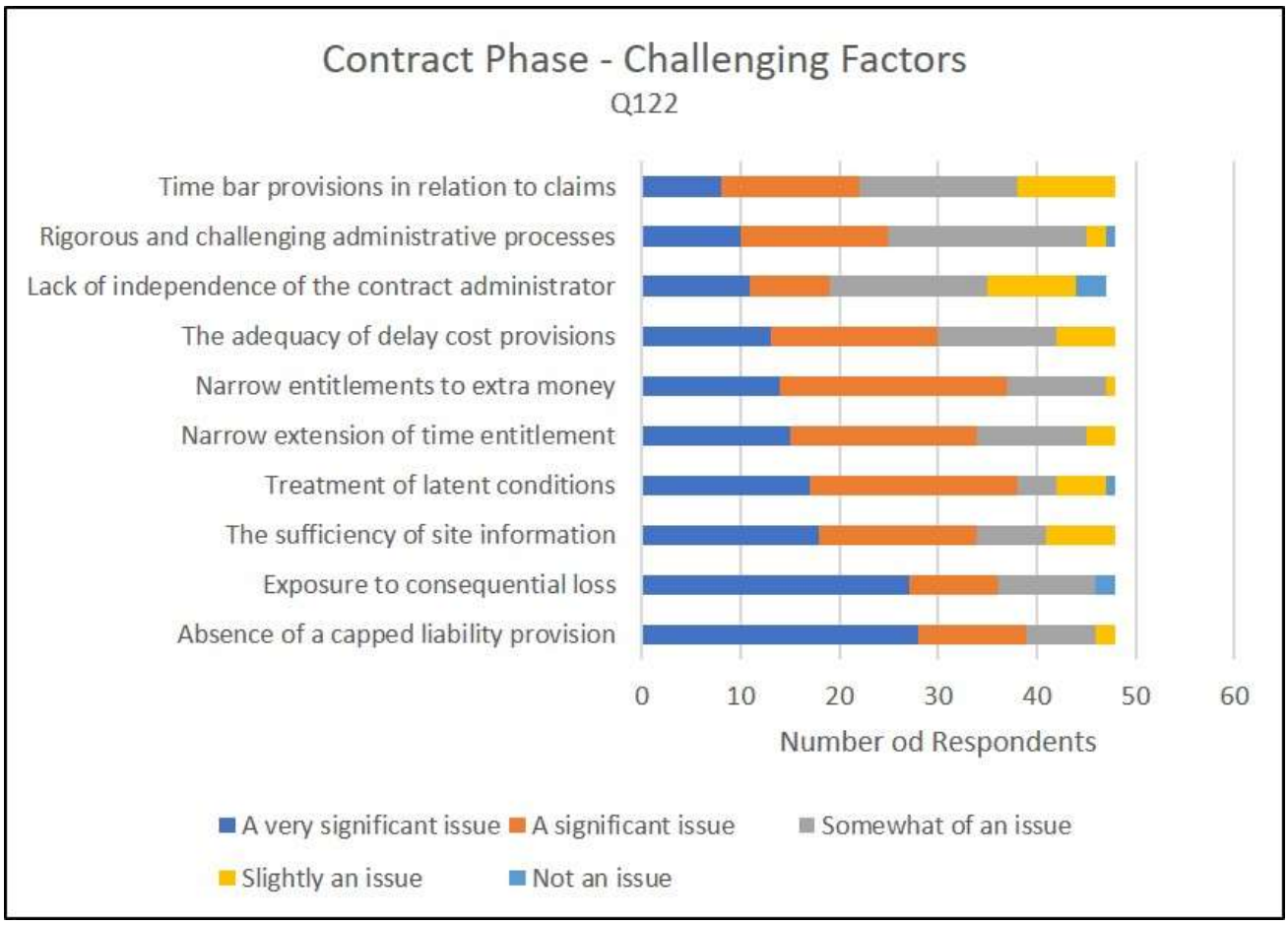

Figure 36 – Contract Phase – Upstream Perspective – Challenging Factors

In contrast to the results of the companion enquiry in respect of the tender phase (refer to Figure 28), there is a strong correlation between the matters raised by the respondents in their unstructured responses (refer to Figure 29, Figure 32, Figure 33 and Figure 35) and the factors in this table.

13. Contract Administration Phase

This section examines the **Contract Administration Phase**. The other two Phases examined are:

- the Tender phase: see page 32
- the Contract Phase: see page 44.

13.1. Questions Explored

The contract administration phase was explored:

- from a downstream perspective (for example from the perspective of a principal engaging a contractor)
- from an upstream perspective (for example from the perspective of a head contractor in contract with a principal).

The *'downstream question'* explored which behaviours of a contractor had a positive or negative impact on project delivery (although the respondents only nominated matters which had a negative impact).

The *'upstream question'* explored the following issues:

- which behaviours of the contract administrator or the counter party increased the cost of the work or give rise to disputes
- in relation to the costs referred to above, what was the estimate of the percentage of the contract sum which was consumed by unhelpful contract administration
- which of the behaviours referred to above were most relevant to public sector projects
- which behaviours of the contract administrator or the counter party reduced the cost of the work or reduce the prospects of disputes
- in relation to the costs referred to above, what was the estimate of the percentage of the contract sum could be saved by helpful contract administration
- which of the behaviours referred to above were most relevant to public sector projects.

13.2. Matters of Concern (Downstream Perspective)

Respondents were asked to identify what behaviours of the contractor had a positive or negative impact on project delivery. Respondents only nominated matters which had a negative impact.

Of the 125 survey participants, 24 (19%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 29 comments (with some respondents making more than one comment) identifying 10 themes.

The most significant matters of concern are shown in Figure 37.

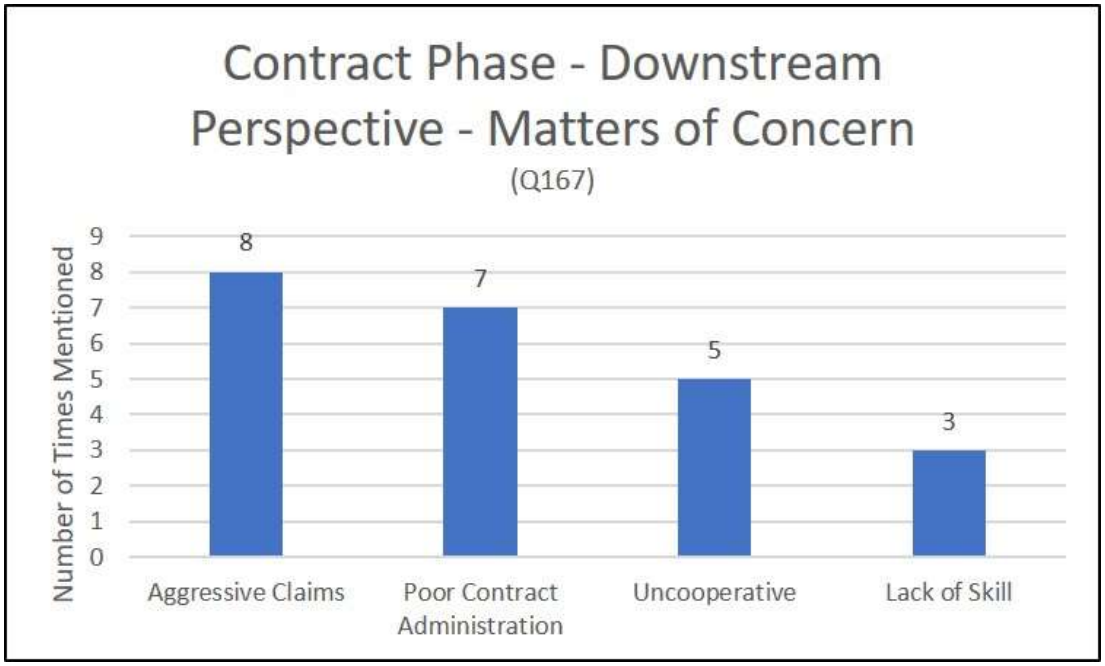

Figure 37 – Contract Administration Phase – Downstream Perspective – Matters of Concern

Aggressive claims and uncooperative behaviour may be related to poor collaboration and adversarial conduct. This issue is discussed more fully at section 10.2.

