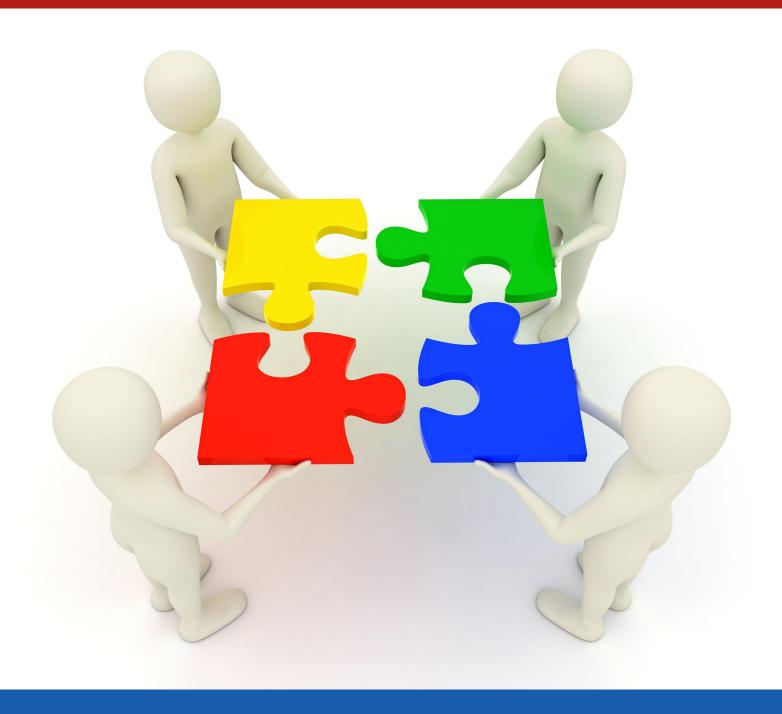# Project Team Integration Workbook

March 2014

About ACIF

The Australian Construction Industry Forum (ACIF) is the meeting place for leaders of the construction industry in Australia. ACIF facilitates and supports an active dialogue between the key players in residential and non residential building, engineering construction, other industry groups, and government agencies.

Our members are the most significant Associations in the industry, spanning the entire asset creation process from feasibility through design, cost planning, construction, building and management.

ACIF also provides a number of resources for the industry, including twice yearly release of the ACIF Forecasts, the industry's 'compass' to the demand for work over the next decade.

ACIF is focused on creating a competitive construction and property industry that is a leader in building Australia's prosperity. As well as facilitating communication between the different interests that make up the construction sector, ACIF provides governments and other agencies with a central and efficient industry liaison point.

ACIF harnesses the energies of its members to provide leadership and facilitate change within the industry, to increase productivity, efficiency, research and innovation. ACIF is governed by a Board of Directors comprising senior practitioners and chief executives of its member organisations. A secretariat supports the Board and the working groups tasked with developing policies and productivity tools.

ACIF seeks to develop a successful, strong and sustainable construction industry in Australia.

For more information about ACIF, visit www.acif.com.au.

About APCC

The Australasian Procurement and Construction Council Inc (APCC) is the peak council whose members are responsible for procurement, construction and asset management policy for the Australian, State and Territory Governments and the New Zealand Government. Papua New Guinea is an associate member. The APCC is made up of 15 member agencies.

Over the past 45 years, the APCC has established itself as a leader in government procurement, construction and asset management strategies and practice. The work of the APCC is committed to procurement innovation, solutions and efficiencies designed to create savings and maximise service delivery to the communities of Australia, New Zealand and Papua New Guinea.

The APCC promotes a cohesive government procurement environment and manages national projects for the Council of Australian Governments. It harnesses the benefits of nationally consistent approaches for its members.

The projects within the APCC are multi-faceted and collaborative. Each project has a dedicated Working Group, which progresses the aims, with support from the Directorate. The Working Groups meet regularly by teleconference, face-to-face and online.

The APCC community is made up of individuals with a wealth of skills and expertise. Collectively, it represents the hub for procurement excellence. Experts from each member jurisdiction collaborate on projects, creating a knowledge network.

For more information about APCC, visit www.apcc.gov.au

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Acknowledgements

Introduction

This *Project Team Integration Workbook* is a companion to the *Case for Project Team Integration* published by ACIF and APCC.

This *Workbook* provides a checklist for project sponsors, designers and constructors to assess the degree to which they are able to integrate a project team, and identifies issues that need to be addressed to deliver optimal project outcomes. The focus is on the behaviours needed to ensure the project team works collaboratively and efficiently, with each member respecting the contribution of other members.

