

University of Southern Queensland

Faculty of Health, Engineering and Sciences

**Conflict of Interest: The Dual-Role Superintendent / Lead
Designer in Construct Only Contracts**

A dissertation submitted by

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Abstract

This study focuses on Commercial Construction ‘construct-only’ and ‘fully documented’ contracts where the Lead Architect is also defined as the contract Superintendent and Principal’s Representative. The paper argues that there is a conflict-of-interest herein, given the defined and the implicit roles of the Superintendent under contracts such as AS2124 & AS4000. There is a prevalence of adversarial relationships ‘in which cooperation is expected to take place in a set of circumstances that are not wholly conducive’ (Phua & Rawlinson, 2010) between internal stakeholders in commercial construction contracts, and the paper aims to review this impact on the overall the outcome of the project.

This research proposes to question the status-quo in these particular contractual arrangements, and the impact that these relationships are having on individual projects, and the industry at large. The research aims to provide a review of the current literature relative to the topic; assesses the impact of the aforementioned dual-role Superintendent; evaluates industry opinion on the potential conflict of interest; and seeks to provide a conclusive argument that would be the foundation for changing the definition of the Superintendent role under AS2124 & AS4000 in particular.

Finally, the paper aims to provide insight into reducing the potential for conflict within the commercial construction industry by eliminating conflicts of interest, assessing internal stakeholder relationships, and identifying the stipulation for a third-party Superintendent in Construct Only contracts such as AS2124 & AS4000.

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Alexander Swift

██████████

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1 Introduction

'A construction contract is no different to any other commercial agreement with perhaps the exception of the role of the superintendent.'

(Evans, 2012)

1.1 Introduction

The commercial construction industry is a highly stressful, notoriously adversarial and financially volatile sector. The myriad of relationships within the environment can be frequently tested during a project and are all-too-often soured at the time completion is achieved. Hence, it is crucial where possible, to mitigate potential conflicts of interest within these relationships to give the project, and the inter-relationships within, a chance to harmonise and accomplish the best result possible for all stakeholders.

Whilst there is a large body of research around construction contract disputes, there is a gap in the instance of head contract superintendents who are also engaged as lead designers, on fully-documented, construct-only projects. According to University of Melbourne research which was completed under the watch of Professor John Sharkey, between 3 December 2013 and 14 February 2014, in which 295 respondents were surveyed in relation to 379 projects: ‘the use of standard forms was almost unanimous on contracts valued less than \$100,000. The percentage of standard forms used for contracts valued between \$100,000 and \$500 million, ranged between 66% and 78%. However, the use of standard forms dropped for contracts valued over \$500 million, at 28%’. The use of standard form contracts across the industry is in the majority, however this research will attempt to outline the prevalence - and attempt to understand the impact of - Superintendent / Lead Design dual-role in construct-only projects through the use of a questionnaire.

The argument is that there is a conflict of interest with in this inter-role duality, particularly given the financial and reputational damage that can be sustained as the project life cycle evolves. A conflict can have multiple interpretations, however, is conceptually defined as a ‘difference between two or more beliefs, ideas, or interests’ (Conlin et. al. 1996, Aibinu et. al. 2008). The research aims to understand if there is the potential for conflict, whereby the omissions or shortfalls in the design are examined by the head contractor, and the dual-role superintendent’s obligation to be fair and impartial can be hindered by their desire to uphold the expectations of, and maintain a positive relationship with the Principal. Further to this, beyond the reputational impacts, the impact of design errors and omissions can reflect poorly on the Superintendent, and consequently, relationships between internal stakeholders can be strained. The paper will analyse these relation impacts, and how the role can be amended to mitigate the pressure on internal parties. A typical stakeholder relationship hierarchy for a construct-only project is shown in Figure 1.

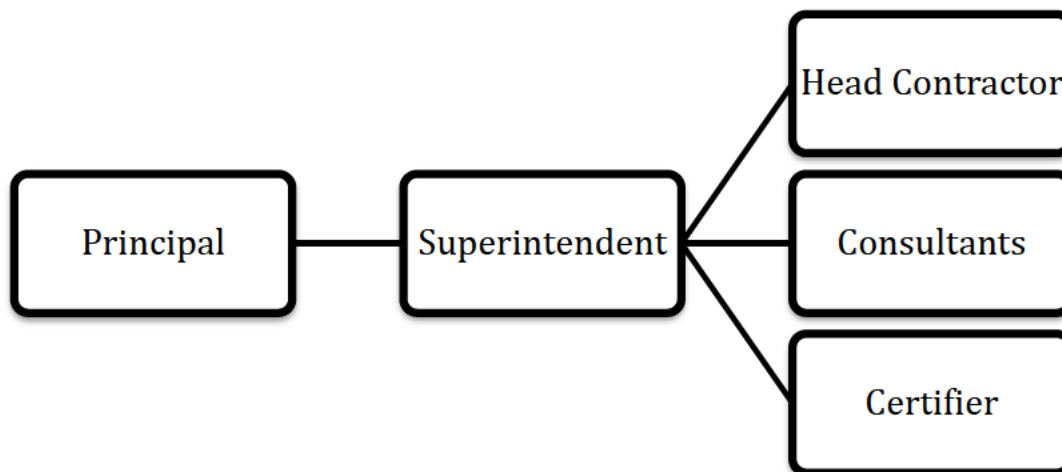


Figure 1: Typical Internal Stakeholder Organisational Chart

1.2 Problem Statement

The very nature of the profit-driven construction industry, where competitors vie for projects in what has often be described as a ‘race to the bottom’ with regards to tendering, lends itself to an uncollaborative and disharmonious reality, where each dollar is hard-fought and qualitative efficiency becomes an afterthought. However, in recent years considerable effort has gone into stimulating ‘...radical improvements in the construction industry in terms of value for money, profitability and reliability’. (Beach et. al., 2005)

Understanding the relationships that develop within the industry, stakeholders within a typical construct-only contract is essential for providing insight as to why this perceived adversarial nature exists. The link between relational dysfunction and poor performance, according to Odeh & Battaineh (2002), is exacerbated by ‘the traditional or adversarial type of contracts in which the contract is awarded to the lowest bidder.’

The focus of construction practitioners appears to be largely based around restoring credibility to an otherwise tarnished industry. Events in recent years such as the Grenfell Tower disaster in London where there has been major loss of life, and more recently the Opal Tower in Sydney where ‘design and construction failures’ (Saulwick, 2019) have left dozens of people homeless, highlight the inadequacies which need to be rectified for the industry to become the reputable foundation of society it should be.

1.3 Research Objectives

In order to mitigate the impact of perceived conflicts of interest that exist within current standard form contracts. The objectives of this research are:

- Understand the typical roles of the internal stakeholders in a construct-only contract;
- Understand the typical role of the Superintendent as assessor, evaluator and principal's representative under the contract;
- Understand and analyse the impact the conflict of interest has on the overall outcome of the project, and on relationships of internal stakeholders. Understand the limitations of 'impartiality' in the contractual and common law context;
- Develop strategies to mitigate the relational impacts resultant from the perceived conflict. Exploring the notion of collaboration between internal stakeholders;
- Propose and validate potential measures for change within the Standard form and provide comparative & research-based analysis against other industry-standard forms.

1.4 Scope of the Research

The limitation of this research is, in particular, the extent to which the superintendent is involved not only as the traditional certifier, assessor and principal's representative, but in the instance where they are fundamentally involved in the design and its management. The conflict in this role generally refers to the superintendent's requirement to be 'impartial', whilst also being employed by – or contracted to – the principal, whilst undertaking the previously mentioned functions. This study aims to further define this conflict by examining the superintendent's relationship to the design of a project and analysing the impact this involvement has on the outcome. It is acknowledged also, that superintendent duality is often discussed in terms of their role as principal's representative, and administrator of the head contract. For the purpose of this research the dual-role superintendent refers to their role as:

- a) Principal's representative and contract administrator;
- b) Designer and design manager.

This paper is further limited by the role of the superintendent under commonly used, construct only standard form contracts, in the Australian commercial construction industry.

For the purpose of this research the title ‘superintendent’ will be used to refer to the individual undertaking the role of the Principal-engaged contract administrator. Further, the title ‘principal’ will be used for the client, owner, or the person or group for which the project is being funded by. The title ‘certifier’ will be used for the role otherwise known as building certifier, surveyor, or the individual or organisation who is novated to oversee compliance measures are met and implemented on behalf of the principal and ultimately certify the project for completion.

1.5 Structure of the Thesis

The overall scope of the research will be broken down into Five (5) main chapters, with the information further examined into the following format;

Section One broadly summarises the paper on the whole, by outlining the structure and organisation of the research. Further, this section outlines the relations of internal stakeholders within the industry, and how individual roles can impact on the overall outcome of the project. This portion of work highlights the main arguments and deduces the reasoning for the requirement of the research and its intended value within the industry.

Section Two reviews the existing literature relevant to the research, and further develops the ideas outlined in Section One. Detailed information and analysis are posed on the role of the Superintendent in Standard Form contracts; evidence surrounding how the dual-role Superintendent impacts the project performance; potential for likely propensities of the Superintendent, including the likelihood for impartiality; and performance assessment against other forms of construct-only contracts.

Section Three provides the framework for which the data is collected and collated for evidential assembly. This section outlines the parameters in which information will be processed, and how this information will be analysed. This section will focus on multiple different, yet relevant Case Studies, and the parameters for the industry specific Questionnaire.

Section Four deduces the evidence-based data collected for the project. The section outlines the different scenarios and rationalises the results based on information quantified from multiple different sources within the industry. This section will form the basis of the conclusion and provide recommendations upon which changes to the Standard Form contracts could be made.

Section Five concludes the research, assessing the original aims of the paper and assessing them in line with University prescribed objectives. Discussion into the limitations and potential shortcomings of the research will be outlined and measures of further research.

2 Literature Review

2.1 Introduction

As previously noted, there is ample literature on the nature, and potential methods for avoidance of, construction contract disputes. However, in this instance the need for literature review is to understand the role of the Superintendent, particularly in a fully-documented, construct-only project. Further, the literature review will determine what is deemed to be reasonably 'fair and impartial' when reviewing potential design errors and omissions and the impact on the contract budget and programme. This section aims to understand exactly who the parties to a project are and examine the inter-relationships that exist on a project. Lastly, the review will assess the potential impact this will have on the project in terms of relationships of the project teams, impacts on the success of the project and whether the Superintendent can reasonably assess given their involvement in design.

The two most commonly used 'construct-only' head contracts in Australian commercial construction are AS2124 & AS4000, the review will use these two contracts as the basis for the assessment.

This section will be divided into eight (8) subsections:

1. Introduction;
2. Construction Project Stakeholders;
3. Types of Contracts;
4. Role of the Superintendent;
5. Superintendent Fairness & Impartiality;
6. Dual-role Superintendent & the Conflict of Interest;
7. Relationship Management;
8. Conclusion.

2.2 Construction Project Stakeholders

There are various different roles and responsibilities for internal stakeholders within a construction project. This section will outline those relevant and provide an overview of the inter-relationships between parties and their impact on the success of the project. *Figure 1* visualises these relationships and displays the interconnectivity between Principal – Architect – Head Contractor, and the design consultants and certification authorities.

2.2.1 Principal

The Principal is an individual, organisation or body which provides the capital for the project. There are various different types of Principals, including all three levels of government, property developers, consortiums, communities, individuals and more. It is assumed that the Principal has limited specific project knowledge and ‘high-level’ involvement and as such is represented by a ‘Principals Representative’, or Superintendent under the contract.

2.2.2 Main Works Contractor / Builder

The Main Contractor (MC) is responsible for delivering the project is engaged directly by the Principal through a contractual agreement. The contractor will have the necessary licencing requirements particular to the region the project is in, and specific to the scope of the project works. A range of project deliverables will be outlined in the contract documentation that the contractor will be required to produce to the Principal on an agreed date and for an agreed amount (depending on the contract arrangement).

2.2.3 Architect / Superintendent

The architect is responsible for the design and documentation of the project. Under AS2124 or AS4000 the architect can be engaged by the Principal directly, and an individual from the firm often is delegated the role of Principal’s Representative / Superintendent. ‘It is the Architect who will most likely be the Superintendent as their objectives align with the principal to oversee the contractor, mediating as required.’ (Fewings 2005)

This role entrusts decision making powers on behalf of the Principal, including but not limited to, determination of variation and extension of time (EOT) claims, latent conditions, progress claims and liquidated damages. In some instances, the architect may also take on the role of design management

which includes coordinating all aspects of the project development from services and structural engineering, to landscaping and civil works, this is in an effort to ensure contract documentation is harmonised and to mitigate potential discrepancies between various design disciplines. Depending on the contractual arrangement, the architect may be responsible not only for responding to architectural Request for Information (RFI's) submitted by the contractor, but may also be responsible for the coordination and management of all RFI's, including those submitted to consultants, i.e. services, structural, landscaping etc. The method of communication is highlighted in the below *Figure 2*.

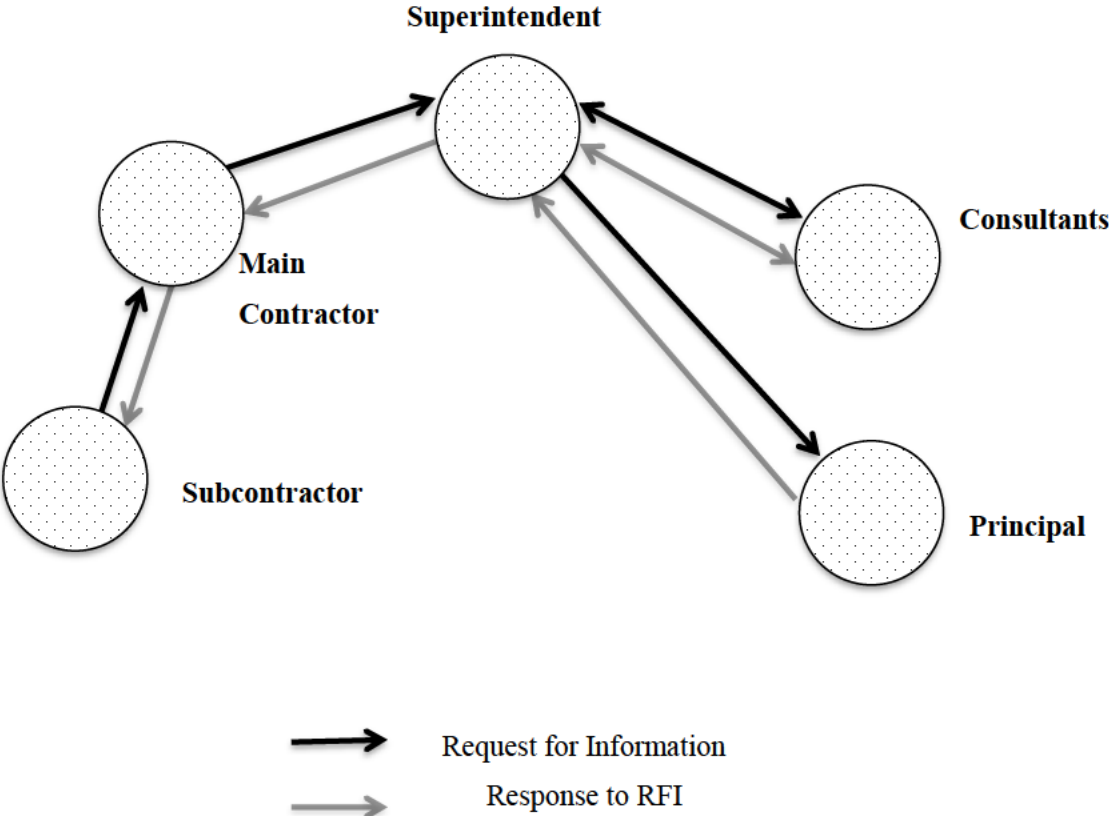


Figure 2: RFI Workflow

2.2.4 Consultants

In the instance of construct-only contracts such as AS2124 & AS4000, the Principal will either directly engage the consultants, or the architect will appoint the consultants for design related components of the project. Specific disciplines will be responsible for various design elements of the project, for example; structural, hydraulics, mechanical and electrical engineering. The consultants will be responsible for ensuring the construction works are carried out in accordance with all relevant documentation including; Australian Standards, Building Code of Australia, National Construction Code, all relevant site-specific requirements etc.

The goal of these first four stakeholders is the collaborative delivery (*Figure 3*) approach in order to see the best outcome for all parties.

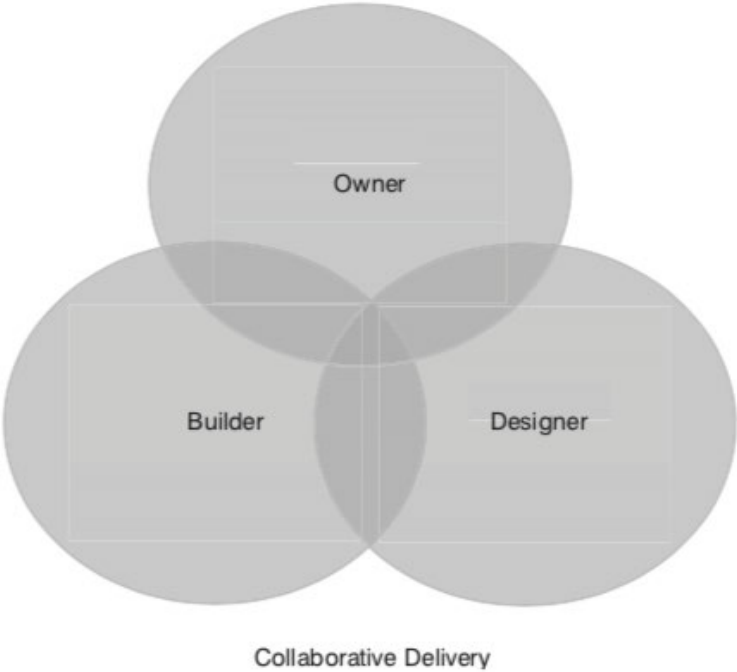


Figure 3: Typical Internal Stakeholder Organisational Chart (Source: Schaufelberge & Holm, 2017)

2.2.5 Certifier

For the purpose of this paper the term certifier will be maintained. Licensed Building Certifiers can work for local government or in a private practice. They inspect a project before, during and at completion to ensure it complies with the approved building plans (approval of development permit for building works), and appropriate building standards. (qbcc.qld.gov.au) The certifier should be involved from conception to completion of the project to ensure the relevant and current standards are maintained and executed correctly throughout the project. The certifier is the ultimate building authority on the project, they will issue a Certificate of Occupancy once all the required evidentiary documentation has been compiled and submitted.