The reference to contract administration is noteworthy. The issue of contract administration, the quality of contract administration and the availability of appropriate contract administrators featured strongly in the interviews.[55]

13.3. Matters of Concern (Upstream Perspective)

13.3.1 Identification of Matters of Concern

Respondents were asked to identify what behaviours of the contract administrator are a cause for concern. The question invited respondents to identify the type of difficulty caused, within two nominated categories:

- matters adding to the cost of the works
- matters giving rise to disputes during or after project delivery.

All but a few of the respondents provided narrative responses which did not directly address these two categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 35 (28%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 56 comments (with some respondents making more than one comment) identifying 19 themes.

The most significant matters of concern are shown in Figure 38.

[55] Refer to section 9.3.8.

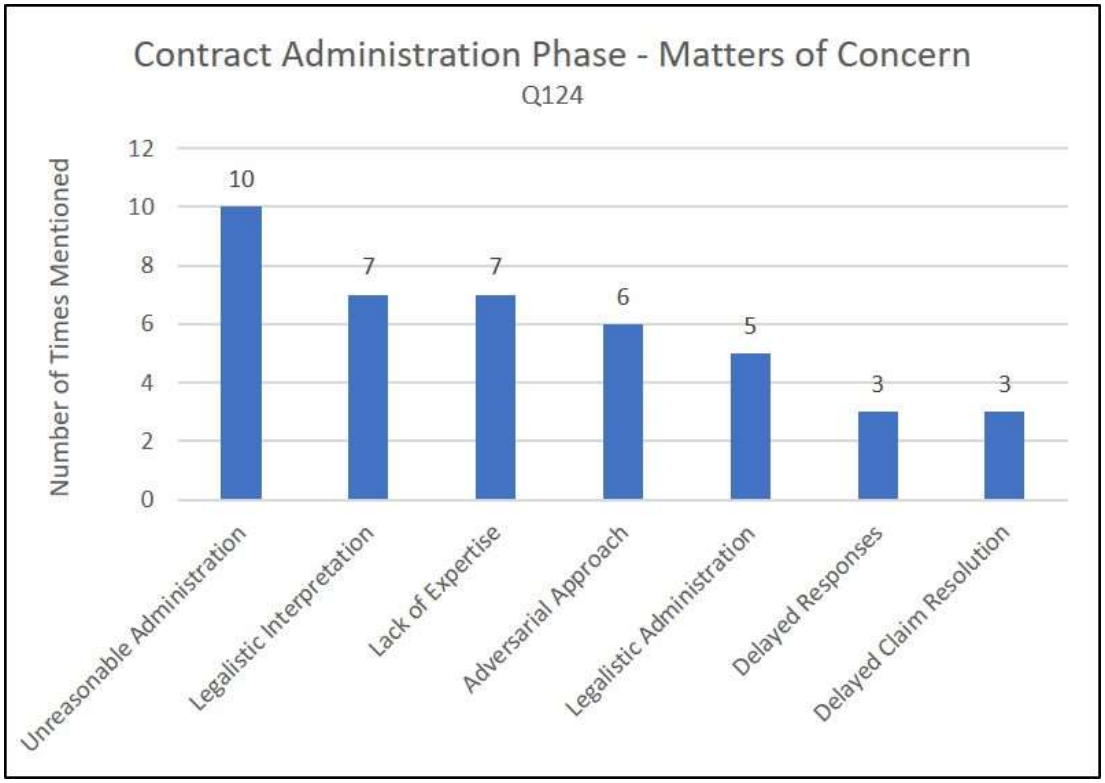

Figure 38 – Contract Administration Phase – Upstream Perspective – Matters of Concern

Three of the factors mentioned above are similar. These factors, and the difference between them, are as follows:

- Unreasonable administration – this generally refers to a perceived lack of impartiality
- Legalistic interpretation – this relates to how the substantive clauses of the contract are interpreted and applied
- Legalistic administration – this relates to how the administrative provisions of the contract are interpreted and applied.

Additional matters of concern, which were only mentioned once or twice, were as follows:

- Inconsistency
- Poor request for information (RFI) quality
- Ignorance of the contract
- Lack of transparency
- Excessive administrative reporting
- Inflexibility
- Unsubstantiated claims
- Ignorance of impact of directions
- Time bars
- Delayed decisions
- Excessive RFI quantity
- Convoluted administrative regimes

13.3.2 Negative Cost Impact

Respondents were asked to nominate what price impact these difficulties had on the cost of the work. This question did not seek to identify the cost impact of the individual matters raised, rather the cost impact of difficulties generally.

Thirty-three respondents (24%) nominated a percentage impact on the cost of the works. A further seven respondents noted an impact on cost but did not nominate a percentage. They considered it was too difficult to do.

The cost impact is set out in Figure 39.

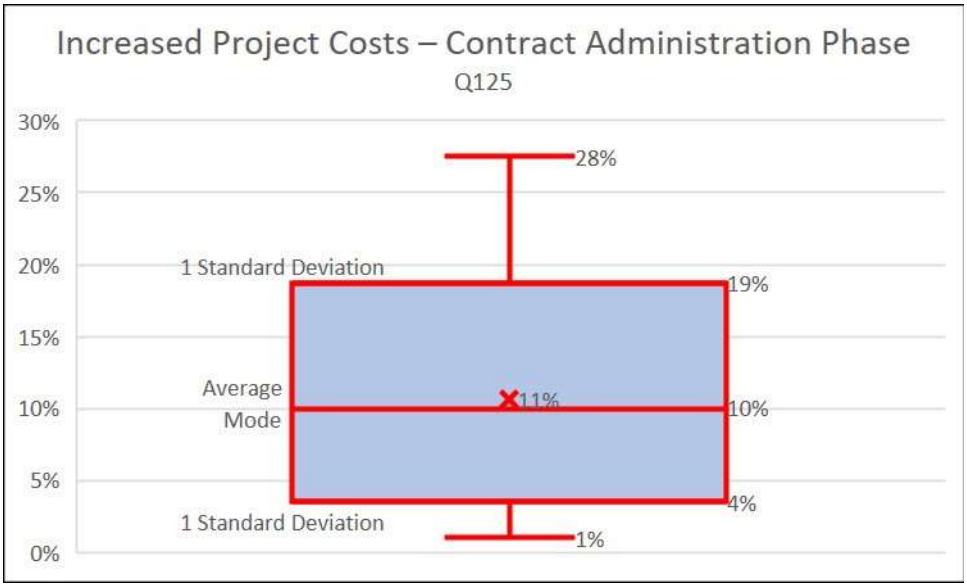

Figure 39 – Contract Administration Phase – Upstream Perspective – Increased Project Costs

The issue of the cost impact of behaviours and attitudes during all phases of a project is discussed at section 10.3.

13.3.3 Government Projects

Respondents were then asked to consider which of the matters of concern they had nominated were particularly relevant when the government was the principal. In answering this question, many respondents did not confine themselves to the matters previously raised but offered some additional matters of concern.

The responses were narrative in nature. Again, the narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 27 (20%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 38 comments (with some respondents making more than one comment) over 17 themes.

The most significant matters of concern are shown in Figure 40.

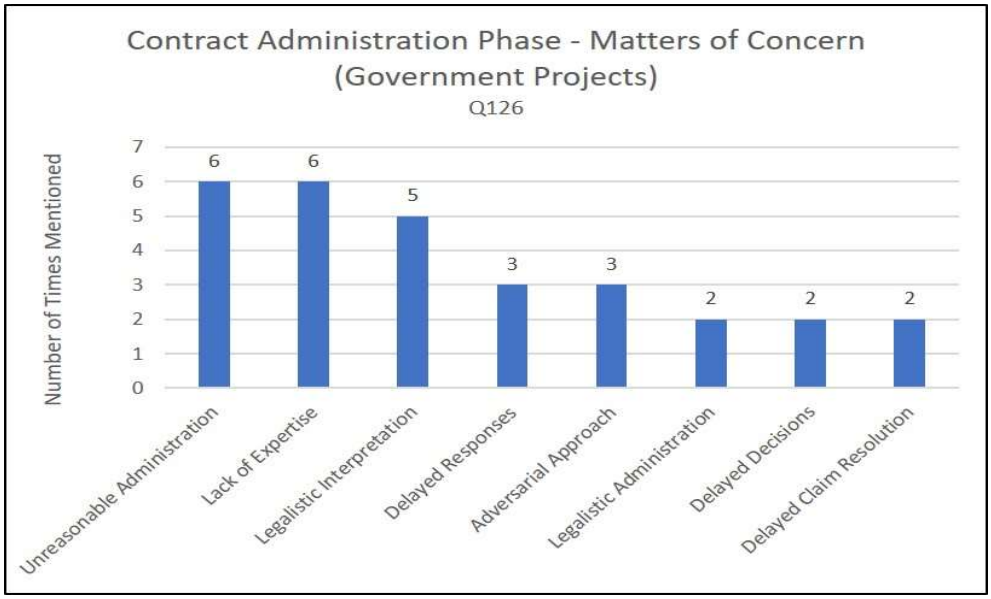

Figure 40 – Contract Administration Phase – Upstream Perspective – Matters of Concern (Gov Projects)

The results in relation to government projects mirror (with some minor variance) the results in relation to all projects (refer to Figure 38).