The *Workbook* also provides a framework for the decision-making required by the project team to enable the collaborative behaviour that needs to become the norm - "the way we do things here".

The critical challenge for project sponsors and project team leaders is to understand and address the cultural and behavioural change needed to do things differently. The Cooperative Research Centre for Construction Innovation in its *Guide to Leading Practice for Dispute Avoidance and Resolution*[1] identified the key challenge for both avoidance of disputes and achievement of outstanding project outcomes.

The imperative is clear – collaboration is driven by teamwork, in turn achieved by integrating otherwise disparate organisations and people, and is key to achieving outstanding project outcomes. Whether an idealised IPD is capable of being put in place for a particular project (or wanted for that matter), working on the 6 legs of the challenge will deliver benefits to the project sponsors and the project team.

In a project-based industry, every project creates and is dependent on, a unique team of people. The work involved is undertaken by a mix of project sponsors' staff, contractors, and consultants. Teamwork is harder to achieve than in a conventional business setting, because of the following challenges:

- the team is assembled for one project, and is then disbanded;

- it is made up of multiple organisations and bosses;

- on site staff owe primary allegiances/responsibilities to their bosses, not the project;

- contractors and consultants join the team when they have tasks to perform, and then leave it;

- teams are selected afresh for each project without regard to whether individual team members have

worked together before; and

- by and large, teams are selected with more regard to price than the ability of individual team members to work collaboratively.

The aim is to create a common set of objectives for the project, that everyone is committed to achieving. How to do this? The procurement strategy chosen by the project sponsor can be a key enabler together with selecting the 'right' project team members. It is important to involve project team members in setting the objectives, and the strategies and actions that are included in the project management plans that describe them e.g. quality management plans, safety plans, material handling protocols, communication plans.

This initial involvement is critical to all member of the team feeling that they own those plans. Why? Because involvement is necessary to achieve ownership. Ownership leads to commitment and achievement of the common project objectives.

Who needs to do what and when depends, in part, on the stage of the project life cycle being considered. The earlier the stage, the greater the visionary involvement of project sponsors.[2] The later the stage, the greater the strategic or operational role for the main contractor/project manager, and leaders of project team members in facilitating collaborative behaviour.

This *Workbook* will inform project sponsors of the decisions needed to determine the degree to which they are able to integrate a project team. It also highlights the decision-making required by the project team to enable collaborative behaviour becoming "the way we do things here".

This *Workbook* identifies matters that require a decision on all projects. The authors of *Projects as Wealth Creators*, Tom Crow and Peter Barda, suggested that typically a range of outcomes is possible for each decision. They suggested a maturity model continuum, ranging from "Business as Usual" (colour coded Red) to "Beyond Excellence" (Blue), using descriptors typically encountered on project sites for each matter.

We commend this approach to all project sponsors and project team members.

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1 *Guide to Leading Practice for Dispute Avoidance and Resolution, Cooperative Research Centre for Construction Innovation, 2009, p7*

2 *Project sponsors include the client, financiers, and end users who, individually or jointly, determine the risk allocations and commercial terms upon which the project is based. Whilst during design and construction there will usually be only one organisation acting as the client under a contract with a head contractor, its ability to determine all relevant commercial and technical conditions may have been influenced or even controlled by providers of finance, or the requirements of end users.*

Purpose of this Workbook

This *Workbook* has been prepared to inform project sponsors and project team members of the steps they need to take to achieve the highest possible level of integration of contractors and suppliers with designers and other consultants in project teams to deliver optimal project outcomes.

The **function** of integration is the objective, rather than the **form** of an Integrated Project Team (IPT).

This *Workbook* identifies 18 separate decisions, listed below, that need to be made and that will influence the way in which project teams are created and managed. Each is capable of several possible outcomes ranging from "Red" or business-as-usual to "Blue" leading practice.

The decisions are required at different stages of projects. The earliest and arguably most significant decisions, are taken during the early stages of project initiation. By definition, these decisions are taken by project sponsors, and substantially determine the environment or culture within which the project team will operate.

Ideally the project delivery team decisions will implement those taken by project sponsors.

Project sponsor decisions	Project delivery team decisions
1. Environment & culture	7. Client business integration
2. Trusting relationships	8. Scope management
3. Project leadership	9. Team selection
4. Client risk tolerance	10. Team integration
5. Financial management	11. Project start up
6. Project delivery strategy	12. Stakeholder involvement
	13. Collaboration & communication
	14. Wasted effort
	15. On-the-job learning
	16. Project control standards
	17. Technical, OHS, environmental
	18. Continuous improvement

The project sponsor decisions can be simulated as part of the project initiation process, using a facilitated workshop gap analysis to identify what actions are needed to bridge the gap between the likely outcome, given known commercial and technical constraints and assumptions, and the desired outcome for each decision.

