

Modern Project Procurement Methods

A White Paper

PART 2 – SELECTING & ADMINISTERING A METHOD

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epm Projects Pty Ltd

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Introduction

This is Part 2 of a 2-part white paper that describes the most common methods for procuring building projects, and should be read in conjunction with Part 1 – downloadable separately. In Part 2 you will find:

Section 3 - Selecting the Preferred Method

Section 4 - Risk allocation Considerations

Section 5 - Project Administration Considerations

Section 3 - Selecting the Preferred Method

Time, cost and scope are the three essential elements in decisions about project delivery methods. In our experience, one will eventually be compromised to obtain the other two. Consider the following examples.

Cost & Scope before Time

A new building can be constructed within one year at a cost of \$5.0 million. If, however, the owner wanted to reduce the cost while maintaining the same scope, they would need more time to investigate alternative building materials and source alternative quotes. Thereby trading off time to meet cost and scope objectives.

Time & Scope before Cost

The owner wants to bring forward the completion date while maintaining the same scope. This would incur additional cost for overtime labour, in this case trading off cost to meet time and scope objectives.

Cost & Time before Scope

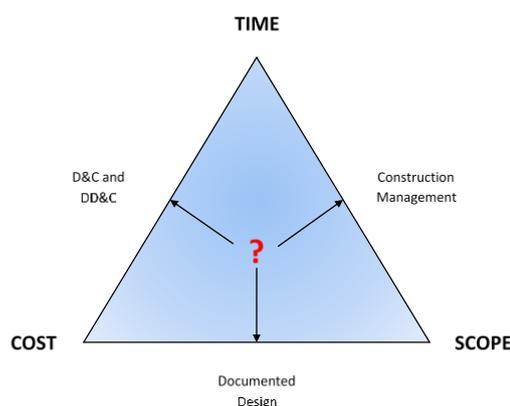
If the owner wants to bring forward the completion date without increasing cost, they would need to reduce the scope of the project, thereby trading off 'scope' for 'cost' and 'time'.

Clearly there are advantages and disadvantages of each delivery method. No single method is right in all circumstances. Therefore, it is important to decide the priorities first before choosing a delivery method. This is because the chosen method will largely determine the extent of your control over time, cost and scope.

The diagram in **Figure 1** below serves as a general guide to the preferred method in consideration of the priorities.

Figure 1 – Guide to Method Selection

The contracting method should be selected having regard to the Principal's priorities.