2.3 Standard Form Contracts

Matthew Bell (2009) notes that standard form contracts in construction can be seen throughout history, dating back to a document known as the *Code of Hammurabi* in around 1760 which outlines ‘stipulations as to the consequence of poor workmanship...’ pre-dating *Bellgrove v Eldridge [1954] HCA 36* ‘by nearly 400 years’. ‘In the early 20th century, British courts and contractors recognised a need for a standard form of civil engineering contract, and in 1930 the Federation of Civil Engineering Contractors and the Association of Consulting Engineers managed to publish a form of contract’ (Wright & Fergusson, 2009). Although it was conceded that the 1930’s contract was not widely used or recognised, it set the foundation for future standard form contracts. This standard form contract became the basis for the Institute of Civil Engineers (ICE) original standard form, which was drafted in 1945, and then later on for the FIDIC suite of contracts which will be discussed further on. In the US it was noted by Chakravarty & Bentley MacLeod in 2004, that the most widely used standard form contract was ‘published by the American Institute of Architects (AIA), who produced its first form contract for general sale in 1915’.

2.4 Types of Standard Form Contracts

The primary focus of this study is aimed at two standard form, construct only contracts, namely AS2124 and AS4000. These two contracts, along with other standard form contracts ‘continue to dominate the Australian construction contracting landscape.’ The study found that ‘the four main forms (AS4300 (23% of projects using a standard form), AS4000 (18%), AS2124 (17%) and AS4902 (14%)) represent close to 70% of the standard forms which are used.’ (Sharkey, et. al., 2014)

According to Sharkey’s findings the remainder of the contracts found in the sample were:

- International Federation of Consulting Engineers (FIDIC) forms, generally in larger, private projects;
- GC21 form, which will be discussed further on in the study, generally in NSW public industry for contracts over \$5 million;
- Australian Building Industry Contracts (ABIC), which are ‘jointly published by the Australian Institute of Architecture (AIA) and Master Builders Australia.’ (www.architecture.com.au). Particularly the Major Works (MW) used mostly for private, individual residential contracts up to the value of \$5 million.

2.4.1 AS2124-1992 & AS4000-1997

‘The Australian Standard (AS) series of contracts are produced for Standards Australia by a panel of industry representatives that appear on their covers. However, the origins of AS2124 date back to the mid 1920’s to a contract developed by the Australian Institution of Engineers.’ (Shnookel & Charrett, 2010) The standard forms are generally considered to be a ‘fairer’ and more balanced contract for all parties, however conversely ‘they are likely to contain many compromises.’ (Sharkey et. al., 2014) Sharkey also noted that Standards Australia intended to discontinue AS2124 after the introduction of AS4000, however at the time of this research the standard remained available for use.

Evans (2012) noted some ‘of the features of Australian Standard contracts are that they:

- have been designed to balance the risks with respect to the contract are widely used and enjoy a high level of recognition;
- allow a level of status of the bill of quantities;
- allow for the provision of a superintendent to administer the contract;
- involve a lump sum price;
- have the option of staged practical completion
- apply to construction in both the public and private sector.’

Shnookel & Charrett go on to highlight the special conditions, or amendments which have become routine in the use of AS contracts. ‘(A)s word-processing became commonplace, major law firms with an engineering and construction focus developed in house Special Conditions that amended the standard form contracts.’ The development of these changes was, generally speaking, to change the balance of the liability and, as much as possible, transfer the risk to the contractor. However, these special conditions came with inherent ambiguities and caused issues, particularly in the event of arbitration. The potential for contradictions between the special conditions and the standard clauses of the AS contracts is cause for a ‘large number of contract disputes’, and the industry has now reached a point where law firms are often engaged for drafting and, in turn, signing head contracts. Risk shifting and the allocation of risk will be discussed in more detail later in the paper.

In 2015, there was a release for comment for the since rescinded AS11000 which was intended to supersede AS2124 & AS4000. Professor Ian Bailey SC (2015) noted that the new standard’s potential impact on the resolution of disputes. ‘The proposed new general conditions of contract in AS 11000 provide a broadly balanced approach to risk allocation in language which is focused on brevity and certainty. They include a new early warning procedure based upon an express good faith obligation, which is intended to assist in the management and resolution of issues under contracts.’

2.4.2 FIDIC Conditions of Contract for Construction (CONS) – ‘The Red Book’

The Fédération Internationale des Ingénieurs Conseils or International Federation of Consulting Engineers have a five-coloured suite of contracts ranging from Yellow for ‘plant and design-build’, Green for ‘short form’, silver for ‘Turnkey operation’ and Gold book for ‘design-build-operate’. The Red Book is relevant to this paper as it is nominated as ‘construction designed by the employer’.

Whilst there is no Superintendent per se, the FIDIC contracts were traditionally authorised by the Engineer, which ‘enabled him to make informed judgments concerning the conduct and execution of projects with a large measure of independence from the Employer (Principal).’ ‘A key feature of the dispute - resolution procedure contained in the FIDIC 4th Edition 1987, sub-clause 67.1 – ‘Engineer’s Decision’ was the power and authority of the Engineer to make independent judgements’ (Robinson, 2011) However, over time the Engineers power has become diminished, and the FIDIC contracts have been seen in the industry as transferring more risk to the contractor.

The 4th edition of the 1987 iteration FIDIC Red Book SFC stated under sub-clause 2.7 an obligation for the engineer when performing valuations or issuing directions to act ‘impartially within the terms of the Contract and having regard to all the circumstances.’ The removal of this express obligation in the 1999 iteration, and replacement with sub-clause 3.5 stating that the engineer must ‘make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.’

The most recent iteration being the second edition of the Red and Yellow Books (2017) includes sub-clause 3.1(a) defines that ‘the Engineer whenever carrying out his duties or exercising authority ...shall be deemed to act for the Employer (Principal)’ and sub-clause 3.1(b) goes on to clarify that ‘that the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract except as stated in the Contract.’ Finally, the new sub-clause 3.7 which obliges the engineer to ‘act neutrally between the parties’, and the implication that the engineer is no longer deemed ‘to act for the employer’.

Ellis Baker (2009) noted that ‘in a traditional engineering (or construction) contract in making determinations may indeed include impartiality; the word ‘fairness’ in this context has several connotations and impartiality is one of them.’ Further, that the ‘...express duty of fairness in making determinations under the Red, MDB, Yellow and Gold Books would involve acting impartially as between Contractor and Employer when a common law jurisdiction governs the Contract.’

2.4.3 GC21 Edition 2

The GC21 Edition 2 contract is predominantly used in NSW and ACT state government projects, and ‘is suitable for construction contracts valued at more than \$1 million. GC21 may also be appropriate for construction contracts valued at less than \$1 million when special circumstances and/or requirements exist (e.g. the use of milestones).’ (procurepoint.nsw.gov.au) The GC21 contract differentiates itself from the AS standard forms by adopting ‘the stance that the Contractor will always have some level of responsibility for completing the design’, (Manderson et. al., 2015) and as such does not specifically have a design and construct or construct only stipulation. This creates an underlying responsibility to invest their expertise into the design, with the intention to create a more open and collaborative approach as outlined in *Figure 3*. At a fundamental level, in an unamended standard form contract for a construct only project, the contractor merely has to fulfil their ‘duty to warn’ – which can be satisfied by submission of an RFI or Head Contract Advice Notice. This obligation does not promote collaborative contracting and fosters the potential for a contracting party to retain their building expertise in search of potential claims through the exploitation of the design deficiencies or omissions.

‘A key aspect of the GC21 Contract is that there is no Superintendent. Both the Contractor and the Principal appoint representatives called “Authorised Person”, whose role is to liaise with each other to administer the Contract and overlying this are the Principal and Contractor’s “Senior Executive”, who have responsibility for the health of the contract relationship.’ (Joseph & Mashiah, 2014) Should Senior Executives be unable to resolve disputes the GC21 has a provision for third party intervention and determination.

One of the more effective tools under the GC21 contract is the summary table provided defining the ‘Role of the Authorised Person in a GC21 Contract’. This summary provides contracting parties the exact clause of reference, and the appropriate sample letter which provides a template for all related contract conditions.

Contract Condition	Specific Roles/ Actions in the GC21 (Edition 2) General Conditions	Relevant Clause	Relevant Sample Letter
	Note the referenced 'Sample Letters' are provided in the ProcurePoint website under "Contract Management" and should be used for correspondence with the Contractor as applicable		
Contract Framework			
Roles and Relationships	General Responsibilities		
	Give instructions to the Contractor concerning the Works and anything connected with the Works	1	01
	Authorised persons		
	Arrange the appointment of the Principal's Authorised Person if not stated in the Contract Information (C.I.).	2	02A
	Inform the Contractor of changes to the names of persons appointed under the role of Authorised Person,	2	02B, 02C
	Inform the Contractor of persons delegated to perform any functions of the Authorised Person	2	
	Request the Contractor nominate its Authorised Person if not stated in the Contract Information (C.I.).	2	02D
	Early warning		
	Promptly inform Contractor of anything that may affect time, cost or quality. Investigate how to avoid or minimise any adverse effect on the Works	5	
	Evaluation and monitoring		
Decide and agree on participation in evaluation and monitoring meetings	6		
Arrange and attend regular meetings. Undertake actions as agreed at the meetings.	6		

Figure 4: Extract of GC21 'Roles of Authorised Person' (Source: procurepoint.nsw.gov.au)

2.4.4 ABIC MW-1

'Compared to AS 2124 and other forms in the AS Suite (and ABIC's predecessor, JCC), there have been relatively few cases on ABIC, and even fewer that have engaged in detail with the provisions of the contract.' (Bell, 2009) The propensity for the ABIC suite of contracts to have reduced disputes could be due to a variety of reasons, however it does show a positive inclination for what should be the basis for all standard form contracts – being reduction of disputes between contracted parties. This could be interpreted as contrary to this research, as the conflict still exists as discussed in the following paragraph.

'In these contracts there is a dual role for the Architect. For example, the Architect is charged with acting impartially when valuing progress claims while also acting as an agent for the Owner when issuing instructions or directions to the Builder (contractor).' (McLaughlin & Lovegrove, 2008) Clause A6.2 states that the architect administers the contract on behalf of the owner (principal). 'The architect is the owner's agent for giving instructions to the contractor but acts independently – not as an agent – when acting as assessor, valuer or certifier.' (Butcher, 2019) In terms of the role of the architect under the ABIC MW-1, their functions include issuing schematic and detailed design, tender processes, contract administration and issuance of the final certificate.

Similar to many AS Standard Form contracts, the ABIC suite entrusts the architect - acting as the Superintendent - with the regulation of the contract, whilst being responsible for the design elements of the project. Cotton (2015) observed that '(t)his can be akin to walking something of a tightrope for an Architect, because the retainer agreement he has with the Owner/Developer will state that he/she must act only in the Owner's best interests, whilst the building contract itself says that the Architect must be fair and impartial when assessing the Builder's claims regarding payment and time.'

2.4.5 Department of Defence – Head Contract (HC-1 2003)

The HC-1 2003 forms part of the Department of Defence suite, and can be used in construct only, design & construct, or document & construct arrangement. The paradigm of the contract is set out on the Defence Estate Quality Management System (DEQMS) website, however there is very little peer-reviewed literature or mention in educational resources on the use of the HC-1, or any comparison to the Standard form.

The equivalent role to the Superintendent under the HC-1, and other contracts in the Department of Defence suite, is that of the Project Manager Contract Administrator (PMCA). The definition of the PMCA's role as explained in the HC-1 contract; 'The Contract Administrator will give directions and carry out all of the other functions of the Contract Administrator under the Contract as the agent of the Commonwealth (and not as an independent certifier, assessor or valuer).' (Department of Defence 2003) There is a clear distinction of the role of the PMCA as an agent of the principal, the Australian Commonwealth. This provides a clear and definite obligation for impartiality on behalf of the superintendent, insofar as they must represent the Commonwealth's best interests whilst providing equitable treatment of the contractor when administering the contract.

Similar to the GC21, the Defence suite of contracts have a succinct layout, and proforma appendices to compliment the relevant claims that can be made.

2.4.6 New Engineering Contract (NEC) – Engineering and Construction Contract (ECC)

The NEC came after a review into civil engineering and construction contracts by the Institution of Civil Engineers (ICE) in the United Kingdom in 1985. The 'NEC Engineering and Construction Contract (ECC) developed with three main aims:

- Clarity and simplicity;
- Flexibility of use (for different contract strategies, different engineering and construction disciplines, use in different countries);
- Stimulus to good management.'

Similar to the traditional superintendent, the 'Supervisor is appointed by the Employer, acts on his behalf and is named in the contract. He has discrete powers and duties in the contract mainly in relation to

checking the contractors work.’ (Weddell & Weddell, 2006) One distinguishable element of the ECC is the implementation of the *Supervisor* and the *Project Manager* and the distribution of their roles which are covered under Clause 14 of the contract. The Project manager will ‘administer the contract on behalf of the Employer and is the designated authority to issue all instructions, notifications and other communications required under the contract.’ Whilst on the other hand, the supervisor’s sole responsibility is to ‘check for compliance to the Works Information (basically to check for defects and is independent to the Project Manager).’ (Hide, 2011)

Out of all the standard forms, most fail to include the more contemporary delivery methods such as alliancing and partnering. The ‘NEC3 also contains a secondary option – X12 Partnering – which is used to create multi-party partnering arrangements and is ideal to support the creation of an Alliance.’ (Infrastructure Client Group, 2016) NEC3 also requires that parties are to act ‘in a spirit of mutual trust and co-operation’. Whilst this content has been slated as ambiguous and broad, it has also been considered to be ‘analogous to an obligation of good faith.’ (Nkwillmba, 2016)

2.5 Amendments to Standard Form Contracts

Wright & Fergusson (2009) observe that there are ‘shortcomings inherent in the classic law of contract, and while some of those deficiencies cannot be solved by any form of drafting, others can be avoided or mitigated by careful drafting of the contract’. Increasingly, there has been a common trend in recent years for the amendment of standard form contracts as a legal approach for risk aversion to the benefit of the principal. There is seemingly an assumption that heavily, principal-biased contracts will be accepted by contractors who are willing to take on more risk, often for the same or less margin. Sharkey’s 2014 survey found that an overwhelming majority, 84%, of standard form contracts involved some form of amendment. When further narrowing down the types of amendments, there was a reasonably high prevalence towards changing the definition of the contract administrator or superintendent, generally increasing with contract amount. (See Table 1)

Contract Value	Definition of CA / Superintendent Amended
<\$100,000	100%
\$100,000 - \$1M	25%
\$1M - \$5M	47%
\$5M - \$20M	38%
\$20M - \$50M	36%
\$50M - \$100M	52%
\$100M - \$500M	71%
>\$500M	67%
All Contract Values	52%

Table 1: Contracts Amended by Value (Source: Sharkey 2014)

When reviewing the individual sectors which were most likely to change the definition of the CA / Superintendent, commercial (private) and commercial (public) were amongst the highest with 51% and 72% respectively. (See Table 2)

Contracting Sector	Definition of CA / Superintendent Amended
Residential building – commercial developer as principal	65%
Residential building – private individual as principal	29%
Commercial building – private sector principal	51%
Commercial building – public sector principal	72%
Infrastructure (roads, ports, energy etc.) – private sector principal (not mining and resources)	40%
Infrastructure – private sector principal (mining and resources)	64%
Infrastructure – public sector principal	24%
Process engineering	80%
All Sectors	51%

Table 2: Contracts Amended by Sector (Source: Sharkey, 2014)

The resultant implications of these amendments, which often leave the standard form contracts unrecognisable, are discussed in Oxbrough & Swift (2019):

- ‘the superintendent is the principal’s agent for all purposes connected with the contract (including as decision-maker), although when acting as decision-maker is required to act either reasonably or honestly (but rarely both, and almost never in good faith or fairly, notwithstanding the default wording in contracts like AS2124 and AS4000);
- he or she is not required to act as an independent certifier;
- he or she is permitted to take into account the views of the principal’s consultants when issuing valuations or determinations;
- the superintendent is allowed, in his or her discretion, to act in accordance with any instruction or direction given to them by the principal when certifying, valuing or assessing;
- the superintendent must obtain the principal’s approval where a decision or the exercise of any other function under the contract may give rise to an entitlement that exceeds a certain dollar amount; and
- the superintendent’s role is deleted altogether in favour of a principal-administered contract.’

Langdon & Mahler (2018) provide a matrix which itemises the potential value to risk for individual parties, specifically to Engineering, Procurement and Construction or EPC contracts (see Table 3). Langdon also spoke out in an Australian Financial Review article published July 8, 2019 by saying ‘(t)here is a culture in Australia of "fight your corner" and go to the lawyer’s office to fix the problem, rather than to the building site. This attitude is supported by the flawed EPC contract system that encourages blame-shifting, litigation and often puts an inordinate amount of responsibility on the contractors’ shoulders.’

<i>Stakeholder / role</i>	Responsibilities	Potential value outcomes	Purported risk exposure
Owner	Project specification Project finance	Future revenue from asset	Limited, but would include valid contract claims / modifications
Contractor	Project design (generally)	Contractual profit Cost efficiencies (generally direct costs)	Project cost overruns Liquidated damages (schedule) Rectification costs
Subcontractor	Specific contract performance Product/service quality	Contractual profit Cost efficiencies (generally direct costs)	Contract dependent
Financier	Finance	Interest	Contract price, plus value of valid contract claims

Table 3: Purported risk allocation of EPC contracts (Source: Langdon & Mahler, 2018)

2.6 The Role of the Superintendent

At the very core of the role and responsibility of the superintendent is their duty to act in accordance with the contract, and their roles under that contract. Legislation definitively recognised this in the United Kingdom 2006 *Scheldebouw BV v St James Homes* case, where it was deemed that the ‘foremost duty of the contract administrator is to discharge the functions which he is expressly required to perform under the construction contract pursuant to which he attains authority.’

The central roles of the Superintendent in the construction contract are to preserve the best interests of the principal, by administering the contractual obligations of all parties whilst ensuring performance, compliance and adherence to necessary regulations by the Main Contractor. ‘There is a view that there is tension between the superintendent's role as agent and that as a certifier... (T)he two roles do co-exist under Australian law where the superintendent is not to act simply to further the principal's interests. (www.constructionlawmadeeasy.com) The superintendent is a pivotal component in the construction process, and the importance of this function should not be understated. ‘Contractors are very much dependent on the capability of the client’s representative (superintendent). (Soetanto & Proverbs, 2002)

Functionally, the primary functions of the superintendent may include; the assessment of contractor-issued claims, including Extension of Time (EOT) submissions and Head Contract Variation (HCV) entitlements; issuing Superintendents Directions (SD) and coordinating & distributing responses to Requests for Information (RFI); and overseeing the functions and responsibilities of design management.