The actions generated from this gap analysis help determine whether project sponsors are capable of appointing contractors early i.e. to be involved in design before it is concluded.

The project sponsor decisions will typically involve the staff of and advisers to project sponsors. They have the capacity to determine the bounds within which project delivery team decisions are made. They need careful thought and discussion in a workshop during project initiation, to encourage integration and collaboration, and drive excellent project outcomes.

The decisions made by project sponsors substantially determine the manner in which the project delivery team is conditioned to behave whilst the team's own decisions will determine the mechanisms, through applied tools and techniques, which will reinforce these behaviours. These decisions are key to whether a collaborative approach to the project is actually implemented.

Collaboration by project team members creates a common set of objectives for the project, that everyone is committed to achieving. This is done by involving all team members in a series of briefings and facilitated workshops focused on identifying actions needed to deliver multiple project outcomes. The outcomes include:

- formulating process tools (management plans, programs, etc), for determining how the project team will perform;

- highlighting the process choices available to minimise inefficiency, repetition and waste;

- reinforcing the roles and responsibilities for team members;

- identifying potential risks to integration and collaborative behaviour; and

- reinforcing the project culture.

Facilitated briefings and workshops, decisions and metrics

The *Workbook* suggests outcomes ranging from "Red" or business-as-usual to "Blue" leading practice for each of the 18 decisions. Briefings and workshops for the 12 project delivery team decisions are used to agree on how improved outcomes are achieved. The participants for briefings and workshops will vary from project to project. Importantly all those who could influence the outcomes need to participate. This is at three levels.

Level 1 brings together the proprietors or senior managers of the designers, the main contractor, and trade contractors. They are briefed on how the project is to be managed, and how the desired levels of integration are to be achieved. The briefing is given by senior management of the project sponsors involved in day to day management of the project.

At **level 2** all senior site staff of the main contractor, designers, and trade contractors, work through the 12 project delivery team decisions (numbers 7 to 18 listed above) in workshops to agree on actions required to achieve target outcomes, and formulate the delivery mechanisms. The delivery mechanisms include the tools needed to plan for and manage all aspects of the project.

Each of the 12 project delivery decisions involves determining:

- which of the possible outcomes (from red to blue) is likely to be achieved on this project, given the background, experience and skills of those making the decisions;

- what is the target outcome that could be achieved;

- what actions are needed to enable the target outcome to be achieved; and

- how progress towards achieving the target outcome will be measured.

At **level 3**, the on-site job captains, foremen and supervisors, develop detailed tactics to deliver the target outcomes.

The following pages list the 18 decisions, 6 of which are project sponsor decisions, and 12 are project delivery team decisions. Each of them is an opportunity to drive the elimination or minimisation of the "Red" outcomes and achievement of "Green" and "Blue" outcomes.

The first decision includes an example of how outcomes are recorded during workshops.

 All the outcomes are collated in a score sheet that gives a snapshot of the overall assessment of likely and target outcomes. An example of a score sheet is in the Appendix A.

Project Sponsor Decisions

1. Environment and Culture

Why is this important?

Each construction project develops its own culture, or "the way we do things here". That culture is driven to a great extent by the leadership of the head contractor's senior project staff, and their interaction with their counterparts amongst subcontractors and designers. Strong leadership is critical if organisations are to avoid the cause of disputes. Ideally, project leaders will share the same values, lead positively by example, and be consistent in the way they behave.

The table below includes an example of the way in which workshop agreement on identifying likely and target outcomes, and actions and metrics, are recorded.

Decision #1	Decision Value				
Project Environment & Culture	**Equity and profit are dirty words (win / lose).**	**People would rather work in a better project environment.**	**Client understands that good project team relationships are important.**	**Equitable relationships, mutual respect and making sufficient profit to ensure a sustainable business are recognised as essential for a successful project.**	**Collaborative project environment produces outstanding end user, client and project team wealth.**
Hear	*"This is the worst project I've ever worked on in 30 years."*	*"We got screwed."*	*"How can we work better together?"*	*"What a great project culture to work in."*	*"This is the best project I've ever worked on."*
See	Draconian contracts. Ruthless administration.	Unfair contracts and poor relationships.	Contracts left in bottom drawer. Time bars replaced by trust.	No abusive letters. No disruptive relationships.	People excited to come to work.
Likely outcome	Client and contractor sees project as "Yellow to Green", though others see "Red/Yellow".				
Target outcome	Would like to be "Blue" but this is seen as utopia. More realistic level is "mid-Green". Others see "Green/Blue" possible.				
Issues	Contractor and client have good relationship. Question is how far down it can be pushed. Contractual relationships limit ability to achieve this. How does contractor administer the contract? Is there scope to administer differently to build relationships. Number of projects in a row should facilitate better performance.				
Actions	Review programming and design processes to build better relationships and involve more people. Build team earlier - earlier involvement of other disciplines in design and planning. More communication further down the team. Review contracts used by contractor and client, and their administration, and see if they can be altered to open up the opportunities to create more equitable values across the team.				
Metrics					

2. Trusting relationships

Why is this important?