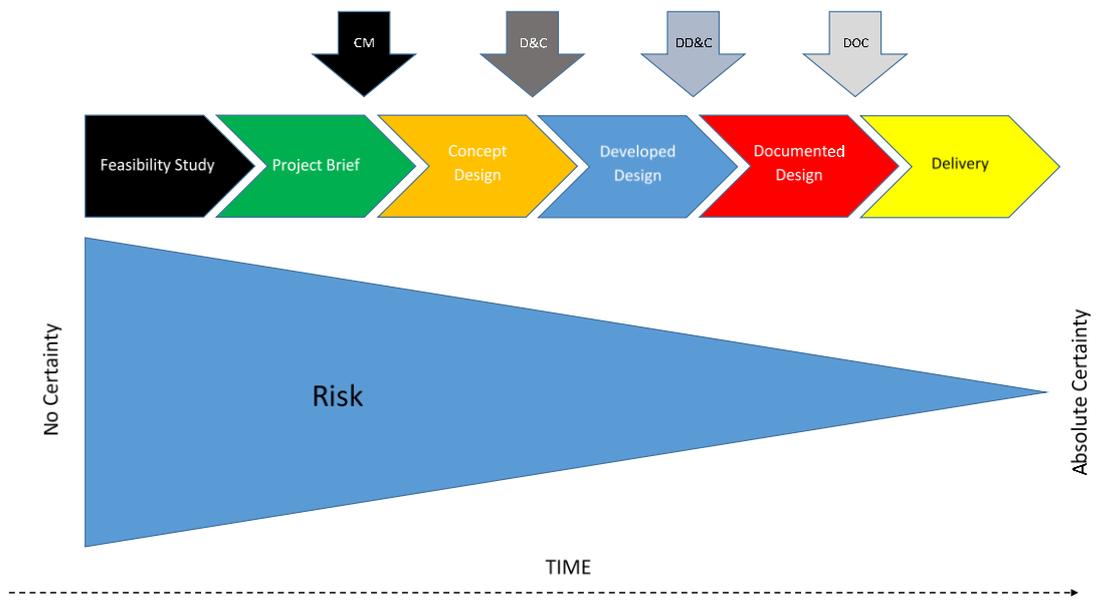
General Selection Principals

1. Increasing control over COST & TIME will reduce control over SCOPE
2. Increasing control over COST & SCOPE will reduce control over TIME
3. Increasing control over SCOPE & TIME will reduce control over COST

Note: "scope" includes "quality".

The diagram in **Figure 2** below shows the point in the project continuum at which each method is typically introduced relative to the risk in the project at that point.

Figure 2 – Project Continuum



The previous diagram demonstrates that risk diminishes as certainty increases over the course of time.

Section 4 - Risk Allocation

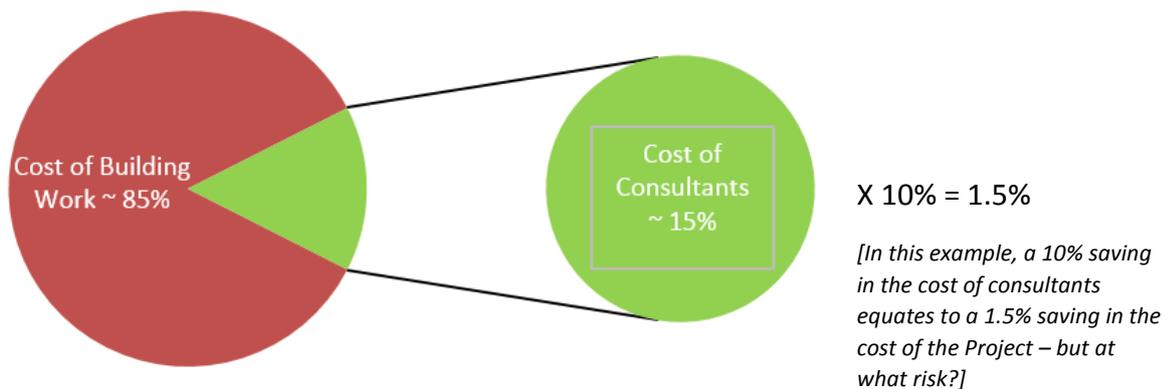
We hold the view that risk should be managed by those who are best placed to manage it. It follows that transferring risk to someone who is unable to manage that risk will place them in a position where they are highly likely to fail.

If scope (or quality) is one of the two priorities that should not be compromised, then we question the wisdom in a method that makes the builder entirely responsible for design (at any point in the project continuum). In our view, selecting such a method would simply be incongruous with the priorities for the project.

In our experience, a better way to manage the risk in the quality of design, is to appoint an experienced and well-resourced team of consultants. They should be properly (and expertly) briefed and managed and given the ***time*** to appropriately finalise the design.

The cost of consultants ranges between 10% and 15% of the overall cost of a project. This investment will significantly determine the risk in the project. Saving (say) 10% of the cost of consultants at the expense of good quality design conflicts with the priorities of a project where scope (quality) should not be allowed to be compromised. This is illustrated in Figure 3 below:

Figure 3 – Cost of Consultants



We believe that an investment in good quality design will assist to manage the risk in construction. Making a builder responsible for design does not necessarily minimise such risk.

Section 5 - Project Administration Considerations

In our experience consideration should be given to the following matters when administering a project under any of the previous methods:

1. **Principal's Project Brief** – A client should articulate the requirements for the project and the design of the buildings from the outset. When asked to offer an opinion about design, our general response is to ask "... does the design meet your requirements in terms of function and form? Is it likely that it can be constructed within your budget"? Surprisingly, few clients can answer this question with confidence, one way or another.