‘AS2124 and AS4000 are designed for use on major building and engineering projects where a ‘superintendent’ is engaged to administer the contract. The superintendent may be an independent professional (or a firm of consultants) or an employee of the principal.’ (Sharkey et. al., 2014). Horan (2000) defines a dual role of the Superintendent; ‘(t)raditionally, the principal and the contractor will enter a construction contract where they agree that the principal will engage a superintendent: to issue directions to the contractor on behalf of the principal, as its agent, as permitted under the head construction contract to carry out the tasks of certification, assessment and valuation under the construction contract independent of the principal and the contractor.’ Similarly, the *Administration Manual* for AS 4000 -1997, (HB 140-2000) notes the dual roles; ‘Firstly, as agent of the Principal in conveying the Principal’s instructions to the Contractor and in carrying out the role of ordering changes to the Works e.g. by directing variations pursuant to Clause 40; Secondly, the Superintendent performs the function of certifier or assessor for the purpose of arriving at a reasonable measure or value of work, quantities or time.’

The reviewed literature specifies the Superintendent is a representative of the Principal who shall act ‘...reasonably and in good faith’ under AS4000, and that ‘...by virtue of this clause ...is required to act in professional manner and must not be influenced by the Employer (Principal) or the Contractor in reaching the decisions.’ (Danuri et. al., 2007) It is this imposed neutrality of the Superintendent that is critical to this research paper and will be evaluated in further detail. Given the subjective nature of impartiality, there are obvious restrictions on conclusive outcomes, however the importance of maintaining a culture of reasonable and professional relationships within contractual agreements should not be understated. ‘For future success, construction companies need to change from an adversarial culture, where blame is apportioned, to a culture of sharing. (Egbu, cited in Lloyd-Walker et. al. 2014). Further to this understanding the significance of the role enables ‘capable representatives (to) allow contractors to perform better and hence meet their expectations and satisfy their clients.’ (Soetanto & Proverbs, 2002)

2.7 Remuneration of the Superintendent

The Superintendent will either be a direct employee of, or contracted by, the Principal. Therefore, the Superintendent will be payable as an employee, or a contractor dependent on their agreed contractual arrangement. Horan (2000) notes that in previous years Superintendents were engaged simply on a letter of engagement or a standard form agreement, however as with head contracts, ‘very detailed consultancy agreements are being submitted to superintendents which effectively codify the services to be provided’. This, in effect, could further impact the Superintendent’s ability to administer fairly and impartially, as they are necessarily required to act in accordance with what has been stipulated in their contract.

The consultancy agreement, should there be one, will outline the Principal’s obligations in terms of remuneration of the contract. An example of a commonly used consultancy agreement in the Australian commercial construction industry is the standard form contract AS4122-2010.

2.8 The Process of Administering Construction Claims

A claim in its theoretical form is the perceived entitlements, be they monetary or other, of an individual or organisation, pursuant to a relevant clause under the contract to which they are engaged. For example, ‘...any additional payment, extension of time and/or damages for any alleged breach of duty by the employer or employer’s management team.’ (Aibinu et. al., 2008)

The traditional role of contract administration requires an assessor, the Superintendent, to review and decide on the submissions of the Contractor as to the validity and the rationale with respect to the specific contract. Aibinu goes on to describe that the ‘claims process may also involve negotiation between the Employer (Principal) and the Contractor. However, the matter may be referred to other forms of resolution when negotiation ends in a deadlock. This may include litigation, or alternative dispute resolution methods such as arbitration, conciliation, or mediation.’

Proper contract administration is pivotal to the success of a project and can provide all internal stakeholders with the confidence that contractual processes are being adhered to, and that submissions will be appropriately administered. Inversely, the impact of poor contract administration on behalf the superintendent can be profound in terms of generating trust in assessment of claims. ‘The creation and preservation of trust and cooperation... can unify the internal stakeholders to a positively-motivated mindset and result in an environment that is more harmonious and efficient.’ (Oxbrough & Swift, 2019)

2.9 Disputes Caused by Contract Administration

One of the definitive international dispute reports which has been running for the past nine years, is the *Arcadis Global Construction Dispute Reports*. In 2019, the report found that the overall global average value of disputes was \$33 million (US), which was down from the previous year \$43.4 million (US). Figure 5 shows the global average of disputes, in terms of value over the past decade.

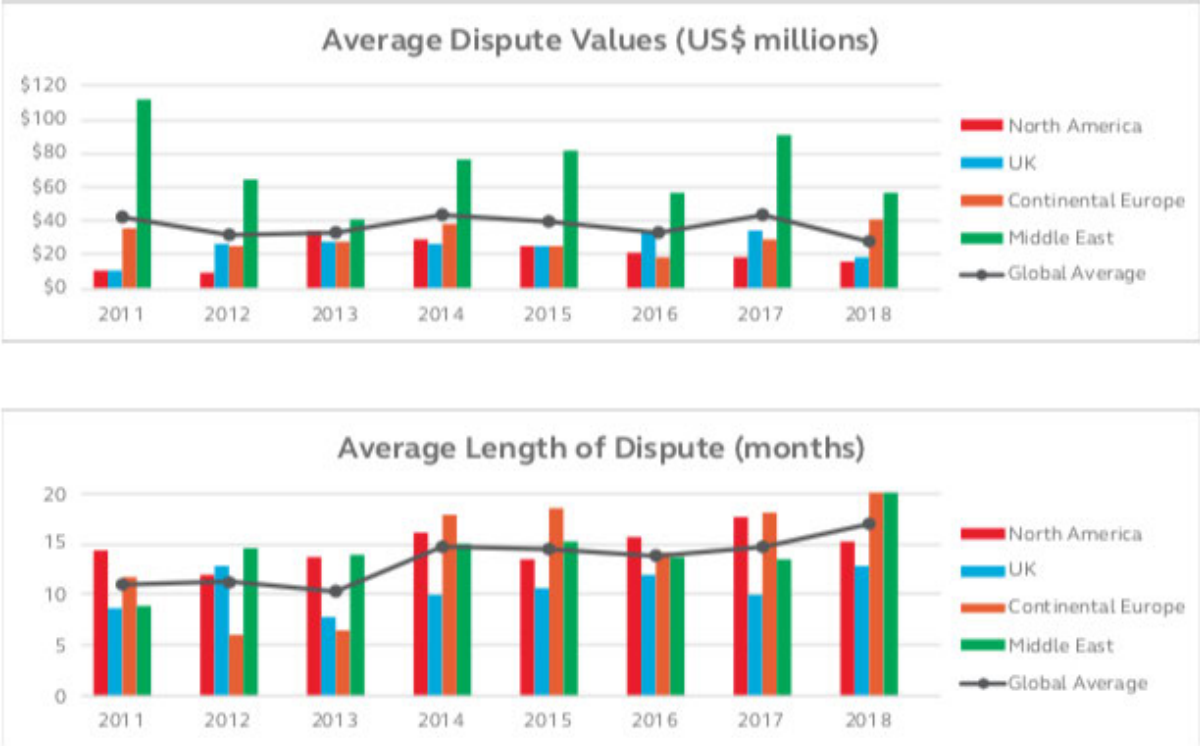


Figure 5: Average Disputes 2019 (Value and Length) Source: Arcadis, 2019

Whilst there are no significant trends in terms of value, there is evidence that the length of disputes is increasing. This significant escalation of the drawn-out processes of dispute resolution, further adds to frustration of stakeholders.

One of the key findings of this report, specifically in the United Kingdom, revealed that ‘almost two-thirds of the survey respondents stated proper contract administration would have had the single largest impact in avoiding the disputes they were involved in.’ (Arcadis, 2019) ‘Failure to properly administer the contract’ was the top cause of dispute in 2017 globally, and third most prevalent in 2018. This highlights a significant issue globally, and specifically in the UK, which has close similarities to the contract administration processes that are undertaken in Australia.

The below table ranks the top three dispute causes over the past five years, as quantified in the Arcadis Global Construction Dispute Annual Reports from 2014 - 2019.

Year	Top Three Causes of Dispute
2014	<ol style="list-style-type: none"> 1. Failure to properly administer the contract; 2. Poorly drafted or incomplete and unsubstantiated claims; 3. Errors and/or omissions in the contract documentation.
2015	<ol style="list-style-type: none"> 1. Failure to properly administer the contract; 2. Poorly drafted or incomplete and unsubstantiated claims; 3. Errors and/or omissions in the contract documentation.
2016	<ol style="list-style-type: none"> 1. Failure to properly administer the contract; 2. Poorly drafted or incomplete and unsubstantiated claims; 3. Employer/Contractor/Subcontractor failing to understand and/or comply with its contractual obligation.
2017	<ol style="list-style-type: none"> 1. Failure to properly administer the contract; 2. Errors and/or omissions in the contract documentation; 3. Owner/Contractor/Subcontractor failing to understand and/or comply with its contractual obligation.
2018	<ol style="list-style-type: none"> 1. Owner/Contractor/Subcontractor failing to understand and/or comply with its contractual obligation; 2. Errors and/or omissions in the contract documentation; 3. Failure to properly administer the contract.

Table 4: Top Three Causes of Dispute, Globally (Source: Arcadis)

As can be seen from *Table 4*, failure to properly administer the contract has appeared in the top three causes of dispute for the last five years and has been the top cause for four of the past five years. This is a significant finding and reveals that contract administration is a global concern.

2.10 Superintendent as Valuer, Assessor & Certifier

As previously mentioned, the Superintendent is, generally speaking, not a signatory to the contract, however still privy to, and plays a significant role in the implementation and administration of the agreement. As stated in *Perini*, 'the duty of both principal and contractor is 'to do all co-operative acts necessary to bring about the contractual result', and that includes not interfering with the superintendent's role as certifier, assessor and valuer. (Horan, 2000) These roles are each individual and require significant attention to the way they are carried out, particularly in the instance where the Superintendent is also the lead designer.

With respect to valuation, it may be argued that this role could be (and sometimes is) administered by a Quantity Surveyor (QS). What the QS may not gain an overall grasp upon however, is the unique idiosyncrasies of the project and the specific details of the design. Whilst a QS may be able to quickly perform a simple take-off of materials and labour, they will likely never understand the finer details in the same detail the Superintendent, particularly the lead design Superintendent, will. When a Superintendent is valuing works it is 'necessary to ensure that the works as completed are in accordance with the technical requirements of the drawings and specifications and are free of defects.' (www.mcmullun.net)

Liability to the Principal will be discussed later in the paper, however there is the potential that a Superintendent may be held liable for decisions made with respect to contractual assessments made during a project. The role of the Superintendent as certifier may encompass such assessments as; EOT's, variations, payment certificates, disputes, certificate of substantial or practical completion and many more. The role of certifier in particular requires extra attention as 'the duties of a certifier override the agency obligations the superintendent owes to the principal the principal cannot direct the superintendent how to act as a certifier.' (www.constructionlawmadeeasy.com) A common contradiction can exist in the definition of the role of Superintendent as a certifier, between what may commonly be stipulated in the construction head contract and what may commonly be stipulated in the consultancy agreement. 'For example, the superintendent may agree to act at all times as agent of the principal. This would be inconsistent with most standard form construction contracts which require that the superintendent not act as agent when acting as certifier.' (Horan, 2000) Horan goes on to note that a safeguard against any such ambiguity would be to give precedence to 'the obligation to administer the construction contract over any other obligation, to the extent of any inconsistency.'

2.11 Superintendent Fairness & Impartiality

‘In construction contracts there is (at least) an implied term that even though the Superintendent is usually appointed and paid by the Employer, the Superintendent will act fairly and independent when acting as a certifier.’ (Danuri et. al., 2007) Herein lies the conflict of which the argument is based upon. As long as the Superintendent is employed and remunerated by the Employer (Principal), there will always be the underlying commitment to favour the Principal and the residual bias will be apparent. Despite the Superintendent having ‘duties to both principal and contractor, he or she has a duty to the achievement of the contractual aim. Although the principal and the contractor are supposed to be cooperating in that achievement, in practice they are very soon evidencing their competing commercial concerns. Yet he [or she] is required to try to hold the balance between those contenders.’ (Dorter & Sharkey, 1990) Some limitations exist in relation to this statement, particularly given the commercial nature of construction contracting. Berger & Ong (2013) nominate four factors as a playing a casual role in conflicts escalating into disputes: ‘competitive tendering, lopsided risk allocation, bias of superintendent, and failure to comply with the contract,’ these will all be discussed further on in the paper. Berger & Ong go on to state that the ‘perception of bias... emanates from the dual-role of the superintendent’.

As can be seen in *Figure 6*, the superintendent has to wear two hats, as such creating a duality dilemma. One hat when acting as agent of the principal, the other when fulfilling duties as decision-maker under the contract.

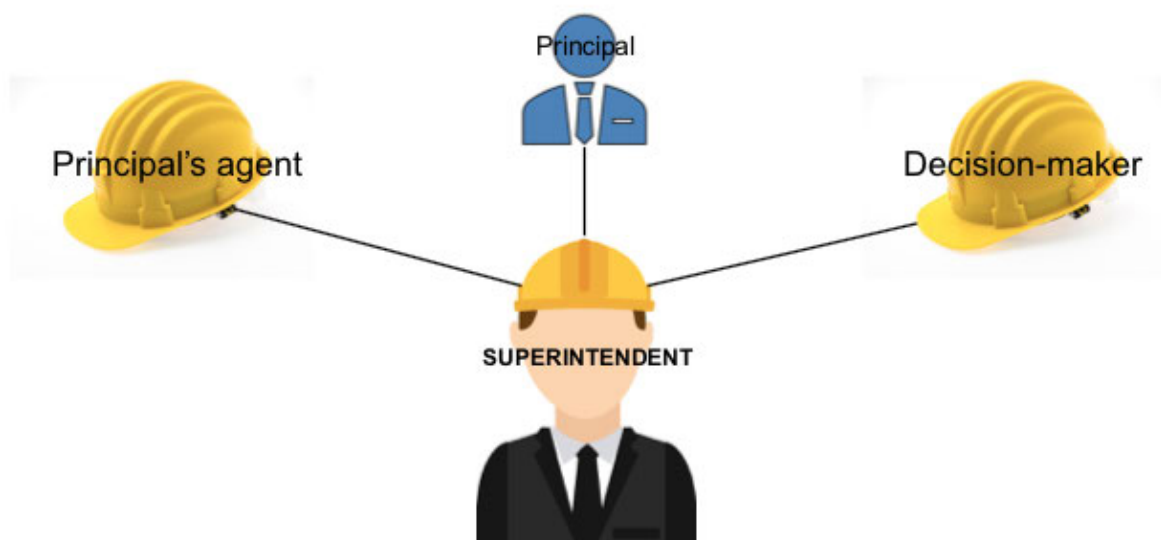


Figure 6: The Duality Dilemma (Source: Oxbrough & Swift, 2019)

Under AS2124 the ‘Principal shall ensure at all times there is a Superintendent and that in the exercise of the functions of the Superintendent under the contract, the Superintendent –

- (a) acts honestly and fairly;
- (b) acts within the time prescribed under the contract or where no time is prescribed, within a reasonable time frame; and
- (c) arrives at a reasonable measure or value of work, quantities or time.’

In AS 4000, it is the Superintendent that is required, under clause 20, to fulfil their role and functions “reasonably and in good faith”.

The express obligation of the Superintendent to fulfil his role and functions “reasonably and in good faith” had been included in the since rescinded AS 11000. Under clause 23 of the Draft AS 11000 the Superintendent was merely required to act “honestly”. (www.cglaw.com.au, 2015) However, the inclusion of the concept of expressly including Subclause 2.1 ‘Good Faith’ as defined below, creates an ‘overriding obligation on principals and contractors to act in good faith’.

The Principal and the Contractor each agree -

- (a) to act reasonably in a spirit of mutual trust and cooperation, and generally in good faith towards the other; and
- (b) that such action shall not derogate from their obligations to comply with the Contract."

The Retired Honourable Lady Justice Arden (2013) notes that ‘the trend to incorporate express good faith obligations has been interpreted as part of an attempt to move away from an adversarial approach to contract law.’

Comparatively, the HC-1 contract separates itself from the aforementioned contracts, by expressly nominating ‘that the Superintendent acts as agent of the principal only.’ (Bailey, 2018) Whilst this is clearly expressed in the HC-1 contract, in the absence of the terms, the requirement for the Superintendent to refrain from interference or bias is implied. Bailey further states that ‘it is... better to emphasise the necessity for independence and professional accuracy rather than the need for fairness’.

‘In the Policy Document submitted to the Attorney-General on Australian Contract Law by the Civil Contractors Federation (CCF) in July 2012 the CCF made some recommendations in relation to the Standards Australia AS 4000-1997 contract... (t)he provisions dealing with Superintendents are strengthened to further support the role of the Superintendent in being fair and impartial by imposing a

positive duty to do so.’ (Maritz & Putlitz, 2014) This submission by the CCF highlights the potential for, and lack of stipulation surrounding Superintendent fairness and impartiality, and the requirement for more contractual implications surrounding this contractor-perceived bias.

Perini Corporation v Commonwealth of Australia [1969] is the most relevant case law applicable to the requirement for impartiality on a Superintendent’s behalf, even if the nominated Superintendent is an employee of the Principal. The plaintiff’s (Perini Corporation) core argument was that the ‘... the Director of Works (Superintendent)... acted in a manner that was outside his mandate’

‘In summary, the Court concluded: -

1. The Director of Works was a certifier under the Contract and as such had certain duties imposed on him by the Contract;
2. The Director of Works had a discretion as to whether or not he would grant an extension of time;
3. In making his decision, the Director was entitled to consider departmental policy but would be acting wrongfully if he were to consider himself as controlled by departmental policy;
4. There was an implied term in the Contract that the Commonwealth would not interfere with the Director of Works' duties as certifier; and
5. There was an implied term of the contract that the Commonwealth would ensure that the Director of Works properly performed his duty as certifier.’ (www.mcmullan.net)

2.12 Knowledge of Contract and Construction Law

Construction contracts come in varying sizes and can have conflicting intentions. *Toll v Alphapharm Pty Ltd (2004)* has meaningful application in the construction industry, particularly in the instance Justice Byrne found that ‘...where there is no suggested vitiating element, and no claim for equitable or statutory relief, a person who signs a document which is known by that person to contain contractual terms, and to affect legal relations, is bound by those terms, and it is immaterial that the person has not read the document.’ The implication here is that regardless of an individual’s or organisation’s legal comprehension or industry-specific knowledge, once they have signed a contract, they are liable to the terms and conditions under said contract (within reason). As such, the importance of thorough investigation and comprehension of a contract prior to execution should be of the utmost importance, regardless of the perceived amicable environment that precedes issuance.