A "Red" decision by the client, showing a lack of trust, will be demonstrated in contract conditions that are risk averse and seek to place all construction risk on the designers and contractors. The typical response from contractors is to seek to protect their commercial positions by following the letter of the contract, without any "give or take".

Decision #2	Decision Value				
Trusting Relationships	**People barely tolerate each other.**	**Most team members at first are assumed to be untrustworthy by the client and each other.**	**Client and team members would like to trust each other.**	**Trustworthiness is earned through demonstration and creating relationships.**	**Mutual trust and good relationships are cornerstones to project culture & value creation for end-users.**
Hear	*"Threats."*	*"Once bitten, twice shy."*	*"Old habits die hard."*	*"We don't want to let anyone down."*	*""We always under-promise and over achieve."*
See	Abusive phone calls, heated arguments in public.	Letters, letters, letters.	Letters are personally delivered and discussed in draft.	Letters are businesslike confirmation of agreements.	What letters?
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

3. Project leadership

Why is this important?

The manner in which the role and responsibilities of the client's most senior representative on a project are implemented will determine in large measure the quality of working relationships on the project. At the "Red" end of the spectrum the project director is concerned only with protecting the client's contractual rights, whereas if empowered to behave in the "Green" zone the entire project team can be motivated to improve the project feasibility or business case.

Decision #3	Decision Value				
Project Leadership	Provide inequitable leadership and ruthlessly administer contract.	Provide fair leadership with client bias when in doubt.	Contract limits relationship development.	Provide equitable leadership to achieve project business case.	Inspire visionary achievements by project team to achieve enhanced business case.
Hear	"We're at war. The client's the enemy."	"The client wants his pound of flesh."	"I'd like to, but..."	"We have a very fair and considerate client."	"We have the greatest respect and admiration for our client. He leads without interfering."
See	Team members despising the client and each other.	Win-lose, fear and angst.	Cordial, business-like relationships.	Win-win is basis for all discussions.	Project director proactively leads team and participates in achieving o/s outcomes.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

4. Client risk tolerance

Why is this important?

"Red" risk tolerance on the part of clients exposes head contractors to some risks over which they have little or no control. Contractors typically understand that some risks have been inappropriately allocated, but continue to participate, albeit reluctantly. Examples of the consequences of a "Red" approach are inadequate scoping of the project, and incomplete documentation available at the time the project is tendered.

Decision #4	Decision Value				
Client Risk Tolerance	Client insists on team members taking responsibility for all project risks, regardless of who causes it.	All risks are contracted out (risk averse). Contingencies are buried and not managed.	Price negotiations consider risk allocation responsibility. Time & cost contingencies known by team.	Risk allocated to supplier only if able to control it. Time, cost, function contingency planned and controlled by team.	Risk management shared by all project team members regardless of contracted responsibility. Savings shared with team.
Hear	"If you want the job, sign here and get on with it."	"Who would sign that contract?"	"We know where are the risks and trust the team on contingencies."	"Risks are opportunities."	"If a risk happens, we'll all suffer."
See	No flexibility to negotiate claims even when caused by client.	Risks are flicked on to others.	Suppliers hopeful client will be fair with claims. Cost budgets are met.	Formal risk management by team.	Risk management plans supported by contingency budgets by team.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

5. Financial management

Why is this important?

'Cash flow is king' to all commercial enterprises. Clients who seek to keep their $ in the bank and not meet their payment obligations, generate a lack of trust and team collaboration with creativity being destroyed. Clients that pay regularly, or even advance funds, are respected and get the 'A team' resources to enhance value.