Additional matters of concern, which were only mentioned once, were as follows:

- Poor documentation
- Ignorance of impact of directions
- Lack of transparency
- Excessive intervention
- Lack of authority
- Excessive administrative reporting
- Inflexibility
- Convoluted administrative regimes
- Ignorance of the contract

13.4. Positive Influences

13.4.1 Identification of Positive Influences

Respondents were asked to identify what behaviours of a contract administrator have a beneficial impact on the project. In particular respondents were asked to consider:

- what matters reduce the cost of the works
- what matters contribute to a reduction in disputes during or after project delivery

All but a few of the respondents provided narrative responses which did not directly address these two categories. The narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 29 (21%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 38 comments (with some respondents making more than one comment) identifying eight themes.

The most significant positive influences are shown in Figure 41.

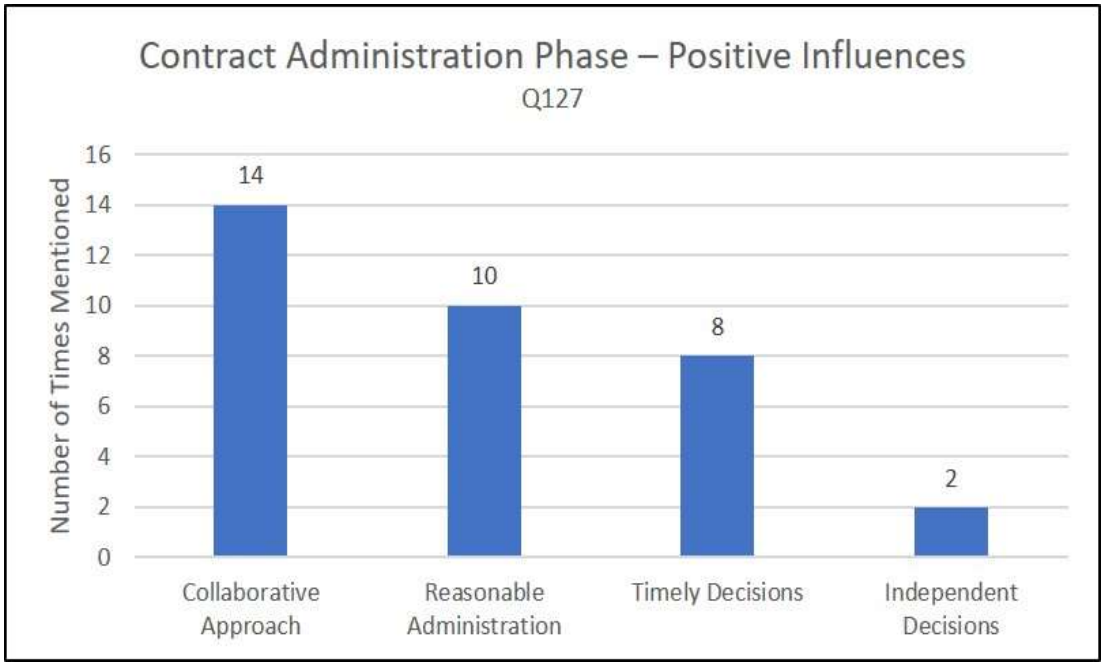

Figure 41 – Contract Administration Phase – Upstream Perspective – Positive Influences

Additional beneficial matters, which were only mentioned once, were as follows:

- Preparedness to negotiate
- Delegated authority

- Preparedness to negotiate
- Delegated authority

13.4.2 Positive Cost Impact

Respondents were asked to nominate what reduction in the project cost might arise if a contract was administered having regard to the beneficial factors. This question did not seek to identify the cost benefit of the individual characteristics, rather, the potential benefit generally.

Twenty-seven respondents (20%) nominated a percentage impact on the contract sum. A further five respondents noted a potential impact on the contract sum cost but did not nominate a percentage. They considered it was too difficult to do so.

The cost impact is set out in Figure 42.

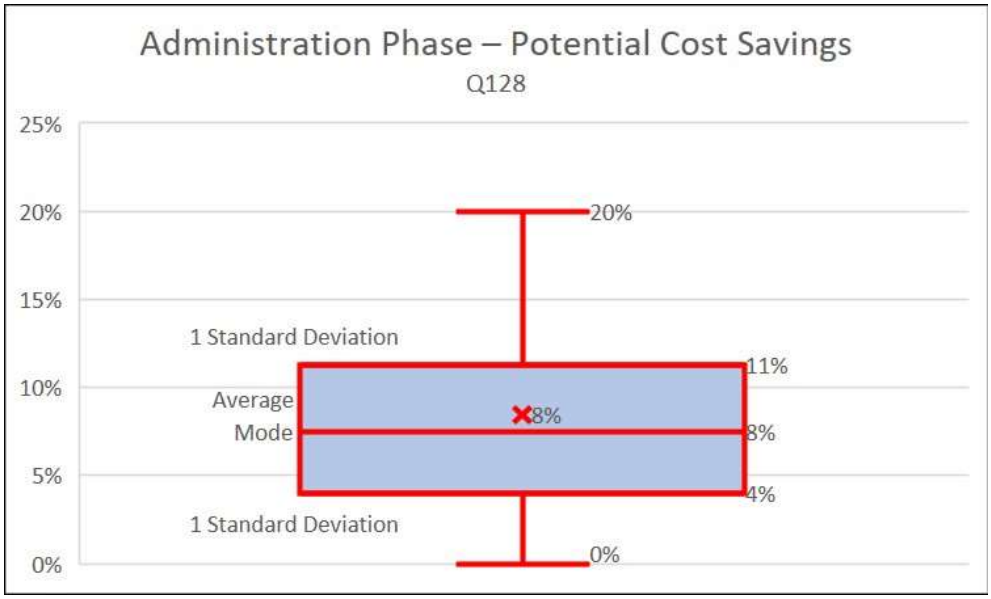

Figure 42 – Contract Administration Phase – Upstream Perspective – Potential Cost Savings (%)

The issue of potentially lower costs if the parties adopted a different attitude to risk allocation was explored in the Yates and Sashegyi paper.[56] The results reported in that paper (in relation to the *Contract Administration Phase*) are set out in Figure 43.