Understanding contract law would be a seemingly necessary requisite for any Superintendent, however there is evidence in research papers of Superintendents - be they architects, engineers or other – having a fundamental lack of comprehension when it comes to administering a contract. This lack of understanding can have the potential to create ambiguity on behalf of both the principal and the contractor and place the Superintendent in an awkward position when having to explain their actions or omissions to their employer. Bosch and Philips (2013) noted that education is the best form of remedy for contractual ignorance, stating that ‘students should understand the philosophy behind the regulatory regimes and develop an awareness of the complex regulation that governs the construction industry so that they are able to identify when it impacts on their activities, and ensure they are always in compliance.’ Indeed, there is evidence that all parties subject to commercial construction contracts are not as educated, as they perhaps should be.

Gerber (2009) noted the differences in the way a legal student should be taught the law, and the way a construction or engineering student should be taught. She states that ‘helping construction students to not be intimidated by law, and to come to appreciate and understand its impact on their work, is much more art than science.’ She further concludes that ‘(i)t is important that law subjects for construction and engineering students should not be designed to teach them the law, nor turn them into bush lawyers. Rather, the curriculum and pedagogy should be aimed at students developing skills that enable them to recognize when there are legal ramifications or implications to a problem, and the knowledge and skills to respond appropriately.’

Adequate comprehension and understanding of a reasonable level of contract and construction law can be crucial for the superintendent in terms of their decision making, particularly in terms of assessments

of claims. This understanding could also provide the superintendent an intrinsic confidence in their own ability that may not be limited by their hesitance to administer due to fear of contractor reprisal, particularly in times of a 'crisis'.

2.13 Superintendent Liability

‘The Superintendent is in a contractual relationship with the Proprietor (Principal) to perform his functions (all of his functions whether as agent of the Proprietor or as an assessor/certifier under the construction contract). This liability will arise, potentially, both in contract and in tort’, (www.mcmullan.net) as in *Brickhill v. Cooke* where the NSW Supreme Court, Court of Appeal ‘held that a principal could sue an engineer in tort as well as in contract.’ Along with ensuring there is at all times a Superintendent, under the AS contracts, there is the requirement for the Principal to act upon any instance of alleged contractual breaches or under-performance caused by the Superintendent. ‘Generally, the contractor and superintendent are not in a contractual relationship and therefore the superintendent has no contractual liability to the contractor’. However, as seen in *John Holland v Majorca & Bruce* the court may determine there is a perceived duty of care ‘if the contractor relies and depends upon the careful and impartial performance of the superintendent’ (www.constructionlawmadeeasy.com).

‘To the extent that the superintendent fails to perform in accordance with its duties under the contract, that liability is liable to be sheeted home to the principal, who will then have its own remedies in contract (and arguably in tort) against the superintendent for breach of its terms of engagement.’ (Mead, 1997) Given the architect’s role as a certifier Mead goes on to say that ‘under the standard contracts, there are provisions which expressly provide for a mechanism in the event that the superintendent's certificate is to be disputed.’ When deducing his decision in *John Holland v Majorca & Bruce*, Justice Byrne referenced *SW Nielsen v PVC Constructions (ACT) Pty Ltd* where it was acknowledged the builder relied upon the ‘careful and impartial performance by the architect of its certifying functions’, however went on to state ‘it is clear that the question of the rights and remedies of the builder for acts and decisions of the architect were considered by the builder an (*sic*) the proprietor... and... it is... not appropriate for me to seek to engraft upon the contractual background a tortious obligation.’

Mead & Newell (1999) infer that the Superintendent is most at risk of exposure to Principal and Contractor in its role as the certifier. Whereby ‘its determinations will have immediate economic consequences for both parties’, and despite not being party to the contract, ‘it will agree to bind itself to the obligations cast upon it under that contract’. As with the *John Holland* case, Justice Byrne considered the case of *Bryan & Maloney*, which determined that due to the proximity of the relationship between the contractor and the architect ‘that the common law recognises the existence of the duty to take reasonable care to avoid a reasonably foreseeable risk of injury to the claimant.’ (Mead & Newell, 1999)

2.14 Impact of Internal Stakeholder Relations on Project Success

The traditional adversarial relationship between internal stakeholders in a project has been widely criticised and refuted as a successful method of project management. Levin (2008) argues that ‘building projects may be initiated with time and cost budgeting, with all parties working towards a profitable outcome and with goodwill and understanding. But when the relationship breaks down and the parties fall out, they will not act sensibly.’ There is still consensus that this is the most common state evident in the industry, particularly in large commercial projects where performance of internal stakeholders is critical, and financial & reputational impacts are on the line. Larson (1997) saw this relationship as characterised by a focus on win–lose, suspicion of each other, withholding or manipulating information, ineffective problem solving, and unfair risk allocation.

This conspiratorial behaviour is unfortunately inherent in many commercial construction projects in Australia and will often result in a hindrance on the success of the project as a whole. Highlighting this behaviour was Odeh & Battaineh’s 2002 study which concluded ‘...contractors regarded contractual relationships the most important (cause of delay), while consultants considered project management issues to be the most important’. Further to this, Song et. al. (2009) discussed the potential to develop a positive relationship between internal stakeholders through early contractor involvement. Determining that not only could there be benefits from using the contractor’s specific knowledge and understanding, but through maintaining the relationship throughout the course of the project there would be heightened potential for greater understanding and co-operation between the parties. Through this understanding and via the creation and preservation of a mutual trust, ‘the interaction between a contractor and a designer will... further improve their collaboration during construction’.

2.15 Dual-role Superintendent & the Conflict of Interest

Regardless of the Superintendent's relationship with the parties to the contract, the role is inherently burdened with this conflict of interest, which becomes ever-present when the Superintendent is also responsible for the creation of the design documentation. Horan (2000) notes that '...when assessing the contractor's work, the superintendent can be faced with the dilemma of determining whether the superintendent's own design-related work may have contained inconsistencies, ambiguities or real errors, or may have been delivered in such an untimely manner as to have affected the contractor's ability to achieve practical completion within the contractual time frame.' Horan goes on to discuss the difficulty of objectivity in this situation, however, maintains that the professionalism of the Superintendent, regardless of where their financial interests lie, is paramount to preserving already tarnished industry standards.

Aside from the aforementioned design-related encounters, the Superintendent needs to play an important role in stakeholder relationship management. Due to the direct contact between the Superintendent, the Principal and the design team, and given the previously noted adversarial tendencies, there will inherently be perceived bias on behalf of the contractor. 'Paradoxically, principals can be drawn to a belief that, in granting variation claims and awarding delay costs, the superintendent may be conspiring with the contractor, especially where the superintendent's remuneration is a percentage of the contract sum.' (Horan, 2000) These circumstances of mistrust and conspiratorial behaviour are detrimental to not only the project, but potentially to the wider industry.

Precedent regarding the common dispute of a Superintendent's independence from the Principal is recognised in *Peninsula Balmain Pty Ltd v Abigroup Contractors Pty Limited* [2002] NSWCA 211. Whereby, East Asia acting as the Superintendent, engaged by Peninsula, had 'common directors and overlapping ownership', and failed to disclose this at execution of the contractual agreement with Abigroup. With reference to this agreement the referee stated: 'Whatever the actual effect might be, I would be in no doubt that a further obligation to be Peninsula's agent in all matters in relation to the design and construction of the project would tilt the balance to some extent in Peninsula's favour.' Justice McMurdo further summarised 'there is no tenable construction of [cl 35.5 as amended] by which the Superintendent could be said to be under any obligation and in particular an obligation to extend time if it would be fair to do so' (Bell, 2009)

2.16 Ethical Obligations of the Superintendent

Dependent on the professional discipline of which the Superintendent practices under, if any, each individual will be at least morally obligated to ensure their adherence to a list of both defined and implied ethical parameters which will determine their function and decision making in what can be a hostile environment. For example, under the Engineers Australia (EA) Code of Ethics, Item 1.1 – ‘Demonstrate Integrity, act on the basis of a well-informed conscience... act impartially and objectively.’ (Engineers Australia). As ‘much of the construction process is still operated and controlled by professionals who are often appointed to carry out an ‘independent’ certifying process’ (Uff, 2003), ethics still plays an integral part in the functional role of the Superintendent. As previously noted in *Section 2.8*, it is not uncommon for a contractor to believe the Superintendent is acting in an unethical matter, and while an explicit duty may not exist under the contract, the courts have determined that the obligation can exist in tort.

The function of the Superintendent to act in an ethical manner ‘plainly depends for its viability on the appointed, engineer, architect or surveyor acting in a professional and ethical manner when carrying out functions such as valuing work and determining extensions of time.’ (Uff, 2003) Ethical behaviour is increasingly essential when the design element is added to the role. Adding the emotional attachment of design and the potential for reputational impacts due to poorly executed, or under-designed documentation, to the mix places dual-role Superintendents’ under increased strain. This increased pressure can lead to individuals setting aside their ethical obligations (as they are generally not expressly outlined in any contracts), which can instigate the erosion of trust that can destroy relationships and hinder projects.

2.17 Relationship Management

As with any industry, the construction industry requires effective relationship management on behalf of all parties involved in the process. ‘Successful relationship management requires trust, commitment, cooperation, open communication, goal alignment and joint problem solving.’ (Chueng et. al., 2005) Positive and open relationships between internal stakeholders could present opportunities to harness individual talents and strengthen collective ties between contracted parties for the benefit of all. ‘The creation and preservation of trust and cooperation, particularly in large construction projects, can unify the internal stakeholders to a positively-motivated mindset and result in an environment that is more harmonious and efficient.’ (Oxbrough & Swift, 2019)

An interesting concept - which has until recently often been over-looked in the construction industry, but which has been around for some time in other industries of – is the notion of Emotional Intelligence or EI. ‘EI can be broadly defined as the knowledge and / or competencies to effectively deal with emotions to regulate social and emotional behaviors’. (Pekaar et.al, 2018; Petrides, 2011; Salovey & Mayer, 1990; Zeidner et. al., 2008) Songer and Walker (2004) further expand upon this by adding the components of inter- and intra-personal intelligence. Interpersonal intelligence being defined as ‘ability to effectively communicate with and respond to others. Whereas intrapersonal intelligence refers to the ability to understand oneself and to use such information effectively in regulating one’s life.’ These concepts will be part of the results and discussion section later on in the paper and form an important part in understanding the results. Songer and Walker concluded;

(Their) study found that General Contracting employees scored considerably lower than the general population on Interpersonal levels. This deserves considerable attention. As previously discussed, communication and interactions between project participants is important to the success of a project. Therefore, to increase the likelihood of a project being successful, project participants need to have high levels of interpersonal skills. According to this study, this is not the case for the current state of the General Contracting sector.

As is so often the case in construction projects, particularly towards the completion date, there is an urgent requirement for answers and resolutions. In a study where personality traits of engineers and architects were measured against performance in providing and administering design services, Carr et. al (2002) found that those who were most capable of delivering ‘immediate attention in a crisis’ were those who ‘would not rush to judgment and who keep the options open until all possibilities for alternative solutions were considered’. The study also concluded that the ‘greatest improvement in

performance within... construction administration of a project is in the way one is open to alternatives and the way options are thoroughly explored'

2.18 Research Gaps

There has been substantial coverage of the issue of duality in the role of the Superintendent for decades now, which begs the question as to why there has been no significant change in the way the role is undertaken. There appears to be little coverage of the topic of superintendent duality when also undertaking the role of the designer, which is also surprising given the seemingly obvious potential for conflict, and the relatively high incidence of this occurring in the Australian commercial construction industry.

Further, there seems to be very little research or evidence surrounding the decisions made by a superintendent during the course of a project and how these decisions can impact a project or a relationship. This is possibly due to the ultimate requirement for the principal to intervene should there be any ambiguity, and the lack of contractual engagement between a superintendent and a contractor. However, given the overwhelming industry engagement on the topic of superintendent duality and its potential for perceived bias, it would seem a reasonable that the literature would exist.

2.19 Summary

The above review has outlined the nature and the roles of various stakeholders that are party to a construct-only contract. The current arrangement in AS2124 & AS4000 whereby the Superintendent is also engaged as the lead designer clearly displays an inherent conflict of interest, which could easily manifest into creation of an adversarial, and as a result, an unfavourable project outcome.

The above gives strength to the argument that the engagement of a third-party Superintendent would benefit the outcome of a project. Whilst the residual conflict of the Superintendent being financially remunerated for services by the Principal will remain, the possibility that Superintendent decision-making being influenced by the emotional and reputational connection to the design is mitigated. Whilst the definition, and implications of what is required of the Superintendent under the standard contract forms exist, and are quite consistent, there is a clear gap in the literature in the specific case of the lead designer also acting as Superintendent.

It is irrefutable there is the potential for a conflict when the architect is also engaged to administer and assess possible shortfalls and omissions in their own documentation, there is no known data which might suggest that this has caused significant impact to the industry. There is however, an inherent conflict in all Superintendents who may be engaged by, or even an employee of, the Principal. This role will continue to create the potential for an adversarial relationship within the internal stakeholders to a construction contract. Further, and maybe more importantly, is the role that the Superintendent plays in public works contracts. There is a clear requirement for impartiality beyond what has been stipulated or implied in the current suite of Standard Form contracts. The argument remains that whilst the Superintendent in any contract is employed and remunerated by the Principal, the potential for a conflict of interest will exist.

The only conceivable in the private commercial industry solution is that of Superintendent remuneration from an external, public entity for projects over a certain sum, and of a certain nature. This will eliminate conflicts of personal and entity interests, and also mitigate any potential reputational influences for Superintendents who have been party to the design. The only residual conflict that may remain would be individual and possibly historical, which comes with the emotional element of contract administration.

With respect to the public industry the solution is paradoxical to the above, through the engagement of a totally independent private consultancy, who is equal parts funded by both the Principal and the contractor as a portion of the contract sum, and for contracts over a certain amount only. Similarly, this mitigates the conflict with only the residual, individual bias remaining. Frequent and recurring auditing

will ensure the public interest is maintained, and contractors who enter into government funded projects are assured a fair and impartial outcome.

The wider effects of mitigating these potential conflicts revolve around creating a more harmonious, and less adversarial environment in the construction industry. It is naïve to deny that much of the incongruity that is part-and-parcel with daily interactions in the commercial construction is influenced by the perceived bias of the assessing parties. The creation of an ‘us versus them’ mentality adds to what is already an under-performing, and relatively inefficient industry that requires major improvement across many areas. In many ways the existential survival of the industry which potentially risks total automation of construction methods, depends on the increased efficiency and quality on the whole. As investors and governments search for more cost-effective measures in order to create more infrastructure and development, any changes which provide increased efficiency need to be implemented and adapted without considerable delay.

3 Methodology

3.1 Overview

The information collection process is outlined in *Figure 7*. Supporting evidence for the research will be gathered through various methods of data collection, as follows:

- Student created questionnaire to be issued to a minimum of 15 industry representatives, with relevant experience in the topic scenario, of the following internal stakeholder groups:
 - Head Contractors (Builders);
 - Architects (Superintendents);
 - Consultants (Engineers etc.);
 - Principals.
- Retrieve, collate and analyse information from respondents;
- Using the above information, in conjunction with literature review, provide suggestions for ways to improve internal stakeholders' relations, mitigate risk of delays and unnecessary expenditure due to potential conflict of interest, and highlight the necessity for change within the Standard forms, if any.

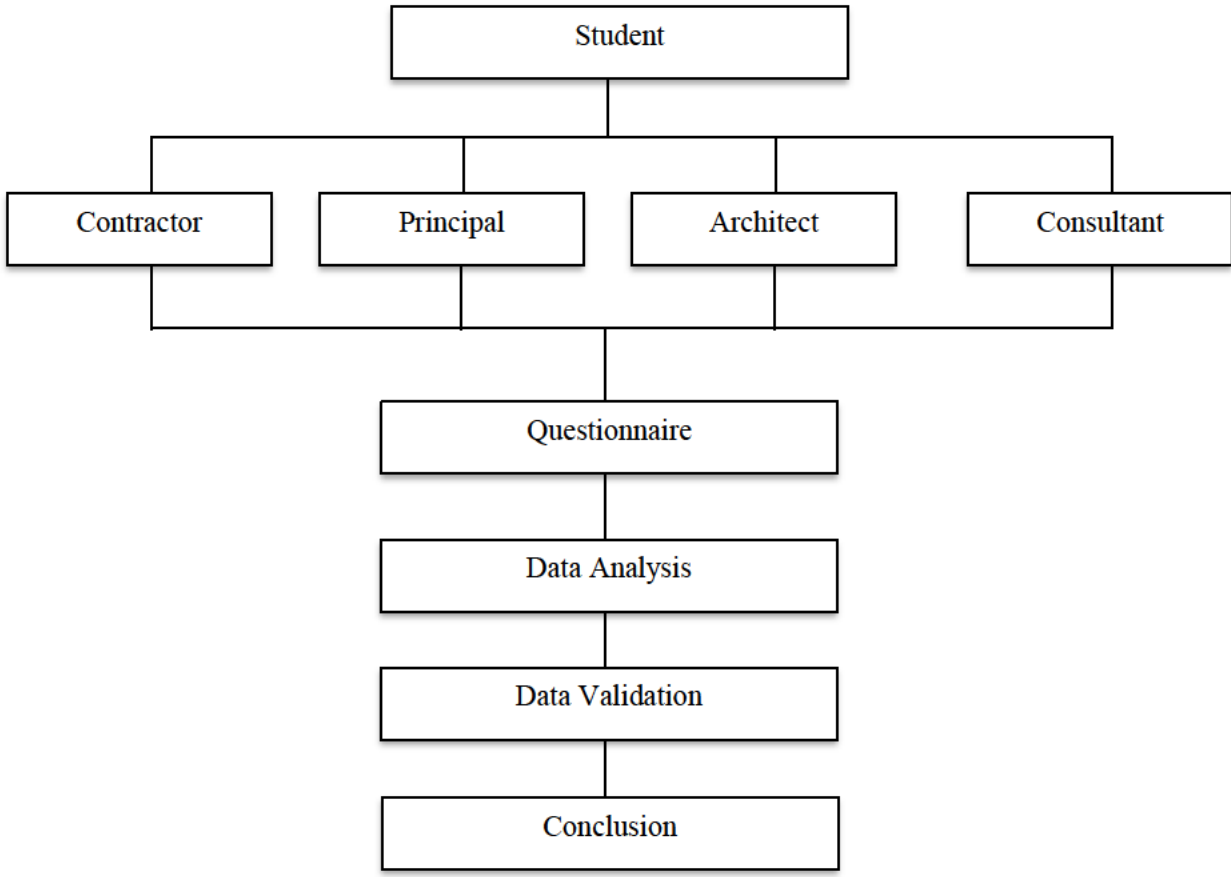


Figure 7: Information Collection Paradigm

3.1.1 Data collected from Questionnaire

The initial section of the questionnaire will gain demographic information of the respondents, i.e. industry, experience, field of work etc. This information will be used to group respondents into categories to ensure bias is taken into account and provide further evaluation on an industry-specific basis.