Decision #5	Decision Value				
Financial Management	**Screwing cost erodes wealth and undermines budget "do you want the job?"**	**Client saves on interest by paying team as late as possible. Project brief under-funded.**	**Consultants & contractors appointed with fair profit margins.**	**Consultants & contractors can benefit significantly from shared savings.**	**Over 20% extra wealth creation targeted for sharing with supply chain.**
Hear	*"Scrooge could have learnt a lot from this client."*	*"Scrooge, the client, is shooting himself in the foot."*	*"At least we can count on the cheque regularly."*	*"We don't have to squeeze assize 12 foot in to a size 9 shoe."*	*"Our client knows that money motivates, and we provide A team."*
See	Very stressed team members. No design innovation. Variations left unpaid.	Payments up to 90 days after work done. Continuous variation hassles.	Payments within 30 days after invoice. Variations reluctantly approved.	Re-designing to meet the cost replaced with removing wasted effort and adding value.	Cash flow advance and 2 weekly payments on performance. Team motivated to save contingencies.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

6. Project delivery strategy

Why is this important?

Absentee clients that hide behind a risk averse legal team, inevitably 'shoot themselves in the foot" and set up a win-lose project culture. A proactive client who leads without interfering, motivates the team and is respected, resulting in less wasted effort, greater collaboration and more value creation.

Decision #6	Decision Value				
Delivery Strategy	**Delivery strategy determined only by risk averse legal team who prepare a unique contract biased to the client.**	**Legal advice and selected contract determine project delivery strategy.**	**Development strategy considered as one criterion for contract selection.**	**Development strategy determined with stakeholder involvement.**	**Development strategy designed with stakeholders to optimally achieve end-user needs.**
Hear	*"It won't happen to me."*	*"Time bars are there to trap us."*	*"It's a fair contract."*	*"We left contracts in the bottom drawer and time bars were replaced by trust."*	*"We all know client and end users and we work together to get their best outcome."*
See	Consultants and contractors complaining about the strategy but someone still tenders.	Risk averse contracts penalise non-performance.	Contracts fairly apportion risk management.	Focus groups with stakeholders to determine needs.	Contracts become business agreements rewarding team performance for meeting end user needs.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

Project Team Decisions

7. Client business integration

Why is this important?

When a project team is given a prescriptive brief with limited knowledge of the client's business strategies, it is seen to be saying "come to work and leave your brains at the gate". Client teams that are kept informed of the client's business and strategies, are able to create business developing solutions to enhance customer services that contribute to improving the client's P&L and balance sheet.

Decision #7	Decision Value				
Client Business Integration	**Client business strategies and feasibility parameters unknown to project team.**	**Project team meets client socially and is aware of what they do.**	**Project team understands client business strategies.**	**Project team kept regularly updated on client business as outlined in corporate strategic plan.**	**Project team integrated into client business as outsourced employees.**
Hear	*"I hope I never have to do business with or depend on this client again."*	*"It's not my concern what the client does."*	*"I understand that the business case is critical to client's business."*	*"We would like to help the end users be more efficient through the new facility."*	*"We're treated as if we're on our client's staff, and co-located with end users."*
See	Team sees no purpose in their work with no pride in their achievements.	Team focus on design and construction with little care for impact on client business.	Team is interested in client's business and appreciates reason for development.	Project business case available to team members on a need to know basis.	End-user service KPIs included in business case & team targets to beat them.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

8. Scope management

Why is this important?

Lack of a finalised scope is often cited as a major cause of project underperformance. Clients are entitled to change their minds so a rigorous change management process becomes important. Green projects start with end-user functional needs and involve the integrated project team in developing the detailed system specification.

Decision #8	Decision Value				
Scope Management	**Verbal briefs without documentation or scope change management.**	**Prescriptive design briefs (do it this way). Asset management starts at handover.**	**Functional design briefs (achieve this functional output).**	**Functional design brief with detailed system specification developed with key suppliers/ O&M.**	**Briefs are performance indicators of outcomes for end-user satisfaction.**
Hear	*"We're expected to change the design, without $, whenever the client wants to."*	*"Cost is not my problem."*	*"I grudgingly consider cost in design, but it will work."*	*"I design to meet the business case whole of life cost."*	*"I design to enhance the business case whole of life ROI."*
See	Continual verbal changes to brief without costing.	Cost overruns, project not feasible, unhappy end users and maintenance staff.	End users accept compromised outcome, business case just met. O&M staff consulted during design.	Project exceeding business case and delighting end users. O&M involved in design. Post occupancy evaluation.	Project significantly exceeding expectations of end users. Integrated team responsible for asset management.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

9. Team selection

Why is this important?

Leadership, availability, capability, experience, attitude, culture, team chemistry, work ethic and project control rigour can be more important than the fees/margins when selecting project team members. Paying 5-10% more makes sense if you're getting the 'A team' that adds 20% to the projects value.

