

## **Disruption – the \$20B scourge of the Australian Construction Industry**



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### **INTRODUCTION**

The Australian Construction Industry continues to experience several major problems feeding into the theme of expensive costs and sustainability.

The extent of each problem varies depending upon the role a party plays within the industry.

The Construction Industry is complex by nature and comprises several co-ordinated process streams which collectively involve literally millions of activities and decisions (moving parts).

It can be said, “The profession of construction is not an exact science”, notwithstanding exact calculations are necessary for designs and setting out the works. This is because in constructing the physical works there are frequently several ways to achieve a particular outcome.

For these reasons it is firstly, difficult to identify and then secondly to solve the major problems of the Construction Industry, because of the haze (metaphorically speaking) created by the millions of moving parts to the construction process.

To have any prospect of a viable solution to a major problem, it is essential to always identify the root cause of the major problem.

What are the root causes of expensive construction costs in Australia?

It is widely acknowledged there are many problems currently being faced by the Australian Construction Industry, however the author focuses on the area of his expertise and the problem of expensive construction costs and what is one of the main culprits.

In the author’s opinion, there are several possible contributors to why construction costs in Australia are expensive by world standards.

The author sets them out in the table below including some which are often put forward which are symptoms rather than root causes

In the author’s opinion the possible root causes include:

Item	Problems	Root Cause	Symptom
1	Poor Regulation or Regulatory failures	<i>Ineffective government policies</i>	
2	Inept & unethical Corporate behaviour & poor practices	<i>Shareholder apathy</i>	
3	Declining numbers of suitably qualified and skilled tradespeople	<i>Ineffective government policies and training providers</i>	
4	Illegal Unionism	<i>Ineffective Industrial legislation and its enforcement</i>	
5	Inadequate and incomplete construction documentation (including specifications)	<i>Banning minimum scale of professional fees</i>	
6a	A legal profession hijack of the Industry in relation to contracting arrangements and risk allocations		<i>Symptom of Items 2 &amp; 5</i>
6b	Long term financial sustainability		<i>Symptom of Items 2 &amp; 5</i>

**DISRUPTION AND ITS ROOT CAUSE (The banning of minimum scales of professional fees)**

Many current problems and symptoms related to expensive construction industry costs can be traced back to one significant event that occurred in 1979.

This event was the banning of Scales of Minimum Professional Fees by the Trade Practices Commission in 1979.

These scales of professional fees subsequently became recommended or guideline scales of professional fees which were then ultimately banished altogether in any form by the Australian Competition and Consumers Commission (ACCC) in 1984.

In the author’s view, these events have caused and continue to cause both unforeseen and detrimental changes to construction costs in Australia.

The change in legislation appears to have been designed in simplistic theory to reduce the cost of professional fees through competition.

This was certainly achieved in spectacular fashion; however, it has been the significant additional resultant costs these legislative changes have caused (to subcontractors and Contractors) which have been effectively hidden by a smoke screen of complexity because of the huge number of moving parts to the industry along with the detrimental symptoms it has created.

In addition, the passage of time has (simply due to many people's ages) effectively severed the causal linkage to the root cause event.

Most of today's industry participants (anyone under 60 years of age) have never experienced an industry with minimum scales of professional fees and the comprehensive and fully coordinated quality documentation that flowed from that situation.

The author recalls during the late 1970's it was common for most projects to be constructed only and have only variations for client requested changes which rarely exceeded double digits by number.

Most projects had Bills of Quantities (BOQ) measured and paid for by the Clients. Any discrepancies in the documentation were usually corrected during the BOQ measurement process through queries raised by the quantity surveyor and corrected by the designer, which occurred prior to the BOQ being issued for the purpose of calling competitive tenders from contractors.

Consequently, during the construction phase, the number of contractor requests for information or clarification (RFI's) were miniscule by comparison to the typical number on a project today.