The proceeding section will encompass questions asked of the individual respondents' experiences specific to the role of the superintendent, who is also undertaking design. These questions will be formative of the conclusions drawn in the paper and will be used to gauge the industry's stance on the way the current superintendent contractual arrangements are carried out, if there is indeed a requirement for change.

The specific responses required in the questionnaire will be posed using the Likert scale drop box, enabling respondents to rate their response in relation to a question using a five-option drop-box, for example:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

The options for response will vary depending on the type of question, however the premise of the five-option drop-box will remain the same throughout.

There are other multiple option questions, which will ask the respondent to rate their experiences of certain scenarios out of five. The use of 'multiple choice grid', as shown in *Figure 7*, will be used for questions which require the respondent to quantify answers based on pre-determined criteria.

* What has been the approximate value of these projects?				
	<\$1 million	\$1 million - \$5 million	\$5 million - \$20 million	>\$20 million
0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1 - 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6+	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 8: Multiple Choice Grid

The penultimate section will propose a remedy to the conflict, should it exist, and gain an understanding of the respondents' position in terms of the author-created recommendations. The section will also try to understand if the author's proposal is viable, and in particular, what sections of the industry would be willing to implement these proposed changes, if any.

A final section will allow the respondents to provide insight into their relevant experiences of the research specific scenario, which will aid in supporting the final recommendations. Further allocation will be provided for respondents to make 'general comments' in relation to the research and provide their understanding into how the standard contracts can be improved, or steps which can be taken in order to mitigate any potential conflict of interest.

3.1.2 Advantages and Disadvantages of Questionnaire Surveys

Questionnaires can be a good way to extract information on topics which may usually be treated as confidential by individuals not wishing to incur any reputational or relational damage. As such, the questionnaire respondent can remain anonymous which can invoke a greater level of sincerity. By contrast, the anonymity of an individual respondent can impact credibility of responses received and impact the overall integrity of the survey.

As this questionnaire predominantly asks respondents to select pre-filled answers, the validity of the questionnaire responses can be inaccurate due to the potential for respondents to rush or apply undermined thought processes to the relevant question. On the other hand, this pre-determined response list will provide definite results which are more readily able to be quantified and provide a relatively accurate picture of the overall results.

As with any survey, the results are dependent on the respondents' individual interpretation of the questions posed. Using appropriate language, and removing ambiguity from the questions will be challenging, particularly given the different professional backgrounds of the respondents and their reaction of certain questions which may be perceived as biased. Further to this, when '...the intention is to examine differences between subgroups in a sample, studies have shown that people tend to give answers to questionnaires more according to a social norm than to the actual situation' (Sjöström & Holst, 2009) and this poses as an unanticipated, but accepted risk to the validity of the results.

The questionnaire survey is a tried and tested method of gauging a section of collective respondents and quantifying opinions and experiences into data. In terms of cost-effectiveness and time-efficiency, the questionnaire is most appropriate for this paper as it engages respondents on a level that does not come with additional costs and will not require extensive time spent on completion of the survey.

3.1.3 Selection of Respondents

Targeted respondents have been drawn from the authors personal contacts, and their wider industry contacts. This is a limited pool of contacts and is likely to be heavily biased in terms of people from the same vocational background i.e., contracting. To mitigate the impact of this, the author has approached the Society of Construction Law Australia (SOCLA) to place on social media, and SOCLA kindly accepted the request (See Figure 9).



Figure 9: SOCLA Social Media Screenshot

3.1.4 Validation of Results

Final data analysis will be based on the implementation of a Relative Importance Index (RII), which will RII ‘aid in finding the contribution a particular variable makes to the prediction of a criterion variable both by itself and in combination with other predictor variables.’ (Johnson & LeBreton, 2004) In the calculation of the Relative Importance Index (RII), the formula below will be used:

$$\text{Relative Importance Index (RII) \%} = \frac{\sum W}{A * N}$$

Where, W—weighting given to each statement by the respondents and ranges from 1 to 5; A—Higher response integer (5); and N—total number of respondents. (Badu et. al., 2013)

A number of graphs and tables will be used to visually represent the results of the survey. Questions will be grouped, as previously referenced, and the analysis will be apportioned in the same framework. The analysis of the questionnaire survey and the validity of the results will be supporting the conclusions drawn in the paper.

4 Results and Discussions

4.1 Introduction

The final section of this paper outlines the data as collected in the survey and analyses the sample to understand the relative industry position on the questions raised. Results of this will be quantified in a simple table for readability, and a portion of the conclusion drawn will be from this sample. Further conclusions will be drawn based on the authors research and learnings. Lastly, the paper will itemise strategies and draw conclusions on the current state of contractual implications of engaging the Superintendent as a lead designer on a construct-only contract by assessing the impact this may have on the project and industry at large. Recommendations will be made on the current Australian Standard contracts (AS2124 & AS4000), and how these definitions can be amended to reflect previously discussed industry opinion. Finally, the paper will propose a new role entirely, which apportions separate roles for an additional contractual party; namely an independent assessor.

4.2 Questionnaire Survey Discussion

The targeted respondents for this survey were broken down into four categories:

1. Contractors;
2. Consultants, i.e. architects, engineers etc.;
3. Principals / Client;
4. Other.

To gain an understanding of bias on the part of the individual and in turn the collective, it was necessary to understand their vocation. Further, this question is important to gain insight into sample-size industry opinion and in order to gauge bias across these different industry representatives.

4.3 Questionnaire Survey Results

4.3.1 Number of Respondents

The overall number of respondents was 49, however of that number 18 respondents did not complete the survey.

4.3.2 Industry Representation of Respondents

The first question asked the respondent to advise which area of the commercial construction industry they work in. The results for this section of the questionnaire were weighted heavily to contractors. The proportion of the respondents is shown below in *Figure 10*.

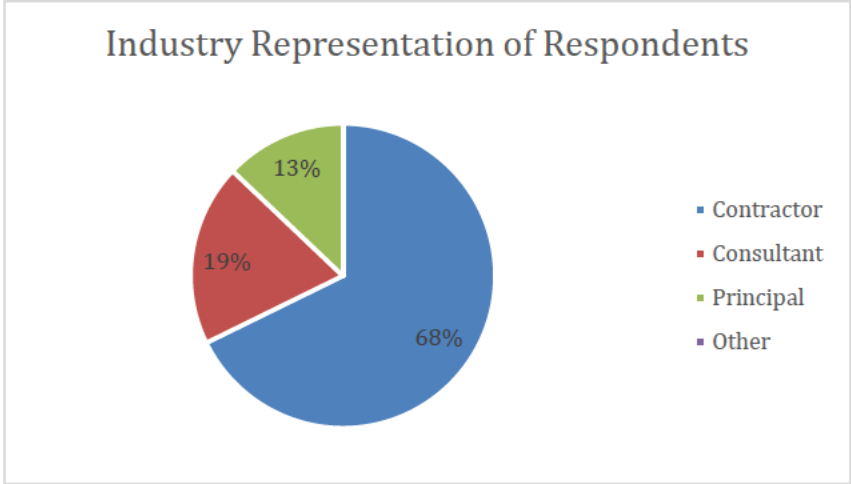


Figure 10: Industry Representation of Respondents

4.3.3 Length of Time Working in the Commercial Construction Industry

Question 2 asked the respondent to advise how long they had been working in the industry. It was hoped this question could extract information in order to understand the different opinions the individuals had regarding the current superintendent arrangement in line with their experience in the industry. Further, it is important to have a broad coverage of the respondents in terms of their experience in the industry. *Figure 11* shows that the majority of the respondents had worked in the industry for more than 11 years.

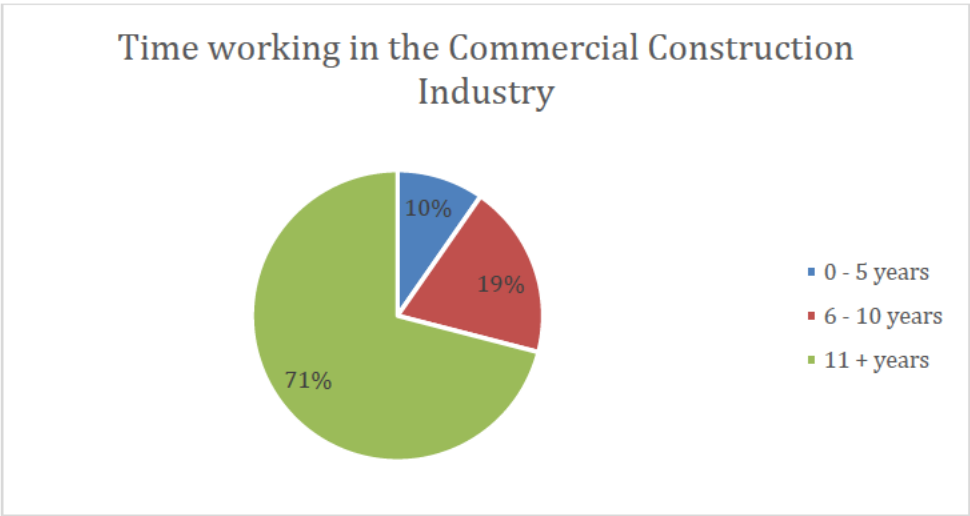


Figure 11: Respondent Time Working in the Industry

4.3.4 Involvement and Value of Projects Responses

Question 3 – 5 gathered information on whether the respondent had been involved in construct only projects using AS 2124 &/or AS 4000, and what the value of those projects were. Naturally, 100% of the 31 completed responses had been involved in construct only on Australian Standard - standard form contracts. Of those 31, only 23% of respondents had not been involved on a construct only project where the superintendent is also the lead designer, see *Figure 12*. Question 4 also quantified the number of projects the respondent had been on which were administered by the lead designer.

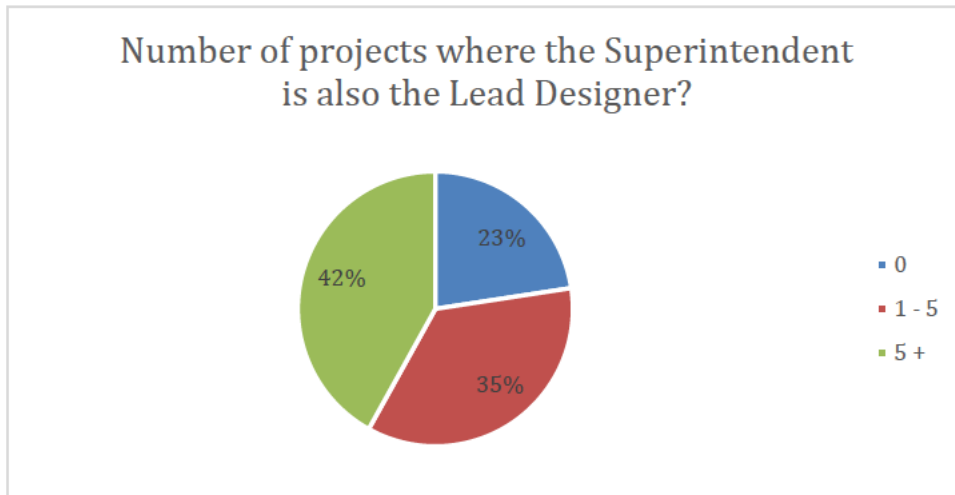


Figure 12: Number of Projects Where the Superintendent is Also Lead Designer

Question 5 gauged the value of the projects the respondents had worked on in order to understand the size of the projects which these contractual arrangements are being implemented. *Figure 13* shows the quantification of these responses in the form of a column graph. This graph does not show any clear preference in the industry to use this type of contractual arrangement dependent on the value of the project. However, there is some evidence that this type of contractual arrangement is less likely to occur when the value is less than \$1 million.

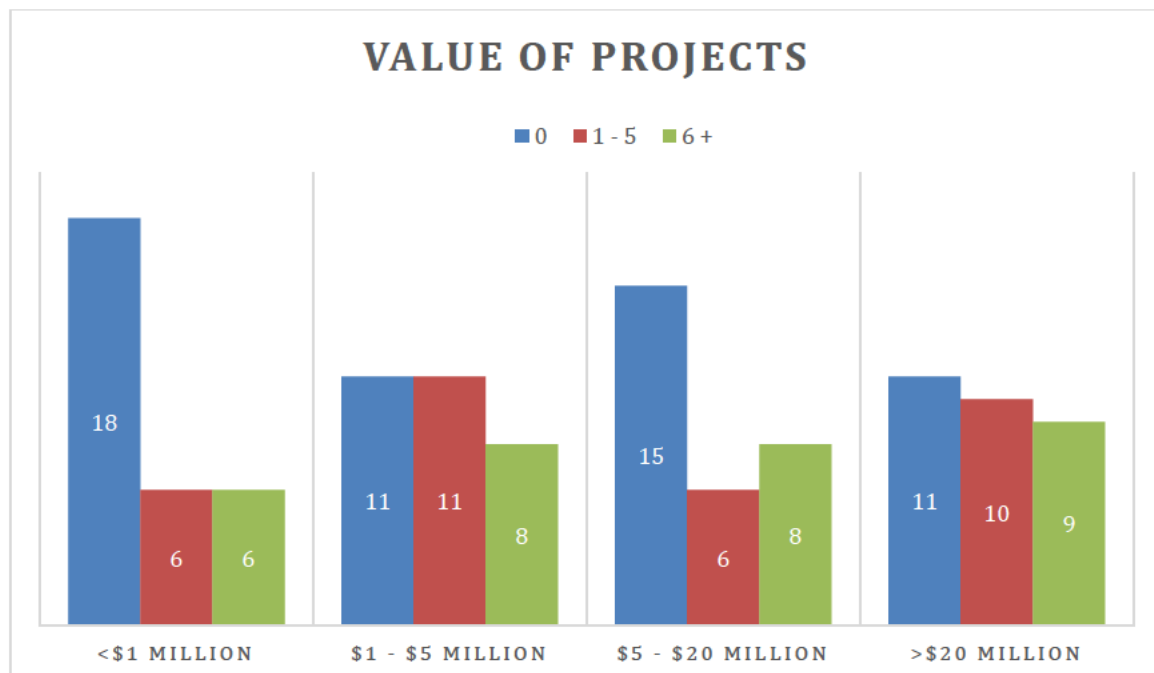


Figure 13: Value of Projects

4.3.5 Nature of the Contractual Arrangement Responses

Question 6 asked the more broader opinion question of whether the respondent believed that this type of contractual arrangement had a generally positive outcome. *Table 5 (1.1)* showed that in the majority of cases the respondents linked this type of contractual arrangement with the overall success of the project or projects with relatively strong feedback of 70% in terms of RII. When asked about the perceived adversarial nature of the project, respondents showed a slightly weaker response of 65%. Whilst this number is still high - given the commercial construction industry's reputation as a combative and competitive environment - it could be viewed as a positive, or at least passive indicator given the neutrality of many of the respondents.

4.3.6 Stakeholder Impact on the Project Responses

Question 8 was broken down into four sub-questions and asked the respondent to give a value to the perceived impact a stakeholder may have on the project overall. The results can be seen in four subsections of section 2 on *Table 5*. Given the majority of the respondents were involved in contractor, it is perhaps not a surprise that design issues are rated significantly higher (79%) than the other possible sources. However, there is evidence in research that these numbers may be skewed towards the higher number regardless due to a number of factors. When researching the impact of early contract involvement in design, Song et. al. (2009) noted that 'compared to designers and owners, contractors have a higher level of construction expertise because of their specialized training, in-depth knowledge of construction materials, methods, and local practice.'

Rated at 69% RII was the impact the principal has on the outcome of a project, again this could be considered as unsurprising given the heavy bias towards contractors in terms of respondents. In a 2002 survey completed in the UK titled 'Modelling the Satisfaction of Contractors: The Impact of Client Performance', Soetanto & Proverbs concluded that 'the further the distance between the client's head office and the project, the higher the contractors' satisfaction levels.' Postulating that 'perhaps, there is a greater tendency for the client to interfere and disrupt day-to-day progress when located close to the project, thereby impacting contractor performance'.

4.3.7 Superintendent Assessment under AS Standard Form Contracts Responses

The proceeding questions discussed Superintendent fairness when assessing contractor variations and EOT claims, respectively. Both questions were responded to with approximately median impartiality, revealing that individual respondents generally believe that superintendent's, in their experience, are deliberating in a satisfactory fashion. Given the respondents were largely from contractors, this is somewhat surprising. This should be an area that could be targeted for significant improvements, particularly as these assessments often mean the difference between a successful project, and an unsuccessful project.

Following on from this was a question regarding the superintendents understanding of relevant legislation and overall contractual comprehension. The result here was heavily skewed to the negative, with nearly 60% of the respondents revealing that they disagree that superintendents have enough contractual understanding. This is a concerning result and highlights an area for reform if contracts are to be administered under the same arrangement as before. When broken down by industry representation of the respondents (*see Figure 14*), the chart reveals the trends in the results. Whilst the contractors' responses are generally concentrated between the neutral and disagree perspective for all three questions, there is a stronger view of negativity when responding to the superintendents perceived contract knowledge.

Conversely, the Principal's view of the superintendent is that of a more positive notion, particularly in terms of impartiality of assessments. The chart does show a negative swing when looking at the contractual knowledge of the superintendent, however the mean response still sits above the neutral line.

The consultants' responses are more inconsistent and show no real favour to either side of the argument, this is perhaps not surprising given their position as a stakeholder on a project is often a conduit between contractor and superintendent. Their response, as with the others, dips down into the negative when asked about contractual understanding, revealing a worrying trend across all three types of respondents.