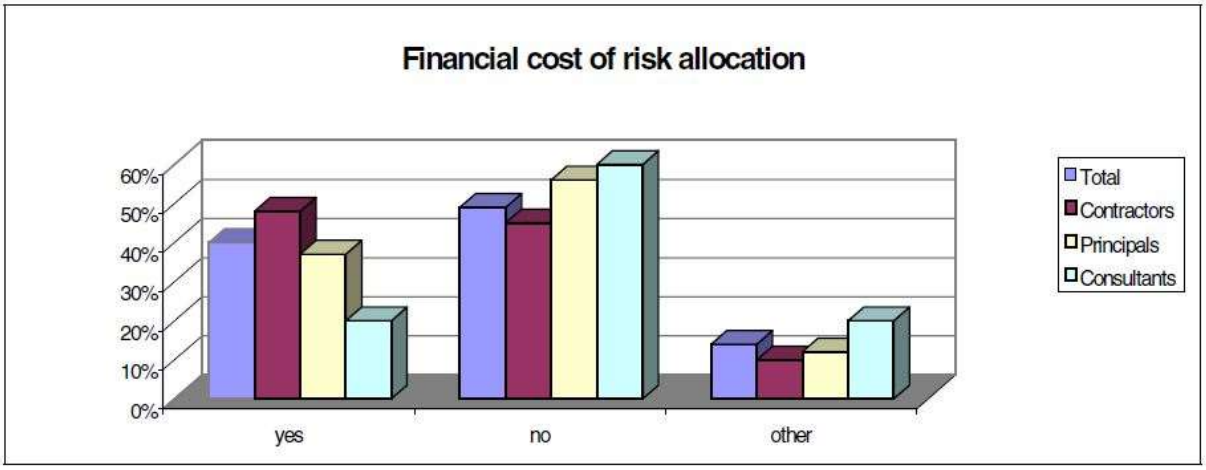

Figure 43 – Contract Administration Phase – Risk Allocation Savings (Yates and Sashegyi)

The authors summarised the results as follows:

> *Respondents stated that costs savings for projects would have occurred had risks been more efficiently allocated. 25% of respondents said that the cost of the project would have been lower at the pretendering stage. The figure rose to 45% at the contract delivery stage.*
>
> *Below are the findings for each stage of the contract:*
>
> ***Contract delivery stage**: 45% of all respondents said that the cost of the project would have been lower if the risk had have been allocated to the party best able to manage and control the risk. The figures for each group were: 59% for contractors, 38% for principals and 29% for consultants.*

[56] Yates and Sashegyi (n 15) 4.

Interestingly, between 14% and 38% of principals recognised that had risks been allocated to the party best able to manage and control the risk, the price of the project would be less. As this was not done, it could mean that for principals, the protection from risk is more important than overall cost.

The potential cost savings reported by Yates and Sashegyi are significantly greater than the potential cost savings reported in this survey. However, on the basis of either report, there appears to be significant potential cost saving to be enjoyed if behaviours and attitudes were modified.

The issue of the cost impact of behaviours and attitudes during all phases of a project is discussed at section 10.3.

13.4.3 Government Projects

Respondents were then asked to consider which of the beneficial matters they had nominated were particularly relevant when the government was the principal. In answering this question, many respondents did not confine themselves to the matters previously raised but offered some additional matters of concern.

The responses were narrative in nature. Again, the narrative responses have been interpreted and the relevant themes identified.

Of the 125 survey participants, 22 (17%) responded to this question in a way which facilitated the identification of a theme. This gave rise to a total of 28 comments (with some respondents making more than one comment) over 9 themes.

The most significant matters of concern are shown in Figure 44.

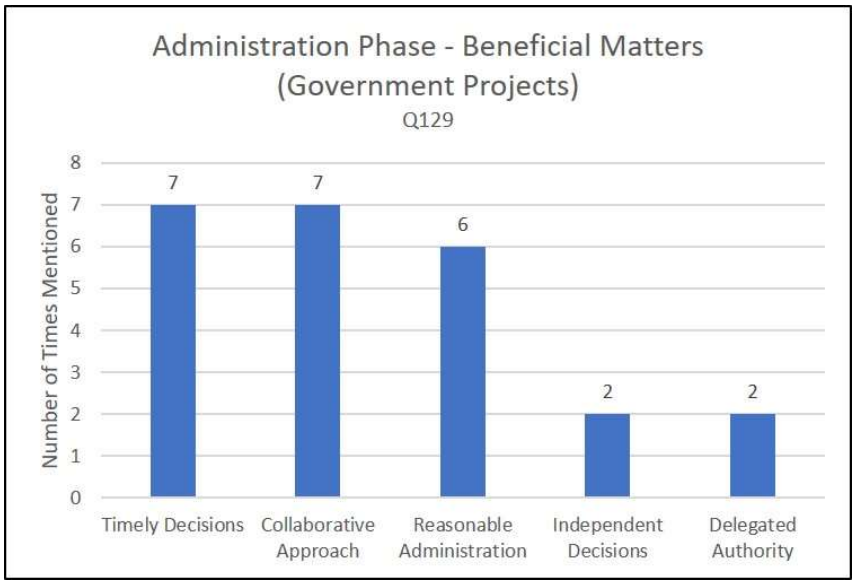

Figure 44 – Contract Administration Phase – Upstream Perspective – Positive Influences (Gov Projects)

A collaborative approach featured as equal top in terms of potential beneficial behaviour. This issue is discussed more fully at section 10.2.

Timely decisions and delegated authority were also the subject of comment in the interviews.[57]

Additional positive influences, which were only mentioned once, were as follows:

- Preparedness to negotiate
- Dispute boards
- Fair administrative procedures
- Good expertise

[57] Refer to section 9.3.8.

13.5. Challenging Factors

Finally, respondents were asked to consider six nominated issues and rank each of the issues as to the degree to which each contributes to challenges in the contract administration phase.

The results are in Figure 45.

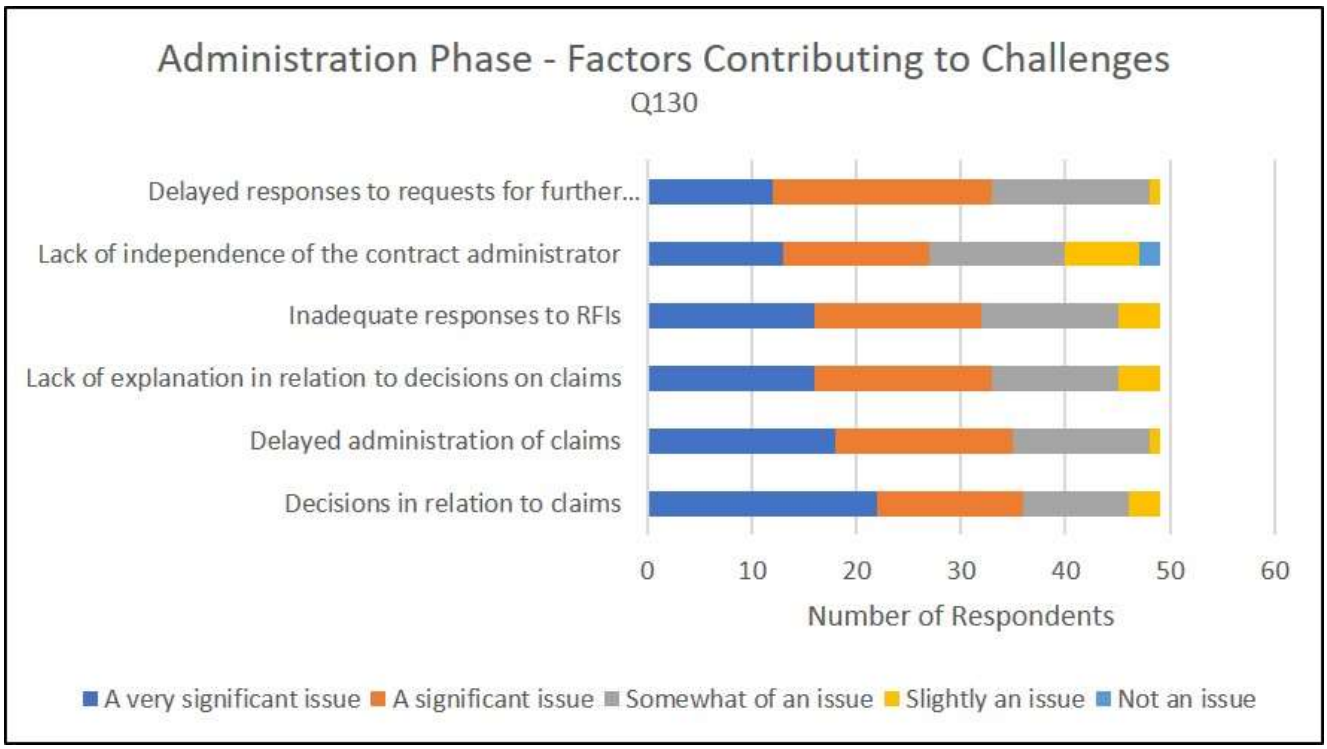

Figure 45 – Contract Administration Phase – Upstream Perspective – Challenging Factors

In contrast to the results of the companion enquiry in respect of the tender phase (refer to Figure 28), there is a strong correlation between the matters raised by the respondents in their unstructured responses (refer to Figure 38, Figure 40, Figure 41 and Figure 45) and the factors in this table.