Decision #9	Decision Value				
Team Selection	**Open tenders advertised. 'Dutch' auction used till last tenderer remains.**	**Open tenders advertised with no individual briefings allowed. Bid shopping is prevalent.**	**Open tenders called from prequalified suppliers.**	**Limited (3-4) prequalified suppliers invited to submit tenders or preferred supplier negotiated.**	**Prequalified integrated project teams with their supply chains submit proposals for negotiation.**
Hear	*"Whoever is most desperate wins."*	*"Whoever makes most errors, wins."*	*"You pay peanuts, you get monkeys is understood but honoured in the breach."*	*"I want the A team, and I'm prepared to make the investment."*	*"I appreciate how important chemistry and respect are in high performance teams."*
See	Lowest price is further negotiated down as client knows supplier is desperate for work.	Lowest price is prime criteria for supplier selection.	Client wants A team at B team price. Negotiation results in a hybrid team.	Nominated staff experience and attitudes are weighted to price as prime criteria for selection.	Evidence based criteria for team selection includes relationships, availability, capability and control systems.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

10. Team integration

Why is this important?

The greater the degree of integration of the skills and disciplines of its different members, the more likely it is that wasted effort will be minimised, and outstanding results achieved for the client and members of the team. The greater the degree of integration of project team members including contractors, specialist contractors and key manufacturers, and adoption of Building Information Management (BIM), the greater the opportunities for them to assist clients and design consultants efficiently meet the projects' functional objectives.

Decision #10	Decision Value				
Project Team Integration	**Contractors seen as 'necessary evils', given no respect and told to build what's designed.**	**Desirability to involve contractors in design is recognised, but nothing is done about it.**	**Key specialist contractors involved in design development.**	**Design teams of consultants and specialist contractors integrated for design development and manufacturing.**	**Project team integrated to deliver end-user services.**
Hear	*"We'll sort out our documentation problems only if found and raised by contractors."*	*"We don't have time to involve contractors in design details."*	*"The contractor helped prepare a practical design."*	*"We understand the need to put aside silos and egos and work together."*	*"We look forward to our project team doing the next job together."*
See	Elitist consultants	Designs 'pushed' onto contractors with many RFI's and variations.	Team members recognise there's wasted effort in design without early access to specialist trades.	Co-located project team with best person for the job.	Team develops skills to understand client business and to add value to client's customer services.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

11. Project start up

Why is this important?

A root cause of project underperformance is the lack of agreed common objectives amongst all team members. A "Red" project can have a project charter with agreed objectives, but then everyone 'retires to the trenches'. A "Green" project 'walks the talk' and openly monitors the achievement of the objectives.

Decision #11	Decision Value				
Project Start Up	**There are no common project objectives agreed by client and project team.**	**Project management plans are just contractor corporate policy and procedures to satisfy contract.**	**Client and team prepare documented project initiation strategies.**	**Project team prepares and owns a project business plan as tactics to achieve strategic plan during design and construction.**	**Project Business Plan includes tactics to design, construct and integrate end user business operations.**
Hear	*"Let's just get on with it."*	*"We need to think about the start-up."*	*"Project initiation cost is 1% but impacts 70% of outcome".*	*"The project's a $30M business to be completed in 15 months- we have a business plan."*	*"Providing services to end users is why we are here."*
See	People employed without plans and clear objectives.	Project start-up studies given lip service as they delay start of work.	Project start-up delayed 2mths but completion advanced 4 mths by initiation study.	Project team has a business plan to achieve the client's business objectives.	Project business plan integrates development with end-user business.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

12. Stakeholder involvement

Why is this important?

Most projects have external stakeholders (e.g. community, utilities), who are directly impacted by the outcome, yet can be perceived as having no involvement. Stakeholders have acquired increasing powers to delay a project, change functionality and increase costs. A "Green" project ensures stakeholders are involved in a positive way to the benefit of all.

Decision #12	Decision Value				
Stakeholder Involvement	No acknowledgment that stakeholders exist outside the contract nor that they can delay the project.	Stakeholders seen as trouble makers.	Stakeholders respected and views actioned.	Stakeholder involvement strategy implemented.	Stakeholders actively involved with project team in project initiation and implementation.
Hear	"What's a stakeholder? We're not responsible to them anyway".	"Just ignore them and they'll go away."	"That's a good idea."	"Who are the stakeholders – let's meet them."	"Let's make stakeholders team members."
See	Obstruction by stakeholders, poor press reports.	Stakeholders don't cooperate and complaints are ignored.	Stakeholder complaints are actioned.	Issues dealt with proactively.	Full cooperation, no complaints or issues.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

13. Collaboration and communication

Why is this important?

Traditional project roles and responsibilities ensure that project team members 'live in silos' and communicate formally through organisation structures. This limits collaboration and value adding, resulting in significant wasted effort, confrontation and angst. A "Green" project works toward being a virtual organisation with open communication and trans-disciplinary problem prevention. BIM intelligently used also can drive a "Green" outcome.