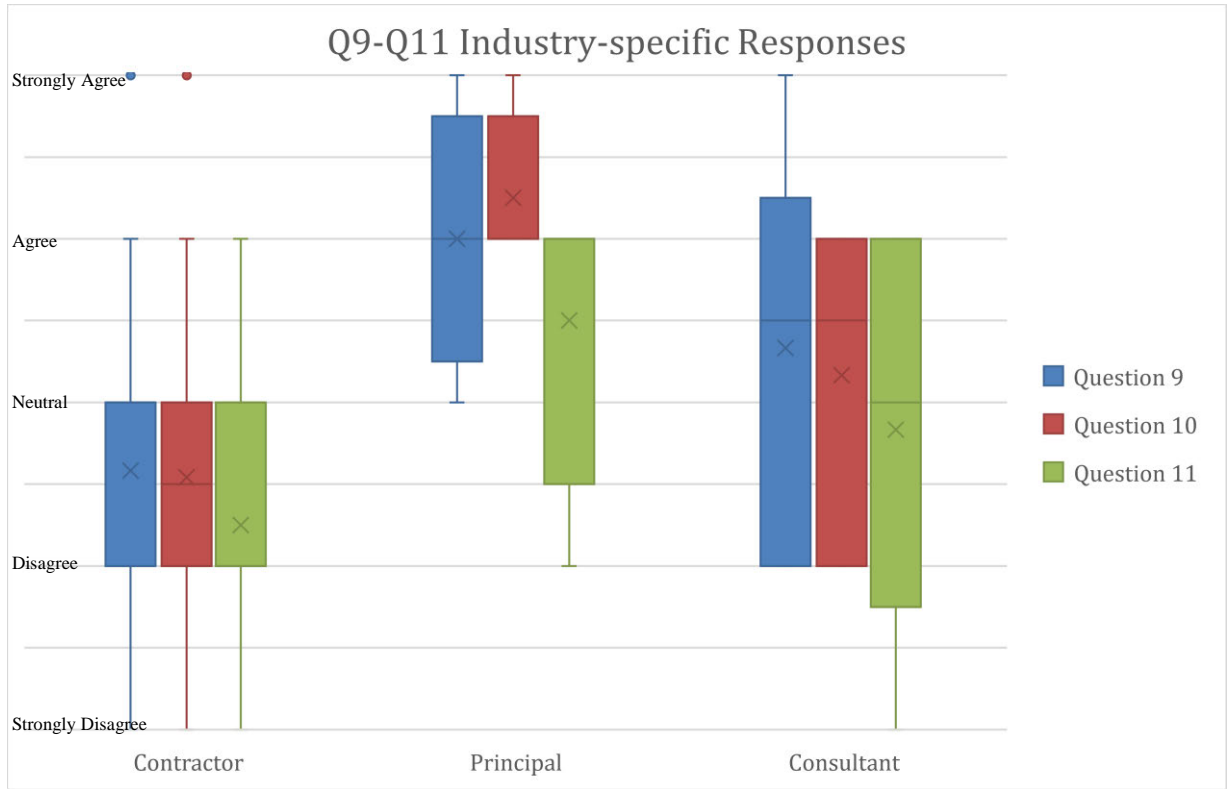


Figure 14: Industry Specific Responses to Q9 - Q11

4.3.8 Current Definition under AS Contracts and Proposed Alternative Responses

The final three questions were included to gauge the respondents on the current definition of the superintendent’s role under an unamended AS2124 or AS4000, and to understand if there would be interest for some proposed changes to the role, namely an introduction of a third-party independent assessor; and for the assessor to be equally remunerated by both principal and contractor.

Figure 15 (4.1) reveals that the overall perception of respondents was that there is not enough definition in either current AS standard forms for ‘fairness and impartiality’. This could indicate that the respondents believe that the wording in the contracts is too lenient, or that the ramifications - for the superintendent to behave contrary to the intention of the contract - are too slight.

When introducing the notion of the ‘third-party superintendent’ there was a significantly positive response revealing a genuine desire of most respondents for some amendments to the standard forms. Figure 15 (4.2) shows an overwhelmingly agreeable response to the proposal. The concept of equal remuneration was met with slightly less positivity; however, the response was still agreeable overall. The results show that the idea *could* be agreed upon provided the conditions upon which the remuneration was suitable. The reluctance to the idea is understandable, and further work will be discussed later in the paper, however this positive trend shown in Figure 15 (4.3) reveals an appetite for the amendment in the standard form.

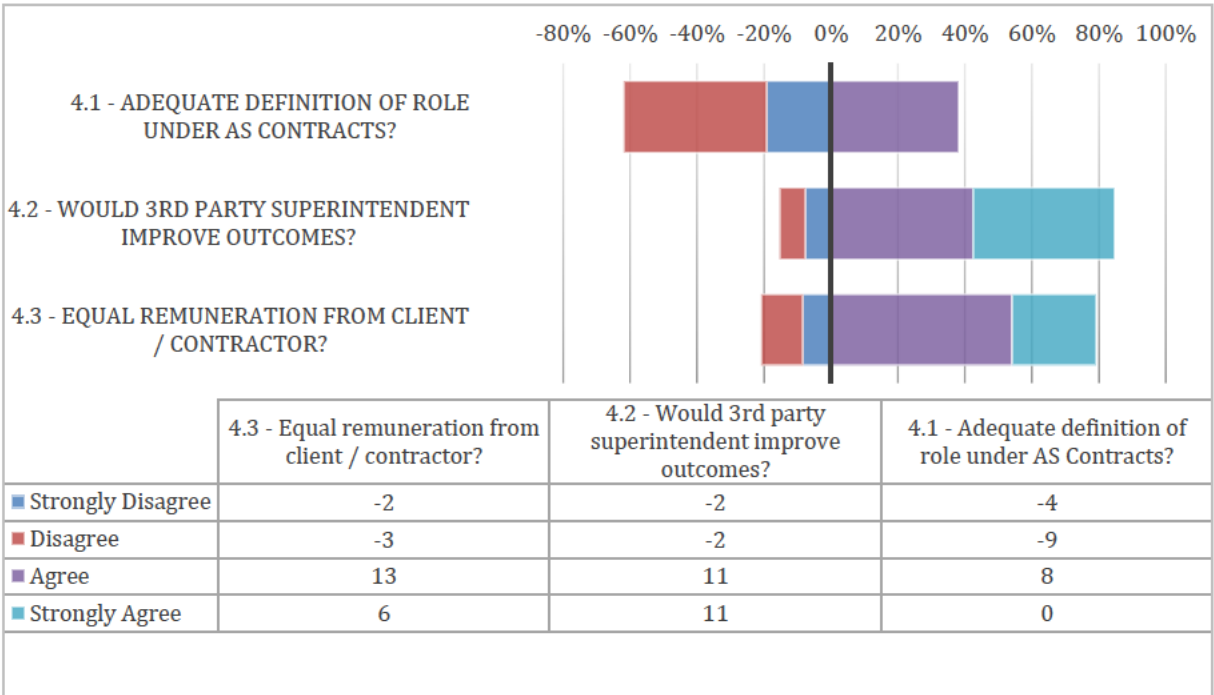


Figure 15: Bar Graph and Table of Responses to Q12 - Q14

When these responses were broken down by industry representation the results were mixed, as seen in *Figure 15*. Regarding the definition of the role under AS contracts, the mean response for contractors was negatively skewed. The principal and consultant respondents tended slightly towards agreeing, however this was only marginal, and the largely neutral responses were perhaps due to the conflicting nature of the role, and the position of the respondents who are so often caught between superintendent and contractor management.

Positively, the overwhelming response remained positive with regard to the third-party superintendent role across the board. This was most prevalent in the principal's responses, with the mean response between agree and strongly agree, with a single outlier as neutral. The consultant response was slightly more reticent with outliers of both extremes, whilst the contractors were largely approving with only a single outlier strongly disagreeing with the concept.

Finally, with regards to the question of equal remuneration, the strongest response came from the consultant respondents. All consultant responses were either neutral or better, whilst the principals took a more conservative approach to this idea and the mean response showing a 50/50 split between the respondents. The contractor's responses were mixed, with outliers towards either extreme, with their mean response hovering slightly more agreeable than neutral. (*See Figure 16*)

One of the more interesting comments was submitted by a contractor who strongly disagreed both with the concept of the third-party superintendent and the contractor / client equal remuneration. There is "...no point having the contractor pay equal half of a third-party superintendent when the client actually pays the contractor for that in the prelim(inaries). Having a third party superintendent will not solve the issues of unfair bias in assessments relating to the poor standard of documentation and design we deal with, any third party superintendent will still be fearfull (*sic*) of retribution by the other Architect, when the shoe is on the other foot on the next project. You need a completely separate superintendent body to eliminate the current unfair judgements prevalent in the industry. Nothing else will fix the conflict of interest."

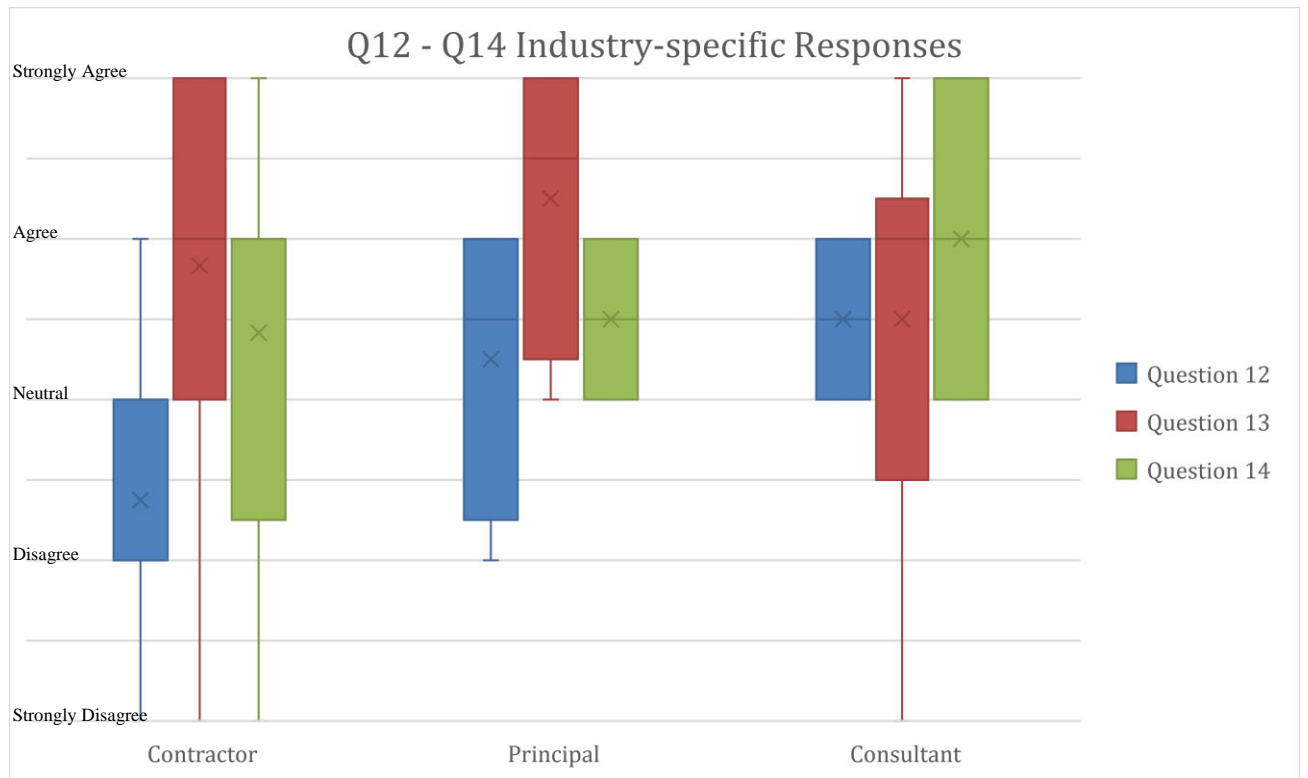


Figure 16: Industry Specific Responses to Q12 - Q14

Survey Questionnaire – Relative Importance Index (RII)						
	Response Frequency					RII (%)
	1	2	3	4	5	
1 - Nature of the project						
1.1 - Overall, would you say these project/s was/were a success?	0	4	9	17	1	70
1.2 - How adversarial have you found these projects to be?	2	4	11	12	2	65
2 – Stakeholder Impact on the outcome of the project						
2.1 - Design related	0	0	11	11	9	79
2.2 - Principal related	1	3	12	11	4	69
2.3 - Contractor related	2	5	14	7	3	63
2.4 - External factors	7	9	10	5	0	48
3 - Superintendent assessment						
3.1 - Fairness and impartiality when assessing variations	3	7	11	7	3	60
3.2 - Fairness and impartiality when assessing extensions of time claims	4	8	7	10	2	59
3.3 - Contractual knowledge and understanding	5	13	4	9	0	51
4 – Current role of the superintendent under AS Standard form contracts						
4.1 – Is there adequate definition under AS contracts for fairness and impartiality?	4	9	10	8	0	54
4.2 – Do you think the engagement of a third-party Superintendent would improve the outcome of these types of construct only projects?	2	2	5	11	11	77
4.3 - Would you agree with the third-party superintendent being remunerated by the contractor and the client, equally?	2	3	7	13	6	72

Table 5: RII Table of Responses

5 Recommendations and Limitations

5.1 Introduction

This section aims to compile and rationalise the recommendations and limitations resultant from the research entailed in this paper. The recommendations made intend to mitigate cost impacts as a result of disputes arising from decisions made by the Superintendent, or other similar contract administrators, in all forms of construction contracting where the duality exists. The possible result of this reduction in disputation is a better and more harmonious project environment, which aims to reduce cost and delay impacts which are a scourge on the industry.

5.2 Achievements

Generally, the research undertaken has aimed to fulfil the obligations as expressed in *Section 1.3*. For the most part, these objectives have been met and the final portion of the paper should provide satisfaction of all the objectives.

The Questionnaire Survey provided a wide array of results from different representatives of the industry. One of the disappointing results was the types of respondents involved, and the lack of equitable coverage from across the board. There are obvious limitations with this type of response, this will be discussed in the corresponding section, however this bias towards the contractors' perspective of the research is evident. The survey was conducted over a period of two weeks, which with hindsight, should perhaps have been extended to a month or more. This was partially due to lack of foresight and a thorough understanding of the ethical requirements for conducting a survey of this nature.

One of the major achievements of this paper has been in the response of people, informally and formally but outside of this paper. Co-authoring a paper on a topic similar to this at the Society of Construction Law Australia's National Conference in August, including giving a 25-minute presentation in front of some of the industry's most knowledgeable construction law practitioners and academics, was certainly one of the highlights of my academic-professional career. The response from many of the individuals involved at that conference was almost uniformly in agreement with the proposal, and this has provided an appetite to complete further works on this subject in the future.

Touching on a topic that has been so heavily researched, and yet has shown so little change in the past decades – whilst the industry has been subject to major overhauls across the board – creates a form of false economy in terms of genuine prospect for reform. The role of the superintendent, or similar, is a construction staple and has been around, some claim, for over 400 years. There is an inclination for complacency in this area, and despite the apparent majority willing to change, it seems unlikely to occur any time soon.

5.3 Limitations

This section will provide an undertaking on some of the shortcomings of the research, in line with the research objectives noted in *Section 1.3*, and will be the precursor to the next section, Further Work.

One of the major limitations to this project, and projects of this nature, is information which is held by organisations as ‘commercial-in-confidence’. This retention of information is understandable however it makes it difficult to learn from the past as a collective industry, and those lessons remain ‘in-house’. This limitation was foreseeable to some extent, however there was an expectation that industry representatives may have been more forthcoming with information – even if it remained anonymous and undefined. This was not the case however, and perhaps this is unsurprising given the current environment in which the commercial construction world functions in.

Another limitation was access to human resources in terms of variety of sources, particularly in relation to consultants and principals. Again, there were commercial restrictions in this instance which made individuals reluctant to respond to the survey, regardless of the fact the responses were anonymous. This was always a risk to the project that was hoped to be mitigated through the anonymity of the respondent, however this wasn’t fully realised, and the quantity of respondents was weaker than anticipated. Added to this, there is a reluctance for individuals to complete surveys of this nature due to lack of interest in the topic or being ‘too busy’. In an attempt to mitigate this potential indifference, the survey was kept short (approximately 5 – 10 minutes, 15 questions). It is noted that of 54 respondents who started the survey, 21 did not complete (*see Appendix C*). This may be due to the fact that they had not worked on a project of this nature, and therefore were asked not to complete, or for other indeterminate reasons.

5.4 Further Works

The works completed in this research provides a solid foundation for what is necessarily requires a major overhaul in the industry. More comprehensive industry opinion should be gained by undertaking a more detailed survey, with a larger respondent group with greater industry representation by the various stakeholders. This may require an industry body to take on the idea, and broadcast this over the various channels to gain access to a wider, more engaged participants. The support of an industry body would also provide much needed credibility to the research and provoke conversation about an important issue in the industry. Noting this, there are consistent indications that there is a conflict of interest with regard to the engagement of the superintendent and their contractual obligations, particularly in the instance of a construct only contract where the superintendent is also the lead designer.

Provided the right opportunities, there is additional scope to consider case studies of various relevant projects, however there would be significant limitations with regards to private entity's and commercial-in-confidence. The study required to attain information regarding the impact of decision-making by the superintendent would be most appropriately undertaken by a government body, where there may be a residual commitment for transparency between contracted parties. Further limitations to take case studies are in relation to the idiosyncrasies of each project which can largely not be reflected on paper. An example of this is in reference to variations and extension of time claims - and the various impacts of stakeholders and the broader environment can impact on the project. Types of variations and consequent extensions of time claims can be totally unrelated to design discrepancies (which can be a major cause of disputation), and as such, measuring these claims would not be relevant. The information provided in the case study would need to be specified to the impact of the superintendent decision-making of variation and EOT claims made by the contractor specifically with regard to errors or omissions in design. This becomes a very niche subject and would require definitive parameters to be set prior to the commencement of the research. The study would still provide important research and the information deduced could perhaps be used in tailoring the commonly used standard form contracts in order to create and maintain a level of equitable treatment by the administering body in construct only commercial contracts.

A consideration that was not given in this research is the potential impact of the inclusion of time bars, or deadlines, for contractual submissions and assessments. There should be consideration as to the addition of these to the standard form contract to create an additional element of accountability for contracted parties. The inclusion of this element could have the potential to improve stakeholder relations by the removal of the payments 'on credit'. This is where the Head Contract Variation has not

been approved, however the claim has been assessed and paid for. Many contractors see this as a 'pay when paid' arrangement, which would be an illegal action between contractor and subcontractors. Further, and perhaps more importantly, this function requires both parties to be prompt and decisive with submissions and assessments. On larger projects the consequences of this mean that intellectual knowledge regarding specific claims are not lost due to turnover of staff (as can often occur), and that the substantiation of a claim is fully traceable. Consideration would need to be given to the increased administration of this contractual inclusion, however systematic procedures and itemised proformas included in the head contract, as seen in the Defence suite and GC21 contracts, would reduce labourious submissions and ensure consistency in claims.