14. Changes to Improve the Construction Industry

14.1. Questions Explored

Respondents were asked a number of questions which focused on improvement of the industry. These questions were asked separately, from:

- a **downstream** perspective (for example, from the perspective of a principal in relation to the attitudes and behaviours of contractors)
- an **upstream** perspective (for example, from the perspective of a contractor in relation to the attitudes and behaviours of principals)
- a **neutral** perspective (from respondents such as lawyers, contract administrators and consultants).

In interpreting the comparative responses, it is helpful to understand the blend of perspectives of the respondents. The tasks of understanding the perspective of a respondent involved a degree of judgement. Lawyers, contract administrators and consultants may have an upstream perspective, a downstream perspective or a neutral perspective. The authors have made a judgement about the distribution of perspectives amongst these types of respondents. The judgement is based on the authors' experience in the industry and knowledge of the distribution of responses to the survey.

Based upon this judgement the distribution of respondents is as shown in Figure 46.

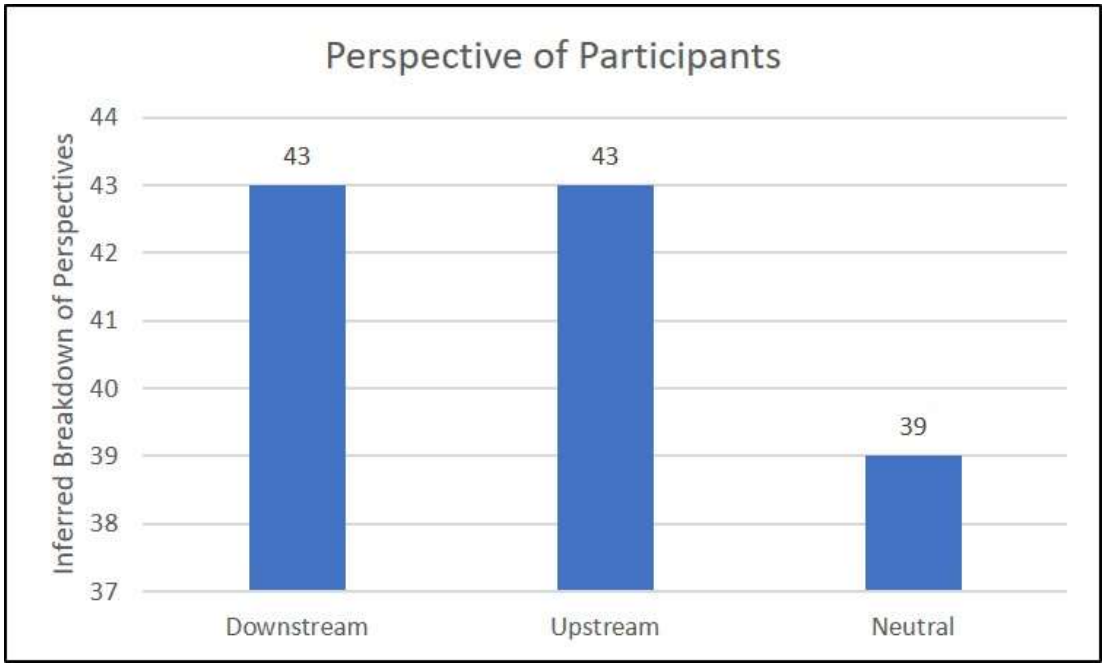

Figure 46 – Perspective of Participants (Inferred)

14.2. Positive Changes Suggested

14.2.1 Positive Changes (Upstream Perspective)

Respondents were asked about changes in procurement attitudes and behaviours which would have a positive impact on the industry and the community (from the perspective of a contractor considering the attitudes and behaviours of a principal). In particular respondents were asked the following about which changes to attitudes and behaviours would be of the most benefit to:

- the respondent's business
- the industry
- the community.

Respondents did not respond to the granular nature of the question; they gave an overall response.

The most significant matters raised in the responses are shown in Figure 48.

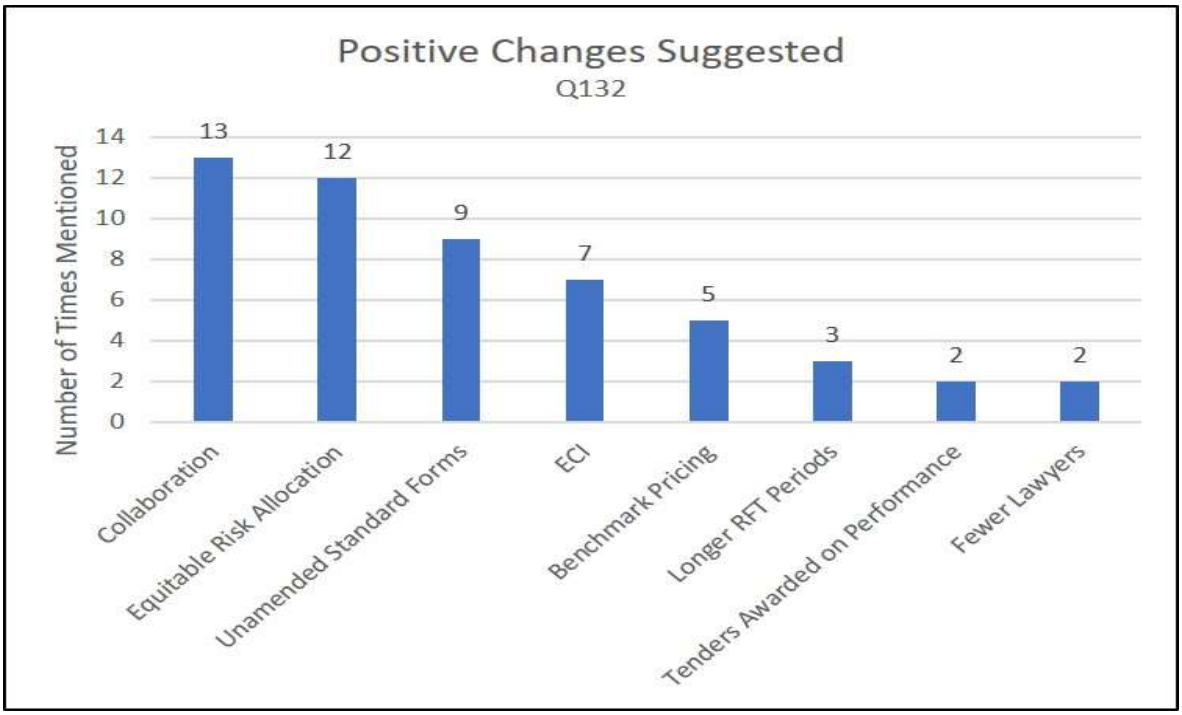

Figure 47 – Positive Changes Suggested – Upstream Perspective

Additional positive influences, which were only mentioned once, were as follows:

- Streamlined administration
- Fairer tendering process
- Risk innovation
- Dispute boards
- Independent administration
- Better scope definition
- Increased skill level
- Better quality documentation

14.2.2 Positive Changes (Downstream Perspective)

Respondents were asked about changes in procurement attitudes and behaviours which would have a positive impact on the industry and the community (from the perspective of a principal considering the attitudes and behaviours of a constructor). In particular respondents were asked about which changes to attitudes and behaviours would be of the most significant benefit to:

- the respondent's business
- the industry
- the community.

Respondents did not respond to the granular nature of the question but rather gave an overall response.

The most significant matters raised in the responses are shown in Figure 48.