We generally recommend that drawings should be left to architects and designers. Instead the requirements for the design should be expressed in a "Design Brief" (in the case of a Documented Design method) or a "Statement of User Requirements" in the case that a builder will have responsibility for design. There is a subtle difference between a Design Brief and a Statement of User Requirements. The former will be more prescriptive about how something is to be designed. The latter will provide "performance criteria" to be satisfied by the design thereby giving greater opportunity to achieve design objectives through any one of a number of ways.

2. **Consultant Services Brief** – In the case of a documented design delivery method, it is critical that designers are clear about the requirements for the design of the buildings, and the services that they are to provide. In our experience, consultants are poorly briefed, often by no more than a two line email requesting a proposal for design work without any proper accompanying services brief. In such cases, it is not surprising that design is also of poor quality.

Consultant Services Briefs should clearly set out the scope of the required services, and integrate with each other. The average building project commonly requires upward of 15 to 20 consulting disciplines. This means that the coordination of all of the services offered by these consultants is a good starting point for good quality design. Good quality design will be relatively free of errors, omissions, inconsistencies, ambiguity and discrepancies. This will lead to more reliable pricing by the builder, minimising delays and claims for variations during building. It will also minimise disagreements and disputes and improve the overall quality of building work.

3. **Time to Design** – Irrespective of the delivery method, design requires time to "get it right". This is a case where the phrase "more haste, less speed" rings true.

When using a method that involves a builder in design, it is important to establish the following rules:

- **Design Reviews** – Regular joint reviews of design with the builder and its design consultants.
- **Design Approval Gateways** – Don't permit design to proceed from one phase (or stage) to another until the builder has demonstrated that the design complies with the Principal's Project Requirements (PPRs).

When using a method that involves a builder in design, it is important to verify that the requirements for the project are in fact achievable, particularly in a DD&C arrangement where the client may be responsible for a portion of the design.

4. **Design to a Cost** – A builder that has responsibility for design will be highly motivated to ‘design to a cost’. Unfortunately, this is where many projects delivered under a Documented Design method fail. The reason for the failure is that, rather than ‘designing to a cost’, the delivery team ‘costs a design’. That is, the design is not engineered to a price. Often it’s not until receipt of tenders (market prices) that the cost is properly understood. At this point it is difficult to make changes without affecting time and quality. It is important for the design team to actively engage with cost consultants in an endeavour to design to a cost. At the least, this will enable the project owner to make choices and plan for their impact on its business and the project. Designing to a cost increases the prospects for successful delivery of the project.
5. **Careful Administration** – It is often said “... let’s just put the contract in the bottom drawer” or “let’s not be contractual”. To us, that would be like saying “... let’s just put the drawings in the bottom drawer”. Irrespective of the chosen delivery method, diligent and careful administration of the contract by the client and the builder, coupled with clear communication, is fundamental to successful project delivery.

Summary of Guiding Principles

This white paper can be summarised in the following seven guiding principles:

1. Decide and communicate the project priorities early.
2. Carefully consider the advantages and disadvantages of each delivery method.
3. Take care when attempting to shift risk through a selected delivery method that you do not create more risk than you solve.
4. Make sure there is a clear and detailed statement of the requirements of the project owner for the project.
5. Carefully brief the design consultants.
6. Allow more time in design, in order to spend less time in construction and minimise risk.
7. Adopt diligent and careful contract administration practices.

About the Author

Andrew Graham is the Managing Director of epm Projects Pty Ltd. Andrew's project management experience includes work in a range of organisations including Leighton Contractors, the Sydney Organising Committee for the Olympic Games and Optus Communications. It includes a large number of projects across the commercial, education, and aged care sectors. A portfolio of the work carried out by Andrew and his team at epm can be found at www.epmprojects.com.au. Andrew can be contacted by email at agraham@epmprojects.com.au or by telephone +61 2 9452 8300 or on mobile phone at +61 419 732 021.