There is certainly scope for further works in the area of proper administration of contract. As revealed in the Arcadis report mentioned in *Section 2.9*, this is a global issue and one that causes significant disputation in the industry. Inclusion of Australia in this report would provide a more comprehensive understanding of the impact of poor contract administration in the country and provide a solid foundation for further works. Throughout this study it has become evident that contract administering individuals and their body's need further education, and all parties involved in commercial contracting require greater knowledge around the implications of their actions and omissions. There are other contributing factors to this, such as; contractor submission & substantiation of claims, and stakeholder understanding of contractual obligations, however, these would be considered outside the scope of this research.

Whilst this research focused predominantly on the AS construct only contracts, there is real potential for more analysis between other forms of contracts. In particular, there appears to be genuine attempts at contractual mitigation of disputes and conflicts in the GC21 and ABIC MW contracts. The GC21 contract in particular encourages stronger contractor participation in design and construction by removing the parameters which can be exploited through the construct-only requisite of a contract. Whilst the ABIC suite has fundamentally the same conflict in the superintendent's role, there is evidence of reduced disputes and this is something that needs to be explored further to understand the reasons why this is the case.

5.5 Recommendations

The formative recommendation to come from this research, is the division of the role of the administration of the contract - between a principal's representative, and an independent assessor, as proposed in Oxbrough & Swift (2019).

The principal's representative would likely be an employee of the principal, and it is proposed they would be of an engineering, project management or quantity surveying background. Their functions under the contract would be limited to objective assessments such as issuing superintendent directions, ensuring contractors contractual obligations are being met, representing the principals best interests and their certification functions would be limited to the issuance of the certificate of practical completion after ensuring all obligations have been fulfilled to the satisfaction of the principal. The reduction in assessing function (compared to that of the traditional superintendent), it is proposed, would consequently reduce disputes arising from assessments.

'The role (of the independent assessor) would necessarily be detached from the design and its management, eliminating emotional attachment to the project. The benefits of this detachment from the design stem from the assessor's 'observer' status; they will not be weighed down by the rigmarole of everyday project life. (Oxbrough & Swift, 2019) The proposal of the independent assessor prior to contract execution by the Contractor would create certain accountability and sense of equity at the inception of the project. On the surface, this may be considered as a type of *quasi*- effect, however the author, and the majority of respondents believe that there could be considerable benefits to these types of projects. Any potential conflicts of interest on behalf of the independent assessor would be legally required to be put forward prior to engagement, and there would be a specified amount of time for the Principal to review and dispute the proposed party. Should there be a failure to reach an agreement on the independent assessor during a contractually specified time, there would be an appropriate nominating body to assign the assessor.

A summary of the proposed division of the superintendent role, the engagement procedure and specified contractual duties are listed in *Table 6*.

	Principal's Representative	Independent Assessor
<i>Appointment</i>	Appointed, and paid for by the Principal.	Nominated and agreed to by contracted parties, in instance of disagreement, proposal by nominating body.
<i>Scope</i>	Issuing directions, providing information, and undertaking functions traditionally carried out by principal or their agent.	Decision-making and certification functions (excluding issuance of practical completion).
<i>Remuneration & Liability</i>	Principal only	Shared equally by Principal & Contractor.

Table 6: Summary of Divided Role

There is a broader issue than is outlined in this paper, and that surrounds the conflicting role of the superintendent across *all* projects, not just those eluded to above. The focus now needs turns to an industry that is in serious need, however, has a track record for reluctance to embrace change. In a recent article for *The Fifth Estate* (2019), Western Sydney University's David Chandler OAM FAIB stated '(t)here is unanimous agreement that construction efficiency is poor, its supply chains deeply fragmented, and, despite record recent activity, construction margins remain at unsustainable levels to deal with the risks involved.' What will never be unanimous is how to resolve these problems, but mitigating and eliminating conflicts of interest, where possible, is a step in the right direction. Whilst the role of the superintendent and the functions they currently possess under contract are merely symptomatic of the broader issues that face the industry, changes to these types of antiquated and clearly biased arrangements should be resolved in a definitive manner, and the standard form contracts should be reflected to suit these changes.

Of particular interest to this paper are the Standards Australia forms. Whilst it may be possible these (AS2124 & AS4000) are widely used in Australia - due to their ease of amendment and suitability to avert risk on the client's behalf - establishing a contract which in its purest form is genuinely equitable to both contracting parties should be the minimum requirement. Ambiguous terms such as those which supposedly govern the role of the superintendent under these AS contracts should be explicit and, as recommended in this paper, the assessment function of the superintendent should be stripped and divided, adding a third-party, independent assessor as the nominated appraising party.

Further training and knowledge sharing is required for all parties to commercial construction contracts. There is a seemingly a significant knowledge gap between those who possess meaningful contract comprehension and those who do not. Construction is big business, and an industry that warrants higher-skilled and more educated individuals, particularly those who are administering contracts which are constantly escalating in terms of value. Risk is an inherent part of commercial contracting, however mitigating risk by training and up-skilling workers, from all facets of an organisation, would be a considered and recommended approach. There is also capacity for those who are administering contracts to be legislatively required to provide a formal qualification and show evidence of Continuing Professional Development (CPD). As the value of projects escalate, so do the disputes, and administering individuals and bodies need to stay current with amendments to legislation and industry trends.

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Appendices

Appendix A – Project Specification

ENG4111/4112 Research Project

Project Specification

For: Alexander Swift

Title: Conflict of Interest of Dual-Role Superintendent / Lead Designer in Construct Only Contracts

Major: Management

Supervisors: Dr. Nateque Mahmood
TBC

Enrolment: ENG4111 – EXT S1, 2019
ENG4112 – EXT S2, 2019

Project Aim: To investigate and analyse the potential impacts of dual-role Superintendent / Lead Designer on overall outcome of construction projects.

Programme: Revision 1, March 2019.

1. Review the role of Superintendent under current Australian Standard (AS) construct-only contracts, and compare to other relevant, industry-specific contracts;
2. Examine existing literature on the role of the Superintendent, the requirement for impartiality and the potential limitations of neutrality when involved in the design process;
3. Analyse the data collected from Case studies in reference to the impact Dual-role Superintendents have on the outcome of the project in terms of budget, time and stakeholder relations;
4. Produce data based upon a project specific Questionnaire through the Analysis of Variance (ANOVA) and Relative Importance Index (RII) methods of assessment;
5. Outline potential areas of improvement within the AS contracts, and propose changes that could be applied to mitigate aforementioned impacts;

If time and resources permit:

6. Analyse other forms of contract e.g. GC-21, HC-1, ABIC and provide comparative data on the effectiveness of ‘third-party’ Superintendent;
7. Amalgamate results of (4) and (6) to provide overall data analysis and conclude which form of contract is deemed best suited to construct only contracts.

Appendix B – Questionnaire Survey

Dissertation Survey - Conflict of Interest: Dual Role Superintendent

This survey is for support of my final year thesis and completion of the Bachelor of Construction (Hons) at University of Southern Queensland (USQ), Toowoomba, QLD. If you have used AS2124 or AS4000 standard form contracts in a construct only arrangement, I invite you to complete this survey.

Objectives of this research:

- Understand the typical roles of the internal stakeholders in a construct-only contract;
- Understand the typical role of the Superintendent in the assessment and evaluation process;
- Understand and analyse the impact the conflict of interest has on the overall outcome of a project, and on relationships of internal stakeholders. Understand the limitations of 'impartiality' in the contractual context;
- Develop strategies to mitigate the relational impacts resultant from the perceived conflict. Exploring the notion of collaboration between internal stakeholders;
- Propose and validate potential measures for change within the Standard form, and provide comparative and evidence-based analysis against other industry-standard forms.

The survey consists of 15 questions, largely multiple choice, which will take between 10 - 15 minutes. Results can be provided at the completion of the survey by emailing u1047285@uemail.usq.edu.au (<mailto:u1047285@uemail.usq.edu.au>)

Participants Rights and Confidentiality:

The information supplied in this survey will remain confidential and will be stored securely until the completion of this project, at which point it will be disposed. The information will be used in an ethical way, and all participants will remain anonymous within the research. Participants have the right to withdraw from the study. The participant information sheet is available here (</upload/surveys/451335/files/Information%20Sheet%20%20Questionnaire%20Student%20Researcher%20v01.docx>).

Completion and return of the survey grants implied consent, however you have the right not to answer any particular question.

Contacts:

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+61 7 4631 2454
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I appreciate your assistance with my studies.

Kind regards,

Alex Swift
u1047285@uemail.usq.edu.au (<mailto:u1047285@uemail.usq.edu.au>)
0415 160 286.

There are 15 questions in this survey.

What area of the construction industry do you represent? *

● Choose one of the following answers

Please choose **only one** of the following:

- Contractor
- Consultant i.e. Architect, Engineer etc.
- Client / Principal
- Other

How long have you been working in the commercial construction industry? *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- 0 - 5 years
- 6 - 10 years
- 11 + years

Have you been involved in a construction project or projects which has / have used AS2124 or AS4000 as the head contract? *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Yes
- No

How many 'Construct Only' projects have you been involved in where the Superintendent is also the Lead Designer? *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- 0
- 1 - 5
- 5 +

What has been the approximate value of these projects? *

Please choose the appropriate response for each item:

	<\$1 million	\$1 million - \$5 million	\$5 million - \$20 million	>\$20 million
0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1 - 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6+	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Overall, would you say these project/s was/were a success? *

● Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
 Disagree
 Neutral
 Agree
 Strongly Agree

On a scale of 1-5, how adversarial have you found these types of contracts to be?
 1 being not adversarial - 5 being very adversarial.

*

Please choose **only one** of the following:

- 1
 2
 3
 4
 5

Please place a value on the below key issues, in terms of the impact they have had on the outcome of the project. *

Please choose the appropriate response for each item:

	1 - Minor	2	3	4	5 - Significant
Design Related	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Client Related	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contractor Related	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
External	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you found the Superintendent to be fair and reasonable when assessing variations? *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Have you found the Superintendent to be fair and reasonable when assessing Extension of Time claims? *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Have you found the Superintendent to have reasonable contractual knowledge and understanding? *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Do you think there is adequate definition, under AS2124 and AS4000, for the Superintendent role to be 'fair and impartial' *

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Do you think the engagement of a third party Superintendent would improve the outcome of these types of construct only projects?

*

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Would you agree with the third party superintendent being remunerated by the contractor and the client, equally?

*

🗳️ Choose one of the following answers

Please choose **only one** of the following:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Please provide additional information that you may believe would be useful to this study.

Please write your answer here:

13.09.2019 – 23:59

Submit your survey.

Thank you for completing this survey.



Human Ethics Application

Application ID : H19REA206
Application Title : Conflict of Interest: Dual Role Superintendent / Lead Designer in Construct Only Contracts
Date of Submission : 16/08/2019
Primary Investigator : Mr Alexander Swift; Principal Investigator
Other Personnel : Mr Gary Elks; Principal Supervisor

Instructions

Instructions

Click the **green arrow** to go to the next page.

Pre Application

1 Application Type

Ethics category*

Human Research Ethics Application

1.1 Has this application been reviewed and approved by another Human Research Ethics Committee (HREC)?

Select "Yes" if your project has already been approved by a human research ethics committee (HREC) that is not operated by the University of Southern Queensland, (i.e. you wish to register your ethics approval with USQ).
Select "No" if the University of Southern Queensland Human Research Ethics Committee will review and approve your proposed research.

*

Yes No

1.2 Does this research project involve?

Tick all that apply.

*

- Direct recruitment and/or observation of human participants
- Use and/or disclosure of existing data sets and/or archival data
- Use and/or disclosure of existing biospecimen collections
- Any form of genetic testing or analysis of genetic material
- Clinical trial

Review outcome comments for **1 Application Type**.

This question is not answered.

Click the **green arrow** to go to the next page.

2 Potential Participant Group

Does this project involve (a) the direct recruitment of participants that specifically targets, and/or (b) the use of existing data and/or tissue of participants from a project that specifically targeted...

2.1 Women who are pregnant, the human foetus, or human foetal tissue?*

Yes No

2.2 Children or young people under the age of 18 years?*

Yes No

2.3 People with a cognitive impairment, an intellectual disability, or a mental illness?*

Yes No

2.4 People considered to be a forensic or involuntary patient?*

Yes No

2.5 People with impaired capacity for communication?*

Yes No

2.6 Prisoners or people on parole?*

Yes No

2.7 People highly dependent on medical care, including a person who is unconscious?*

Yes No

2.8 Military personnel?*

Yes No

2.9 Military veterans?*

Yes No

2.10 People who would not usually be considered vulnerable but would be considered vulnerable in the context of this project?*

Yes No

2.11 Aboriginal and/or Torres Strait Islander peoples?*

Yes No

2.12 Hospital patients?*

Yes No

2.13 People in other countries?*

Yes No

2.14 People who would consider English to be their second language?*

Yes No

Review outcome comments for **2 Potential Participant Group**.

This question is not answered.

Click the **green arrow** to go to the next page.

3 Proposed Procedures

Does this project include...

3.1 Any physical, psychological, social, economic, and/or legal risks greater than inconvenience or discomfort, in either the short or long term, resulting from participation in, or use of data in this project?*

Yes No

3.2 The collection and/or analysis of any biological material obtained from a person (e.g. tissue, blood, urine, sputum, or any derivate of these such as cell lines) in laboratory based research?*

Yes No

3.3 Generating, gathering, collecting, conveying or using genomic data, information, or biological materials (such as germline/germ cells or somatic cells) that has **hereditary implications** and/or **is predictive of future health** in research involving participants, relatives and other family members?*

Yes No

3.4 Research intended to study and/or expose illegal activity?*

Yes No

3.5 Radioactive substances and/or ionising radiation?

*(e.g. DXA, X-ray)**

Yes No

3.6 Sensitive and/or contentious issues? *(e.g. suicide, eating disorders, body image, trauma, violence, abortion, etc.)**

Yes No

3.7 Toxins, mutagens, teratogens or carcinogens?*

Yes No

3.8 Deception of participants, concealment or covert observation?*

Yes No

3.9 Seeking disclosure of information which may be prejudicial to participants?*

Yes No

Review outcome comments for **3 Proposed Procedures**.

This question is not answered.

Click the **green arrow** to go to the next page.

4 Operational Requirements

Does this project involve...

4.1 collection or use of information or data from or about **USQ Students**?*

Yes No

4.2 collection or use of information or data from or about **USQ Staff**?*

Yes No

4.3 International travel for data collection purposes?*

Yes No

4.4 Collecting data in a rural and remote setting?*

Yes No

4.5 The collection, use or disclosure of IDENTIFIABLE personal information (eg, names and contact details on consent forms)*

Yes No

4.5.1 Will this IDENTIFIABLE information be collected or used **WITHOUT** the consent or knowledge of the individual whose information is being used?*

Yes No

4.6 The collection, use or disclosure of RE-IDENTIFIABLE personal information (eg, when identifying details are replaced by codes, pseudonyms, etc)*

Yes No

4.6.1 Will this RE-IDENTIFIABLE information be collected or used **WITHOUT** the consent or knowledge of the individual whose information is being used?*

Yes No

4.7 The collection of information by observing participants **WITHOUT** their knowledge?*

Yes No

Review outcome comments for **4 Operational Requirements**

This question is not answered.

Click the **green arrow** to go to the next page.

Application Detail

5 Project Title and Summary

Researchers are encouraged to read [Chapter 3.1](#) of the National Statement of Ethical Conduct in Human Research, 2007 (updated 2018). A critical feature of good research is clarity regarding how the research project will meet the ethical requirement that research has merit, as described in paragraph 1.1 of the National Statement. **The Elements of Research**, outlined in this chapter, offer advice and guidance about meeting this obligation and will assist you in completing this application across the following sections:

Element 1: Research scope, aims, themes, questions and methods

Element 2: Recruitment

Element 3: Consent

Element 4: Collection, use and management of data and information

Element 5: Communication of research findings or results to participants

Element 6: Dissemination of research outputs and outcomes

Element 7: After the project.

5.1 Project Title*

Conflict of Interest: Dual Role Superintendent / Lead Designer in Construct Only Contracts

5.2 Using plain language, provide a succinct description of the background and the potential significance of the research project.*

The project aims to reduce the impacts of dispute between Superintendent and Contractors in construct-only projects. The argument is by legislating that the Superintendent cannot be engaged by - or employed by - the Principal, there would be mitigation in the potential for bias based disputes. The removal of the potential for bias based disputes would be one step towards creating a more harmonious, and less adversarial environment in commercial construction, which could lead to a more prosperous and efficient industry.

5.3 Clearly state (a) the project aims; and (b) the research questions and/or hypotheses.*

Understand the typical roles of the internal stakeholders in a construct-only contract;
Understand the typical role of the Lead Designer / Superintendent in the design process;
Understand and analyse the impact the conflict of interest has on the overall outcome of the project, and on relationships of internal stakeholders. Understand the limitations of 'impartiality' in the contractual context;
Develop strategies to mitigate the relational impacts resultant from the perceived conflict. Exploring the notion of collaboration between internal stakeholders;
Propose and validate potential measures for change within the Standard form, and provide comparative and evidence-based analysis against other industry-standard forms.

Review outcome comments for **5 Project Title and Summary**.

This question is not answered.

Click the green arrow to go to the next page.

6 Investigators

6.1 Enter the Academic Organisation Unit (AOU) (six-digit project code) that will be aligned to this project.

Search for the AOU by entering a portion of your school or centre (e.g. eng, health, psy, edu, sci) in the text box, then clicking on the magnifying glass. Choose the appropriate AOU code from the list returned and tab out of the text box. Attempt to select AOU that reflect school-level units rather than broader faculty-level units.

If the Principal Investigator for this project is NOT affiliated with the University of Southern Queensland, enter "EXTERNAL".

*

6.2 Principal Investigator

The Principal Investigator **must be a USQ Employee**. Additional investigators (including student researchers) can be added in section 6.3 of this eForm application.

The Principal Investigator (PI) of this project will hold ultimate responsibility for the ethical conduct of the research project in accordance with the University's [Research Code of Conduct Policy](#), [The Australian Code for the Responsible Conduct of Research, 2018](#), and [the National Statement on Ethical Conduct in Human Research, 2007 \(updated 2018\)](#).

The PI must ensure that all investigators involved in the conduct of this research project understand and accept their roles and responsibilities.