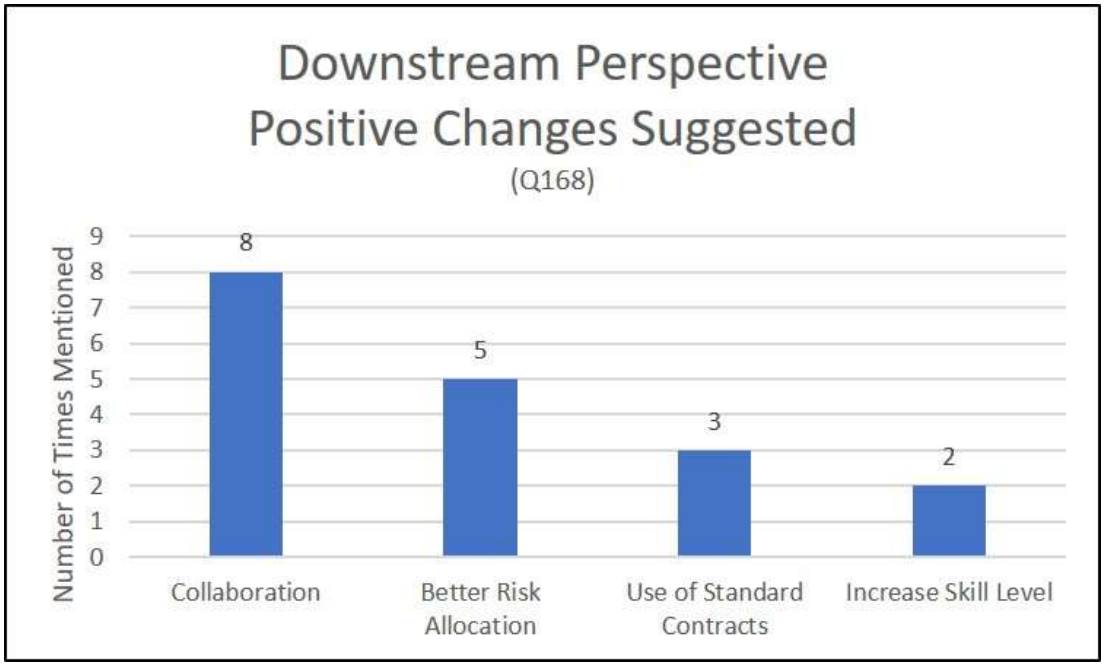

Figure 48 – Positive Changes Suggested – Downstream Perspective

Additional positive influences, which were only mentioned once, were as follows:

- Better utilisation of consultants
- Early contractor involvement
- Dispute Boards
- Flexible pricing

A collaborative approach was the most commonly mentioned behaviour that could support positive change. This issue is discussed more fully at section 10.2. The question of the use of Standard Form contracts is the subject of our associated research paper.

14.3. How to Achieve Positive Changes

14.3.1 The Question

Respondents were asked how the positive changes they had identified (refer to section 14.2) could be brought about. The responses to this question were a mixture of:

- how positive change might be brought about (thereby responding to the question)
- further changes which were considered to be positive (being a further response to the question posed at section 14.2).

14.3.2 How to Achieve Positive Change (Upstream Perspective)

The responses to this question (from the perspective of a contractor considering the attitudes and behaviours of a principal) are shown in Figure 49.

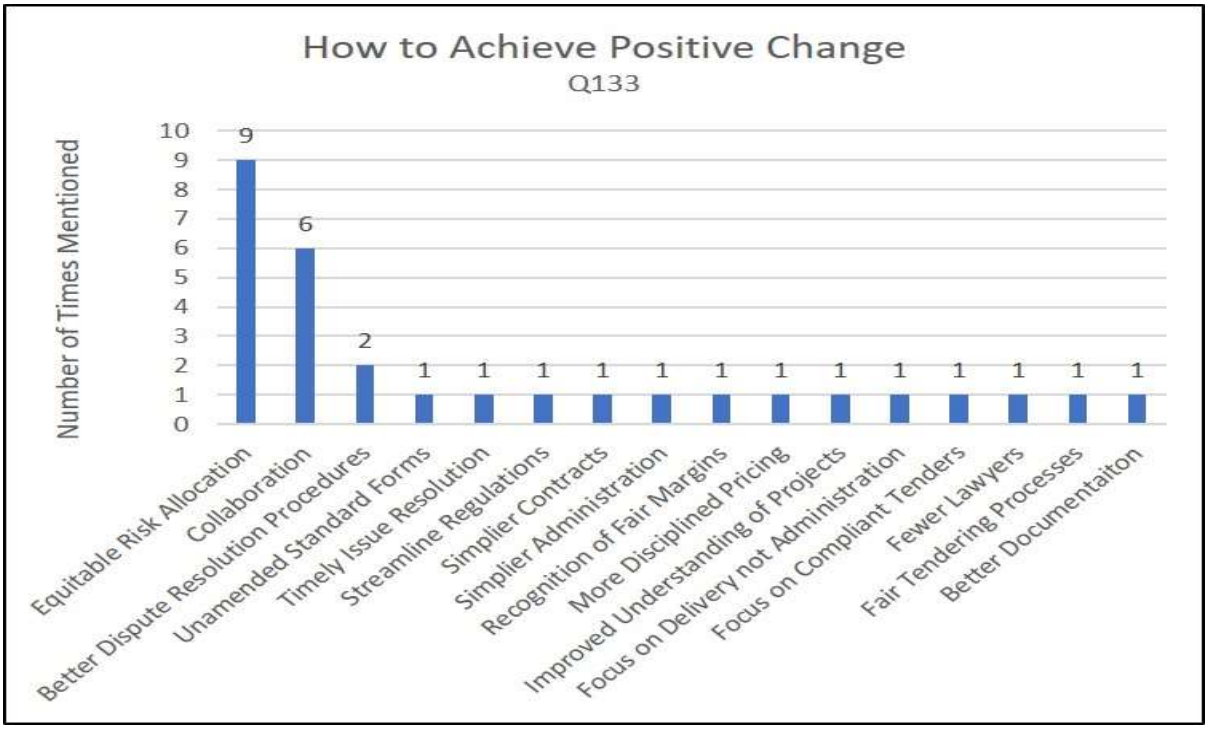

Figure 49 – How to Achieve Positive Changes – Upstream Perspective

As can be seen, the two most commonly mentioned issues are *Risk Allocation* and *Collaboration*. These two issues are the subject of a separate detailed discussion.[58]

14.3.3 How to Achieve Positive Change (Downstream Perspective)

The responses to this question (from the perspective of a principal considering the attitudes and behaviours of a contractor) were a mixture of a description of the potential consequences of the matters identified at section 14.2.1 and additional matters which might be a positive influence.

The matters nominated are shown in Figure 50.

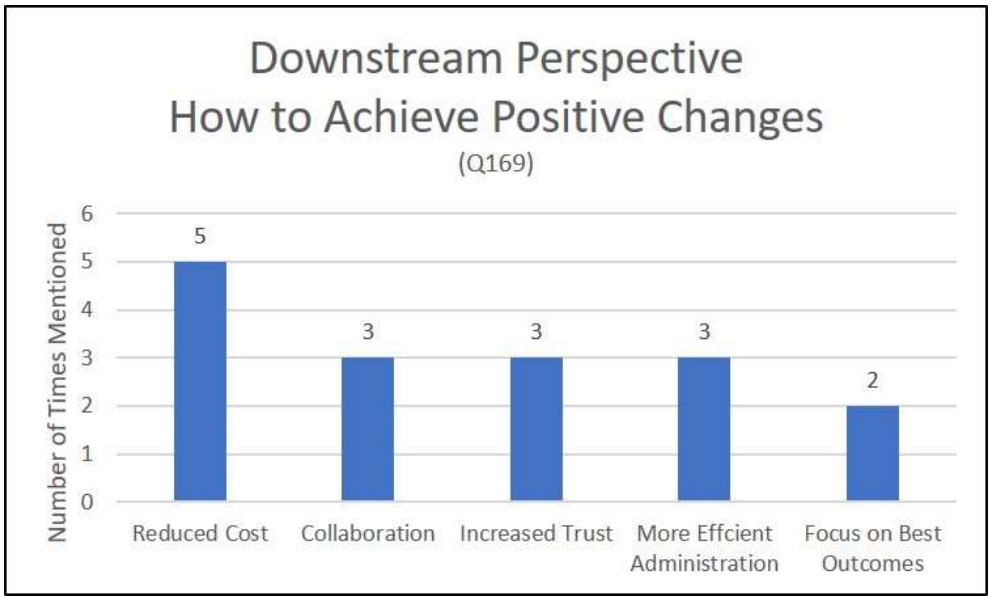

Figure 50 – How to Achieve Positive Changes – Downstream Perspective

[58] Risk Allocation is discussed at section 10.1 and Collaboration is discussed at section 10.2.