As an example, Stage 5 of the Brisbane Cultural Centre constructed for the Qld Government around 1998 had over 4,500 RFI's and approx. 1,700 variations and contractual claims.

In the late 1970's the amounts of abortive, disruptive, and non-productive works were minimal (primarily being those self-inflicted by contractors and subcontractors for which they were responsible), and it was a pleasure to work in the industry.

A stark contrast to today's commonplace adversarial fights from start to finish of the construction process. Is it any wonder the level of mental health in the construction industry has gradually deteriorated since the 1970's? However, whilst important, that is another issue for another day.

The Australian Federal & State Governments hold all the keys to solving the root cause behind expensive construction costs in the Australian Construction Industry – extremely poor design (from a whole of project life VFM perspective) and non-comprehensive and uncoordinated project documentation.

The reason why it is the biggest problem, in simple terms, over time it has ingrained itself so much within industry, acceptance of poor, uncoordinated and incomplete project documentation has become widely considered "business as usual".

This is fact, but that does not make it right nor does it mean it is contributing to the most efficient construction costs possible (The “optimal cost of construction”).

Also, it is creating significant additional costs (including disruption, delay, and adverse productivity outcomes) and mental health consequences flowing directly and indirectly from poor, uncoordinated and incomplete project documentation. These additional costs are currently conservatively estimated at more than 10% of project costs.

*This would amount to monetary costs alone (putting aside the human costs) in the order of **AUD\$20B per annum** based upon an estimated annual total construction spend of AUD\$200B in 2020 in Australia.*

For most mega infrastructure projects with State and/or Federal Governments clients or sponsors, surely it is time to stop ignoring the biggest problem for which they (as a collective group) hold the keys to solving.

The answer is certainly not to push the design onto the contractor as they have been doing for quite some time, because that procurement process does little towards improving the prospects of avoiding the current circa \$20B of disruption cost wastage flowing directly from poor design and uncoordinated documentation, nor achieving the optimal construction cost for a project.

The reasons why disruption is a scourge on the industry which must be eliminated, are because:

1. It incurs real costs to the Contractor and subcontractors without providing any tangible benefit (any additional product) for the Client; and
2. It is incredibly difficult for the contractors and subcontractors to accurately record and prove the full cost impacts, which ultimately impacts upon their financial sustainability and that of the construction industry more broadly

There is a lot of talk occurring around risk allocations, particularly with respect to some of the largest projects, often referred to as mega-projects.

Risk allocation only determines who pays for what, so whilst important it should not be the primary focus particularly for clients.

Every project has an optimal construction cost for which it can be built.

The optimal construction cost “is what it is” irrespective of the client’s budget, the Contractor’s tendered bid or even the risk allocation. All parties need to understand that elementary fact.

If the contractor achieves near the optimal construction cost, then the prospects of the client obtaining its project within its budget are certainly improved.

Getting as close as possible to the optimal construction cost target must be the primary focus for all stakeholders. The appropriate procurement model must have the best prospects of delivering the project as close as possible to the optimal construction cost and by necessity generate comprehensive and co-ordinated construction documentation along with avoidance of unnecessary variations (caused by incomplete briefs and poor project documentation) and associated delays and disruption to many aspects of the project.

If contractors suffer delays, disruption, and loss of productivity because of deficient project documentation, their project cost will likely far exceed the project optimal cost and, irrespective of the form of contract, many will pursue their client for these costs or suffer losses.

Common sense suggests the parties would be best placed formulating a procurement process that facilitates the avoidance of costs which need not be incurred, delivered through sensible risk allocation and competent design and project management.

This philosophy, of avoiding costs which need not be incurred, should also be carried through into the construction phase, notwithstanding the existence of disputes, because it proactively operates to minimise the project outturn cost which ultimately benefits both the Client and the Contractor.

Relationship based forms of contracting certainly have the characteristics to achieve these types of outcomes. The Australian Contractor's Association's CEO Jon Davies recently published their framework for achieving Sustainability in the Australian Construction Industry. Interestingly, Collaboration and Relationships Contracting features as one pillar of the ACA's framework.