To complete this section...

Click on the hyperlinked investigator's name and complete all required fields (indicated with *). Ensure the "Primary Contact" is checked to "Yes". Click on "OK".

1	Order	1
	RIMS Code	0000197232
	Position	Principal Investigator
	Title	Mr
	First Name	Alexander
	Last Name	Swift
	Full Name	Mr Alexander Swift
	Student Researcher?	Yes
	Primary Investigator?	Yes
	Primary Contact?	Yes
	ORCID ID (if known)	
	Email Address	U1047285@uemail.usq.edu.au
	Secondary Email	
	Mailing Address	
	Address Line 1	
	Address Line 2	
	Address Line 3	
	Address Line 4	
	Suburb/City	
	State	
	Postal Code	
	Country	Australia
	Contact Phone	
	Mobile Phone	0415160286

6.3 Other Investigators

List all investigators associated with this project and their role (including supervisors of student research projects).

To complete this section...

Enter the investigator's first name in the text box and click on the magnifying glass. Choose the correct investigator from the list returned. Repeat this step to add all investigators.

For each investigator listed, click on the hyperlinked investigator's name and complete all required fields (indicated with *). Ensure the "Student Researcher" question has been answered and that the Primary Contact is checked to "No".

Click on OK.

To add an External Collaborator, click on the "Add External Person" button and complete all required fields (indicated with *) and OK.

1	Order	1
	RIMS Code	0000220282
	Position	Principal Supervisor
	Title	Mr
	First Name	Gary
	Last Name	Elks
	Full Name	Mr Gary Elks
	Student Researcher?	No
	Primary Contact?	No
	Person Type	Internal
	ORCID ID (if known)	
	Email Address	Gary.Elks@usq.edu.au
	Secondary Email	
	Mailing Address	
	Address Line 1	
	Address Line 2	
	Address Line 3	
	Address Line 4	
	Suburb/City	
	State	
	Postal Code	
	Country	Australia
	Contact Phone	
	Mobile Phone	

Review outcome comments for **6 Investigators**.

This question is not answered.

Click the **green arrow** to go to the next page.

7 Benefit and Risk

7.1 Outline the benefits to participants and/or to the community as a result of this research being conducted. *

The potential benefits are for those participants to have greater understanding of the current contractual circumstances and their ramifications on the wider industry. This may also prompt individuals to look at the arrangements from the perspective of other parties to the contract. Ultimately, the paper hopes to provide a clear picture of how collective groups of construction professionals view the current situation, and gauge if there is industry backing for change.

7.2 Define the risks, in either the short and/or long term, of participation in this project (e.g. physical, psychological, social, economic or legal risks greater than inconvenience or discomfort)*

The participants will not be at risk at all. All participants will remain anonymous and the questions being asked will be harmless and non-provocative. Physical risks do not extend beyond day-to-day activities. Use of the data provided will pose no economic, social or legal risk as participants will remain anonymous and the questions posed not of risk.

7.3 Are all of these risks outlined in the Participant Information Sheet or within the explanatory statement at the beginning of a data collection instrument, and (where relevant) on the consent form?*

Yes No

7.4 Outline the arrangements planned to minimise the risks involved in this project.*

As mentioned above the participants won't be at risk because the survey and will be given to the participant in a convenient time, remain confidential, and not be of a threatening nature of any sort.

7.5 What will you do in cases where unexpected events or emergencies occur as a result of participation in this project?

For example, what facilities or services are available to deal with events such as adverse drug reaction, revelation of child abuse, illegal activities, participant becomes distressed during or after data collection.*

The participants can withdraw at any time.

7.6 Is an appropriate list of referral services available within the Participant Information Sheet or explanatory statement?*

Yes No Not applicable

7.7 Outline the strategies that you have in place to reduce any risks to the researchers.*

As the survey online, this will reduce risk to the researcher to a level no more than any pre-existing day-to-day activity.

Review outcome comments for **7 Benefit and Risk**.

This question is not answered.

Click the **green arrow** to go to the next page.

8 Type of Research

Type of research - 1

8.1 Are you, as the Principal Investigator, a current USQ employee or student?*

Yes No

8.1.1 Will this project be undertaken **predominately** in a student capacity?*

Yes No

8.1.1.1 Program level:*

- Honours
 Masters
 Doctoral
 Other

8.1.1.2 Program name:*

Bachelor of Construction (Hons)

8.1.2 Will this project be undertaken as a **USQ Course project**?*

Yes No

8.2

Type of research - 2

Tick all that apply.

*

- Action research
 Clinical research
 Qualitative
 Social science
 Other
 Epidemiological
 Mental health
 Public health and safety
 Quantitative
 Case study
 Clinical trial / use of drug or therapeutic device
 Medical research
 Oral history / biographical

Review outcome comments for **8 Type of Research**.

This question is not answered.

Click the **green arrow** to go to the next page.

9 Conflict of Interest

9.1 Do any of the investigators on this project have an actual, perceived, or potential personal or financial conflict of interest in the outcomes of this research, or in any of the organisations involved with, or funding this project?*

Yes No

Review outcome comments for **9 Conflict of Interest**.

This question is not answered.

Click the **green arrow** to go to the next page.

10 Funding

10.1 Has funding been obtained for this project?*

Yes No

10.1.1 Are you applying for funding for this project?*

Yes No

Review outcome comments for **10 Funding**.

This question is not answered.

Click the **green arrow** to go to the next page.

11 Data Access and Security

11.1 Outline the minimum recommended Research Data storage options (i.e. 1 x primary and 2 x back-up) that you will utilise for the duration of your research project and beyond. Refer to the University's [Research Data Management Policy](#) and [Research Data Management Procedure](#) to ensure your proposed practice is suitable.*

Researcher will strictly adhere to the USQ Research Data Management Policy/Procedure. The researcher will be required to have at least three storage sources (primary + 2 x backups) from the recommended options. Primary storage: After obtaining the data it will be saved in a password-protected folder on researcher's Microsoft OneDrive. Backup storage 1: The data will also be stored in a password-protected folder on supervisor's Microsoft OneDrive Backup storage 2: The data will be stored in a password-protected folder on Google Drive, can be accessed only by my supervisor and myself.

11.2 Will any individual or organisation external to the University of Southern Queensland (i.e. a third party) have access to the Research Data during the conduct of this research?*

Yes No

11.3 Do you plan to make available (or share) all, or part, of the Research Data via open access, restricted access, mediated access or as metadata only?

Note: It is recommended that unless your data can not be shared for ethical, privacy or confidentiality matters, that you incorporate the future use of data in your research design and include a statement within the participant information sheet/explanatory statement to this effect.*

Yes No

11.3.2 Outline the ethical reason/s for why the research data will not be shared or made openly or publicly available. **

The data will be used to analyse and write the thesis (undergraduate) only. The data doesn't need to be made available other than being included in the project, as the data being collected is very specialised to the subject, and it is more of an ask of participants to make the data collected public. Participants are less likely to accept to participate if the data is being made public and could be used widely/in future/potentially identified, and thus not making the data public should increase the response rate. There is no need to make the data public.

11.4 Are the data access and security arrangements detailed in the Participant Information Sheet or explanatory statement?*

Yes No

11.5 Will the Research Data be securely retained indefinitely for future use?*

Yes No

11.5.2 Outline the process of how the research data will be confidentially disposed after the minimum retention period has elapsed.

Note: Different Research Data items may be required to be retained for different retention periods, e.g. general research data versus signed informed consent documentation. Refer to the [Queensland Government General Retention and Disposal Schedule](#) (GRDS) for further information.*

Once retention period is completed, the electronic data obtained will be deleted and the hard copy data will be shredded. The hard copy of the data will be stored on a backup UBS, that will be deleted on completion of the research.

Review outcome comments for **11 Data Access and Security**.

This question is not answered.

Click the **green arrow** to go to the next page.

12 Communication of Research Findings to Participants and Dissemination of Project Outputs

12.1 Indicate in which format/s the research findings will be communicated to participants and research outputs disseminated
*Tick all that apply.**

- Thesis
- Journal article
- Book / book chapter
- Conference
- Dataset
- Reports to participants
- Report to organisation
- Report to community or group
- Other

12.2 How will the identity of participants be disclosed in the dissemination of research outputs?*

- non-identifiable data
- re-identifiable data
- individually identifiable data
- other

12.3 Describe how participants and/or other interested stakeholders will be able to access the research findings and/or request a copy of a summary of the results

Note: Provision of a theses/dissertation/exegesis to a participant is not considered to be timely and appropriate summary of the research findings or results.

*

It will be stated in the Participant Information Sheet or explanatory statement that a summary of the result of the questionnaire will be available in November for them to request from the email provided.

12.4 Will participants be subjected to any physiological or psychological testing during this project? *

Yes No

Review outcome comments for **12 Communication of Research Outcomes.**

This question is not answered.

Click the **green arrow** to go to the next page.

No. of Human Participant Groups

Participant Group Recruitment

PG - How many groups of participants will you be recruiting and/or observing for this research project?*

1.00

This question is asking you to think about how many groups of participants you are likely to recruit as part of this project. The method of participant recruitment and how they will provide consent may change depending on the participant's age and how you propose to conduct that part of the project.

For example:

- If you are conducting an online survey, followed by interviews with some of the survey participants, it is likely that you will recruit "2" groups. This will be the "survey group" and the "interview group".
- If you are conducting multiple focus groups with the same focus group questions, it is likely that you will recruit "1" group, but offer the same content multiple times. This can be conveyed in the next section.
- If you are conducting interviews with different groups, for example, students, teachers and school principals, then it is likely that you will recruit "3" groups.

The number of groups of participants you enter here will provide specific questions in the next section relevant to that group. That is, Group 1 = G1, Group 2 = G2, Group 3 = G3, and so on.

Sufficient space has been provided for up to **five** participant groups. If you propose to use more than five participant groups in your research, contact the [Ethics Officer](#) for further advice.

Review outcome comments for **Participant Group Recruitment.**

This question is not answered.

Click the **green arrow** to go to the next page.

Group 1 - Participant Recruitment and/or Observation

G1 - Participant Overview

PG1.1 Participant group 1 working title. (e.g. student focus group; teacher survey)*

Construction Contract Stakeholders

PG1.2 How many participants are expected to be recruited in this group?*

50.00

PG1.3 Describe who the participants in this group are.*

The participants will be a mix of construction clients, construction contractors and construction consultants, namely architects, engineers etc.

PG1.4 Where will this group of participants be recruited from?*

Work network, and wider industry groups

PG1.5 Are the participants in this group likely to be under 18 years of age?*

Yes No

PG1.6 Is there a pre-existing (unequal) relationship between the participants and anyone involved in recruiting and/or collecting data from this group of participants? (e.g. teachers and/or lecturers/students, doctors/patients, employers/employees, etc.) *

Yes No

PG1.7 Do these participants have any cultural needs? (e.g., specific consent arrangements or sensitivities, etc.)*

Yes No

PG1.7.1 List the cultural needs and outline the arrangements you have in place to manage them.*

There could potentially be sensitivities for individuals who work for organisations that are currently involved in the types of contractual arrangements that are discussed in the dissertation.
I will also not issue an invitation to anyone who is involved as a consultant or superintendent who have involvement in my projects that I am currently engaged on.

Review outcome comments for **G1 - Participant Overview**.

This question is not answered.

Click the **green arrow** to go to the next page.

G1 - Recruitment Method

PG1.8 Do you have any criteria for the selection, inclusion or exclusion of participants for this group to take part in the research? (e.g. minimum age requirements)*

Yes No

PG1.8.1 Describe the criteria for selection, inclusion or exclusion and outline why you require this for your research design.*

Participants must have been previously engaged in a specific type of construction contract arrangement, namely an AS2124 or AS4000 'construct-only' contract. The survey will be online and thus anyone who receives the link and attached information will be able to participate from any location.

PG1.9 Indicate which method/s you will use to recruit these participants:*

- Email
- Personal contacts
- Telephone
- Advertisement
- Mail out
- Snowballing
- Participants from another study
- Participants approached in person by research team
- Participants will NOT be actively recruited - they will be observed without their knowledge
- Other

PG1.10 Indicate how you will obtain the contact details of these participants.

*

- From the participants themselves
- From a public domain source
- From a private or third party source
- Other

PG1.11 Explain who will invite these participants to be involved in this project.*

Via an emailed link to the survey.

PG1.12 Will you be offering payment or any other incentives to this group of participants?*

Yes No

Review outcome comments for **G1 - Recruitment Method**.

This question is not answered.

Click the **green arrow** to go to the next page.

G1 - Data Collection Methods

PG1.13 Will you collect data via questionnaires / surveys?*

Yes No

PG1.13.1 For each **questionnaire / survey** that will be administered to this group of participants, provide details about the name and purpose of the instrument, how the instrument will be administered (e.g., paper based, online), and how it will be returned.

Attach a copy of your survey instrument in the document upload section.*

Google Docs Survey, survey link attached in documents section. The survey is a collection of my own questions, which are relevant to attaining quantitative evidence for the conclusion of my dissertation. The questions are a mix of mostly likert-scale questions, with 2 multiple grid list questions, and one open ended question for comment. There are a total of 15 questions for respondents to answer.

PG1.14 Will you collect data via interviews or focus groups?*

Yes No

PG1.15 Will you collect data via observation?*

Yes No

PG1.16 Will you collect data via photography / videography?*

Yes No

PG1.17 Will you collect data via psychological inventories or any other published, standardised test?*

Yes No

PG1.18 Will you collect data via collection of human biospecimens?*

Yes No

PG1.19 Will you collect data via responses to tasks, stimuli or simulations?*

Yes No

PG1.20 Will you collect data via administration of a substance?*

Yes No

PG1.21 Will you collect data via any other procedure not outlined above?*

Yes No

Review outcome comments for **G1 - Data Collection Methods**.

This question is not answered.

Click the **green arrow** to go to the next page.

G1 - Data Collection Procedure and Competence

PG1.23 Provide details about what you are asking participants in this group to do or what is to be done to them. Include a step-by-step description of what participants will experience if they choose to take part in this project.*

The survey will be distributed via email which will contain a link to the online survey and a date for when responses will no longer be accepted and used as part of the study.

PG1.24 How much time are you asking of participants in this group and when will this time be required? (e.g. 30 minutes after class).*

The survey will take roughly 15 minutes. This will be distributed electronically and be specified that participation is not compulsory but will need to be completed by a certain date (approx. 1 month period allowed).

PG1.25 Where will the data be collected (venue and geographical location)? (e.g. front of 'venue')*

The survey will be collected online.

PG1.26 Does the research involve the administration of any tests or procedures that require particular qualifications?*

Yes No

PG1.27 Does the research involve measures or procedures that are **diagnostic** or **indicative** of any **medical** or **clinical** condition, or any other situation of concern? (e.g. anaemia, bulimia, anorexia, anxiety, suicidal tendencies, aggressive behaviours, etc.)*

Yes No

Review outcome comments for **G1 - Data Collection Procedure and Competence**.

This question is not answered.

Click the **green arrow** to go to the next page.

G1 - Consent Method

PG1.28 Are these participants able to consent for themselves?*

Yes No

PG1.29 Will you use a written Participant Information Sheet or Explanatory Statement to inform participants about this project?*

Yes No

PG1.30 Will these participants be fully informed about the true nature of the research?*

Yes No

PG1.31 Indicate how you will obtain consent from this group of participants.*

- Implied consent
 Consent form <i>(must be attached with this application)</i>
 Opt-out consent
 Other

Consent may be expressed in a number of ways. **Implied consent** is taken to mean that consent is expressed through, for example, the return of a survey, or other conduct implying consent. However, the nature, complexity and level of risk of the research, together with the participant's personal and cultural circumstances should be taken into consideration. It may be more appropriate to choose another method for consent, such as expressing it orally, or in writing if your research involves more than negligible levels of risk.

PG1.31.1 Outline how you will gauge that consent to participate has been implied by this group of participants.*

Completion of the survey.

Review outcome comments for **G1 - Consent Method**.

This question is not answered.

Click the **green arrow** to go to the next page.

Supporting Documentation

Supporting Documents

17

Below is a list of documents that may be required with this application. Upload each applicable item against the matching document name. If you require more than one document to be uploaded per item please use the 'Add New Document' button .

****Note**** there are multiple pages in the grid below, use the change page buttons at the bottom of the grid to browse each page.

Allowable file extensions are pdf, doc, docx, xls, xlsx, msg, jpg, ppt, pptx.

Description	Reference	Soft copy	Hard copy
Peer Review Checklist	Peer Checklist Review Signed.pdf	✓	
Participant Information Sheet and/or Explanatory Statement (as required, for each participant group)	Information Sheet Questionnaire Student Researcher v01.pdf	✓	
Copy of instrument(s) - for collecting data via surveys/questionnaires	Dissertation Survey rev 1.pdf	✓	
Participan Information Sheet	Information Sheet Questionnaire Student Researcher v01.pdf	✓	

Review outcome comments for **Documents (1)**.

This question is not answered.

Review outcome comments for **Documents (2)**.

This question is not answered.

Review outcome comments for **Documents (3)**.

This question is not answered.

Review outcome comments for **Documents (4)**.

This question is not answered.

Review outcome comments for **Documents (5)**.

This question is not answered.

Click the **green arrow** to go to the next page.

Declaration

Declaration

USQ Principal Investigator Declaration

I the undersigned declare that I:

- have considered engaging with the peer review of this ethics application, in accordance with the [USQ Statement on Peer Review](#);
- accept ultimate responsibility for the ethical conduct of this research project in accordance with the principles outlined in [USQ's Research Code of Conduct Policy](#), the [Australian Code for the Responsible Conduct of Research \(2007\)](#), and the [National Statement on Ethical Conduct in Human Research \(2007\)](#);
- have ensured that all people involved in this research project understand and accept their roles and responsibilities;
- undertake to conduct this research project in accordance with the protocols and procedures outlined in the proposal as approved by USQ's Human Research Ethics Committee (USQ HREC);
- inform the USQ HREC of any changes to the protocol after the approval of the Committee has been obtained using the USQ HREC Amendment Application procedure AND inform all people involved in this research project of the amended protocol;
- have read and agree to comply with [USQ's Research Data Management Policy](#) and pursuant policies and procedures and have a plan for managing and/or sharing Research Data securely; and
- understand and agree that project files, documents, research records, and data may be subject to inspection by USQ HREC, a research integrity officer, the sponsor or an independent body for auditing and monitoring purposes.

18 USQ Principal Investigator Declaration

1	Full Name	Mr Alexander Swift
	Position	Principal Investigator
	Declaration signed?	Yes
	Signoff Date	14/08/2019