Additional positive influences, or positive outcomes from the matters identified at section 14.2.1, which were only mentioned once, were as follows:

- Better pricing
- Fewer disputes
- Better risk allocation
- Flexible pricing

- Better pricing
- Fewer disputes
- Better risk allocation

14.4. Positive Changes and Outcomes (Combined Perspective)

In order to discern an 'industry view' regarding opportunities for improvement, the data from sections 14.2.1, 0, 14.3.2 and 14.3.3 were combined. The wording chosen to describe a number of issues was altered slightly so that similar issues (or the same issues described with different phrases) could be combined.

The comments were also separated into:

- actions which could be taken
- the consequences of those actions.

The data in relation to the first issue (actions which could be taken) is shown in Figure 51.

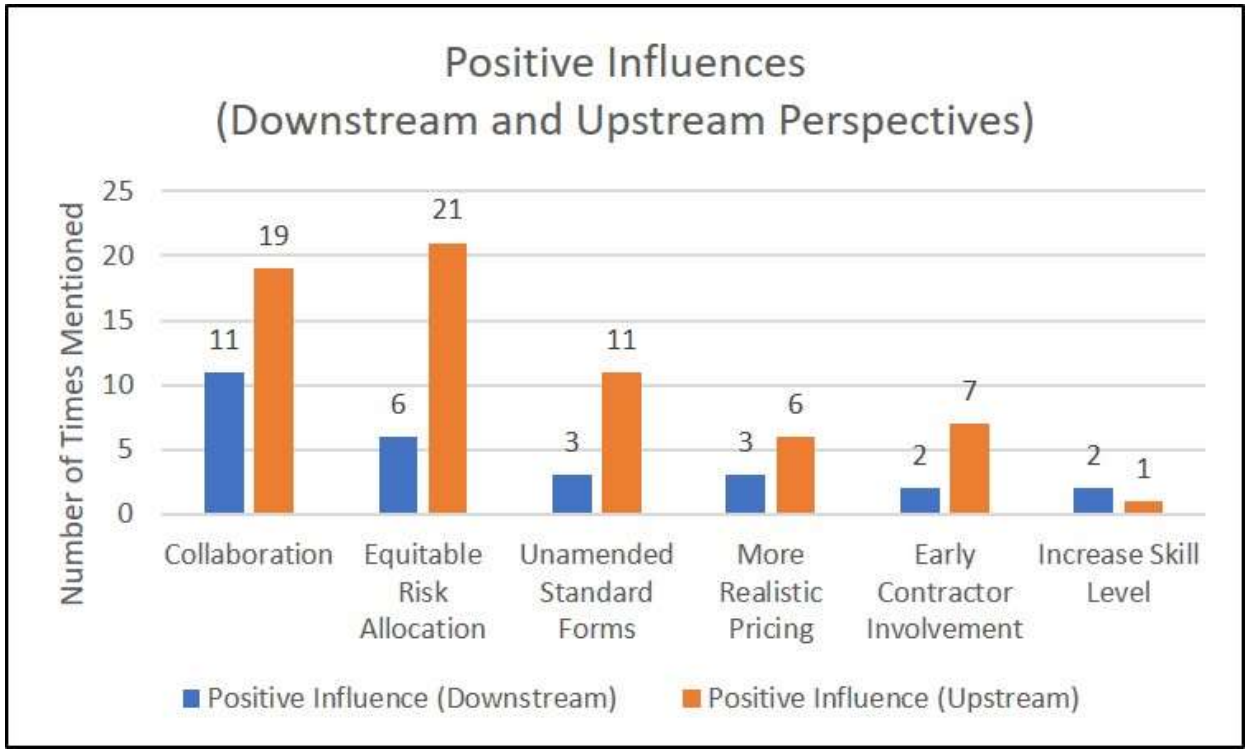

Figure 51– Positive Influences – Combined Perspective

The data in relation to the second issue (the potential consequences of the positive actions) is shown in Figure 52.

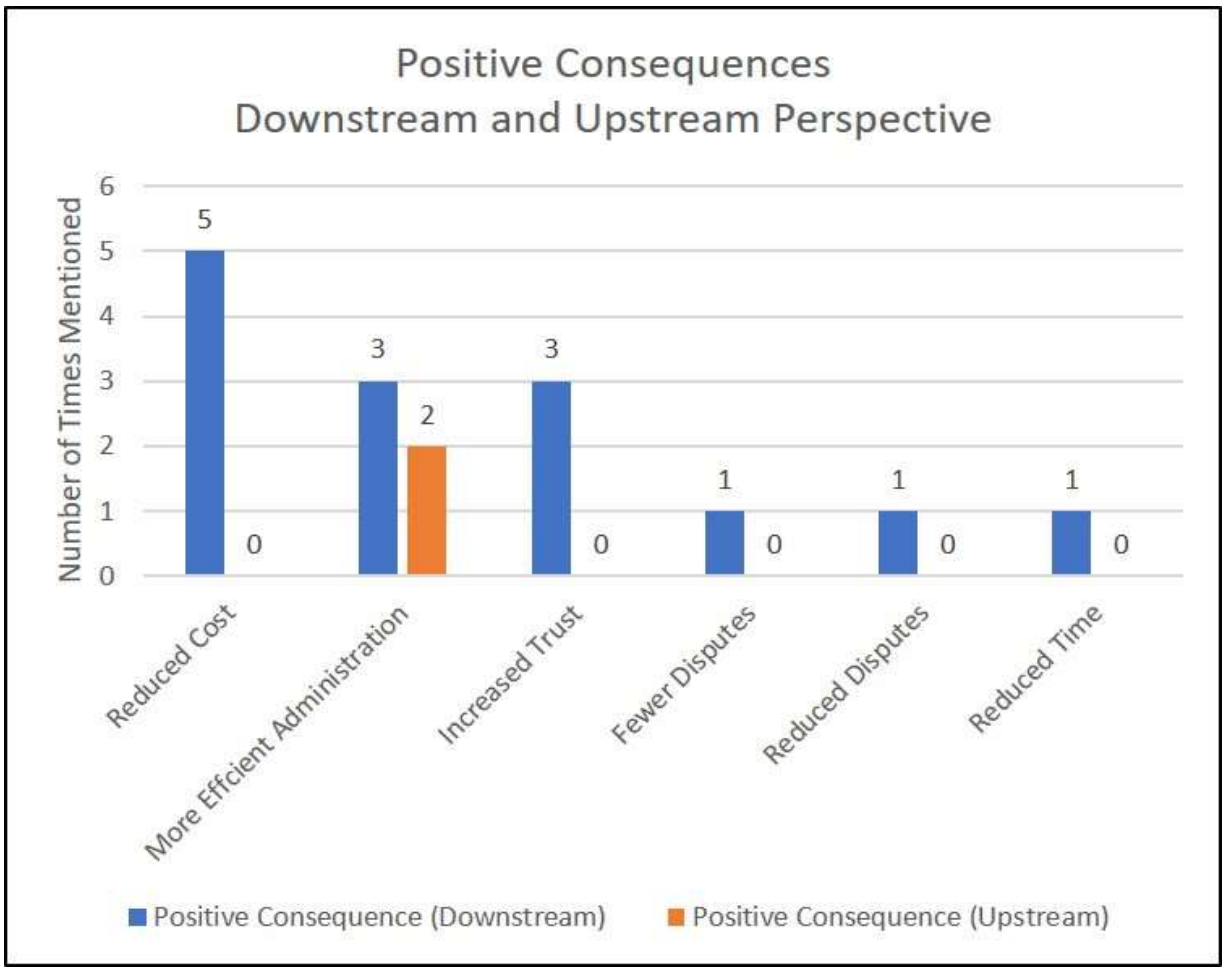

Figure 52– Consequences of Positive Influences – Combined Perspective

Part C - Survey Questions

The question numbers are not continuous. This is a result of the way in which the survey tool manages and presents the questions.

Part 1 — Information regarding the respondent

Q4. Have you worked on or otherwise been engaged in connection with any construction projects in Australia during the past five years, either as a project participant or adviser?

- Yes
- No

Q5. Which of the following best describes your main role in the industry?

- Overview commercial decision-maker
- Owner / principal
- Superintendent / contract administrator
- Independent reviewer
- Contractor / subcontractor / supplier
- Consultant other than superintendent / lawyer
- Financier
- Legal adviser – external
- Legal adviser – in-house
- Dispute resolution (adjudicator, arbitrator, mediator, etc)
- Other (please specify)

Q6. What sector/s of the industry do you normally work in or advise on? (Please select as many as apply.)