Decision #13	Decision Value				
Collaboration & Communication	**Very limited co-operation and collaboration between team members. 'Us and them' attitude exists.**	**Selfish focus to make a profit. Hierarchal communications via project manager.**	**Client service focus exists but restrained by contracts. Responsibilities taken seriously and there's concern for others .**	**Client service focus to achieve business case. Project partnering exists with project treated more important than employers.**	**Service focus to delight end-users. Project co-operative exists with end-user treated as more important than project.**
Hear	*"It's hopeless having to work with these fools."*	*"I'm alright, it's not my fault. Silos protect me. Email copy everyone"*	*"I wonder what the others think. Delays cost us. I'd like to help, but…"*	*"I don't want to let anyone down. Talk to each other but keep me informed."*	*"We have an Integrated project team with open communication and information."*
See	Solicitors approving correspondence for claim building. Large un-actioned files.	Supervised employees with 'turf protection'. Documentation delays. Un-actioned files.	Silos and 'turf protection' are outlawed but linger on. Barriers to communication recognised.	Integrated teamwork of design and construction. IT protocols agreed. 3D CAD used by all.	Integrated self-managed trans-disciplinary project team of all suppliers.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

14. Wasted Effort

Why is this important?

Wasted effort erodes business case returns and consultant/contractor margins and causes teams on "Red" projects to pursue margin recovering claims. However "Green" projects result in better team relationships and less angst leaving more time for senior resources to find value adding solutions to benefit the end-users whilst making more margin.

Decision #14	Decision Value				
Wasted Effort	**Team knows where there is wasted effort but do not care and do nothing.**	**Screwing cost creates wasted effort and erodes wealth. QA is just a paper war.**	**Consultants and contractors appointed with fair profit margins. Informal VM. Designers and trades brainstorm.**	**Formal VM and removing wasted effort improves work continuity & value by over 10% and helps team building.**	**Key trades selected to assist concept design, reduce whole of life costs, design for manufacture and remove wasted effort.**
Hear	*"We've always done it this way. What's wrong with that??"*	*"Quality control is what we can get away with."*	*"We should be able to make money on this job."*	*"Getting rid of wasted effort improves our margins."*	*"Our designers respect trades design skills and seek out their ideas."*
See	Dog eats dog environment. Future maintenance problems.	Typical industry roles and processes. Continuous improvement seen as a threat.	Reduced number of RFI's as documents are complete. Team wants to remove processes waste.	Typical processes challenged to remove wasted effort. Team seeks improvement opportunities.	Zero tolerance for wasted effort and quality non-conformance. Cost savings shared with team.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

15. On-the-job learning

Why is this important?

Teams that learn together appreciate each others' talents and personalities which supports a win-win culture. "Red" projects are too busy 'putting out fires' whilst "Green" projects make time to learn together 'how to prevent fires starting'.

Decision #15	Decision Value				
On the-Job Learning	**Training is responsibility of employee.**	**All team members are assumed to be adequately trained and responsibility of employer.**	**Client and suppliers recognise on-the-job learning can create more value.**	**On-the-job continuing staff development implemented.**	**Learning program for all team introduced on project as a critical success factor.**
Hear	*"I've been trained, there is no more to learn."*	*"We're too busy to attend training. We're out of sight, out of mind of head office."*	*"How about enrolling at technical college. Head office still cares about us."*	*"We make time for 1 week /yr learning."*	*"Learning is part of my job description with 2 weeks p.a. paid for by my boss."*
See	Disillusioned and overworked staff, low morale, high turnover.	Staff development put on hold during project.	Staff encouraged to keep up personal development during project.	Strategies in place to retain staff during and after projects. Coach assists team development.	Learning for excellence campus established on site.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

16. Project control standards

Why is this important?

It's very difficult to drive forward through a rear vision mirror, but that's what "Red" projects do. "Green" projects enjoy being in control of their destiny by forecasting outcomes and taking corrective action if they want to improve it.

Decision #16	Decision Value				
Project Control Standards	**Project control based on hearsay.**	**Project control based on historical reports.**	**Project Control based on forecasting time and cost outputs with continuous improvement on under-performance.**	**Project control based on forecast performance outcome. Process improvement triggered by benchmarking.**	**Project control based on enhancing future end-user needs.**
Hear	"We have no idea how we are going."	"We're driving through the rear mirror."	"We're focused on achieving this month's concrete pours."	"We're focused on getting the end user operational."	"We want to be the best and benchmark against other projects and industries."
See	No formal progress monitoring except progress claims cash flow.	No project performance trends are monitored.	Project time performance trends are monitored. Earned value monitors some processes.	Project time, cost, productivity performance trends are monitored using earned value.	Earned value used to measure improvement. Performance trends integral to forecasting/control.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

17. Technical, OHS, environment

Why is this important?