Just to reinforce the size of the current estimated cost impact of disruption costs due to **poor quality project documentation in Australia is potentially costing contractors, clients and / or consumers, collectively circa AUD\$20B per annum.**" This wastage must be stopped.

The transition to design and construct has been driven by Clients to avoid the cost ramifications of poor design and documentation, by passing this risk onto the Contractors.

Whilst the risk has been transferred, the cost consequences of poor design and documentation have not been addressed and still manifest themselves in Australian construction costs.

The consequences or symptoms flowing from the banning of minimum scales of professional fees can be summarised in the following matrix, which also explains the progression away from a prevalence of construct only procurement to a current prevalence of design and construct procurement.

Ref	Root Cause	Primary Symptoms	Secondary Symptoms	Tertiary Symptoms
1	<b>Abolition of Minimum Scales of Professional Fees</b>	Professional Fees reduced	The standard of training professionals has reduced, and the number of constructions related professional cadetships collapsed	Clients move away from design responsibility and construct only procurement contracts
		Completeness of design documentation & co-ordination reduced	Significant increases in the level of variations arising from incomplete design documentation	<ol style="list-style-type: none"> <li>1. Clients move to design and construct procurement contracts.</li> <li>2. Significant increases in the amount of delay and disruption to the contractor's work. This is often difficult to record and problematic proving causal effect linkages because of the number of moving parts impacted. The ultimate outcome consistently erodes Contractor's margin which jeopardizes longer term sustainability of the construction industry.</li> </ol>

## **POTENTIAL SOLUTION**

### **Improving the quality of project design and documentation**

There should be no argument from industry that the quality of project documentation is anything but poor and usually uncoordinated, leading to clients and industry participants bearing the circa \$20B annual cost of disruptions and delays during the construction phase.

The driving philosophy for change is:

*“it is always easier and cheaper to get documentation and co-ordination correct on the drawing board than in the field”.*

This issue is best addressed with the co-operation of all the relevant professional institutes and bodies including:

- ❖ The Australian Institute of Architects;
- ❖ Engineers Australia;
- ❖ The Australian Institute of Building;
- ❖ The Australian Institute of Quantity Surveyors;
- ❖ The Australian Institute of Building Surveyors
- ❖ Australian Contractors Association

❖ Master Builders

The solution must address:

- a) A detailed technical standard for project documentation for each discipline and a range of project types and value ranges, which defines:
  - i. A minimum standard defined for the level of outputs or deliverables and the quality of those documents including co-ordination. The aim of the standard should be to produce comprehensive and fully co-ordinated documents which can be built as documented;
  - ii. A minimum standard defined for required inputs to the design process such as comprehensive Geotechnical investigations;
  - iii. Minimum time periods for design; and
  - iv. Minimum time periods for documentation and document co-ordination
  
- b) A Minimum scale of fees which is appropriate for the providing all the services defined by the relevant detailed technical standards.
  
- c) Legislation which prohibits
  - i. Clients providing less than the detailed technical minimum standard for inputs; and
  - ii. Professionals providing less than the detailed technical minimum standards for outputs and deliverables;
  - iii. Professionals providing a service less than the detailed technical minimum standards for outputs and deliverables
  - iv. Professionals charging less than the relevant minimum scale of professional fees for the relevant detailed technical minimum standards for outputs and deliverables.

**CONCLUSION**

Australian Governments at Federal and State level must work collaboratively to realise legislative changes which would facilitate a substantial improvement in the quality of project

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design documentation and coordination, which in turn would substantially reduce the amounts of unwarranted disruption occurring across the Australian construction industry.

The solution must include substantially improving Design and Documentation Deliverables by addressing the root cause of current poor standard of design and documentation deliverables.

This in turn, will substantially reduce the estimated circa \$20B annual wastage on disruption and delay costs for which no product is produced.