- Residential building
- Commercial building
- Infrastructure (roads, ports, energy etc)
- Mining and resources
- Process engineering
- Other (please specify)

Q7. Where are the projects you work or advise on? (Please select as many as apply.)

- Australian Capital Territory
- New South Wales
- Northern Territory
- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia
- Other including external territories and foreign aid projects (please specify)

Q8. What procurement method/s do you most commonly encounter? (Please select as many as apply.)

- Construct-only
- Design-and-construct
- Construction management
- Managing contractor
- Early contractor involvement (ECI)

- Alliance
- Integrated project delivery
- Partnering arrangement
- Public-private partnership
- Other (please specify)

Q9. What is the typical value of the contracts with which you most commonly work?

- Less than $100,000
- $100,000-$1 million
- $1-5 million
- $5-20 million
- $20-50 million
- $50-100 million
- $100-500 million
- Greater than $500 million

Questions 8 to 101 related to the research project on *Standard forms of contract in the Australian construction industry* which was undertaken in conjunction with this research project.

Part 3 – Procurement Practices

Q102. To what extent [using a scale from 1-5 where 1 is 'strongly disagree' and 5 'strongly agree'; 'don't know' also available] do you agree with the following statement?

'The Australian construction industry on the whole is healthy and sustainable.'

Q103. To what extent [using a scale from 1-5 where 1 is 'strongly disagree' and 5 'strongly agree'; 'don't know' also available] do you agree with the following statement?

'I am optimistic about the future of the Australian construction industry.'

Q104. What are the main sources of problems or inefficiencies in the Australian construction industry? (Please select as many as apply.)

- Project scoping
- Unrealistic expectations
- Procurement methodologies
- Contractual risk allocation
- Contract administration
- Labour
- Materials
- Cost pressures
- Regulation
- Relationship problems
- Methods of dispute resolution
- Other (please specify)

Q105. Who is best placed to lead improvements in the Australian construction industry?

- Owners / principals
- Contractors
- Superintendents
- Government
- Lawyers

- Consultants
- Other (please specify)

Tendering

These questions are to be answered from the perspective of a principal (or head contractor) in relation to its 'downstream' relationship.

Q136. Thinking about the tender phase in relation to projects, what attitudes and behaviours of the party to whom the invitation to tender is issued:

a. add to the cost of the tendering process;
b. add to the inefficiency of the tendering process; or
c. result in a tender being unfavourably considered?

Q137. Thinking about the tender phase in relation to projects, what attitudes and behaviours of the party to whom the invitation to tender is issued:

a. assist in administration of an efficient tendering process; or
b. result in a tender being favourably considered?

Q138. Thinking about the way in which projects are performed, what behaviours of the contractor:

a. add to the cost of work;
b. give rise to disputes during or after project delivery;
c. reduce the cost of work; or
d. contribute to a reduction in disputes during or after project delivery?

Q139. What changes in procurement attitudes and behaviours:

a. would be of the most significant benefit to your business;
b. would be of the most significant benefit to the industry; and
c. would be of the most significant benefit to the community?

Q140. How would the nominated changes bring about the identified benefits?

These questions are to be answered from the perspective of a contractor (or sub-contractor or supplier or consultant) in relation to its 'upstream' relationship.

Q107. Thinking about the tender phase in relation to projects, what attitudes and behaviours of the party who issued the invitation to tender:

a. are a disincentive to you bidding for the work;
b. add to the cost of the tendering process;
c. add to the cost of work; or
d. give rise to disputes during or after project delivery?

Q108. In relation to the cost referred to in the previous question, what is your estimate of the percentage of the contract sum that is added to the cost of work?

Q109. Of the attitudes and behaviours identified above, which are particularly relevant to projects where the public sector is the principal?

Q110. Again thinking about the tender phase in relation to projects, what attitudes and behaviours of the party who issued the invitation to tender:

a. are an incentive to you bidding for work;
b. reduce the cost of work; or
c. contribute to a reduction in disputes during or after project delivery?

Q111. In relation to the cost referred to in the previous question, what is your estimate of the percentage of the contract sum that may be deducted from what the contract sum would otherwise be?

Q112 Of the attitudes and behaviours identified above, which are particularly relevant to projects where the public sector is the principal?

Q113 What percentage of contracts that you are contemplating bidding for would you ultimately decline to bid for by reason of issues surrounding the tender process?

Q114. Rate the following factors [using a scale from 1-5 where 1 is 'not an issue' and 5 'a very significant issue'] as to the degree to which each factor contributes to challenges in the tendering process:

a. Time for tender response
b. Warranties to be provided by the tenderer as part of the tender
c. Tender conditions generally
d. Quality of information provided in the request for tender
e. Narrowness of information provided in the request for tender
f. Other (please specify)

Contracts

Q116. Thinking about the contracts you are asked to sign, what aspects of or provisions in those contracts:

a. are a disincentive to you bidding for the work;
b. add to the cost of work; or
c. give rise to disputes during or after project delivery;

Q117. In relation to the cost referred to in the previous question, what is your estimate of the percentage of the contract sum that is added to the cost of work?

Q118. Of the attitudes and behaviours identified above, which are particularly relevant to projects where the public sector is the principal?

Q119. Again, thinking about the contracts you are asked to sign, what aspects of or provisions in those contracts:

a. are an incentive to you bidding for work;
b. reduce the cost of work; or
c. contribute to a reduction in disputes during or after project delivery?

Q120. In relation to the cost referred to in the previous question, what is your estimate of the percentage of the contract sum that may be deducted from what the contract sum would otherwise be?

Q121. Of the attitudes and behaviours identified above, which are particularly relevant to projects where the public sector is the principal?

Q122. Rate the following factors [using a scale from 1-5 where 1 is 'not an issue' and 5 'a very significant issue'] as to the degree to which each factor contributes to challenges in the finalisation of contracts:

a. Absence of a capped liability provision
b. Exposure to consequential loss
c. Rigorous and challenging administrative processes
d. Time bar provisions in relation to claims
e. Narrow extension of time entitlement
f. Narrow entitlements to extra money
g. Lack of independence of the contract administrator
h. The sufficiency of site information
i. Treatment of latent conditions
j. The adequacy of delay cost provisions
k. Other (please specify)

Contract Administration

Q124. Thinking about the way in which projects are administered, what behaviours of the contract administrator or the other party to the contract:

a. add to the cost of work; or
b. give rise to disputes during or after project delivery?

Q125. In relation to the cost referred to in the previous question, what is your estimate of the percentage of the contract sum that is consumed through the relevant behaviours?

Q126. Of the attitudes and behaviours identified above, which are particularly relevant to projects where the public sector is the principal?

Q127. Thinking about the way in which projects are administered, what behaviours of the contract administrator or the other party to the contract:

a. reduce the cost of work; or
b. contribute to a reduction in disputes during or after project delivery?

Q128. In relation to the cost referred to in the previous question, what is your estimate of the percentage of the contract sum that may be saved through the relevant behaviours?

Q129. Of the attitudes and behaviours identified above, which are particularly relevant to projects where the public sector is the principal?

Q130. Rate the following factors [using a scale from 1-5 where 1 is 'not an issue' and 5 'a very significant issue'] as to the degree to which each factor contributes to challenges in the administration of contracts:

a. Delayed responses to requests for further information (RFIs)
b. Inadequate responses to RFIs
c. Delayed administration of claims
d. Decisions in relation to claims
e. Lack of explanation in relation to decisions on claims;
f. Lack of independence of the contract administrator; and
g. Other (please specify)

General

Q105. Who is best placed to lead improvements in the Australian construction industry?

- Owners/Principals
- Contractors
- Superintendents
- Government
- Lawyers
- Consultants
- Other (please Specify)

Q132. What changes in procurement attitudes and behaviours:

a. would be of the most significant benefit to your business;
b. would be of the most significant benefit to the industry; and
c. would be of the most significant benefit to the community?

Q133. How would the nominated changes bring about the identified benefits?

Q141. Would you be willing to be interviewed (by phone or in person) by a member of the research team for this project in order to obtain more detailed views from you?

- Yes
- No