These matters can quickly derail a project if not treated seriously. "Red" projects don't see these aspects as shared responsibilities needed to achieve an optimum outcome. 'Cutting corners' is common on "Red" projects, whilst "Green" projects have a rigorous disciplined approach which is owned and committed to by all.

Decision #17	Decision Value				
Provide for Technical, OH&S & Environment	**Safety and environment issues are thought about after the incident under duress.**	**Safety and environment issues are reluctantly resolved.**	**Engineering, safety and environment standards are those set by regulation.**	**Engineering, safety and environment standards designed-in as a team responsibility.**	**Engineering, OH&S and environment practises are better than regulations.**
Hear	*"We don't care."*	*"Keep the regulators/unions off our backs."*	*"We are comfortable that no one will be injured.'*	*"Our designers feel bad if there's an accident."*	*"We benchmark against industry's best practices."*
See	Dirty, unsafe site.	Back-charges for site clean ups. Safe working practices not designed-in	Safety/ environment committee effective. Designs peer reviewed.	Designers focused on safe implementation of designs documentation.	Zero tolerance for eng., OH&S and environment standards non-conformance.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

18. Continuous Improvement and Quality

Why is this important?

"Red" projects just want to get on with it and don't want to challenge past practices or try to improve quality, which is seen as just slowing things down. "Green" project teams are never satisfied and believe that whatever they did yesterday can be improved upon tomorrow.

Decision #18	Decision Value				
Continuous Improvement and Quality	**No recognition that anything can be improved.**	**No strategy or schedule for continuous improvement.**	**Project Director actively supports continuous improvement.**	**Trans-disciplinary task groups formed to determine continuous improvements.**	**Continuous improvement scheduled in project business plan and monitored.**
Hear	*"I just do what I've always done."*	*"Quality control is what I can get away with."*	*"ISO9000 accreditation? Let's just tick the boxes."*	*"Our natural way of doing business is focused on Total Quality Management."*	*"What we did yesterday can always be improved tomorrow."*
See	A don't care attitude.	Lots of RFIs and variations.	Focus on process, not results.	TQM, not QA/QC.	Team continually searching for better ways.
Likely outcome					
Target outcome					
Issues					
Actions					
Metrics					

Appendix A. Decision Score Sheet Summary

Decision	Current Performance					Target Performance					Actions
	🟥	🟧	🟨	🟩	🟦	🟥	🟧	🟨	🟩	🟦	
1. Environment and culture											
2. Trusting relationships											
3. Project leadership											
4. Client risk tolerance											
5. Financial management											
6. Project delivery strategy											
7. Client business integration											
8. Scope management											
9. Team selection											
10. Team integration											
11. Project start up											
12. Stakeholder involvement											
13. Collaboration and communication											
14. Wasted effort											
15. On-the-job learning											
16. Project control standards											
17. Technical, OHS, environmental											
18. Continuous improvement											

Appendix B. Members of APCC and ACIF

Australasian Procurement and Construction Council Member Authorities

New South Wales

Department of Finance and Services

Western Australia

Department of Finance

Department of Treasury

South Australia

Department of Planning, Transport and Infrastructure

Department of Treasury and Finance

New Zealand

Ministry of Business, Innovation and Employment

Victoria

Department of Treasury and Finance

Queensland

Department of Housing and Public Works

Australian Government

Department of Finance

Defence Materiel Organisation

Department of Defence

Northern Territory

Department of Business

Department of Infrastructure

Australian Capital Territory

Commerce and Works Directorate

Papua New Guinea

Central Supply and Tenders Board

Australian Construction Industry Forum Members

Air Conditioning and Mechanical Contractors' Association of Australia

Australian Constructors Association

Association of Consulting Architects Australia

Australian Institute of Architects

Australian Institute of Building

Australian Institute of Building Surveyors

Australian Institute of Quantity Surveyors

Consult Australia

Engineers Australia

Facility Management Association of Australia

Fire Protection Association Australia

Housing Industry Association

Master Builders Australia

Master Plumbers Australia

National Fire Industry Association

National Electrical and Communications Association

NATSPEC/Construction Information Systems

National Precast Concrete Association

Property Council of Australia

acif

Australian Construction
Industry Forum

AUSTRALASIAN PROCUREMENT AND
CONSTRUCTION COUNCIL